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Home

Welcome to the 2014-2015 academic catalog for the Johns Hopkins University full-time undergraduate and graduate programs in the Zanvyl Krieger School of Arts and Sciences and the G.W.C. Whiting School of Engineering. This catalog contains information about academic and student life programs and policies. It also includes links to external websites; these are provided as a convenience to the reader and the content contained therein is not part of the catalog.

The University reserves the right to change without notice any programs, policies, requirements, or regulations published in this catalog. The catalog is not to be regarded as a contract.

About the Catalog

The Johns Hopkins University is accredited by The Middle States Association of Colleges and Schools, Middle States Commission on Higher Education, 3624 Market Street, Philadelphia, PA 19104-2680.

The following Bachelor of Science programs in the Whiting School of Engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET): Biomedical Engineering, Chemical and Biomolecular Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Engineering Mechanics, Environmental Engineering, Materials Science and Engineering, and Mechanical Engineering.

The Bachelor of Science program in Computer Science is accredited by the Computing Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

For current faculty and contact information go to http://krieger.jhu.edu/publichealth/directory/
About the Catalog
Changes for 2014-2015 Academic Year

Exam Credit for Biology
Effective Fall 2015, the Biology Department will award six credits only to those students who earn a 5 on the AP Biology exam. Those students will earn credit for General Biology I and II (AS.020.151 and AS.020.152) and a waiver for the lab (AS.020.153 and AS.020.154). An IB exam score of 6 or 7 will earn six credits for General Biology I and II and a waiver for the labs. General Biology I and II (AS.020.151 and AS.020.152) will be reduced from 4 credit hours each to 3 credit hours each, due to a discontinuation of the ‘Biology Workshop’ that had been part of the class.

Advanced Placement Exam Credit for Foreign Languages
Effective Fall 2015, the German and Romance Languages Department will not award any credit for Spanish AP exams. French, German, and Italian will grant six credits for AP scores of 4 or 5 only after a student successfully completes two courses in that same language sequence at the intermediate level or higher.
### Arts and Sciences

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<tr>
<th>Program Major</th>
<th>Bachelors</th>
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<th>Masters</th>
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### Notes on the Degrees

1. Candidates for the master’s as a terminal degree are accepted, but financial aid generally is not available.
2. Candidates for the master’s as a terminal degree may be accepted in special cases, but financial aid generally is not available.
Candidates are admitted to the Ph.D. program only, but the M.A. is awarded to students who (a) complete one year of courses, pass an examination in one foreign language, and submit an acceptable master's essay to a member of the faculty or (b) complete two years of courses and pass an examination in two foreign languages. Candidates for the master's as a terminal degree are not accepted. However, a student is awarded a master's degree en route to the Ph.D. after the successful completion of the Graduate Board oral examination.

A master of science in engineering or a master of materials science and engineering are offered.

See department listing.

M.S. available only to Arts and Sciences baccalaureate students.

M.A. only.

B.A. only.

B.A. or B.S. available.

Candidates are admitted to the Ph.D. program only, but the M.A. is awarded to students who complete requirements set by the director of graduate studies.

Applicants must currently be JHU undergraduate.

Within the Department of Biomedical Engineering.

Within the Department of Applied Mathematics and Statistics.

Within the School of Medicine.

Master's degree awarded by the School of Advanced International Studies.

Master's degree awarded by the School of Public Health.

Qualified Undergraduates from any AS or EN program are eligible to apply.

Minors


Part-time Graduate Programs in Arts and Sciences and Engineering

Advanced Academic Programs

Drawing upon over a century of research and teaching expertise, the Krieger School of Arts and Sciences Advanced Academic Programs offers advanced instruction in scientific fields of current interest and innovative graduate study in the humanities and social sciences. While based on the latest scientific and scholarly knowledge, course work emphasizes the application of such knowledge to practical problems. Classes are designed to provide individual attention, relevant application, and to encourage student contribution.

Courses are offered on a part-time basis at the Homewood campus in Baltimore; the Montgomery County Campus in Rockville, MD; the Arts and Sciences Washington Center in Washington, D.C.; and online. Most degree programs in AAP may be completed partially or fully online.

The School of Arts and Sciences recognizes the intellectual strength and education requirements of working adults and offers master's degrees through the Advanced Academic Programs. Students can earn their master's degree in:

Applied Economics
Bioinformatics
Biotechnology
Biotechnology Enterprise and Entrepreneurship
Communication
Energy Policy
Environmental Sciences and Policy
Geographic Information Systems
Government
Global Security Studies
Liberal Arts
Museum Studies
Public Management
Regulatory Science
Writing

There are also a variety of certificates and concentrations from which to choose, including certificates in:

Biotechnology Education
Biotechnology Enterprise
Geographic
National Security Studies
Nonprofit Management
Post-master's Certificate in Sequence Analysis and Genomics
Health Science Intensive Concentration
AAP also has a number of dual MBA programs with the Carey Business School.

Further information, admission details, and catalogs may be obtained by phone (202) 452-1940, Email to aapadmissions@jhu.edu, or by visiting advanced.jhu.edu.

Johns Hopkins Engineering for Professionals

Engineering began at Hopkins in 1913, when university leaders decided to establish a curriculum that focused on professional education but included significant exposure to the liberal arts and scientific inquiry. Fostering interdisciplinary creativity, this unique approach to engineering education was in turn emulated by many engineering schools throughout the United States.

Over the intervening decades, thousands of working engineers and scientists earned engineering degrees at Hopkins through part-time study, achieving professional goals without interrupting their careers. That tradition continues today through the Whiting School's Engineering for Professionals program, which offers part-time graduate courses in 15 disciplines that address industry trends and the latest advances in engineering and applied science. Classes are scheduled at convenient times during late afternoons and evenings and on Saturdays at campuses throughout the Baltimore-Washington region, including Aberdeen, Baltimore, Elkridge, Laurel, Rockville, Southern Maryland, Washington, D.C., and Crystal City, VA. Courses are also available online. Depending on their academic program, students earn either
a master’s degree or a graduate or postgraduate certificate upon completing their studies.

Further information, applications, and catalogs may be obtained by calling 1-800-548-3647; visiting ep.jhu.edu; or writing to Johns Hopkins Engineering for Professionals, 6810 Deerpath Road, Suite 100, Elkridge, MD 21075. Email inquiries may be sent to jhep@jhu.edu.

### Advanced Degree Programs in Other Hopkins Divisions

#### Carey Business School

**Master of Business Administration Degrees (full-time)**
- Johns Hopkins Global MBA
- Master of Business Administration/Master of Public Health

**Master of Business Administration Degrees (part-time)**
- Executive MBA
- Flexible MBA

**Master of Science Degrees**
- Enterprise Risk Management (part-time)
- Finance (full- and part-time)
- Health Care Management (part-time)
- Marketing (full- and part-time)
- Real Estate and Infrastructure (full- and part-time)

**Joint and Dual Degrees (part-time)**
- Master of Business Administration/Master of Science in Nursing
- Master of Business Administration/Master of Arts in Communication
- Master of Business Administration/Master of Arts in Government
- Master of Business Administration/Master of Science in Biotechnology
- MBA/Master of Environmental Engineering
- MBA/MS in Environmental Engineering and Science
- MBA/MS in Environmental Planning and Management
- MBA/MS in Design Leadership

**Graduate Certificate Programs**
- Financial Management
- Investments

#### School of Education

**Master of Arts in Teaching**
- Elementary Education
- Secondary Education

**Master of Education**
- Health Professions

**Master of Science in Education**
- Educational Studies
- Reading
- School Administration and Supervision
- Technology for Educators

**Master of Science in Special Education**
- Early Childhood Special Education
- General Special Education Studies
- Mild to Moderate Disabilities (Elementary/Middle, Secondary/Adult, Differentiated and Inclusive Education)
- Severe Disabilities
- Technology in special Education

**Master of Science in Counseling**
- Mental Health Counseling
- School Counseling

**Graduate Certificate Programs in Education**
- Adolescent Literacy Education
- Advanced Methods for Differentiated Instruction and Inclusive Education
- Applied Behavior Analysis* (pending approval)
- Assistive Technology
- Data-based Decision making and Organizational Improvement
- Applied Behavior Analysis* (pending approval)
- Assistive Technology
- Data-based Decision Making and Organizational Improvement
- Early Intervention/Preschool Special Education Specialist
- Earth/Space Science
- Education of Students with Autism and Other Pervasive Developmental Disorders
- Education of Students with Severe Disabilities
- Educational Leadership for Independent Schools
- Effective Teaching of Reading
- Emergent Literacy Education
- English as a Second Language (ESL) Instruction
- Evidence-Based Teaching in the Health Professions*
- Gifted Education
- K-8 Mathematics Lead-Teacher Education
- K-8 Science Lead-Teacher Education
- K-8 STEM (Science, Technology, Engineering, Mathematics) Lead-Teacher Education
- Leadership for School, Family, and Community Collaboration
- Leadership in Technology Integration
- Mental Health Counseling*
- Mind, Brain, and Teaching
- Online Teaching and Learning for Adults
- School Administration and Supervision
- Teacher Leadership: Instructional Leadership in School Settings
- Teaching the Adult Learner
- Urban Education

**Certificate of Advanced Graduate Study**
- Counseling

**Online Doctor of Education (Ed.D.) (pending approval)**

**Doctor of Philosophy in Education (Ph.D.)**
- Division of Public Safety Leadership
- Master of Science in Management
- Master of Science in Intelligence Analysis
School of Public Health

Master of Public Health
School wide degree program

Master of Health Administration
Health Policy and Management

Master of Health Science
Biochemistry and Molecular Biology
Biostatistics
Environmental Health Sciences
Epidemiology
Graduate Training Program in Clinical Investigation
Health Behavior and Society
Health Policy and Management
International Health
Mental Health
Molecular Microbiology and Immunology
Population, Family and Reproductive Health

Master of Public Policy
Health Policy and Management

Doctor of Science
Epidemiology
Health Behavior and Society

Combined Programs
BA/MHS or MSPH
MA/MSPH
MPH/JD
MPH/MBA
MPH/MD
MPH/MSW
MPH/MSN
MPH/General Preventive Medicine Residency
MPH/Occupational and Environmental Medicine Residency
MSPH/RD
MSPH/MI
MD/PhD
Doctoral/MHS in Biostatistics
Doctoral/MSPH in International Health
Doctoral/ScM

School of Medicine

Doctor of Philosophy
Biochemistry/Cellular and Molecular Biology
Biological Chemistry
Biophysics and Biophysical Chemistry
Cell Biology
Molecular Biology and Genetics
Neuroscience
Pharmacology
Physiology
Cellular and Molecular Medicine
Cellular and Molecular Physiology
Functional Anatomy and Evolution
Health Sciences Informatics
History of Medicine
Human Genetics
Immunology
Molecular Biology and Genetics
Neuroscience
Pathobiology
Pharmacology and Molecular Sciences

Interdivisional Programs
Biomedical Engineering
Program in Molecular Biophysics

Master of Science
Applied Health Sciences Informatics
Health Sciences Informatics
Master of Arts
Medical and Biological Illustration
Certificate Program
Certificate in Health Sciences Informatics

Master of Arts
Medical and Biological Illustration

Certificate Program
Certificate in Health Sciences Informatics

* Open only to students with master’s degrees.
Undergraduate Students

The policies, procedures, resources, and opportunities included in this section are relevant for undergraduates enrolled in the full-time degree programs in the Zanvyl Krieger School of Arts and Sciences and the Whiting School of Engineering on the Homewood campus. Please use the links at the left to navigate to your topic of interest.

Admissions and Finances

Every year the Johns Hopkins University enrolls a freshman class of approximately 1,300 men and women from all parts of the United States and many foreign countries. In addition, transfer students from other colleges and universities are admitted to the sophomore and junior classes. Intellectual interests, academic performance, and institutional “fit” are of primary importance in the admissions decision. The Admissions Committee carefully examines each applicant’s complete scholastic record and aptitude test results. Essays and recommendations from secondary school officials and other sources about a student’s character, intellectual curiosity, seriousness of purpose, and range of extracurricular activities and leadership are also considered. Admissions information for undergraduate students may be found at http://webapps.jhu.edu/jhuniverse/admissions/.

A college education is a major investment. It is important that both the student and the family plan ahead, investigate funding alternatives, apply for aid carefully and on time, and, most importantly, ask questions. Applicants and their families should not hesitate to call the Office of Student Financial Services at 410-516-8028 or visit us at jhu.edu/finaid or email fin_aid@jhu.edu for more information.

The cost of higher education is a major concern to students and parents in their selection of a college. The Johns Hopkins University welcomes all students of superior academic ability and provides need-based financial assistance to those who qualify.

Tuition Refund Policy

First Six Weeks of Classes

During the first six weeks of classes, a full tuition refund will be provided to students who withdraw from the University. Leave will be retroactive to the beginning of the semester, and registration and tuition charges will be cancelled. Federal aid will be prorated per federal regulations, and Johns Hopkins University Grant will be cancelled. Room and board charges will be prorated based on the day the student leaves the University.

Week Seven Through Eleven

During weeks seven through eleven, a 50% tuition refund will be provided to students who withdraw from the University. W’s will be recorded as grades on the student transcript. Federal aid will be prorated per federal regulations, and up to 50% of a Johns Hopkins University Grant will be applied to outstanding tuition charges. A student will not receive a cash refund from a JHU Grant award. Room and board charges will be prorated based on the day the student leaves the University.

Week Twelve Through the End of the Semester

During week twelve through the end of the semester, no tuition refund will be provided to students who withdraw from the University. W’s or Incompletes will be recorded as grades on the student transcript. Students will be permitted to keep their financial aid awards. Room and board charges will be prorated based on the day the student leaves the University.

No refund will be granted to students suspended or dismissed for disciplinary reasons. The University reserves the right to dismiss a student whose academic standing or general conduct is considered unsatisfactory. Please use the links to the left to view detailed information about undergraduate admissions, fees and expenses, financial aid and veterans’ educational benefits.

Veterans Educational Benefits

Johns Hopkins is approved by the Maryland Higher Education Commission for the training of veterans and the widows and children of deceased veterans under the provisions of the various federal laws pertaining to veterans’ educational benefits. Information about veterans’ benefits and enrollment procedures may be obtained at web.jhu.edu/registrar/veterans.html or the Office of the Registrar, 75 Garland Hall, 410-516-7071.

Students eligible for veterans’ benefits register and pay their university bills in the same manner as nonveteran students. The Department of Veteran Affairs determines the educational benefit a veteran is eligible to receive. Veterans educational benefits payments cover only a portion of assigned course fees. To receive veterans educational benefits the student must comply with the following procedures:

Initial Enrollment

Once admitted to the university, the student must complete an Application for Program of education or Training (VA Form 22-1990) from the Department of Veteran Affairs at www.gibill.va.gov. A copy of the completed application, along with a certified copy of the DD-214, is sent to the Veterans Desk, Office of the Registrar, 75 Garland Hall, The Johns Hopkins University, Baltimore, Maryland 21218.

The student who is transferring from another university or college will need to obtain a Request for Change of Place of Training (VA Form 22-1995) from the Department of Veteran Affairs at www.gibill.va.gov. The completed form should be sent to the Veterans Desk at the university.

Re-enrollment

Students who received veterans’ benefits at the university the preceding semester and plan to enroll with no change of objective should inform the Registrar’s Office at the time of registration that they want to be recertified under the provisions of their original VA Form 22-1990.

Students receiving veterans’ benefits must take courses that lead toward the exact objective (usually a specific degree) on the original VA application. Otherwise, they must submit a Request for Change of Program (VA Form 22-1995). Students utilizing veterans’ benefits must let the registrar know immediately of any change in their program or status that might affect the amount of their VA payment. If they fail to
do so, the Department of Veterans Affairs will seek reimbursement from
the student for any overpayment.

Standards of Progress
Continuation of VA payments depends on the student’s meeting the
university’s academic standards for all students. The student must
also meet any standards of progress which may be established by VA
regulations.

The College Navigator Tool
Veteran students may go to the College Navigator (http://nces.ed.gov/
collegenavigator) to access a school comparison tool.

Academic Policies
The Krieger School of Arts and Sciences and the Whiting School of
Engineering offer myriad opportunities for intellectual exploration,
academic challenge, and personal growth. To satisfy your academic
goals and assure your progress toward graduation, take action and
responsibility for the following:

• Seek advice from multiple faculty and other university professionals.
• Meet with your assigned advisor at least once a semester.
• Learn the information contained within this online catalog. Failure
to do so does not excuse you from responsibility for the rules and
procedures.
• Track your completion of your degree requirements.
• Consult your advising office and your major department about any
questions concerning academic policy.

All students are expected to observe the academic policies and
practices of the university; personal difficulties, illness, or advice
contradicting the rules and procedures do not constitute automatic
grounds for exemption from these rules or procedures. Written requests
for exceptions must be submitted to the student’s academic advising
office. After review, a student will be notified whether the exception is
approved.

The University reserves the right to change rules, procedures and other
information within this website as appropriate. This website is not to
be regarded as a contract. If you have questions, contact your school’s
advising office.

Registration Policies

Advising and Registration Periods
All students are required to meet with an advisor for each declared
major prior to registering for the fall and spring semesters. Advisor
alert(s) for each declared major are placed on all students’ records
in ISIS well in advance of the registration period; the alert(s) must be
released by the advisor(s) to permit the student to register.

In the School of Arts and Sciences, freshman, first-semester transfer
students, and undeclared students meet with their academic advisor
beginning six weeks in advance of the registration period. Students
with declared majors should contact their faculty advisor to schedule a
meeting prior to their registration date.

In the School of Engineering, students meet with their faculty advisors
during Engineering Advising Week (early November for spring
registration and early April for fall registration).

Undergraduates register for the spring semester in November, for
Intersession in December, and register for the summer and fall terms
in April. Detailed instructions about registration will be emailed to all
students before the registration period each term. If the student has
not received this information at least two weeks before the start of
classes for a fall or spring term, perhaps because of a change of email
address or status in the university, the Office of the Registrar should be
contacted immediately.

English, Writing Seminars, and Film and Media Studies hold
preregistration hours for their majors in the weeks before online
registration begins. Contact the respective department for information
about how to preregister for a class.

Schedule Verification
Students are responsible for verifying their official schedules in ISIS.
Students are encouraged to retain a copy of their schedule for their
records. In addition, students are advised to check their schedules after
performing online registration changes (adding and dropping courses)
to ensure accuracy. It is also recommended that student review their
schedule prior to the add, drop and withdrawal deadlines. Changes
to a student’s schedule will not be approved after these deadlines
have passed. Failure to review and retain a copy of their registration
confirmation will not be considered grounds for approving exceptions to
these deadlines.

Intersession and Summer Special
Registration Information
Summer and intersession opportunities, such as JHU-sponsored study
abroad courses and career exploration courses, may have special
registration deadlines, fees, and procedures. Please see the Intersession
(http://pages.jh.edu/intersession) or Summer (http://pages.jh.edu/
summer) Programs websites for additional information.

Intersession is a three-week period in January for students and faculty
to participate in a variety of optional credit and noncredit courses and
activities that enrich the intellectual and social life of the campus.

For intersession academic exploration courses, the tuition cost of
Homewood KSAS and WSE courses is free to undergraduates who were
enrolled full-time in the previous fall semester; part-time students
must pay tuition. All students must pay relevant fees. Students who
are returning from a leave of absence or were studying abroad in the
fall semester may register for intersession if they pay tuition per credit
hour. Students who register for Hopkins intersession courses outside of
KSAS/WSE are subject to tuition charges determined by the individual
school.

Summer courses at JHU are primarily offered during two five-week
terms. There are some online courses and courses that run on
alternative schedules. Courses are sponsored by the same academic
departments that oversee the university’s full-time degree programs.
They are designed to reproduce, as closely as possible, similar courses
offered during the spring and fall semesters. Tuition charges are
published on the Summer Programs (http://pages.jh.edu/summer)
website.
Late Registration Fees
Registration in the School of Arts and Sciences and the School of Engineering is not permitted after the end of the second week of the semester, except in extraordinary circumstances as approved by the Assistant Dean for Academic Advising for their respective school. Students must register on time, even when they lack sufficient funds. The university provides many financing alternatives that permit students to register in most financial situations.

Students who for any reason do not complete their registration until after the prescribed registration period will be required to pay a late registration fee according to the following schedule:

- $100 - end of prescribed registration period until the day before the first day of classes of the upcoming semester
- $150 - first day of classes through the end of the first week of classes
- $200 - second week of classes
- $300 - after the second week of classes (special permission only)

For late registration fees in the summer, please see the Summer Programs (http://pages.jh.edu/summer) website.

Adding a Course
During the fall and spring semesters, students may add a course until the end of the second week of classes and pay no fees to add courses. During this time students may add courses without written approval, unless the course is filled or will cause a credit overload. If the course will cause a credit overload, AS students need a signature from the AS Advising Office, while EN students need their faculty advisor's signature and the approval of the EN Advising Office. An instructor’s signature is required to add a course that is filled. By the end of the second week of classes, students should have the schedule they want to keep.

If the course is a four-week course offered during the fall or spring terms that begins at the beginning of the semester, the course may be added only during the first week of classes. For intersession and summer add dates, please refer to the Intersession (http://pages.jh.edu/intersession) or Summer (http://pages.jh.edu/summer) Programs websites.

When adding courses in other divisions or at schools in the cooperative program, Homewood undergraduates must follow the deadlines set by the host school or division. In the School of Public Health, the withdrawal deadlines are based on the quarter system, not the semester system that is used in other JHU divisions.

Dropping a Course
Courses may be dropped from the student’s record until the end of the sixth week of the semester, provided that the student remains registered for a minimum of 12 credits. For engineering students, faculty advisor approval is required to drop a course after the second week of classes.

If the course is a four-week course, drops may be made during the first week of the course without a record on the transcript. For intersession and summer drop dates, please refer to the Intersession (http://pages.jh.edu/intersession) or Summer (http://pages.jh.edu/summer) Programs websites.

When dropping courses in other divisions or at schools in the cooperative program, Homewood undergraduates must follow the deadlines set by the host school or division. In the School of Public Health, the drop deadlines are based on the quarter system, not the semester system that is used in other JHU divisions.

Withdrawing from a Course
After the end of the sixth week and until the end of the eleventh week, a student may withdraw from a course with a W on the academic record. A record of the course will remain on the academic record with a W appearing in the grade column to indicate that the student registered and then withdrew from the course. Students are not allowed to withdraw from a course after the end of the eleventh week of the semester. Course withdrawals must be conducted in person at the Office of Registrar using an add/drop form. Engineering students need the signature of their faculty advisor on the add/drop form.

If the course is a four-week course, withdrawals may be made with a W notation during the second week of classes (Engineering students require approval of their faculty advisor.) For intersession and summer withdrawal dates, please refer to the Intersession (http://pages.jh.edu/intersession) or Summer (http://pages.jh.edu/summer) Programs websites.

When withdrawing from courses in other divisions or at schools in the cooperative program, Homewood undergraduates must follow the deadlines set by the host school or division. In the School of Public Health, the withdrawal deadlines are based on the quarter system, not the semester system that is used in other JHU divisions.

Full-Time Student Status
Undergraduate students at Johns Hopkins University must be registered for a minimum of 12 credits each semester. Students who have not completed degree requirements after eight full-time semesters may register for less than 12 credits and pay for courses on a per credit basis with the permission of academic advising.

Fall and Spring Semester Credit Requirements and Limits
Credit is an approximate measure of the work required in a course. For undergraduate courses, the number of credits is normally equal to the number of hours that the class meets each week. Some laboratory courses are exceptions to this rule, meeting more hours per week than the credits awarded. Graduate-level courses completed by undergraduates are generally awarded the same number of credits as an upper-level undergraduate course (3 credits).

For Arts and Sciences students, the average course load is 15 credits per semester for eight semesters. For Engineering students, the standard load is 16-18 credits. AS freshmen are limited to 16.5 credits, while AS upperclassmen are limited to 18.5 credits. EN freshmen are limited to 18 credits (18.5 if including a foreign language), while EN upperclassmen are limited to 19.5 credits. Students must maintain full-time status by registering for at least 12 credits.

Intersession and Summer Credit Limits
Students may take a maximum of 3 credits during intersession and a maximum of 7 credits per summer session.
Exceptions to These Credit Limits

**Arts and Sciences students who wish to take a credit overload must meet one of the following criteria:**

- Double degree students who are taking courses at both Peabody and Homewood
- Students taking excess credits due to university mandate, e.g., movement to a different level of language instruction as request by faculty
- Seniors in their eighth semester
- Upperclass students with a 3.5 cumulative GPA who have requested and been granted a waiver to take an additional course for other reasons
- Students who exceed the limit because they are taking a 1 or 2 credit music lesson at the Peabody Conservatory
- Neuroscience majors registered for Research and Scientific Communication may exceed the credit limit by 0.5 credits

**Additional Exceptions for AS Freshman**

- Peabody lesson (1 or 2 credits)
- ROTC required classes (1 credit)
- Biophysics majors taking Calculus (4), Chemistry and Lab (4), Physics and Lab (5), Topics in Biophysics (1), and a humanities/social science elective (3)
- Taking five classes and two are foreign languages, where at least one is a continuation of previous study
- Freshmen taking five courses including a foreign language course along with a 1-credit lab (when taken in conjunction with the lecture course)

**Exceptions for EN Students**

Credit overloads for engineering students are approved on a case-by-case basis. Engineering students who wish to overload need their faculty advisor’s signature, then final approval by the Engineering Advising Office. Usually, the student’s most recent academic performance is a factor in the decision. First-semester freshman are not granted credit overloads.

Registration Alerts

Registration alerts may be applied to student records for a variety of reasons, such as outstanding financial obligations, insurance and health clearances, academic standing, and missing emergency contact information. A student whose registration has been placed on hold for a non-academic reason must obtain clearance from the office or offices that placed the hold on the registration. In addition, transcripts will not be released for students with unpaid balances.

Students who have three or more incomplete grades from the previous semester may have a hold placed on registration activity. The student must have the approval signature from the advising office of their school to register, add, or drop.

Retaking a Course

Students may retake a course to absolve a grade of C+ or lower. The grade for the second attempt and the associated credits are recorded on the transcript and are calculated into the GPA. The original grade remains along with the notation “R” to indicate the course was retaken. Such R grades do not affect grade point calculations and do not carry credit toward graduation. Only the grade in the retaken course accrues credit and applies to the GPA, even when the retaken grade is lower than the original grade. A student may retake one course without written permission. Taking the same course a third time or retaking another course requires written permission of the student’s academic advising office.

A course originally taken for a letter grade must be retaken for a letter grade. A course taken under the Satisfactory/Unsatisfactory grading option must be retaken under the Satisfactory/Unsatisfactory grading option. First semester courses whose grades are covered by S/U notation are considered to have been taken for a letter grade. If a student wants to retake a course from the first semester, the second attempt must also be for a letter grade.

To absolve a grade, the same course must be taken at Hopkins, not another college or university. In situations where the same course is no longer offered, students may be able to absolve a grade in one of two ways:

1. by repeating a course of comparable content and level, or
2. as an independent study

Both of these options require approval of the department and/or instructor responsible for the course and the student’s academic advising office.

Other Restrictions on Absolving a Grade

Grades may not be absolved by retaking a course after graduation.

Grades assigned by the Ethics Board due to an academic ethics violation may not be removed from the academic record by retaking the course. Both the new grade and the assigned grade will be shown.

Prohibition on Registering for Courses that Meet at the Same Time

Registering for two classes that meet at the same time or overlapping times is not permitted except as a temporary measure during the first weeks of the semester when students are still deciding on which classes to take. By the end of the first two weeks of classes, students must resolve time conflicts in their schedules.

Restrictions on Equivalent Courses and Courses Taken Out of Sequence

Courses that are sequential in nature, e.g., elementary, intermediate, and advanced language courses, or the Calculus sequence, must be taken in their proper order. One exception to this policy is that AS.210.301-302 may be taken in reverse order with permission of the department.

Credit will be awarded only once for equivalent courses covering the same material. Examples of equivalent courses are Intermediate French and Advanced Intermediate French, and AP Calc AB and Calculus I. This restriction does not apply to the Expository Writing course which may be taken twice. Be aware that departments may change course numbering or titles without changing the course content. Students who believe that they have registered for an equivalent course should consult with their academic advising office.
The following restrictions apply to overlapping and the sequencing of courses in the Mathematics and Applied Mathematics and Statistics Departments:

- Students who earn credit for AS.110.201 Linear Algebra cannot receive credit for the combined course EN.550.291 Linear Algebra and Differential Equations or for the course AS.110.212 Honors Linear Algebra.
- Students who earn credit for AS.110.405 Introduction to Real Analysis cannot receive credit for AS.110.415 Honors Analysis I
- Students who earn credit for AS.110.406 Analysis II cannot receive credit for AS.110.416 Honors Analysis II
- Students who earn credit for AS.110.302 Differential Equations and Applications cannot receive credit for EN.550.291 Linear Algebra and Differential Equations.
- Students who earn credit for AS.110.202 Calculus III cannot receive credit for AS.110.211 Honors Multivariable Calculus.
- A student who earns credit in EN.550.291 Linear Algebra and Differential Equations may receive credit for further study of linear algebra or differential equations by enrolling for independent study while auditing the appropriate course. Normally students will earn 2 credits for such an independent study, but the number of credits may vary and is to be decided by the faculty sponsor. These students may not earn credit for AS.110.302 Differential Equations and Applications, AS.110.201 Linear Algebra, or AS.110.212 Honors Linear Algebra.

**Policy on Statistics Courses Sequencing**

Undergraduate students at the Homewood Schools of Johns Hopkins University enjoy a wide selection of courses on statistics; however, it is not proper for a student to be awarded credit for two courses that cover essentially the same material. Likewise, it is not proper for a student to receive credit for a more basic course after having received credit for a more advance course in the same subject.

Our statistics courses fall into one of the following four categories, listed in increasing level of sophistication:

1. Non-calculus based, basic
2. Non-calculus based, intermediate
3. Calculus based, intermediate
4. Calculus based, advanced

A student may take at most one course (or course sequence) from within one of these categories. A student may not take a course in a lower numbered category after having taken a course in a higher numbered category.

Some departments may require their undergraduate majors to take specific statistics courses; that is their prerogative. This policy simply precludes students from receiving credit for two courses that have much the same content, with possibly different emphases. It does not imply that one course in a category may be substituted for another.

The list below shows how the courses (and course sequences) are allocated to these categories.

For example, a student may take EN.550.111 but then may not subsequently take AS.230.205. A student who has taken EN.550.310 may not also take EN.550.311, EN.550.435, or any of the courses in the first two categories.

**Category 1: (Non-calculus based, basic course)**

EN.550.111 Statistical Analysis I/EN.550.113 Statistics Through Case Study

AS.230.205 Introduction to Social Statistics

AP Statistics

**Category 2: (Non-calculus based, intermediate course)**

EN.550.211 Probability and Statistics for the Life Sciences

EN.550.230 Introduction to Biostatistics

AS.280.345 Public Health Biostatistics

AS.200.314 Advanced Statistical Methods-AS.200.315 Advanced Research Design and Analysis

**Category 3: (Calculus-based, intermediate course)**

EN.550.310 Probability & Statistics for the Physical Sciences & Engineering/EN.550.311 Probability and Statistics for the Biological Sciences and Engineering

EN.560.348 Probability & Statistics in Civil Engineering

EN.560.435 Probability and Statistics in Civil Engineering (discontinued, last offered Spring 2011)

**Category 4: (Calculus-based, advanced course)**

EN.550.420 Introduction to Probability-EN.550.430 Introduction to Statistics

Some courses do not fall into one of the four categories:

- AS.200.207 Research Methods in Experimental Psychology This is not a probability/statistics course and may be taken in combination with any of the other courses listed in this document in any sequence.
- EN.550.413 Applied Statistics and Data Analysis This course is mostly independent of the other probability/statistics courses, but subsumes enough of the non-calculus, basic course material that none of those courses (category 1) may be taken after EN.550.413.
- EN.550.112 Statistical Analysis II may be taken after any category 1, 2, or 3 course. However, the preferable sequence is EN.550.111 Statistical Analysis I-EN.550.112 Statistical Analysis II.

**Equivalent Statistics Courses**

The courses EN.550.310 Probability & Statistics for the Physical Sciences & Engineering and EN.550.311 Probability and Statistics for the Biological Sciences and Engineering are considered equivalent to each other and can be used interchangeably. A poor grade in one may be absolved by the opposite course.

The courses EN.550.111 Statistical Analysis I and EN.550.113 Statistics Through Case Study are considered equivalent to each other and can be used interchangeably. A poor grade in one may be absolved by the opposite course.
Important Note About Credit and Grades for Language Courses

Both semesters of language elements courses in French, German, Greek, Italian, Latin, Portuguese, Spanish, and languages offered in the Near Eastern Studies Department must be completed with passing grades in order to retain credit for both courses. If study of the language is terminated after the first semester, the student will lose the credit for the course. The course and grade will remain on the academic record, but no credit will be awarded and the grade will not affect the grade point average. This change to the record is generally made in the last semester prior to graduation by the student’s academic advising office, but students can also request that the advising office make the change at an earlier point. Students do not have to take both semesters of the first year of languages taught through the Center for Language Education to retain credit from the first semester.

Students must take the language elements (or beginning) courses for a letter grade, with the exception of the Russian Elements course. The letter grade for first-semester freshmen will be covered on the transcript.

Students in the School of Arts and Sciences do not receive an area designation for these elements courses. For students in the School of Engineering, language elements (or beginning) courses can be substituted for humanities courses in meeting the distribution requirement.

Instructor’s Permission

Many graduate (600-level) courses in the School of Arts and Sciences and the School of Engineering offered in the graduate divisions of the university and some advanced undergraduate courses require the instructor’s approval signature on a registration form. Engineering students also need their faculty advisor’s approval. The Registrar’s Office will not enroll a student in such a course without the instructor’s signature. Therefore, students cannot add these courses online, but must use a paper registration or add/drop form.

Registering for Independent Academic Work

“Independent academic work” is the collective term used to encompass independent study, research, and academic internships. Independent study means a program of study and reading under the tutelage of a faculty member. Academic credit for independent study is based on work equivalent to class-based courses. Research involves planning and conducting experiments, collection and analysis of data, and the reporting of results. Academic internships are practical work experiences which have an academic component as certified by a member of the faculty.

All forms of independent academic work require early planning with a faculty sponsor. To receive academic credit, the independent academic work must include some activity, exercise or product that can be evaluated by a regular member of the AS/EN faculty whose field of expertise is closely enough related to the work for the faculty sponsor to evaluate the work competently and certify that it merits academic credit.

Academic credit for independent academic work must be sponsored by a full-time member of the Homewood faculty. This is the case whether the work is done on campus or not. The work supervisor and the faculty sponsor may be the same individual. If the faculty sponsor is not the work supervisor, the work supervisor must provide the faculty sponsor with a report on the student’s achievements while doing the independent project and the faculty member must certify how much academic credit the project merits.

Students who wish to pursue independent academic work must begin by discussing their ideas with an appropriate faculty sponsor. That discussion must focus on what type of project the student envisions and what possibilities for academic credit the faculty member envisions. If the student and faculty member agree on the type of project and its academic value, then the student should find a suitable research or work environment for the project.

No more than three credits may be earned for independent study or research in one semester or summer (sessions I and II combined); only one credit may be earned for an academic internship during one semester or summer. Additionally, no more than 6 credits of any type of “independent work” may be earned in one academic year. The academic year begins in June with the first summer session and ends in May at the conclusion of the spring semester. Independent work done for academic credit must be unpaid. Credits for research and independent study may vary from 1-3 credits and may be graded with either letters grades (A, B, etc.) or Satisfactory/Unsatisfactory. Credit for an internship is limited to 1 credit, and the grading method is Satisfactory/ Un satisfactory only.

As with other academic courses, students must register for independent work by the end of the second week of the semester. Students must also observe the registration and add/drop deadlines in January Intersession and JHU Summer session.

Although academic credit is awarded for independent academic work, area designations are not assigned and the credit may not be used to satisfy the distribution requirement. The use of credit for independent academic work to satisfy the requirements of a minor or major is subject to prior written approval by the appropriate department or program.

Registering for Courses in Other JHU Divisions During the Fall and Spring Semesters

Qualified undergraduates may take courses at other divisions of the university by registering in person with the Homewood Registrar. In addition to the registration or add/drop form, students must submit a Supplemental Registration Form for Interdivisional Registration. Forms are available in the Homewood Registrar’s Office in 75 Garland Hall, in the Office of Academic Advising, Garland Hall, Suite 3A, or the Office of Engineering Advising, 103 Shaffer Hall. Courses taken at other JHU divisions must be taken for a letter grade, not S/U, unless the course at the host division is offered on an S/U basis only.

Peabody Institute

Performance courses at the Peabody Conservatory may either be as part of a grade and credit, or may be audited. Graded performance courses will receive 1 credit per semester unless taken for a double degree program. With the approval of a student’s teacher, performances that are audited may appear on a student’s academic record.

Homewood undergraduates who are not enrolled in a music major, minor, or degree program may take only one nonperformance course per semester at the Conservatory or Preparatory. These students may also take one performance course concurrently with the approval of
the student’s academic advising office. Students taking lessons for the first time at Peabody must also complete an Extension Application form which is available in the same locations as the Supplemental Registration Form.

Students may take private lessons at Peabody Conservatory with an instructor who is a Conservatory faculty member or a Preparatory faculty member approved by the Deans of the Preparatory and Conservatory. Acceptance is on a space available basis following an audition to demonstrate intermediate or advanced skills. Auditions for Conservatory lessons are held in September. Students will be notified of their audition time by letter from the Conservatory Registrar’s Office. Space in lessons is limited and registration is on a first-come, first-served basis. There is a $190 fee per semester for one half-hour lesson per week ($200 for voice). Students who wish to take additional lessons will be charged for them.

The Peabody schedule and deadlines can differ from those at Homewood. Students taking courses and lessons at the Conservatory must check these dates in the Peabody Master Schedule of Courses.

Students who wish to take beginning level music lessons may enroll through the Preparatory on a non-credit basis.

The Carey Business School and The School of Education

Students may register for approved courses in these two schools on a case-by-case basis. Student are limited to no more than 12 credits in the Carey Business School or 12 credits in the School of Education. In order to register in the Carey Business School or the School of Education, students in Arts and Sciences and Engineering programs should use the Interdivisional Registration Form, available from the Homewood Registrar’s Office, which requires permission of their academic advisor and the appropriate school program director or advisor. Note that the Carey Business School and the School of Education students have priority in registering for these schools' courses.

School of Medicine and Bloomberg School of Public Health

Except for Public Health Studies majors taking courses at the School of Public Health who require only the Public Health faculty advisor’s approval signature, undergraduates may register for courses in these schools with the approval of the faculty advisor, the course instructor, and the student’s academic advising office. Students must have an adequate background for the courses, and courses must be taken for a grade.

Registering for Courses at Cooperative Schools

Undergraduates may take one course per semester at one of the several area colleges and universities that comprise the Baltimore Student Exchange Program (BSEP). This program includes the following colleges in the Baltimore area: Coppin State University, Goucher College, Loyola University Maryland, Morgan State University, Notre Dame of Maryland University, Towson University, the University of Maryland Baltimore County, and Stevenson University. Similar arrangements on a limited basis are in place with the Maryland Institute College of Art.

Students who have received Air Force ROTC scholarships will register for the required ROTC courses at the University of Maryland College Park using the cooperative institution registration process described in this section.

Courses that are equivalent to those offered at the Homewood campus may not be taken through the cooperative program. Students register in person with the Homewood Registrar. Students must submit a registration or add/drop form along with a supplemental registration form for cooperative program courses. The form is available from the Registrar’s Office, 75 Garland or from the student’s academic advising office. The faculty advisor’s approval signature is required for all cooperative school courses. An academic advisor from the student’s advising office must also sign the form. Submit completed registration materials to the Homewood Registrar’s Office.

Prior to the start of classes at the host school, visiting students may report to the host school’s registrar for additional assistance (for example, campus maps or id cards) . Visiting students are not required to complete registration forms at the host school, and no academic record is established at the host institution. There is no additional fee or tuition charge for courses taken through the cooperative education program, except when the host school charges a laboratory or materials fee. In that event, the student pays the fee directly to the host institution.

Courses at cooperative schools must be taken for letter grades. Both grades and credits appear on the Hopkins academic record along with an indication of where the courses were taken. The grades are included in calculations of the grade point average.

Cooperative Education in Engineering

Engineering students may participate in government or industry-based cooperative education programs. Students who have received an offer from an employer should contact the Engineering Advising Office at 410-516-7395 or wseadvising@jhu.edu.

ROTC

Enrollment in the Johns Hopkins University Department of Military Science ROTC Program prepares students for full- and part-time careers in the U.S. Army and its Reserve Forces, as well as providing leadership and management skills valuable in any profession. Freshmen interested in finding out about the military profession should enroll in a Military Science course. Contact the professor of military science at (410) 516-7474 for enrollment procedures and scholarship information.
Final Examination Schedule for Fall and Spring Semesters

The Registrar establishes the final examination schedule. Official university policy is that students will have no more than two final exams on the same calendar day. In rare cases, the official final exam schedule available on the Registrar’s website, may slot three final exams on one day for a student. Students should contact their advising office for assistance in these instances. Instructors may administer final examinations only at the officially scheduled time, not during class time or during the reading period. Take-home final examinations, and other final exercises (such as papers), that are expected to be prepared for and completed after classes have concluded, are due at the end of scheduled in-class final examination time for the course. All other papers can be due at any deadline during the semester set by the professor, including the reading and final examination periods. Students who are concerned that any of these policies are being violated by their instructors should notify their academic advising office.

The final exam schedule (http://web.jhu.edu/registrar/schedule) is posted on the Office of the Registrar’s website.

Grading Policies

Grades are submitted to the Registrar at the end of the semester. Grades can be viewed online by students using their JHED account and password. Parents may be authorized to view grades in ISIS with permission from the student.

Undergraduates who are financially independent may file a notarized statement of financial independence with the Registrar. This action assures that grades and notification will not be released to parents without the student’s consent.

Letter Grades and Grade Point Average

Each letter grade corresponds to a numerical grade point equivalent to allow the computation of a grade point average. The letter grades and their grade point equivalents are as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Performance</th>
<th>GPA Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>Excellent</td>
<td>4.0</td>
</tr>
<tr>
<td>A</td>
<td>Excellent</td>
<td>4.0</td>
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<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>Satisfactory</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>Satisfactory</td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>Passing</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>Passing</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>Failure</td>
<td>0.0</td>
</tr>
</tbody>
</table>

For first semester freshmen:

- S: Satisfactory: C- or above (credit earned)

UCR: Unsatisfactory with Credit: D or D+ (credit earned)
U: Unsatisfactory: F (no credit earned)

For all other undergraduates:

- S: Satisfactory: C- or above (credit earned)
- U: Unsatisfactory: D or F (no credit earned)

Other marks are used in special circumstances as follows:

<table>
<thead>
<tr>
<th>I/Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR</td>
<td>Missing grade roster</td>
</tr>
<tr>
<td>MT</td>
<td>Multi-term</td>
</tr>
<tr>
<td>ND</td>
<td>Not officially dropped</td>
</tr>
<tr>
<td>R</td>
<td>Course repeated</td>
</tr>
<tr>
<td>W</td>
<td>Official withdrawal</td>
</tr>
<tr>
<td>X</td>
<td>No grade reported by instructor</td>
</tr>
</tbody>
</table>

Grade Points and Grade Point Average

To determine the grade point average, multiply the grade point equivalent by the number of credits for the course. Add the products (grade points earned), then divide the total by the number of credits in the computation.

A Sample Calculation of a Grade Point Average

<table>
<thead>
<tr>
<th>Grade</th>
<th>Credit</th>
<th>Grade Point Equivalent</th>
<th>Grade Points Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-</td>
<td>4</td>
<td>3.7</td>
<td>14.8</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>B-</td>
<td>3</td>
<td>2.7</td>
<td>8.1</td>
</tr>
<tr>
<td>C+</td>
<td>3</td>
<td>2.3</td>
<td>6.9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>13</td>
<td></td>
<td>38.8</td>
</tr>
<tr>
<td>GPA</td>
<td>= 38.8/13 = 2.98</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Satisfactory/Unsatisfactory Grades

Beginning with the second semester of the first year, undergraduates may select one course each semester and summer (across all summer terms) to take for Satisfactory/Unsatisfactory credit at JHU. Students indicate their S/U choice on their add/drop form. AS students need the Advising Office approval for courses within their major or writing intensive courses. EN students need approval from their faculty advisor. Course instructors are unaware of which students in a class are registered for S/U credit. Instructors submit letter grades to the Registrar for all students in their course.

Students must decide whether to take a course on a Satisfactory/Unsatisfactory basis by the end of the eleventh week of the semester. This deadline applies to all courses, even those which may not have any graded work assigned or returned before the end of the eleventh week.
S/U grades have no effect on a student’s grade point average. On the academic transcript, students who earn a grade of C- or above in a S/U course receive Satisfactory credit and a mark of S is entered on the academic record. Students who earn a grade below C- in a S/U course receive no credit and a mark of Unsatisfactory is recorded on the academic record.

Under certain conditions, graduating students in their eighth semester may exceed the normal S/U grading limit. See Graduation Policies (p. 28) for details.

Restrictions on Satisfactory/Unsatisfactory Grading
The S/U option applies only to courses in the fall, spring and summer terms in the School of Arts and Sciences and the School of Engineering. Only one course per semester or summer (across all summer terms) may be taken for S/U credit. However, an eligible student who registers for a course that is only offered for S/U credit may select an additional S/U course in the same semester. Language elements courses must be taken for a letter grade with the exception of Russian Elements. Courses fulfilling a requirement for a major or minor may be taken as an S/U grade (except in the first semester of the first year). If a student has taken a course for S/U credit and then changes to a major or minor that requires the course, the grade can be changed to a letter grade before graduation with the approval of the student’s academic advising office.

Incomplete Grades
Students who are confronted with compelling circumstances beyond their control that interfere with the ability to complete their semester’s work during the normal course of a term may request an incomplete grade from the instructor. Approval of such a request is neither automatic nor guaranteed. Procrastination or distraction by other pursuits are not regarded as compelling circumstances, and extensions in these situations are unfair to students who have completed their course requirements within the allotted time.

If the instructor agrees to grant an incomplete grade, the instructor and student must establish a timetable for submitting the unfinished work, but no later than the end of the third week of the following semester. See below for specific information about graduating students. When entering an incomplete grade in ISIS, the instructor must also enter a reversion grade. This is the grade that the student will receive if the missing work is not completed. For example, if the student, based on the coursework completed by the end of the semester, would receive a C+ grade without the missing work, then the grade of IC+ is entered on the transcript. If the incomplete grade is not resolved within the allowed period (the end of the third week of the subsequent semester), the incomplete grade is automatically converted to the reversion grade (C+ in this example).

Students who are in good academic standing have until the end of the third week of the next semester to finish incomplete work. Exceptions to this deadline require a petition from the instructor and appeal to the appropriate advising office before the end of the third week of the following semester. When appealing to change the deadline, faculty members must specify a new date for completion of the work which must be before the end of the current semester. Incomplete grades cannot be held over to another semester in order to complete the missing work by repeating the course. Students and instructors do not have an option in this situation.

Incomplete grades do not affect a student’s grade point average, which is based upon the grades that are available for the term. However, students with three or more incomplete grades on their record at the start of a semester may be prevented from making changes to their registration for the semester without the approval of the student’s advising office. Students who are on academic probation are not allowed to take incomplete grades in courses without the approval of the student’s advising office. Unauthorized incomplete grades will be treated as failures when evaluating the work of students who are on academic probation. Authorized incomplete grades must be resolved no later than the deadline established by the Advising Office if the student is on academic probation.

Special Rules for Graduating Students
Students with incomplete grades in required courses at the date of degree conferral will not graduate. Students with incomplete grades in courses that are not required for degree completion may still graduate. However, the deadline for completion is abbreviated; students must resolve incomplete grades within approximately 30 days after degree conferral when the university closes their undergraduate record. If the work is not finished by the deadline, the reversion grade will be recorded. For the specific deadline relevant to each degree conferral, please consult with Academic Advising or the Office of the Registrar. For more details on incomplete grades and graduation, see Graduation Policies (p. 28).

Policy on Changing a Grade
Once an instructor has submitted a grade to the Registrar, grade changes can be made only in the case of error in grading, calculation, or transcription. If a student has questions about a grade, s/he should contact the faculty instructor, who has sole authority to assess and assign course grades. If the instructor determines a change is warranted because of error, the change must be submitted to the Registrar’s Office by the end of the following semester. Grade changes for graduating seniors must be submitted by the close of their undergraduate record.

Under extenuating circumstances, the following procedure may be used to withdraw a student from a previously graded course:

• Official notification to change a grade to a withdrawal must be submitted by the Office of the Dean of Student Life to Arts and Sciences Office of Academic Advising or the Office of Engineering Advising
• All notifications must include the last date of attendance and the instructor’s approval
• The Registrar’s Office will process the withdrawal and note the academic record
• Late withdrawals may adversely affect a student’s academic standing or financial aid satisfactory academic progress even with official approval.

Retaking a Course
Policies about retaking a course can be found here. (p. 16)

First-Year Language Courses: Information about Credit and Grades
Policies about first-year language course can be found here. (p. 16)

Dean’s List
Students who earn a term grade point average of 3.50 or above in a program of at least 14 credits with at least 12 graded credits will be placed on the Dean’s List for academic excellence. An appropriate
notication is made on the students’ academic records. Letters are sent to parents by a student’s respective academic advising office. The university places notification in your appropriate hometown newspaper, if you elect to follow the directions provided with the letter.

Class Rank
The university does not calculate class rank and therefore, cannot provide this information to students or outside parties.

Transcripts
Information about ordering transcripts is available here (http://web.jhu.edu/registrar/transcripts). Partial transcripts of a student’s record will not be issued.

Transcripts are normally issued only at the request of the student or with his/her written consent. The only exception to this policy is the issuance of transcripts to offices and departments within the university.

Freshman First-Semester Grading Policy (Covered Grades)
The letter grades earned by students in their first semester at the university are not reported on the transcript. Each course that was passed with a grade of C- or above is assigned the letter S (for Satisfactory) in place of a grade. These courses can be used to satisfy requirements for the major, for distribution, and for the writing requirement. Letter grades of D and D+ are assigned the grade UCR (for Unsatisfactory with Credit). Letter grades of F are assigned the grade of U (for Unsatisfactory, no credit earned). First semester courses that receive UCR grades and credits may be used to meet distribution requirements.

Transcript of First Semester Grades
All courses appear on the student’s permanent academic records. First-year students are assigned letter grades (A+, A, A-, B+, B, B-, C+, C, C-, D+, D, or F) by the professor for each course taken. The letter grades are not entered on the official transcript; rather, they are represented by the S, UCR or U values described above. The actual grades are said to be “covered” by the S/U grades.

No first-semester grades are included in a student’s cumulative grade-point average. However, an internal GPA is used by the advising offices, the Student Financial Services office, and faculty advisors to determine that a student has made satisfactory academic progress during the first semester. This internal GPA is also used to determine dean’s list eligibility.

A transcript of first semester grades is not released outside the university. Faculty members may not release a student’s first semester grades. If a first-year student applies to transfer from the university in the spring term, before spring grades have been recorded, the student’s advising office can approve release of the actual first semester grades directly to the transfer institution. Once grades from the spring term or additional semesters have been added to the record, the covered grades will not be released.

Students who are applying for or renewing a scholarship may request a letter from their academic advising office stating whether the first semester grades meet the requirements for the scholarship. Students who can demonstrate that failure to release covered grades will prevent them from applying for scholarships or verifying eligibility for scholarships may request that their advising office approve release of the grades. A letter from the scholarship granting institution must state that the application cannot be considered without the actual grades.

It is very important that students know what grades they have received in their first semester. Students may access their first semester grades in ISIS for Students.

Although there are no university regulations concerning attendance, students are expected to attend all courses regularly. Students should consult with their instructors and/or teaching assistants when they have missed classes to explain the reasons for their absence and to stay on track in the course. Instructors are encouraged to establish their own policies regarding attendance, and it is the student’s responsibility to know those policies.

In certain courses regular attendance is given special importance. These include foreign language courses and the introductory courses in the Writing Seminars and Expository Writing. Instructors in these courses may lower a student’s grade for unexcused absences.

If a student is absent from classes over a period of several days without explanation, instructors are encouraged to inform the advising office of his/her school. In some cases, withdrawing from a course may be considered; however, the student must withdraw from a course before the end of the eleventh week of the semester and still remain in at least 12 credits.

Absence From Class Due to Illness
The Health and Wellness Center does not provide documentation for students who miss individual classes. In these cases, students should communicate directly with their instructors.

If a student experiences a serious or extended illness that causes the student to miss a significant number of classes or major academic assignments, including mid-term examinations, the student can provide a physician’s documentation of the illness to the Dean of Student Life who will notify the student’s instructors.

Students who have significant illnesses that interfere with their ability to meet their academic obligations are encouraged to seek treatment at the Student Health Center and to confer with the appropriate academic advising office, which can assist students facing serious health problems. Students should also notify faculty when they are not able to complete course work due to illness. Faculty who see a pattern of absences or late work are encouraged to confer with the student’s advising office.

Falsely reporting an illness or injury is a violation of the code of student conduct and is subject to disciplinary action.

Absence for Religious Holidays
Religious holidays are valid reasons to be excused from class. Students who must miss a class or an examination because of a religious holiday must inform the instructor as early in the semester as possible in order to be excused from class or to make up any work that is missed.

Approved Absences
The university encourages students to participate in varsity athletics and other significant extracurricular activities. Students who must miss a class or an examination because of participation in a scheduled in-season varsity athletic event must notify the course instructor as
early in the semester as possible. Approved absences are granted at the discretion of the course instructor. When students must miss a scheduled examination, several solutions have been found by instructors. Students have been permitted to take an examination before leaving for the event, or coaches have served as proctors for examinations taken during the athletic event at approximately the same time as the other students in the course. Students have also been allowed to take the examination, or an alternative examination, upon their return from the athletic event.

Student Status

Contact Information
All matriculated students are required to have on record with the university accurate local and permanent contact information at all times. This includes local address, local telephone number, and valid JHU e-mail address. Parent or legal guardian emergency contact information also must be on record and updated as necessary. This information should be maintained with the Registrar’s Office by using Student Web Services at http://web.jhu.edu/registrar.

Student Classification (Year of Study)
Student classification refers to the familiar names for the four undergraduate years: freshman, sophomore, junior, and senior. A student’s classification is generally determined by the academic year in which the student’s cohort began the first year of college. In the first year, students in the cohort are designated freshmen. For students transferring into the university, an official student classification will be assigned by the respective advising office after completion of a final transfer credit evaluation. The number of credits a student has earned does not determine class standing. A student who graduates after three years would graduate as a junior.

For students who have been on leave and missed two or more semesters, classification will be determined by the student’s academic advising office when the student returns to the university. If, for example, a student was on leave of absence for an entire academic year, the advising office may assign the student to a cohort one year behind the student’s original cohort.

Students are required to register with their cohort, not on the basis and intends to return in a future semester should see the respective academic advising office after completion of a final transfer credit evaluation. The number of credits a student has earned does not determine class standing. A student who graduates after three years would graduate as a junior.

For students who have been on leave and missed two or more semesters, classification will be determined by the student’s academic advising office when the student returns to the university. If, for example, a student was on leave of absence for an entire academic year, the advising office may assign the student to a cohort one year behind the student’s original cohort.

Students are required to register with their cohort, not on the basis of total credits or expected date of graduation. Plans to graduate early are not grounds for registering before a student’s cohort. If a student who intends to graduate early is closed out of a required course for the major, the student may petition the department offering the course for approval to add the course. The decision rests with the department.

Full-Time Student Status
Undergraduate students at Johns Hopkins University must be registered for a minimum of 12 credits each semester. Students who have not completed degree requirements after eight full-time semesters may register for fewer than 12 credits and pay for courses on a per-credit basis. Prior to a ninth semester, a student may not enroll for fewer than 12 credits.

Personal Leave of Absence
Students may be granted a term leave of absence for personal reasons with the approval of the academic advising office for the student’s school and with a letter from the student’s parent or guardian acknowledging the request for leave. Written requests for a leave of absence should be submitted to the academic advising office in the student’s school. Leaves of absence are granted for specific periods, generally up to one year, and such leaves are regarded as approved interruptions of a student’s program. No tuition or fees are charged while on leave.

Students who fail to return to the university when expected will be considered to have withdrawn from the university.

Medical Leave of Absence (Physical or Mental Health)
Students may be granted a term leave of absence for physical or mental health reasons with the approval of the Office of the Dean of Student Life. Medical health leaves of absence require consultation with the Counseling Center. Physical health leaves of absence require consultation with the Student Health and Wellness Center. No tuition or fees are charged while on leave. Further details are available from the Office of the Dean of Student Life (http://web.jhu.edu/studentlife).

Note for Peabody Double Degree Students
Peabody double degree students may request a leave of absence from the double degree program, but they cannot be granted a leave of absence from only the Homewood or Peabody portion of the program.

Withdrawal from the University
A student who wishes to withdraw from the university with no intent to return should consult with the respective academic advising office in order to submit an official notification. An official notification of withdrawal consists of the following items:

- a letter providing brief reason for withdrawal and effective date
- a letter from parent(s)/guardian(s) acknowledging the student’s withdrawal from JHU

The academic advising office will inform the Office of the Registrar, who will subsequently circulate the notification to other relevant campus offices, such as Student Accounts, Housing, Office of International Students, etc.

An enrolled student who leaves the university without notice, or who fails to register by the second week of the semester, may be considered to have withdrawn from the university.

In the rare situation where a withdrawn student wishes to return to the university, the student must submit a written request for readmission to their respective advising office for evaluation. A student must be formally readmitted before registering for courses. Readmitted students do not pay another matriculation fee.

A student who wishes to withdraw from the university on a temporary basis and intends to return in a future semester should see the information under Leave of Absence (p. 23).

Many departments, institutes, and centers offer undergraduates the opportunity to complete some of the requirements for a master’s degree while still completing the requirements for a bachelor’s degree. Some of these programs offer early admission to the graduate school and may enable a student to complete both bachelor’s and master’s
degrees in four years. Other programs are considered five-year programs. For information on what offerings are available in a specific department, refer to the departmental entry.

Students in either the School of Arts and Sciences or the School of Engineering must be accepted into a combined program no later than the first semester of their senior year (some departments set an earlier application deadline).

School of Arts and Sciences

Students in a combined program are full-time students and are charged full tuition. This category is reserved only for current JHU full-time undergraduate students who are accepted into a combined graduate program. Such students are eligible to become full-time graduate students upon completion of their undergraduate degree requirements.

School of Engineering

The registration status of Whiting School of Engineering students who have been admitted into a combined bachelor's/master's degree program will switch from undergraduate to graduate once they obtain clearance from their respective departments and either:

1. complete the requirements for a bachelor's degree, or

2. complete eight semesters of full-time undergraduate study, whichever comes first. As soon as this occurs, a student is guaranteed health insurance benefits and becomes eligible for a partial tuition waiver and research and teaching assistantships (the graduate program determines the student's level of support).

Taking a Course as an Alumnus

JHU alumni who completed their bachelor's degree through the Krieger School of Arts and Sciences or the Whiting School of Engineering may take additional courses in those divisions with permission of the advising office of the school from which they graduated. Students should complete a paper registration form and have it signed in their respective advising office before taking it to the Office of the Registrar for processing. Courses, grades, and credits will appear on a new academic record. Students must follow the rules for earning a second major or a minor after graduating, if applicable.

Finishing a Second Major or a Minor after Graduating

Students who have completed eight or more semesters in college may take an additional course or two after graduation to complete a second major or minor if they have filed an approved plan with their respective advising office before their initial graduation date. The courses, grades, and credits will appear on a new academic record. A notation indicating the additional major or minor will be added to the new academic record, but a new diploma will not be issued. Students must notify their academic advising office when additional courses taken after graduation satisfy another major or minor.

A plan consists of the following:

1. Written approval from the director of undergraduate studies for the additional major/minor.

2. Description of the remaining requirement(s) to be completed. No more than two courses may be needed and these courses must be completed within one year of a student's initial graduation date.

3. Brief summary of why it is necessary for the student to have their degree conferred before completion of all planned majors or minors.

4. Final approval of a plan must be obtained from the student's respective advising office.

Students who graduate in fewer than eight semesters may also take courses after graduation as a full-time or part-time student if not completing an additional major or minor. Students who graduate early lose the opportunity to complete additional majors or minors after graduation.

Students should seek assistance of their respective advising office in order to register for a course after graduation.

Second Degrees

Krieger School of Arts and Sciences and Whiting School of Engineering undergraduate-degree alumni who wish to earn a second bachelor's degree at Hopkins must contact their advising office. Students who receive approval must have already completed the requirements for the first bachelor's degree and complete an additional 60 credits at Hopkins beyond what they have done for the first degree. Alumni must request permission to pursue a second bachelor's degree within ten years of the conferral of the first bachelor's degree. The second bachelor's degree must be completed within ten years from the starting date of the second bachelor's degree.

Requirements for a Bachelor's Degree

The information below describes the requirements for students entering JHU in Fall 2014. Students who entered JHU prior to Fall 2014 should view the appropriate archived catalog (http://web.jhu.edu/registrar/catalog).

There are five categories of degree requirements that comprise an undergraduate degree at Hopkins:

1. Total degree credit requirement (ranges from 120-129)

2. Residency requirement (minimum 100 JHU credits for freshmen)

3. Distribution requirements

4. Writing requirement

5. Departmental major requirements (and minor requirements, if applicable)

All approved credit earned through exams or at other colleges and universities may be used to meet requirement areas 3-5 listed above: distribution requirements, the writing requirement (according to the procedures defined by the Writing Center (http://krieger.jhu.edu/ewp/writing%20requirement), departmental major and minor requirements, and to satisfy course prerequisites.

The total degree credit requirement (requirement 1) is considered a distinct degree requirement and ranges from 120-129 credits,
depending on the degree. It is not merely a cumulative tally of courses used to satisfy requirement areas 3-5 listed above. Because students who entered the university directly from high school must complete 100 JHU credits (requirement 2), there is an effective limit on how many exam and transfer credits can be counted towards the total degree credit requirement (requirement 1).

For a degree requiring 120 total credits, a maximum of 20 approved credits from other sources may be counted towards the total degree credit requirement (requirement 1), even if more than 20 credits from external sources have been used to satisfy requirement areas 3-5 listed above.

For example, a student is pursuing a degree whose total degree credit requirement is 120. This student could have a total of 32 external credits posted to the transcript: 8 transfer credits from another university and 24 AP exam credits. All 32 of these credits may be applied to requirement areas 3-5. However, in order to allow room for the residency requirement (requirement 2), only 20 of those 32 credits will be tallied towards the 120 total degree credit requirement (120-100=20). If this student changes to a degree program whose total degree credit requirement is 126, 26 of those 32 credits would be tallied towards the total degree credit requirement (126-100=26).

All approved exam credits earned will be posted to the transcript. Up to 12 approved transfer credits will be posted to the transcript. See External Credits (p. 31) section for details.

**"D" Grade Restriction**

University policy allows no more than 18 credits from courses with grades of D or D+ to be counted toward the credits required for graduation. Departments may set a lower limit on the number of permissible D or D+ grades for a specific major. Many departments do not accept any D or D+ credits for major requirements.

**Ten-Year Degree Completion Limit**

A student must fulfill all degree requirements for graduation within 10 academic calendar years from the date of matriculation at the university.

**Disability Support Services**

JHU welcomes students with disabilities and values their diverse experiences and perspectives. The Office of Student Disability Services (SDS) coordinates appropriate and reasonable accommodations for qualified students with disabilities in accordance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990 and the ADA Amendments Act of 2008. SDS also works with various offices on campus to ensure that students with disabilities have equal access to university programs, facilities, technology, and websites.

Students who wish to request reasonable accommodations must submit documentation that establishes a disability, details the current functional impact of that disability, and confirms the need for each accommodation requested. Documentation guidelines are available on the SDS website at [http://web.jhu.edu/disabilities/students/admitted/documentation/index.html](http://web.jhu.edu/disabilities/students/admitted/documentation/index.html).

Students seeking accommodations are encouraged to submit their specific requests at least two weeks prior to the start of the semester to ensure that accommodations are provided in a timely manner.

Full-time undergraduate and graduate students in the Krieger School of Arts and Sciences or the Whiting School of Engineering with questions and concerns regarding the registration process, implementation of accommodations and/or identification of other support services, should contact:

**Dr. Brent Mosser**, Director
Academic Support and Student Disability Services
bmoss1@jhu.edu
410-516-4720
web.jhu.edu/disabilities

Questions regarding JHU’s documentation guidelines or physical and programmatic access at JHU should be directed to:

**Abigail Hurson**, JD
Disability Services Officer
Office of Institutional Equity
ahurson1@jhu.edu
410-516-8075 (voice), 410-516-6225 (TTY)
web.jhu.edu/administration/jhuoie/disability.html

The Bachelor of Arts degree requires 120 credits. The Bachelor of Science degree, whether in Arts and Sciences or Engineering, requires from 120 to 130 credits, depending on the major. No program may require more than 130 credits.

**Residency Requirement for Freshmen**

Beginning in Fall 2014, students who enter the university from high school must complete at least 100 credits at JHU. This includes courses that are taken after matriculation as a degree-seeking student:

- in fall, intersession, spring, or summer at JHU
- in other divisions of the university (including Advanced Academic Programs and Engineering for Professionals)
- through the Baltimore cooperative institutions program during the fall and spring semesters only
- through an approved study abroad program (up to 30 credits)

In addition, credits earned through JHU courses prior to matriculation as a degree-seeking student are applied to the 100-credit residency requirement.

Students who entered JHU prior to Fall 2014 should view the appropriate archived catalog (http://web.jhu.edu/registrar/catalog).

All students must complete a minimum of four semesters in residence as a full-time student. Students must be in residence for at least two of the final four semesters, including the final semester prior to graduation.

**Residency Requirement for Transfer Students**

Students who enter the university as transfer students must complete at least 60 credits at JHU. This includes courses that are taken after matriculation as a degree-seeking student:

- in fall, intersession, spring, or summer at JHU
- in other divisions of the university (including Advanced Academic Programs and Engineering for Professionals)
• through the Baltimore cooperative institutions program during the fall and spring semesters only

In addition, all transfer students must complete at least four full-time semesters in residence at JHU. Transfer students must be in residence for at least two of their final four semesters, including the final semester prior to graduation.

**Residency Requirement for Peabody Double Degree Students**

Students earning a double-degree at Peabody must complete at least 48 credits on the Homewood campus in either the Krieger School of Arts & Sciences or the Whiting School of Engineering.

To encourage excellence in writing, across disciplines, the university requires all undergraduates to take a number of writing-intensive courses. A writing-intensive (W) course is one in which students write at least 20 pages of finished writing, distributed over multiple assignments, usually 3 or 4 papers, throughout the semester. Instructors respond to students’ work in written comments or in conference, or both; and students have at least one opportunity to receive their instructor’s feedback on a draft and then revise. A writing-intensive course guides students’ practice in writing and makes writing an integral part of the course. The writing-intensive requirement is administered by Patricia Kain, Director of the Expository Writing Program (http://krieger.jhu.edu/ewp).

Writing-intensive courses are indicated by a “W” in the JHU course schedule and an asterisk (*) on a student’s transcript. Courses taken to satisfy the writing requirement must be taken for a letter grade and passed with a grade of C- or better. Writing-intensive courses taken to satisfy major, minor, or distribution requirements may also count toward the writing requirement.

All students in the School of Arts and Sciences must complete at least 12 credits in writing-intensive courses. Candidates for a B.A. degree in the School of Engineering must complete 12 credits (four courses at least 3 credits each) in writing-intensive courses, while candidates for a B.S. degree in Engineering must complete 6 credits (two courses at least 3 credits each) in writing-intensive courses.

Students who wish to receive writing-intensive credit for a course taken at another college or university must obtain written approval from Professor Kain. No more than 6 credits may be transferred to meet the writing requirement. Students must have a grade of B or higher in the course and must provide Professor Kain with the course syllabus. Please see the procedure for transferring writing credits (http://krieger.jhu.edu/ewp/writing%20requirement).

Students who enter the university with scores below 600 on the SAT writing or verbal test are advised to take AS.060.100 Introduction to Expository Writing during the fall term of their first year.

The distribution requirement stipulates that students must earn a minimum number of credits in academic areas outside of their primary major. Area designators represent an association between the course and an academic area. Courses with area designators are expected to do more than employ basic techniques, they are to advance knowledge and increase a student’s understanding of the theory. Courses that are teaching a basic skill, and therefore do not expose the student to modes of analysis and scholarship that represent the essence of a given discipline, will not be assigned an area designator. If taught within a Homewood academic department, the department is responsible for assigning area designators to their courses. Courses not offered through Homewood academic departments will be reviewed by the appropriate dean’s office to review proposed designators.

The academic areas in the Hopkins curriculum are humanities (H), natural sciences (N), social and behavioral sciences (S), quantitative and mathematical sciences (Q), and engineering (E).

The area designations of courses (H, S, N, Q, and E) are included in the course information in the departmental pages (https://e-nextcatalog.jhu.edu/departments-program-requirements-and-courses) of the catalog and in the online schedule of classes. The area designation also appears beside the course title on a student’s academic record. When a course has more than one area designation (HS, EN, EQ, etc.), students may use only one of the designations to satisfy the distribution requirement.

Only courses or other credit-bearing opportunities with area designations may be used to satisfy the distribution requirement. Area designators are not assigned to the following:

- Independent study
- Research
- Internships
- Music performance (unless taken as part of a music minor, in which case the course will be designated H)
- Dance performance
- Foreign language elements courses (see additional foreign language rules (p. 16))
- Medical tutorials

Area designations can be assigned to courses taken elsewhere, to courses taken in other divisions of the university, or to graduate courses taken by undergraduates. These assignments are made by the appropriate dean’s office based on the course content and the recommendations of the faculty. The most useful criteria for determining an appropriate area designator will be the course description and a similar JHU departmental offering.

The following courses at the Peabody Conservatory have H designations:

**Area Designators for Peabody Courses**

```
Area Designators for Peabody Courses (p. )

<table>
<thead>
<tr>
<th>Designator</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>Keyboard Literature I</td>
</tr>
<tr>
<td>H</td>
<td>Keyboard Literature II</td>
</tr>
<tr>
<td>H</td>
<td>Keyboard Literature III</td>
</tr>
<tr>
<td>H</td>
<td>Keyboard Literature IV</td>
</tr>
<tr>
<td>H</td>
<td>Jazz Analysis/History</td>
</tr>
<tr>
<td>H</td>
<td>Constructive Listening &amp; Analysis /Jazz History</td>
</tr>
<tr>
<td>H</td>
<td>History of Music</td>
</tr>
<tr>
<td>H</td>
<td>History of Music II</td>
</tr>
<tr>
<td>H</td>
<td>History of Music III</td>
</tr>
<tr>
<td>H</td>
<td>History of Music IV</td>
</tr>
<tr>
<td>H</td>
<td>Music and Culture</td>
</tr>
<tr>
<td>H</td>
<td>Humanities Seminar I</td>
</tr>
<tr>
<td>H</td>
<td>Humanities Seminar II</td>
</tr>
</tbody>
</table>
```
for the major and may also include courses in other disciplines that provide skills and information of importance to professionals in the major field. Courses required for the major must be taken for a letter grade and students must have a grade point average of at least 2.00 in the courses required for the major, i.e., not including elective courses or courses used only for the distribution requirement. Many majors require a grade of C- or better in required courses.

**Departmental Directors of Undergraduate Studies**

For every major and minor that is offered at Johns Hopkins, there is a faculty member or their designee who serves as the program’s Director of Undergraduate Studies (DUS). They are available to answer questions about their major(s) and/or minor(s). The directors also assign faculty advisors to students who declare a major or minor.


**Declaring a Major in Arts and Sciences**

Students who enter the Krieger School of Arts and Sciences from high school are classified as pre-majors during their freshman year. In April, freshmen in Arts and Sciences will meet with an academic advisor to declare their primary major in Arts and Sciences. To declare a major at a later time, see Changing Majors or Advisors (p. ). Students must declare a major by April 15th of their sophomore year in order to assure that they will complete requirements for graduation in four years.

**Declaring a Major in Engineering**

Students who enter the Whiting School of Engineering (WSE) declare a specific engineering major on their application for admission. A student must take direct action to change the major. To change a major, see Changing Majors or Advisors (p. ).

Students who select the Biomedical Engineering major must be accepted into the program at the time of application for admission. The student’s offer of admission to the university will indicate either:

- acceptance into the BME program
- acceptance into any Engineering or Arts & Sciences major except BME

On a space available basis, BME may accept a limited number of students into the program at the end of the freshman year based on the overall academic credentials of each applicant. However, this option is exercised very infrequently by the BME department.

Students may also select the more general “undecided engineering” category on the admissions application to enter the WSE. It is recommended that undecided engineering students select a specific major no later than the end of freshman year.

**Special Note for Freshmen**

KSAS freshmen may declare second majors and minors offered through the School of Engineering beginning their freshman year until April 15th of their junior year. Engineering students may declare a second major or minor offered through either the School of Engineering or the School of Arts and Sciences beginning their freshman year until April 15th of their junior year.

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### Distribution Requirement for Arts & Sciences Students

Effective Fall 2014, the distribution requirement for Arts and Sciences students has changed from prior years. Students who entered JHU prior to Fall 2014 should view the appropriate archived catalog (http://web.jhu.edu/registrar/catalog).

Students must earn:

- At least 9 credits in humanities
- At least 9 credits in social sciences
- At least 9 credits in natural sciences, quantitative, or engineering

These credits fulfilling the distribution requirement may overlap with major or minor requirements and the writing requirement.

In Arts and Sciences, courses taken for the distribution requirement may be taken for a letter grade or for Satisfactory/Unsatisfactory credit. Courses passed with a letter grade of D or better, or passed with a Satisfactory grade, will fulfill the distribution requirement. For any student whose first-semester grades are covered under the current first-semester grading policy, an earned D will satisfy the distribution requirement even though the grade will appear as Unsatisfactory (UCR) on the official record. Satisfactory grades (representing a C- or higher letter grade) earned in a student’s first semester at JHU will satisfy the distribution requirement if they have the correct area designations.

### Distribution Requirement for Engineering Students

Students earning a degree in the School of Engineering must complete the following distribution requirement:

- 18 credits (6 courses at least 3 credits each) designated H and/or S. Although language elements courses do not carry an area designator, engineering students may use these courses as substitutes for humanities courses in meeting the distribution requirement.
- At least 75 credits earned in courses coded E, Q, or N, with at least 30 credits in courses coded N or Q, with no course counted twice. At least 30 of the 75 credits must be earned outside the student’s major department.

In Engineering, each department determines whether or not the Satisfactory/Unsatisfactory grading option will be permitted for courses used to satisfy the distribution requirement. Satisfactory grades (representing a C- or higher letter grade) earned in a student’s first college semester at JHU may satisfy the distribution requirement if they have the correct area designations.

### Completing a Major and Minimum Grade Point Average

Every student who earns a bachelor’s degree must satisfy the requirements of a major. A major is a structured curriculum, usually within the confines of a particular academic field. Generally the requirements for a major provide a student with a broad overview of the field through introductory courses, followed by more specialized courses tailored to meet the student’s interests in the field. The requirements
Changing Majors or Advisors

Once students have declared a major, they may change their major or their faculty advisor at a later date by obtaining a Change of Major form from the Office of the Registrar or the advising offices, meeting with appropriate person in the major to be assigned a new faculty advisor, and submitting the form to the Office of the Registrar.

Note that students may declare the BME major only at the time of application for admission to the University or as one of a limited number of students accepted into the program at the end of the freshman year based on the overall academic credentials of each applicant and on space available.

Double Majors

Students who wish to complete the requirements of more than one major are expected to declare the additional major(s) by April 15th of their junior year. Students may add or drop an additional major by completing the appropriate form, available from the Office of the Registrar or from the student’s academic advising office. The form must be signed by the director of undergraduate studies for the major before it is submitted to the Office of the Registrar. The DUS will also assign a faculty advisor to the student.

A student with a double major receives the degree (B.A./B.S.) associated with the student’s primary major. Completing a second major does not entitle the student to a second degree. The completion of additional majors is recorded on the transcript and diploma. When completing a double major, students need only satisfy the distribution requirement affiliated with the school of their primary major.

Declaring a Minor (optional)

Students who wish to complete the requirements for a minor(s) are expected to declare the minor(s) by April 15th of their junior year. Students may add or drop a minor by completing the appropriate form, available from the Office of the Registrar or from the student’s academic advising office. The form must be signed by the director of undergraduate studies for the minor before it is submitted to the Office of the Registrar. The DUS will also assign a faculty advisor to the student. The completion of a minor is recorded on the transcript, but the minor does not appear on the diploma.

Official recognition with notation on the academic record is not given for completion of majors or minors at other divisions of the university or at other colleges.

Restrictions Applying to Double Majors and Minors

Within the Hopkins curriculum, requirements for the completion of undergraduate majors and minors are established by academic departments and approved by the Homewood Academic Council, acting on recommendations from the Curriculum Committees of the Krieger and Whiting Schools. Students who fulfill the necessary prerequisites and satisfy the specified course requirements for a major/minor will be certified as having completed that major/minor. While departments are free to designate the range of courses that may satisfy major/minor requirements for their own academic programs, they may not prohibit the use of course work presented for their department’s major/minor from being used to satisfy the requirements of other majors or minors. In other words, students may “double count” coursework that independently meets the requirements of more than one major/minor.

Students are encouraged to choose additional areas of study to complement their major. However, students may not choose a minor with an identical name to their major. For example, a student majoring in Africana Studies may not declare a minor in Africana Studies.

Other prohibited combinations include:

1. Students majoring in Molecular and Cellular Biology may not major in Biology.
2. Students majoring in the Natural Sciences Area may only double major or minor in a program outside of the natural sciences.
3. Students majoring in Romance Languages may not major or minor in one of the individual Romance Languages (except for the Spanish for the Professions minor).
4. Students majoring in French may not complete either French minor option.

Closely-related majors and minors that are allowed include:

1. Economics majors may complete a Financial Economics minor.
2. Spanish majors and Romance Languages Majors may complete the Spanish for the Professions minor.
3. Computer Science majors may complete a Computer Integrated Surgery minor.

The examples provided above may not be an exhaustive list and students who have questions about combinations of related programs should consult an advisor in their respective advising office.

Graduation Policies

Applying to Graduate

Students who intend to graduate in the next academic year must complete an Application for Graduation as directed by their respective academic advising office. The university confers degrees three times per year and there is one annual commencement ceremony in May.

Graduating in May

Most students who enter the university directly from high school graduate in May after eight semesters of full-time enrollment. Full-time enrollment is a minimum of 12 credits. Part-time enrollment is not permitted within a student’s first eight semesters. Because of the requirement that students have full-time status in the semester immediately prior to graduation, students must register for at least 12 credits in the final semester even if all course and credit requirements could be met with fewer than 12 credits.

Graduating in August

A small number of students complete their degree during the summer. Students who have completed eight full-time semesters may graduate in the summer if all degree requirements have been satisfied by the degree conferral date (last Friday in August preceding the start of fall semester classes). Students who have not completed eight full-time semesters should see the Graduating Early (p. 29) policies.

Graduating in December

A small number of students complete their degree at the end of the fall semester, not including intersession. Students may graduate in December if all degree requirements have been satisfied by the degree conferral date (December 30th or the preceding Friday if the 30th falls
Students are required to maintain full-time status (at least 12 credits) in their final semester unless they are in their ninth semester or later.

**Note for students who entered as transfer students**
Transfer students are not subject to the eighth semester restrictions listed above. They must complete at least four full-time semesters at JHU before they are eligible to graduate.

**Completing Graduation Requirements**
Students are responsible for completing the requirements for a bachelor’s degree (p. 24). All grades and credits for courses that are required for graduation must be submitted in time to clear students for graduation.

Each student expecting to graduate will receive a final bill from the university. It is university policy that all outstanding accounts must be paid in full before a student’s diploma may be released.

Students who have not completed degree requirements after eight full-time semesters (or four full-time semesters for transfer students) in college may register for less than 12 credits and pay for courses on a per credit basis. With approval of the director of the student’s academic advising office and the major department (in the case of courses required for the major), these students may take courses elsewhere to meet the remaining graduation requirements, but must observe the 12 credit limit on transfer credit. These students also may have part-time status in the semester when they graduate.

Graduating students who are taking courses at cooperative schools or in other divisions of the university must make arrangements with their instructors on the first day of class to have final grades submitted to the host registrar and then to the Homewood Registrar by the deadline for submitting grades for graduating students. If such an arrangement cannot be made, students should not register for the course.

Students who graduate in December may remain in university housing and/or continue to participate in student organizations only if they enroll for a minimum of 6 credits during the following spring semester.

A student will not be graduated with unresolved outstanding charges of misconduct or academic ethics violations.

The university does not guarantee the award of a degree. The award of degrees is conditional upon a) satisfaction of all degree and instructional requirements in effect at the time of matriculation as a degree-seeking student (as published in the relevant annual catalog), b) compliance with the current university and divisional regulations, and c) performance meeting the bona fide expectations of the faculty.

No member of the faculty is obliged to provide students or graduates with an evaluation or letter of recommendation which does not accurately reflect the faculty member’s true opinion and evaluation of the student’s academic performance and conduct.

**Graduating Early (less than 8 semesters)**
Students are eligible to graduate early at the end of the fall or spring semester if they have completed all requirements for graduation, including the residency requirement (p. 25). Students graduating early may not use intersession as a final term to complete remaining graduation requirements. Students may not graduate early during the summer except in the circumstances described below:

- Student has at most two incomplete grades in spring semester required courses, or
- Student has one incomplete grade in a spring semester required course and needs one required course in the summer, or
- Student needs one required course in the summer.

These students must meet with their respective advising office to file an August conferral plan prior to the May commencement ceremony. This plan requires proof of summer course registration, if applicable.

**Incomplete Grades and Graduation Status**
Students with incomplete grades or missing grades in required courses at the date of conferment will not graduate.

Students who have completed at least 8 full-time semesters and have met the residency requirement and who receive one or more incompletes in their last semester in attendance, may complete those incomplete grades and are not required to register for additional coursework unless required for their degree.

Students who have completed less than 8 full-time semesters:
- who receive one or two incomplete grades in required courses during their intended last spring semester should review the Graduating Early (p. 29) policies,
- who receive three or more incomplete grades during their intended last spring semester are required to register for another full-time fall semester (at least 12 credits) in order to complete all degree requirements (including the residency requirement),
- who receive incomplete grades in required course(s) during their intended last fall semester must resolve these incomplete grades no later than the December degree conferment date or register for another full-time spring semester (at least 12 credits) in order to complete all degree requirements (including the residency requirement).

**Last Semester Option**
In their last semester before graduation, students may request that they be excused from taking the final examination in one or more courses. This option is solely at the discretion of the course instructor. This option is not available to students who are graduating early.

**S/U Option in the Last Semester**
Students in their final semester, who will have completed at least eight full-time semesters in college when they graduate and who are taking more credits than are needed to complete graduation requirements, may take one or more of the extra courses for S/U credit. Engineering students must have the faculty advisor’s permission, indicated by his/her signature on an add/drop form, to request this option. The faculty advisor’s signature indicates that the student will have completed all degree requirements without this course. In addition, a signature from the Engineering advising office is needed to confirm that the senior has applied for graduation in the spring semester. Arts & Sciences students must seek approval from the Academic Advising Office.

The extra courses may also include up to 6 credits of independent academic work, either graded or S/U. In addition, the usual limit of no more than 6 credits per year of independent academic work will be waived if the additional credits are for extra credit work done in the final semester.
Graduation Closes the Undergraduate Record

Upon graduation, the undergraduate record is closed. The only permitted changes are the resolution of incomplete grades, missing grades, and grade errors. These changes must be resolved by the first Monday after 30 days have lapsed since the degree conferral date. Students wishing to take additional courses at JHU after graduation should refer to Alumni Enrollment (https://e-nextcatalog.jhu.edu/undergrad-students/academic-policies/student-status/#alumnienrollmenttext) policies.

General and Departmental Honors at Graduation

Students may receive general honors, departmental honors, or both at graduation. General honors are awarded to students with cumulative grade point averages of 3.50 or better. The final determination is made after all grades have been reported. Departments set their own standards for the award of departmental honors. Students should consult with Director of Undergraduate Studies for their major about the requirements for honors.

General and departmental honors are noted on a student’s academic record following the student’s last undergraduate semester before graduation. In addition, honors are noted in the Commencement program. However, because the program is printed several weeks before the date of Commencement, not all honors are announced in time for inclusion in the program.

Completing an Honors Thesis

Students who are completing an honors thesis for departmental honors must complete the thesis before graduating. Students may not stay on after graduation to complete an honors thesis. Similarly, students graduating at midyear may not register part-time in the spring semester to finish an honors thesis.

The university commencement ceremony is held once each year in May. The student’s academic advising office determines whether a student has completed all requirements andclears the student for graduation. Students who graduate in August, December, and May are invited to participate in the commencement ceremony in May following their degree completion. Students who graduate in August may receive permission to walk in the May ceremony preceding degree completion if they file an August conferral plan with their respective advising office. The diploma and degree will not be awarded until all courses are completed successfully and recorded.

Academic Standing Policies

Good Academic Standing

Students who maintain a minimum of 12 credits earned and a term GPA of at least 2.0 each semester are considered in good academic standing.

Reviewing Academic Standing

Each academic advising office reviews student records at the end of fall and spring semesters to monitor academic standing. Based on this review, students may be placed on academic probation or academically dismissed.

Satisfactory Academic Progress

Satisfactory academic progress (SAP) refers to minimal standards for grades and cumulative credits required to receive financial aid. The SAP policy is described here http://www.jhu.edu/finaid/return.html#satisfactoryacademicprogresspolicy.

Academic Probation

At the end of each fall and spring semester, the academic advising offices review the records of all undergraduate students to evaluate the academic standing of each student. Students who earn less than 12 credits or earn a term GPA below 2.0 are placed on academic probation. A letter informing a student of this status and the terms of academic probation are sent to the student in January (for fall performance) or June (for spring performance).

The terms of academic probation are as follows: Students must complete at least 12 credits with a minimum term GPA of 2.0 in the next enrolled fall or spring semester. Students may also be required to achieve a cumulative GPA of 2.0 or above in order to be removed from academic probation. In making the GPA calculation, incomplete grades (I) may be calculated as failures (F). In addition, any grade in a satisfactory/unsatisfactory course may be taken into consideration.

Students who do not meet the terms of academic probation will be academically dismissed (p. 30). In some circumstances, a student may be continued on academic probation instead of being dismissed. A student whose term GPA falls below 1.0 or earns less than 6 credits may be dismissed without having been on academic probation the previous semester.

The advising offices send written notification to students who are placed on academic probation. Incomplete or missing grades may prevent timely notification. Students with a term grade point average below 2.0 or who earned less than 12 credits should consult with an academic advisor about their academic standing, even if they have not received the letter from their advising office.

Students on academic probation may be restricted from registering for the maximum course load. Engineering students on academic probation are permitted a maximum of 14 credits during the probation semester.

A student’s academic performance during the summer term or intersession will not affect his/her academic standing.

Academic Dismissal

A student on academic probation who has not met the terms of probation will be subject to academic dismissal from the university for a minimum of one semester and a summer. A student whose term GPA falls below 1.0 or earns less than 6 credits may be dismissed without having been on academic probation the previous semester.

Students may direct inquiries about the dismissal process to the Academic Review Committee of their respective advising office. Students who hope to return to the university in a future semester are encouraged to work with their academic advisor to develop a plan for their time away.
When a student is dismissed from the university, several university offices are notified and several important consequences follow.

- Registrar’s Office: cancels the student’s registration for the next semester and authorizes a refund of tuition paid for that semester;
- Office of Student Financial Services: suspends financial aid and work-study aid to the student;
- Housing Office: cancels the student’s housing contract if the student is in university housing;
- Office of International Services: performs duties as required by U.S. federal regulations regarding persons not eligible to study at the university.

**Readmission after Academic Dismissal**

The terms for readmitting a student who has been dismissed for academic reasons are established by the Academic Review Committee of their respective advising office.

Students are readmitted on academic probation and must meet those terms in their returning semester or face dismissal again.

Students who receive prior approval to complete courses at another college or university during the period of dismissal are subject to the university’s 12-credit limit on the number of transfer credits that can be applied toward graduation.

**Readmission Requests**

To apply for readmission, a dismissed student must submit a letter to the respective advising office. The letter should include an analysis of what went wrong during the preceding two semesters of enrollment, a description of activities while not in attendance, and an academic plan for completing all degree requirements. Supplemental materials such as transcripts of courses taken elsewhere, letters of reference from work or volunteer supervisor, or letters of support from a mental/physical health care provider may be required. Students are encouraged to contact their academic advisor prior to submitting a readmission letter.

**Readmission and Financial Aid**

Academic dismissal and financial aid suspension are two distinct actions and must be addressed separately. The Financial Aid Satisfactory Academic Progress (SAP) appeal process can be found online (http://pages.jh.edu/~finaid/return.html). This appeal is in addition to the request for readmission to your advising office.

**Subsequent Academic Dismissals**

A student who is dismissed a second time will be required to separate from the university for a minimum of one year. A third academic dismissal is permanent.

**Eligibility for Financial Aid**

All regular degree-seeking students who are eligible to register are also eligible to apply for financial aid. Only U.S. citizens and eligible non-citizens (e.g., permanent residents) are eligible for Federal Title IV financial aid.

Students should be aware that JHU scholarship and grant funds are awarded for a maximum of eight semesters. Under some circumstances, a ninth semester may be awarded on appeal. Federal and state aid may be available for additional semesters.

Students are required to maintain full-time status by registering for at least 12 credits per semester. In rare circumstances, such as severe illness, a student may be permitted to register for less than 12 credits in a given semester. Even with this permission, less than full-time status may affect some types of financial aid.

**Satisfactory Academic Progress**

Satisfactory academic progress (SAP) refers to minimal standards for grades and cumulative credits required to receive financial aid. The SAP policy is described here http://www.jhu.edu/finaid/return.html#satisfactoryacademicprogresspolicy.

**External Credit Policies**

It is expected that the majority of credits applied towards degree requirements are earned by completion of courses taught at Johns Hopkins University by our faculty. We do recognize that some students may have other sources of college-level credit that could be applicable to some requirements. This section explains the conditions and restrictions regarding credits earned outside of JHU.

For full details about the application of external credits towards degree requirements, please see the Requirements for a Bachelor’s Degree (p. ) and the Residency Requirement (p. 25).

The information below describes the requirements for students entering JHU in Fall 2014. Students who entered JHU prior to Fall 2014 should view the appropriate archived catalog (http://web.jhu.edu/registrar/catalog).

**Advanced Placement Exams**

To receive credit, Advanced Placement examinations must be taken prior to admission to the university.

If a student enters the university with credit for an advanced placement course and then takes an equivalent course at the university for credit, the advanced placement credits (and lab class waiver, if applicable) will be disqualified. The credits and grade for the Hopkins course will appear on the academic record. The advanced placement exam title remains on the record as well, but the credit value is converted to zero. This policy also applies to IB credit, GCE credit, and other foreign exams.

<table>
<thead>
<tr>
<th>AP Exam</th>
<th>JHU Course</th>
<th>Score</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>AS.020.151 &amp; AS.020.152***</td>
<td>4 or 5</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry</td>
<td>AS.030.101 &amp; AS.030.102 and labs AS.030.105-AS.030.106****</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry</td>
<td>AS.030.101 and lab AS.030.105****</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Environmental Science</td>
<td>None</td>
<td>4 or 5</td>
<td>4</td>
</tr>
<tr>
<td>Computer Science AB</td>
<td>EN.600.107</td>
<td>4 or 5</td>
<td>3</td>
</tr>
<tr>
<td>Macroeconomics</td>
<td>AS.180.101*</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Microeconomics</td>
<td>AS.180.102**</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>
French  AS.210.101 & AS.210.102  4 or 5  6
German  AS.210.161 & AS.210.162  4 or 5  6
Italian  AS.210.151 & AS.210.152  4 or 5  6
Spanish  AS.210.111 & AS.210.112  4 or 5  6
Calculus AB  AS.110.106 & AS.110.108  5  4
Calculus BC  AS.110.106 & AS.110.108  3 or 4  4
Calculus BC  AS.110.106 & AS.110.107/AS.110.113 or AS.110.108 and AS.110.109/AS.110.113  5  8
Physics C Mechanics  AS.171.101***  4 or 5  4
Physics C Electricity and Magnetism  AS.171.102***  4 or 5  4
Statistics  EN.550.111  4 or 5  4

* Macroeconomics: Students who score a 5 on the Macro AP exam are placed out of AS.180.101 Elements of Macroeconomics and receive University credit. However, it does not count as one of the ten courses required for the economics major.

** Microeconomics: Students who score a 5 on the Micro AP exam, AND who pass a diagnostic test administered by Professor Hamilton will place out of AS.180.102 Elements of Microeconomics and receive University credit for it. However, it does not count as one of the ten course required for the economics major. Interested students should make an appointment with Professor Hamilton.

*** Students who are awarded credit for AP Biology or AP Physics are exempt from taking the corresponding lab courses (for AS.171.101 General Physics:Physical Science Major I-AS.171.102 General Physics: Physical Science Majors II and for AS.020.153 General Biology Laboratory I-AS.020.154 General Biology Lab II). The lab courses are waived but no credit is awarded. Effective fall 2009, students who have credit for AP Biology but take General Biology Lab 1 and/or General Biology Lab 2 will lose all eight credits of AP Biology credit.

****Effective fall 2010, students who have credit for AP Chemistry but take either lab semester without the lecture course, will lose 4 of their AP credits. Students who take either lecture class without the lab will lose AP credit for the corresponding lab in addition to the lecture.

Higher Level International Baccalaureate Courses

<table>
<thead>
<tr>
<th>Subject</th>
<th>JHU Course</th>
<th>Score</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>AS.020.151 &amp; AS.020.152 (labs AS.020.153 &amp; AS.020.154 waived with no credit)</td>
<td>6 or 7</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry</td>
<td>AS.030.101 &amp; AS.030.102 and labs AS.030.105 &amp; AS.030.106</td>
<td>6 or 7</td>
<td>8</td>
</tr>
<tr>
<td>Economics</td>
<td>AS.180.101 (Macroeconomics)</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>French (B or A2)</td>
<td>AS.210.101 &amp; AS.210.102</td>
<td>6 or 7</td>
<td>6</td>
</tr>
<tr>
<td>German (B or A2)</td>
<td>AS.210.161 &amp; AS.210.162</td>
<td>6 or 7</td>
<td>6</td>
</tr>
<tr>
<td>Spanish (B or A2)</td>
<td>AS.210.111 &amp; AS.210.112</td>
<td>6 or 7</td>
<td>6</td>
</tr>
<tr>
<td>Math</td>
<td>AS.110.108</td>
<td>6 or 7</td>
<td>4</td>
</tr>
<tr>
<td>Physics</td>
<td>AS.171.101 (lab AS.173.111 waived with no credit)</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Physics</td>
<td>AS.171.101 &amp; AS.171.102 (labs AS.173.111 &amp; AS.173.112 waived with no credit)</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

Foreign Certificate Exams

Credit is awarded for grades of A or B on the British and Singapore General Certificate of Education A-Level courses in the same subject areas included on the Advanced Placement exams and International Baccalaureate courses listed above. A grade of A in Physics on the GCE is awarded 8 credits. A grade of B is awarded 4 credits. AS and O levels are not accepted. Foreign certificate programs like the French Baccalaureate and the German Abitur are considered on a case-by-case basis.

JHU Placement Exams

Some departments may offer placement exams or other evaluations that allow a student to bypass lower-level content in that department, most commonly mathematics and foreign language. No credit is awarded for these departmental exams or evaluations - they are for placement purposes only. In some cases, a waiver of the bypassed course(s) may be noted on the student’s academic record. No academic credit is awarded when a course is waived.

Students who entered JHU prior to Fall 2014 should view the appropriate archived catalog (http://web.jhu.edu/registrar/catalog).

The following content is included on this page:
Transfer Credit Limits (p. )
Transfer Credit Rules (p. )

Registering for Courses at Other Colleges and Universities After Matriculation (p. )

Policies Unique to Students Admitted to JHU as Transfer Students (p. )

Description of Transferable Credit (p. )

## Transfer Credit Rules

### Students admitted directly from high school

Students who enter the university from high school may transfer up to 12 credits from approved courses taken at other institutions, whether taken before or after matriculation. The 12-credit limit on transfer credits does not include credit from Hopkins summer courses, Advanced Placement examinations, British General Certificate of Education courses, International Baccalaureate courses, or foreign certificate courses.

### Students admitted as transfer students

Students who enter the university as transfer students into the Krieger School of Arts and Sciences may bring in up to 60 transfer credits towards a degree requiring 120 credits. Students earning degrees requiring more than 120 credits in both KSAS and WSE may bring in more than 60 credits; however at least 60 of the total degree credits must be earned in residence as a full-time student at JHU. See here for additional residency requirements. All transfer students may transfer up to an additional 12 credits after matriculation. The 12-credit limit on transfer credits does not include credit from Hopkins summer courses, Advanced Placement examinations, British General Certificate of Education courses, International Baccalaureate courses, or foreign certificate courses.

### How transfer credits are posted on a JHU transcript

The following information is included for each course transferred to JHU:

- name of college or university where course was taken
- course title
- JHU course equivalent (if any)
- credits awarded

The grades earned in these courses do not appear on the Hopkins record and therefore do not contribute to the grade point average.

### Restriction on courses taken without a letter or numerical grade

Ungraded or pass/fail courses taken at another college or university prior to matriculation at JHU, if approved, may receive credit if the host school states in writing that the mark represents a grade of C or better.

### Entering freshman with more than twelve transferable credits

Some students enter the university from high school with additional college course work beyond the 12 credits that may be transferred. If these additional courses are equivalent to subjects that the university accepts for credit by Advanced Placement exams, and if the courses are needed to complete requirements for a major or are prerequisites for higher level courses that the student will take at JHU, then students may request that the department waive the comparable courses at JHU. Waivers do not carry semester credits. Students must contact their academic advising office for detailed information about how to obtain a waiver.

### Credits earned at JHU prior to matriculation, including the JHU Pre-College Summer Program

A student who takes JHU courses prior to matriculation as a degree-seeking student (at JHU or elsewhere) may receive credit for those courses completed with grades of C or better, but the grades are not included in the undergraduate record. Because these courses were taken at JHU, they are not subject to the 12-credit transfer rule. Students must request that these courses be transferred to their undergraduate record by contacting their respective advising office. Credits earned through this program may be applied to the 100-credit JHU residency requirement (applicable to freshmen matriculating fall 2014).
Deferred admission
Students who have been accepted to the university may defer admission for up to two years with approval from the director of undergraduate admissions. Freshmen who have deferred admission begin their studies in the fall semester. The purpose of a deferral is to allow students to take time off in order to travel, work, or experience another culture. Deferrals are not granted for the purpose of studying at another institution. Students who wish to pursue academic studies during the deferment period may do so; however, the credits earned during the deferment period will not be applied toward the university’s degree requirements.

Registering for Courses at Other Colleges and Universities After Matriculation
Students are required to seek pre-approval to transfer credits from courses completed at other institutions. A form for this purpose is available in the advising offices. Directions regarding appropriate signatures and required supplemental materials (typically a detailed course description and/or a course syllabus) are on the form. Courses must be taken for a letter grade and a grade of C or better is required.

In order to transfer credit for previously-approved summer work done elsewhere, students must arrange for an official transcript to be sent to the Office of the Registrar.

Courses at colleges and universities in the Baltimore Cooperative Program
See Registering for Courses at Cooperative Schools (https://nextcatalog.jhu.edu/undergrad-students/academic-policies/registration-policies) in the Registration Policies section. The cooperative program does not operate during the summer session; courses taken at cooperative institutions are considered transfer credit and are subject to the same rules and limits as courses from other colleges and universities.

Policies Unique to Students Admitted to JHU as Transfer Students

• Transfer students who completed Advanced Placement or other exams during high school are subject to the same policies as students admitted directly from high school as of the term they matriculate at JHU. We do not transfer exam credits directly from another college or university transcript.
• Students who transfer from the Peabody Conservatory will be granted full credit for performance courses in their major instrument. For performance courses in other instruments, only one credit per semester will be awarded.

Description of Transferable Credit
In order to be transferable, a course does not have to match a currently existing JHU course; however, courses should cover topics that are broadly defined as part of the curriculum at Hopkins. For example, we do not regularly teach a course about horror films. However, since this is a film studies course and we have a major in film and media studies, it’s likely that this course would be eligible for transfer. A course can be transferred as either (1) a direct equivalent to one of our courses or (2) a generic course affiliated with a field of study. A course with an identical name at another institution is not necessarily going to transfer as directly equivalent to the course with the same title at JHU.

A maximum of 6 credits may be granted for courses which are in curriculum areas not covered by the fields of study in the School of Arts and Sciences and the School of Engineering.

Additional Details About Course Eligibility for Transfer:

Section One (p. ): Common courses not accepted for transfer credit:
• However, we do accept most introductory statistics courses. We will accept one course designed to review all necessary background for the study of calculus and to introduce the concept of the rate of change of a function.

Math Courses Below the Pre-Calculus Level are not accepted.
• However, hybrid courses that include lectures and graded assignments along with practical experiences are reviewed individually.

Theology Courses are not accepted.
• However, we will consider comparative religion courses or other religion courses that study religion from an academic viewpoint.

Language Courses

• However, we do typically transfer "freshman composition" courses.

Trade Skill Courses are not accepted.
• However, courses that teach some use of software, Internet design and security, basic programming in html or Java, computer aided-design or introduce field-specific software programs may be considered.

Section Two: Common courses with restrictions for transfer credit:
Chemistry

General Chemistry courses intended to serve as a one year sequence for students in the sciences are transferrable. However, because of the variability of these courses, it is often not possible to transfer just one semester of two-semester sequences (or one or two quarters). Syllabi review is required to transfer these courses. Rudimentary introductory chemistry courses intended to prepare students for a year of general chemistry are not transferrable. One-semester chemistry courses intended for non-science majors designed to fulfill general education requirements for non-science student may transfer.

Organic Chemistry Lab

JHU offers a one-semester, three-credit course (AS.030.225 or AS.030.227) that is recognized by medical schools as being equivalent to other institutions’ typical year-long introductory organic lab courses that are frequently 1 credit each. To transfer these lab courses from other institutions, students must take both semesters at the other institution, as one semester alone is not transferable. If the course lecture and lab are taught as a single course unit at the other institution, students must take the full year-long sequence of the course lecture and lab in order to transfer the courses to JHU. Our course AS.030.228 is an intermediate level organic chemistry laboratory course intended for only chemistry majors and typically goes beyond other institutions’ expectations of students from introductory organic chemistry lab.

Physics

General physics courses, typically covering the topics of mechanics, heat, sound, electricity and magnetism, optics, and modern physics intended to serve as one year of physics study for students in the sciences, may be transferred if the course was taught using the principles of calculus. Those courses that do not require calculus knowledge will not transfer. Rudimentary introductory physics courses intended to prepare students for a year of general physics will not transfer. Introductory one-semester physics or astronomy courses intended for non-science majors, for example those offered to help students fulfill general education requirements, may be transferred.

Finance

We accept transfer credits for corporate finance courses that may include, but are not limited to, understanding the design and functioning of financial markets or modeling financial forecasting and decision making. We do not transfer credit for personal finance courses designed to teach the individual consumer about topics such as money management, budgeting, home mortgages, personal tax, individual insurance, or investing.

Graphic Design

In order to be considered for transfer, graphic design courses must be taught as part of the required curriculum for a major leading to a degree at the offering institution and the course content must include design theory and practices. These carry no area designation. Courses that focus solely on software usage will not transfer.

Website Design

In order to be considered for transfer, website design courses must be taught as part of the required curriculum for a major leading to a degree at the offering institution and the course content must include some programming components. Courses that solely focus on usage of productivity software such as word processing, spreadsheet, presentation, database, graphics editing, accounting, statistical processing, or webpage creation will not transfer.

Internet/Social Media

Marketing courses that discuss the effective use of social media concepts and tools, search engine optimization (SEO) or other analytical market analysis techniques, and content creation and management strategies for marketing campaigns will be considered. However, courses teaching effective use of the internet for personal research or educating the lay person about its structural design or usage of social media will not transfer.

Section Three: Non-domestic studies

Courses unique to China

We do not transfer three commonly required courses: Introduction to Mao Zedong Thoughts, Ideological and Moral Cultivation and Fundamentals of Law, and Principles of Marxism.

Section Four: Details about transferring writing-intensive credit

Students who transfer to Johns Hopkins from another college or university, and Hopkins students who study abroad for a semester, may transfer up to 6 credits of writing-intensive credit for a course(s) under these conditions:
1. The course must meet University criteria for a writing intensive course.
2. Students must take the course during the regular academic year, in either fall or spring semester (there is no writing-intensive transfer credit for summer courses).
3. Students must have a grade of B or higher in the course.

Students who meet these criteria need to present an official transcript for the course to their respective advising office and present course materials to Patricia Kain, Director of the Expository Writing Program. To arrange a meeting, she may be emailed at kain@jhu.edu. Students should bring a syllabus, course description from the catalog or website, and the papers written for the course.

Study Abroad Policies

The Johns Hopkins University views international education as an integral component of its academic mission. Not only does the university actively encourage enrollment of a diverse international and multicultural student body, but it strives to provide students with educational opportunities throughout the world. More than 33% of Johns Hopkins undergraduates study abroad.

For undergraduates in the Krieger School of Arts and Sciences and the Whiting School of Engineering, Johns Hopkins offers a wide variety of international opportunities ranging from short-term, departmentally sponsored intersession and summer programs to semester and full-year programs at major universities in the United Kingdom, Australia, New Zealand, Europe, Africa, Latin America, Asia and the Middle East.

Johns Hopkins accepts credit for coursework taken abroad toward major and minor requirements as well as toward general graduation requirements. Most students who study abroad graduate on time. What is more, upon successful completion of a program abroad, students may choose to build upon their international experience in graduate or professional school. The advisors in Pre-Professional Advising and the Career Center work with Hopkins students to maximize the benefits of a program abroad.

Contact Information

Mailing Address: Johns Hopkins University, Office of Study Abroad, Levering Hall, Suite 04B, 3400 N. Charles Street, Baltimore, MD 21218

Email: jhuabroad@jhu.edu

Website: jhu.edu/study_abroad

Phone: 410-516-7856, Fax: 410-516-7878

Study Abroad Programs

Hopkins offers students three options for study abroad: departmental programs, direct enrollment programs and approved/vetted third-party provider programs. Programs managed by Hopkins or third-party providers offer the highest level of on-site support. Exchange programs and direct enrollment are well suited to more independent students who prefer greater autonomy while abroad. We encourage students to consider their personal background and comfort levels when choosing a study abroad option.

Johns Hopkins Departmental Programs

Many academic departments sponsor study abroad programs that directly support major and minor requirements. Whenever possible, qualified students in these majors are encouraged to participate in departmental programs. Credit is approved and may be applied toward major and minor requirements in the sponsoring departments. Hopkins departmental programs vary in terms of the level of support that students receive while abroad. In many cases grades (Homewood Abroad or HA courses) from these programs will post on students’ Hopkins transcript and be included in students’ Hopkins grade point average.

Johns Hopkins Departmental Programs include the following categories:

- Semester and year programs managed by Hopkins or external organizations
- Johns Hopkins exchange programs
- Johns Hopkins Summer Programs Abroad
- Johns Hopkins Intersession Programs Abroad

Direct Enrollment in a University Abroad

Students may enroll in colleges and universities abroad after consulting with a Study Abroad Advisor. Students apply as visiting, non-degree students and take regularly scheduled classes with national and international students.

Major/minor credits must be pre-approved by the Hopkins Director of Undergraduate Studies for students’ majors or minors prior to participation. In most cases grades (Transfer Courses or TR courses) from the program will not post on the Hopkins transcript or be included in the Hopkins grade point average. Transcripts with grades from a U.S.-accredited School of Record will generally be available through a sponsoring institution if the direct enrollment was facilitated by an approved third-party provider.

Approved/Vetted Third-Party Provider Programs

The Office of Study Abroad and the Faculty Advisory Committee have vetted specialized programs that offer courses in specific areas, disciplines, or locations where direct enrollment may not be feasible. Sponsored by third-party providers, these specialized programs provide study abroad opportunities for language acquisition, field experience, research opportunities, and disciplinary courses often in less common locations.

Major/minor credits must be pre-approved by the Hopkins Director of Undergraduate Studies for students’ majors or minors prior to participation. Third-party providers offer additional support services, including assistance with applications, housing, registration, visas and onsite support. In most cases grades (TR courses) from the program will not post on students’ Hopkins transcript or be included in Hopkins grade point averages. Transcripts with grades from a U.S.-accredited School of Record will generally be available through the third-party provider.

Non-Approved Programs

Johns Hopkins does not encourage students to participate in non-approved/vetted programs. Students with sound academic rationales for participation on a non-vetted program meet with the Director of Study Abroad to petition approval of an alternative program.
Students are required to meet with a study abroad advisor prior to applying to study abroad. All study abroad programs must be approved by the Office of Study Abroad prior to participation in order to transfer credit toward Hopkins degree requirements.

Eligibility for study abroad can vary by type of program. Students must meet the minimum eligibility requirements of both Johns Hopkins University and the program abroad.

**Johns Hopkins Eligibility Requirements:**

- Term GPA of 3.00 or higher the semester of application
- Students must complete at least 100 credits at the Homewood Campus
- Students must complete their last semester prior to graduation in residence at the Homewood Campus
- Students must be in good academic, disciplinary and financial standing

- **Leave of Absence:** Students may not apply for study abroad while on Leave of Absence. Students must be enrolled the semester of application to be eligible to study abroad.

**Program Eligibility Requirements:**

Many programs have additional eligibility requirements. In some cases those requirements will be more stringent than the Hopkins minimum eligibility.

The program specific eligibility requirements might include:

- Language proficiency requirements. Students must demonstrate language proficiency at the college level, either through courses taken at a U.S. college or university, AP credit or university administered placement tests.
- Cumulative GPA of 3.0 or higher (e.g. Oxford requires a GPA of 3.7 or higher)
- One year or more of college-level education
- Course prerequisites: Students must have course prerequisites as determined by the host institution in order to register for classes abroad.

**Credit and Residency Requirements for Study Abroad**

For the purposes of fulfilling university residency requirements, up to 30 credits from study abroad courses are considered "in-residence" and may be included in the 100-credit university residency requirement (Effective for freshmen beginning in Fall 2014.) Students may be awarded a full-year of credit from Homewood Abroad (HA) courses or up to 30 credits from study abroad courses taken through direct enrollment or vetted programs toward their undergraduate degrees.

Students on departmentally-sponsored programs with HA courses are held to the same credit limit guidelines and credit overload policies as if the student was on the Homewood campus. In addition, if these students exceed 30 credits from their abroad courses, they may apply excess study abroad credits to the general 12-credit transfer credit maximum. Total credits from study abroad courses and domestic transfer courses may not exceed 42 credits.

Students may enroll in study abroad in a combination of semester and/or summer/intersession abroad programs, but students may not enroll in three consecutive fall/spring semesters abroad.

Students may participate in summer and intersession programs abroad any term after matriculation.

Students must have completed at least three semesters of coursework on the Homewood campus prior to enrolling in a semester/academic year program abroad. This means students may study abroad for a semester or academic year beginning the second semester of their sophomore through the fall semester of their senior years. An exception to this policy is the Hopkins Oxford St. Anne's College program which offers a full year abroad for sophomore students.

**Study Abroad in Home Country/Country of Citizenship**

International students are encouraged to take full advantage of study abroad opportunities by pursuing studies outside the United States and their home countries. Johns Hopkins will not approve study abroad at locations where students have completed secondary education or where they have lived and/or worked within eight years of matriculation at Johns Hopkins. Students who wish to take courses at universities in their home countries will be asked to petition the Faculty Advisory Committee for Study Abroad. Students must present a strong academic rationale for the program.

**Matriculation Status**

All students on study abroad programs who have completed the mandatory procedures established by Johns Hopkins prior to departure remain enrolled as full-time, matriculated students. This official status is recorded as off-campus matriculated.

**Credits Required for a Semester/Academic Year Abroad**

Students are required to enroll in the equivalent of 15 credits per semester while abroad. Students who wish to take fewer than 15 or more than 18 credits a semester must obtain written permission from the Director of the Office of Study Abroad.

**Credit for Courses Taken Abroad**

Students may earn up to 30 credits for study abroad from any combination of academic terms – semester, academic year, summer and intersession.

As part of the Hopkins application process, students are required to have pre-approval for transfer of credit for all overseas course work prior to studying abroad. Pre-approval of transfer of credits toward major and/or minor requirements is granted by the Director of Undergraduate Studies in students' academic departments. Pre-approval of transfer of credit toward distribution requirements is granted by the Director of Study Abroad. Final approval of credit and transfer of courses occurs after students have returned to Hopkins.

Courses must be completed with a grade equivalent of C or better to be eligible for transfer of credit toward a Hopkins degree. Transcripts from the program abroad should be sent to the Director of the Office of Study Abroad for credit evaluation and transfer of credit. The Director will contact students when the official program transcript has been received.

Students should remember to save electronic copies of syllabi, course descriptions, reading lists, assignments, papers, and examinations. Students will need to submit these to the Director of Study Abroad and/
or the Director of Undergraduate Studies for their major and minor in order to complete the credit evaluation and transfer of credit.

Grades and Transcripts

Courses taken at overseas programs are entered onto the official Hopkins transcript along with the name of the host school and location of the study abroad program.

Grades and Transcripts: Hopkins Departmental Programs

Grades from most Hopkins Departmental Programs (Hopkins Departmentally Sponsored Semester and Year Programs, Hopkins Summer Abroad and Hopkins Intersession Abroad) are posted on transcripts and are calculated into students’ term and cumulative GPA. These courses will appear on the Hopkins transcript as AS/EN/HA courses with Hopkins course numbers (e.g. HA.100.320 – History of China).

Grades and Transcripts: Hopkins Approved Programs

All students on Hopkins Approved Programs (Vetted Programs and Direct Enrollment) must take courses abroad for a grade. Students will not receive credit for pass/fail courses taken abroad. Students must receive the equivalent of a C or higher in order to receive Hopkins credit. Grades from Hopkins Approved Programs do not appear on the Hopkins transcript and will not be calculated into the GPA. These courses will appear on students’ transcripts as TR courses (e.g. TR.100.300 – History of China). Students’ transcripts reflect how credits earned abroad have been awarded toward their Hopkins degree.

Housing Policy

Johns Hopkins University vets and approves study abroad programs based on academic quality, cultural immersion, and health/safety practices. Housing is an integral aspect of the abroad experience in that it promotes language and communication skills and provides opportunities for personal growth. In addition, housing organized by program sponsors provides an additional layer of safety and security.

For these reasons, Johns Hopkins University requires the use of program-established housing in home stays, residences, dormitories, or program-provided apartments by all Hopkins students on approved study abroad programs. Furthermore, Johns Hopkins University strongly encourages students to participate in a home stay experience if that option is available. Students who want to make independent housing arrangements should set up an appointment to meet with the Director of Study Abroad to discuss options and petition for approval.

Study Abroad at Locations Under Department of State/WHO/CDC Travel Warning

Travel Warnings are issued by the United States Department of State to describe long-term, protracted conditions that make a country dangerous or unstable. A Travel Warning is also issued when the U.S. Government’s ability to assist American citizens is constrained due to the closure of an embassy or consulate or because of a drawdown of its staff. The WHO and CDC post travel warning and alerts in the event of public health crises.

The Johns Hopkins University does not permit undergraduates to study abroad in locations with travel warnings. Despite this warning, if a student believes he or she has a sound academic reason to study at a chosen site, the student may file a petition for individual exemption in order to have their course work recognized for academic credit at Johns Hopkins.

Financial Structure of Study Abroad

Departmental Programs (semester/academic year)

Students studying abroad on semester and year Johns Hopkins departmental or exchange programs are charged Hopkins tuition. In most cases, an additional fee is assessed to cover services that might include housing, international health insurance, emergency services, and logistical and academic support. Students are billed through the Hopkins Student Accounts Office.

Departmental Programs (intersession/summer)

Students studying abroad on a Hopkins departmental summer or intersession program are charged the program fee and billed through Hopkins. Fees vary by program with some including charges for services such as airfare and meals.

Direct Matriculation and Vetted Programs (semester/ intersession/summer)

Students who study abroad through an external program (direct enrollment at a university abroad or approved provider) are charged the cost of their program as established by the host university or provider and a study abroad and application fee equivalent to 12% of Johns Hopkins tuition. Johns Hopkins is responsible for making direct payments to host universities and providers on behalf of students. Fees will be posted to students’ Hopkins ISIS accounts by the Student Accounts Office.

Additional Costs Associated with Any Program Type

Students are responsible for all additional costs that are not included in mandatory fees. Additional costs may include: housing, airfare, personal expenses, meals, visas, and other incidental expenses. Some programs may include costs for many of these services as part of their mandatory fees. In those cases Hopkins will include those fees when making direct payment to the provider on behalf of students.

Billing

Study Abroad fees will be billed to students ISIS accounts by the Student Accounts Office.

The Hopkins Student Accounts Office posts charges in ISIS on approximately July 1 for the fall semester, December 1 for intersession, December 1 for the spring semester, and May 1 for summer. Payment arrangements may be made through the Hopkins Student Accounts Office.

The Office of Study Abroad creates a program financial budget worksheet for each student that reflects the estimated cost of attendance for his or her program and details which fees will be posted on students’ JHU account. The financial budget worksheet should be used to assist students and their parents in calculating expenses (the cost of attendance) associated with an academic program abroad. In addition, the Office of Study Abroad provides sample financial worksheets for programs commonly attended by Johns Hopkins students.
Financial Aid
Johns Hopkins extends portability of federal, state and institutional financial aid to Johns Hopkins Departmental Study Abroad Programs, Approved Study Abroad Provider Programs and to Direct Enrollment in a University Abroad for the fall semester, spring semester or academic year. Financial aid, including institutional aid may be applied toward the cost of these programs.

For the semester study abroad, the JHU Grant will not increase, even if the study abroad cost is greater than the cost to attend Hopkins. However, the JHU Grant for the semester study abroad may decrease if the study abroad cost is less than the cost of attendance at Hopkins. Students’ financial aid will be credited to their student accounts.

Only loan assistance can cover additional expenses. In most cases, financial aid does not apply to summer and intersession programs. Students may be eligible for external study abroad scholarships.

Refund Policy
Students with credit balances may request a refund online at http://www.jhu.edu/~studacct. Refund requests cannot be processed any earlier than 10 days prior to the JHU’s first day of classes.

Students should consider study abroad options carefully prior to making a commitment. Should students withdraw from a study abroad program after having submitted their program acceptance forms or Hopkins acceptance forms, they are responsible for all non-recoverable costs associated with their program. Hopkins will refund recoverable expenses, excluding non-refundable deposits, once we receive a final billing statement from students’ programs. Recoverable expenses are determined by the program provider in consultation with Johns Hopkins. If for any reason study abroad plans change, the Office of Study Abroad should be contacted immediately so we can work out the financial impact of the voluntary withdrawal.

Students involuntarily withdrawn or dismissed from a program for cause will receive no refund, may not be eligible for credit for coursework completed on the program abroad and are responsible for any costs incurred by early dismissal.

Should Hopkins cancel or suspend a study abroad program, we will work with students to either refund recoverable costs or apply fees toward alternate academic programs.

Conduct
Students are responsible for their own actions, activities and behavior while participating on a program abroad. Serious consideration of health and personal circumstances should be taken in to account by students when applying for or accepting a place on a program abroad.

Students are obligated to be aware of and comply with local laws and customs while abroad. Respect of local customs includes the conscious awareness of cultural attitudes toward alcohol use and sexual behavior. As representatives of Johns Hopkins in other countries, we ask that students behave in a manner that is respectful of the rights and well-being of others.

Conduct considered unacceptable to Johns Hopkins University includes, but is not limited to, excessive consumption of alcohol; loud and/or abusive behavior; sexual harassment; criminal conduct of any kind, including the purchase, sale, possession or use of drugs other than prescribed medication for legal medicinal purposes. Students’

must notify Johns Hopkins University Office of Study Abroad of any disciplinary or legal issues while abroad.

Students participating in programs abroad are expected to adhere to the Johns Hopkins University Undergraduate Student Code of Conduct (p. ), the policies of the program abroad and the terms set forth in the Study Abroad Conditions of Participation agreement.

Violations of the Code of Conduct, Conditions of Participation and Program Policies
Students who are alleged to have violated the Hopkins Undergraduate Student Conduct Code, the policies of the program, and/or standards of academic integrity while abroad will be reported to the program director and the JHU Director for Study Abroad. If a violation is determined to have occurred, the program director in collaboration with the JHU Director for Study Abroad will take appropriate disciplinary action, which may include immediate dismissal from the program.

A student dismissed from a program for cause will receive no refund, may not be eligible for credit for coursework completed on the program abroad and is responsible for any costs incurred by early dismissal.

Students’ academic and disciplinary records may be reviewed prior to departure. If records indicate a significant decline in GPA or disciplinary sanction prior to departure, a student may be withdrawn from the program.

Academic Ethics
All study abroad students are bound by the Johns Hopkins University code of Academic ethics both during the application process and while abroad. Students are obliged to refrain from acts which they know, or under circumstances have reason to know, violate the academic integrity of the University. Violations of academic ethics include, but are not limited to: cheating; plagiarism; submitting the same or substantially similar work to satisfy the requirements of more than one course without permission; submitting as one’s own the same or substantially similar work of another; knowingly furnishing false information to any agent of the University for inclusion in academic records; falsification, forgery, alteration, destruction or misuse of official University documents or seal. All students must sign a Conditions of Participation agreement to adhere to this policy as part of the application process.

Institutional Research Board
Students participating in or conducting research abroad must complete the Hopkins IRB process in addition to any institutional review that may be required by the host institution. Failure to comply is a serious breach of research ethics. Students who fail to receive appropriate IRB review of their research will not be able to use the research or data for projects, theses, courses or requirements at Johns Hopkins.

Student Life Resources
Homewood Student Affairs supports the university’s educational mission by providing a safe, supportive environment in which students are integrally involved with faculty and staff at all levels of the institution. The division is led by the Vice Provost for Student Affairs, who oversees major components within the area. The areas under the Vice Provost’s purview include Academic Services, Student Life, Business Operations & Administrative Services, and Athletics & Recreation.
The Vice Provost and the areas reporting to the Vice Provost are committed to a student-centered approach and meet both individually and jointly with students to hear their concerns, to support their activities, and to receive feedback on the multiplicity of the division's programs.

The Office of the Dean of Academic Services, located in Garland Hall, is directly responsible for providing services and programs that support student needs. The offices that comprise the Dean of Academic Service area: Office of the Registrar, Office of Multicultural Affairs, Center for Social Concern, National Fellowships and Scholarships Program, Career Center, Student Affairs Research and Analysis, and Office Student Disability Services. These offices strive to register, serve, advise, educate, and graduate a highly diverse group of students who will be actively engaged citizens in our society. Academic Services provides leadership, guidance, and support in the maintenance, development, and evaluation of programs which serve students, parents, alumni, faculty, staff, and trustees, and which contribute to a community characterized by mutual caring, respect, and responsibility.

The Office of the Dean of Student Life is responsible for the co-curricular programs on campus. The dean and her staff are accessible advocates for the individual and group needs of students. On a campus where academic expectations are rigorous, the dean of student life and all her staff strive to provide an atmosphere in which responsive program activities and services for students can flourish. The Office of the Dean of Student Life is located in the Mattin Center, Offit Building, Suite 210. Students are encouraged to stop by to schedule an appointment or to send an email to offer their suggestions or concerns.

The Office for Business Operations and Administrative Services assists the division in the overall fiscal management of student affairs. The office also administers the areas of housing and dining, ID card services, student accounts, and student employment. Additionally, the office oversees the human resources component for the division.

**Disability Support Services**

JHU welcomes students with disabilities and values their diverse experiences and perspectives. The Office of Student Disability Services (SDS) coordinates appropriate and reasonable accommodations for qualified students with disabilities in accordance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990 and the ADA Amendments Act of 2008. SDS also works with various offices on campus to ensure that students with disabilities have equal access to university programs, facilities, technology, and websites.

Students who wish to request reasonable accommodations must submit documentation that establishes a disability, details the current functional impact of that disability, and confirms the need for each accommodation requested. Documentation guidelines are available on the SDS website at [http://web.jhu.edu/disabilities/students/admitted/documentation/index.html](http://web.jhu.edu/disabilities/students/admitted/documentation/index.html).

Students seeking accommodations are encouraged to submit their specific requests at least two weeks prior to the start of the semester to ensure that accommodations are provided in a timely manner.

Full-time undergraduate and graduate students in the Krieger School of Arts and Sciences or the Whiting School of Engineering with questions and concerns regarding the registration process, implementation of accommodations and/or identification of other support services, should contact:

**Dr. Brent Mosser, Director**  
Academic Support and Student Disability Services  
bmosser1@jhu.edu  
410-516-4720  
[web.jhu.edu/disabilities](http://web.jhu.edu/disabilities)

Questions regarding JHU's documentation guidelines or physical and programmatic access at JHU should be directed to:

**Abigail Hurson, JD**  
Disability Services Officer  
Office of Institutional Equity  
ahurson1@jhu.edu  
410-516-8075 (voice), 410-516-6225 (TTY)  
[web.jhu.edu/administration/jhioe/disability.html](http://web.jhu.edu/administration/jhioe/disability.html)

**Career Center**

The Career Center is actively involved in assisting students as they explore potential careers. In the Career Center, students of all class years receive individual guidance as they clarify their career directions, explore their career options, seek internships, or search for opportunities. Career counselors teach students how to conduct an effective job or internship search, create resumes and cover letters, develop interview skills, and gain effective networking and search strategies. Intersession trips offer students an in-depth view into industries and organizations. Additionally, the Career Center offers vocational assessments that are designed to assist students with translating a major into a career choice.

The center’s resources include a career library, extensive online job and internship offerings, and on-campus recruiting. Annual job and internship fairs bring representatives from business, industry, government agencies, and nonprofit organizations to campus to recruit students for internships and full-time opportunities.

The center also emphasizes the importance of interacting with alumni. Students may access a nationwide database of graduates who stand ready to offer career information. Information sessions, networking events, and a range of career panels and networking events bring Hopkins graduates back to campus to discuss career opportunities and trends in many different fields.

Information is available at [www.jhu.edu/careers](http://www.jhu.edu/careers), by calling 410-516-8056, or by stopping by the office on the third floor of Garland Hall.

**Student Employment Services**

Working while attending college is among the most universal experiences of college students, and we are proud to say that the JHU Office of Student Employment Services sets the standard. Located in Garland Hall, Student Employment Services plays an intricate role in the student’s career development and academic achievements while helping to ease his or her financial demands.

The student employment program provides students the opportunity to apply their academic learning while developing professional skills in real work settings. The office offers a multitude of part-time work and career experiences year-round. Positions range from Research Assistant at JHMI to Web Manager at a local library; from Lab Assistant in Arts &
Sciences to tutoring a local elementary school student. For students who want to work within the community, Student Employment Services works with area businesses to develop student job opportunities in a variety of fields in and around the Baltimore area.

The office offers a comprehensive website where, among other things, students can search for a job, create an online application, download tax forms, view their pay stubs, and print their W-2 form. Annually, the Office of Student Employment Services hosts a Campus Job Fair and National Student Employment Week celebration.

For more information about Student Employment visit www.jhu.edu/stujob or call us at 410-516-8421.

Office of Multicultural Affairs

Office of Multicultural Affairs (OMA): The Office of Multicultural Affairs (OMA) is committed to supporting the academic success of students from populations underrepresented* in higher education and collaborating with members of the campus and greater Baltimore communities to enhance cultural awareness and create an inclusive campus community.

OMA's specific programs and services include (but are not limited to) the following:

- Mentoring Peer Assistant Program (M.A.P.P.)
- Students Empowering and Educating for Diversity (S.E.E.D)
- JUMP (a collaborative program with the Office of Pre-Professional Advising and the Office of Student Diversity, Johns Hopkins School of Medicine)
- Academic Support Services
- Cultural Heritage Celebrations
- Ghana Study Abroad Program
- Advising for Multicultural Student Organizations

Multicultural Affairs Student Center (MASC):

The MASC is a place where all members of the university community can participate in academic and social events in a relaxed environment. The MASC also provides meeting rooms for campus offices and student organizations. Residents of the MASC include several of the university's multicultural student organizations and the Office of Multicultural Affairs.

Contact information for OMA and MASC

3303 North Charles Street, Suite 100
Phone: 410-516-8730
Email: oma@jhu.edu
Website: web.jhu.edu/studentprograms/multicultural/

Office of International Student and Scholar Services

The Office of International Student and Scholar Services (OISSS) assists students, fellows, researchers, and faculty who are citizens of other countries and are in the United States for a designated period of time for study, research, or teaching purposes. The office aids international visitors in maintaining their non-immigrant status while at the university. All international students, fellows, researchers, and faculty are required to contact the OISSS immediately after their initial arrival on campus, and before leaving the United States for any reason.

International visitors are invited to contact the office at any time for information on immigration policies and for any problems or concerns that may arise. The office is located at 135 Garland Hall. Information can be obtained by calling 410-516-1013, by email: theworld@jhu.edu, or on our website at ww2.jhu.edu/issss/.

Student Life Policies

Standards and Policies

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**Undergraduate Student Life Policies**

This section contains many of the relevant rules and regulations governing undergraduate student nonacademic life on the Homewood Campus. Students are responsible for complying with these policies.

**Student Responsibility**

It is the students’ responsibility to familiarize themselves with the policies of the University and those contained within these policies and procedures. Failure to become acquainted with this information will not excuse any student from responsibility for abiding by the rules and procedures described herein. Personal difficulties, illnesses, or advice contradicting the rules and procedures described herein contained do not constitute automatic grounds for exemption from these policies.

Any waivers to the policies and procedures must be reviewed and approved in advance and are effective only when accepted by the Office of the Dean of Student Life.

The University reserves the right to make changes to these policies and procedures, and other information contained herein as it deems appropriate. Students are urged to consult the Office of the Dean of Student Life and Homewood Student Affairs about any questions that they may have concerning student activities, student life, and student affairs. These standards and procedures are not to be regarded as a contract.

**Introduction to the Undergraduate Student Conduct Code**

The fundamental purpose of the University’s regulation of student conduct is to promote and to protect the health, safety, welfare, property, and rights of all members of the University community as well as to promote the orderly operation of the University and to safeguard its property and facilities.

Acceptance of membership in the University community carries with it an obligation on the part of each individual to respect the rights of others, to protect the University as a forum for the free expression of ideas, and to obey the law. This Undergraduate Student Conduct Code pertains to misconduct arising from offenses against persons and/or property committed on University property; to misconduct committed off University property against members of the University community; and to misconduct occurring off campus that causes significant harm to others. Students who violate local, state, or federal laws will also be subject to discipline from the University. The University’s undergraduate student conduct system is designed to enforce the University’s conduct regulations.

The University reserves the right to institute disciplinary action whether or not the offense results or may result in action by a civil or criminal court.

**Undergraduate Student Conduct Code**

In addition to maintaining good academic standing, students are expected to refrain from conduct that injures persons or property. The University expects all students, including those living on or off campus, students studying abroad or at any off-campus university facility, or are on break to be law-abiding citizens, to respect the rights of others, and to refrain from behavior that impairs the University’s purpose or its reputation in the community. Students who have committed acts which are a danger to their own personal safety or which harm or have the potential of harming others, or who destroy, damage, or wrongfully appropriate property, will be disciplined and may forfeit their right to be members of the University community.

For example, students are expected to refrain from:

1. Conduct that disrupts or interferes with the orderly operation of teaching and research, or with other lawful or authorized activities.
2. Conduct that causes, or can be reasonably expected to cause, or threatens physical harm to a person.
3. Physical or verbal threats against or intimidation of any person which results in limiting her/his full access to all aspects of life at the University.
4. Conduct or a pattern of conduct in which a person approaches or pursues another person with intent to place the person in fear of physical harm or with intent to harass or to intimidate the person.
5. Conduct that violates the University’s hazing policy (p.  ), or other conduct or a pattern of conduct that harasses a person or group.
6. Conduct that constitutes sexual abuse (p.  ), assault, or rape of another person.
7. Conduct that constitutes sexual harassment (p.  ) of another person.
8. Theft or vandalism of University property, property of others, or knowingly possessing stolen property.
9. The unauthorized use, possession, or storage of any weapons, chemicals, or explosives, including fireworks, on University property.
10. The unauthorized distribution, possession, or use of any controlled substance (such as, but not limited to, illegal drugs).
11. The possession or consumption of alcohol by individuals under the legal drinking age in Maryland (21 years of age), or the provision of alcohol to minors.
12. The distribution or sale of alcohol to individuals under the legal drinking age.
13. Failure to comply with the directions of University officials, instructors, administrators, staff, or the Baltimore City Police acting in performance of their duties.
14. The unauthorized or improper use of University property, facilities, resources, or the University name or seal.
15. Failure to observe University policies, procedures, rules, or regulations.
16. Misuse or abuse of any University computer, computer system, computer or communications service, program, data, network, or resource.
17. Violation of any law of the United States, law of the State of Maryland, or municipal ordinance which occurs on or off campus which impinges on the rights of others or which impairs the University’s reputation.
18. Conduct that disturbs the peace or impinges on the rights of residents of neighborhoods where students reside, including, but not limited to: loud parties or excessive noise, shouting or talking that unreasonably disturbs other students or community members; public urination; drinking in public; littering or not disposing of trash appropriately; failure to reasonably maintain yard or premises.
19. Hosting or conducting an event in violation of university policies.
20. Conduct that hinders, obstructs, or interferes with investigations, hearings, sanctions, and other implementation processes of the Student Conduct Code.
21. Failure to appear for a University disciplinary hearing to respond to a charge or to testify as a witness when reasonably notified to do so.
22. Failure to comply with the terms of a judicial sanction. Other behavior may be equally inconsistent with the standard of conduct expected of a University student and the University’s commitment to providing an environment conducive to learning and research.

Student Conduct System

Overview
The Office of the Dean of Student Life has responsibility for disciplinary matters relating to the non-academic life of undergraduates in the Homewood Schools of Arts and Sciences and Engineering. Included in this are:

• formulating and refining a student conduct code;
• formulating and refining a system for addressing and adjudicating complaints of misconduct;
• educating the undergraduate community about conduct standards and resolution mechanisms; and
• upholding the code conduct and related policies governing undergraduate life, including residential living.

When a complaint is made alleging violation of the conduct code, the matter may be resolved by:

• the Student Conduct Board (p.
• the Associate Dean of Student Life,
• a designee of the Dean of Student Life, or the administrative staff in the Office of Residential Life.

Mechanisms used to resolve incidents or misconduct include:

• administrative resolution of minor, non-disputed conduct violations,
• Student Conduct Board hearings,
• administrative hearings with the Associate Dean of Student Life or a designee, or
• a mediation process, with an administrative mediator, when mediation is an appropriate alternative to a disciplinary hearing process.

Authority of the Student Conduct System

Members of the University community have the responsibility to conduct themselves in a manner that upholds the law and respects the rights of others. The Student Conduct Code outlines the standards of behavior established by the University for undergraduates.

The Student Conduct Code is enforceable until the undergraduate degree is conferred on commencement day. The code governs behavior which occurs on or off University property. It is enforceable throughout the entire matriculation period, regardless of whether classes are in session or the student is enrolled in classes.

The University may institute action on a disciplinary matter when the interests of the University community are at stake. The conduct system is not intended to replace public law enforcement nor to provide non-Johns Hopkins community members with a personal redress mechanism.

Some acts of misconduct also may constitute violations of criminal law. The University’s policy is to cooperate fully with law enforcement authorities. The University’s disciplinary proceedings are independent of any criminal proceedings arising out of the same incident.

The conduct system coordinated by the Office of the Dean of Student Life addresses alleged violations of the Student Conduct Code by individual undergraduate students. The disciplinary structures and processes of the Interfraternity Council and the Student Activities Commission address alleged violations by fraternity and student organizations of the policies of those groups. A student who commits misconduct that violates both the conduct code and student organization policies may be held accountable through both the conduct system and the disciplinary structure of their organization. Academic misconduct is addressed by the Undergraduate Academic Ethics Board.

Complaint Process

Conduct system complaints may be generated by:

• undergraduate and graduate students
• staff and faculty
• neighbors, landlords, and community groups
• law enforcement reports
• campus security reports
• individuals and entities not affiliated with the university community.

An individual who wishes to make a complaint may contact the Associate Dean of Student Life in the Office of the Dean of Student Life, the administrative staff of the Office of Residential Life, or the Office of Campus Safety and Security.

The Associate Dean of Student Life manages complaints of severe conduct code violations (e.g. physical and/or sexual assault, major destruction of property, hazing, selling or distribution of illegal substances, stalking, harassment, etc.) regardless of where they occur and of any violation that does not occur in University housing. The Director of Residential Life, or a designee, manages complaints of violations that occur in University housing (e.g. noise violations, roommate concerns, first and second violations involving alcohol and/or illegal drugs).

As a preliminary step, the conduct process is explained to the complainant, options are discussed, and the complainant decides whether to pursue the complaint. If the complainant decides to do so, and in instances in which the University is the complainant, the process continues through the following steps:

• The investigating administrator meets with the accused student and other individuals involved in the case as warranted.
• The investigating administrator determines whether there is sufficient cause for charges to be initiated against the accused student.
• If the accused student is charged, the investigating officer evaluates whether the case should be handled administratively, referred to the Student Conduct Board, or referred for mediation.
• When warranted, the investigating officer works with the complainant and respondent to identify witnesses and to assemble information...
relevant to the case. The complainant and the respondent are given opportunity to review this information in preparation for the hearing.

The complainant and respondent are responsible for notifying their witnesses of the hearing date and time and for bringing all relevant evidence to the hearing. Minor disciplinary cases that occur in University housing in which the accused student admits to the misconduct are likely handled administratively by Office of Residential Life staff. In most other instances, cases are referred to the Student Conduct Board. Cases of high sensitivity and complexity may be referred to an administrative hearing with the Associate Dean of Student Life or a designee (in coordination with the Office of Institutional Equity), including cases alleging sexual assault or sexual harassment.

The Student Conduct Board

The Student Conduct Board is part of an undergraduate student conduct process created by the Dean of Student Life to assist in resolving cases of non-academic misconduct. It is designed to give students a formal role in upholding the standards of community life at the University and to give students who are victimized by or accused of violations of these standards the opportunity to have their cases heard by their peers.

The Board reports to the Associate Dean of Student Life. The Board is comprised of up to 20 students and 4 to 10 staff/ faculty members who hear cases on a rotating basis in groups of five. These five-person hearing panels are composed of three student members and two staff/ faculty members. A student member of each panel serves as the presiding official for that hearing. Membership on the Board is open to all full-time undergraduates through a selection process coordinated by the Associate Dean of Student Life.

Student Conduct Board Hearing Process

In hearings conducted by the Student Conduct Board and by administrative hearing officers, the panel or hearing officer:

• Reads the charge(s) to the respondent and asks the respondent to indicate whether s/he is responsible or not responsible for the misconduct in question
• Asks for a full statement from both the complainant and respondent describing the incident and providing relevant background
• Hears statements from witnesses
• Questions the complainant, respondent, and witnesses

The complainant and respondent have the opportunity to respond to all statements and information presented to the panel or hearing officer. In most cases, the respondent will be present when the complainant presents his/ her statement and is questioned by members of the panel or the hearing officer. However, the Associate Dean of Student Life may direct that the complainant appear outside the presence of the respondent for good cause.

The complainant and respondent are entitled to the same opportunities to bring their parents or another individual to provide personal support to a hearing. Those providing personal support do not have a speaking role in the hearing. Legal counsel representing any participant is not permitted in the hearing.

Once the hearing concludes, in private session, the hearing panel or administrative hearing officer:

• Makes a determination of the responsibility or non-responsibility of the respondent for the misconduct charged. The hearing panel members or administrative hearing officer makes their determination of responsible or not responsible based on a preponderance of evidence;
• Determines a sanction, when there has been a finding of responsibility

Students are given 5 days notice of the hearing except in the case of a graduating senior. In order to participate in graduation, a student hearing, Administrative or Conduct Board must take place before graduation.

Sanctions

The following sanctions may be imposed singly or in combination by a hearing panel or administrative hearing officer. The University, in its sole discretion, may impose any sanction or combination of sanctions, up to and including expulsion, for any violation of University policy or the Student Conduct Code. In imposing sanctions, the nature and circumstances of the offense, the student’s prior record, and other factors deemed pertinent may be considered.

1. Disciplinary Warning:
   • The student receives written notice that continuation or repetition of conduct that has been judged wrongful or inappropriate, within a period of time stated in the warning, will be cause for more serious disciplinary action. A letter of warning creates a disciplinary file in the Office of the Dean of Student Life that exists until the student leaves the University by graduation or transfer.

2. Disciplinary Probation:
   • The student is notified that s/he is no longer in good conduct standing with the University and that further violation of University regulations during the probation will likely result in disciplinary separation. A file is maintained in the Office of the Dean of Student Life. Students on disciplinary probation are generally ineligible to represent the University in intercollegiate activities, hold elected or appointed office or campus committee chairpersonship, or pledge a fraternity or sorority for a set period of time as set forth in the notice of the probation.

3. Disciplinary Suspension:
   • A student must withdraw from the University for a specified length of time. Suspension from academic coursework includes exclusion from all academic privileges and co-curricular activities. A file is maintained in the Office of the Dean of Student Life and a copy of the notification letter is filed in the student’s academic records. A notation on the student’s permanent record may also be ordered. Parents will be notified of suspension. While serving a disciplinary suspension, academic work completed at another institution will not be recognized for credit transfer.

4. Additional Sanctions in Cases of Warning, Probation, or Suspension:
   • As part of either disciplinary warning or disciplinary probation, the following conditions may be applied:
     • Restitution
     • Fines
     • Compensatory services
     • Restitution services
     • Rehabilitative and/or educational activities, such as counseling
     • Exclusion from specific aspects of community life such as participation in commencement exercises or entry into residence halls.

5. Expulsion:
An individual’s status as a student of the university is terminated.

6. Separation from the Residence Halls:
Students residing in University housing face an additional potential sanction of expulsion from housing. If they are found to have committed any of the following acts of misconduct:
- Knowingly or recklessly endangering the health or safety of other residents of University housing.
- Any activity involving firecrackers, explosives, or firearms; any act of arson within University housing.
- Throwing or dropping items from the buildings.
- Threatening, harassing, or abusing any member of the residential community.
- Distribution, possession, or use of illegal drugs
- Serious violations of the University’s alcohol policy
- Intentionally or recklessly destroying, damaging, disabling, or stealing University property
- Repeated violations of housing regulations

If a student is removed from housing, they will not receive a refund.

7. Off-campus and Community Violations and Sanctions:
As set forth in the student conduct code, students residing in housing off-campus may be sanctioned for engaging in conduct that impinges on the rights of other students, neighbors, and community members. Violations of restrictions on noise, the hosting of events, trash disposal, maintaining yard and premises, underage drinking, distribution/sale of alcohol and other offenses that impact or may impact negatively on the community will result in sanctions as follows:
1. for a first offense, at a minimum, a written warning;
2. for a second offense, at a minimum, university probation, a fine and parental notification;
3. for a third offense, suspension and possible expulsion.

As is the case with any violation of the student conduct code, any violation, even a first offense, can be punished with sanctions up to and including expulsion, depending on the nature and circumstances of the violation, the prior record of the student, and other factors deemed pertinent.

Transcript Notations
Hearing panels and officers may order the entry of a notation explaining disciplinary action on the transcript of a student found responsible for misconduct.

Post-Hearing Process
Both the complainant and respondent are informed of the outcome of the hearing. The respondent is given written notification of the decision. The requirements of confidentiality of student records are observed.

Appeals
An appeal process is available for findings and/or sanctions, on limited grounds, to the complainant and the respondent. Appeals may be made on the grounds of procedural error or the severity of the sanction(s).

All appeals involving the Student Conduct Code should be made in writing to the Dean of Student Life no later than 10 business days after receiving the decision. The dean will review any documentation related to the case, obtain an audio copy of the hearing, and may interview panel members or administrative officers in determining the outcome the appeal. The Dean of Student Life may uphold, overturn, or amend any or all sanctions based on his/her findings.

Options in Cases of Sexual Violence or Sexual Harassment
Cases involving charges of sexual harassment or sexual violence shall be heard by the Associate Dean of Student Life, unless, with the agreement of the complainant, the Associate Dean deems the case appropriate for disposition by the board. In either case, the hearing procedures described above apply, however, the complainant may request a hearing panel of fewer than five members to hear the case.

Both the complainant and respondent are informed of the outcome of the hearing, which means the final determination with respect to the alleged sex offense and any sanction that is imposed against the respondent. This notice will be provided to the complainant and the respondent in the same manner and in the same time frame.

In addition to the above, upon written request, the Associate Dean of Student Life shall disclose to the complainant of any crime of violence (as that term is defined in section 16 of title 18, United States Code), or a non-forcible sex offense, the report on the results of any disciplinary proceeding conducted against a student who is accused of such crime or offense with respect to such crime or offense. If the complainant of such crime or offense is deceased as a result of such crime or offense, the next of kin shall be treated as the complainant for purposes of this paragraph.

Persons who believe they have been sexually abused or assaulted by Johns Hopkins students are encouraged to contact any of the following offices:
- the Office of the Dean of Student Life, 410.516.8208
- the Counseling Center, 410.516.8278
- the Office of Campus Safety and Security (24/7), 410.516.4600
- the Office of Institutional Equity, 410.516.8075
- the Student Health & Wellness Center, 410.516.8270
- the Sexual Assault Helpline (24/7) 410.516.7333

Referrals to support services will be made and the disciplinary process for sexual assault complaints will be explained for those who wish to consider initiating a complaint. Students may bring complaints about acts of sexual harassment committed by Johns Hopkins students to the Office of the Dean of Student Life for disciplinary action. Students also may bring complaints of sexual harassment committed by faculty, staff or students to heads of departments, the dean or director of a division, or the Office of Institutional Equity.

Interim Suspension
The Dean of Student Life or Associate Dean of Student Life reserves the right to suspend a student when his or her behavior indicates that his/her continued presence on campus constitutes a danger to the normal operation of the institution, or to the safety of self or others, or to the property of the University or of others. The suspension shall continue until the completion of disciplinary proceedings or until the behavior giving rise to the suspension is resolved.
For More Information
The Associate Dean of Student Life is available to provide students with more information about any aspect of the Student Conduct System.

Undergraduate Academic Ethics Board

Constitution of the Krieger School of Arts and Sciences and the Whiting School of Engineering

Preamble
Throughout its history, The Johns Hopkins University has enjoyed a distinguished reputation for academic excellence and integrity. Each member of the University bears a personal responsibility to uphold the ethical standards of the Institution. The Undergraduate Academic Ethics Board has adopted the following procedures for responding in a timely and impartial manner to infractions of the high ethical standards of the academic community. Faculty and undergraduate students in the Krieger School of Arts and Sciences and the Whiting School of Engineering are expected to understand their responsibilities as members of the Johns Hopkins University academic community and are bound by these procedures.

The Undergraduate Academic Ethics Board

Section A
The Undergraduate Academic Ethics Board (hereinafter “The Ethics Board”) is a subcommittee of the Academic Council and an independent committee of the Student Council. The Ethics Board is comprised of eight full-time faculty members (four from each school) and a minimum of twelve undergraduate students, as well as a Presiding Official (up to three presiding officials may be trained to fill the role), who is an undergraduate student. The faculty members are selected by the Vice Deans of Education for KSAS and WSE, respectively, and the undergraduate members are selected by the Student Council’s Committee on Leadership Appointments. Undergraduate members shall serve terms of one academic year or more, beginning on September 1st. A board member may be removed from the Ethics Board if he or she has not met the expectation of the board.

Section B
The Ethics Board is responsible for the maintenance of the academic integrity of the undergraduate programs in the Krieger School of Arts and Sciences and the Whiting School of Engineering and for all matters concerning adherence to this Constitution, including but not limited to: receiving reports of suspected violations, consulting with members of the University community on ways to reduce possible violations, appointing hearing panels, maintaining confidential records, orienting new students to the ethical standards of the community.

Section C
The duties of the Presiding Official are:
1. to plan and oversee all general meetings of the Board
2. to assist in training of the board members selected for the subsequent year
3. to assist in the selection of new board members when requested
4. to provide assistance to the Associate Dean of Student Life in his or her duties when requested
5. to oversee all hearings of the Undergraduate Academic Ethics Board and to make procedural decisions

Jurisdiction
The Ethics Board shall have jurisdiction over all undergraduates in the Krieger School of Arts & Sciences and the Whiting School of Engineering. The Ethics Board may assume jurisdiction over a case involving a full time undergraduate in a class in the School of Education and the Carey School of Business.

Violations of Academic Integrity
Undergraduate students enrolled in the Krieger School of Arts and Sciences or the Whiting School of Engineering at the Johns Hopkins University assume a duty to conduct themselves in a manner appropriate to the University’s mission as an institution of higher learning. Students are obliged to refrain from acts which they know, or under circumstances have reason to know, violate the academic integrity of the University. Violations of academic ethics include, but are not limited to:
- cheating;
- plagiarism; submitting the same or substantially similar work to satisfy the requirements of more than one course without permission; submitting as one’s own the same or substantially similar work of another;
- knowingly furnishing false information to any agent of the University for inclusion in academic records;
- falsification, forgery, alteration, destruction or misuse of official University documents or seal.

Responsibilities of Students and Faculty

Section A
Faculty members are responsible for specifying at the beginning of each semester the basic rules and procedures for any and all coursework, examinations, and other academic exercises. They are also responsible for exercising a reasonable degree of caution while writing, transporting and administering examinations and other graded work. All faculty members and teaching assistants are responsible for taking appropriate actions in accordance with the Constitution in all cases of suspected violations of academic ethics.

Section B
It is the responsibility of each student to report to the professor in charge of the course or to the Ethics Board any suspected violations of academic ethics.

Procedures for Handling Suspected Violations of Academic Integrity

Section A
If a student is suspected of a possible violation of academic ethics, the professor in charge of the course will review the evidence and the facts of the case promptly with the student. If, after speaking with the student(s), the professor believes that a violation of academic ethics has occurred, the professor may (a) settle the case directly with the student with appropriate notification to the Office of the Dean of Student Life (the Professor may also ask the Associate Dean of Student Life to serve as a mediator in such instances) or (b) promptly notify the
Ethics Board in writing, through the Office of the Dean of Student Life, setting forth the details of the case.

Section B
1. A professor has the authority to settle a case with a student if (a) the current offense does not constitute a second or subsequent offense, and (b) the settlement does not call for a notation on the student’s transcript. It is the responsibility of the professor to check with the Office of the Dean of Student Life to determine whether the student has any prior record of misconduct. If the circumstances surrounding the case do not satisfy the above criteria, then the professor must send the case to the Ethics Board for resolution.
2. If the professor settles a case with the student(s), the penalty or penalties imposed may only be selected from items (b) through (e) listed under the Penalties (p. ) section. If the professor feels that none of these penalties is appropriate, he/ she must submit the matter to the Ethics Board for resolution.
3. If a case is settled directly between the student and the professor, then the professor must submit the name of the student and the settlement agreed upon to the Office of the Dean of Student Life.

Section C
1. If the student(s) and professor are unable to reach a settlement, then the professor must file a written charge of a violation of academic ethics to the Office of the Dean of Student Life for resolution. Professors should make every effort to take such action within one week of the alleged occurrence of academic misconduct.
2. In the event that a case arises near the end of a semester, the professor must submit a charge (as outlined above) at least one week before the official last day of classes. Any charge received after this date may be held over until the following semester. When possible, hearings could be held during Intersession and summer. For summer hearings, officers and board members may be drawn from the Board for the subsequent academic year at the discretion of the Associate Dean of Student Life.

Section D
Upon receipt of a charge of a violation of academic ethics (that constitutes a student’s second violation) from a professor or an egregious charge that if found responsible would require the student’s removal from the University, the Associate Dean of Student Life shall appoint a hearing panel to consider the charge(s). The panel shall decide the issue of responsibility and, if the student is found responsible, shall impose an appropriate penalty, as specified in the Penalties section.

Section E
When the Associate Dean of Student Life receives a charge of a violation of academic ethics from a professor, he/she shall:
1. file the professor’s written charge in the Ethics Board’s file in the Office of the Dean of Student Life.
2. collect all pertinent evidence.
3. set a hearing date, time, and location.
4. notify the accused student(s) of the charge and hearing date, time, and location.
5. select members of the Ethics Board to serve on the hearing panel.

Hearing Panels
Section A
When the conditions warrant a hearing, the Associate Dean of Student Life shall appoint a hearing panel of unbiased persons to consider the case.

Section B
A hearing panel shall consist of two faculty members and three students and shall ordinarily be selected from the members of the Ethics Board. A Presiding Official shall conduct the proceedings of the hearing panel. He or she is responsible for maintaining records of all procedural decisions.

Section C
If any member of the panel feels they are unable to treat all parties fairly, they should remove themselves from the board, and the Associate Dean of Student Life may appoint a hearing panel of faculty or full-time undergraduate students from the Krieger School of Arts and Sciences and the Whiting School of Engineering who are not members of the Ethics Board. Such a circumstance might occur if a panel could not be appointed from among the members of the Ethics Board.

Section D
The professor shall submit all relevant documents to the Associate Dean of Student Life at least five business days prior to a hearing. The accused student shall submit all relevant documents to the Associate Dean of Student Life at least two business days prior to the hearing. If any evidence is submitted after this date, both parties will be notified of its addition.

Section E
The accused student shall be notified in writing of a charge of a violation of academic ethics at least five business days prior to a hearing. Upon receipt of notification, the accused student(s) shall have the opportunity to inspect all documents under the supervision of the Associate Dean of Student Life.

Section F
The hearing panel members shall not be informed of details of the charge(s) before the hearing is convened and shall keep all information confidential.

Section G
The accused student may discuss procedures with the Associate Dean of Student Life or a designee but may not approach members of the panel, the accuser, or the accuser’s witnesses concerning any matter directly or indirectly related to the hearing.

Section H
1. Students charged with misconduct arising from a single incident or occurrence may have their hearings joined at the discretion of the Associate Dean of Student Life. Charges of academic misconduct against a single student arising from several incidents or occurrences may also be heard at one hearing at the discretion of the Associate Dean of Student Life.
2. The accused student shall receive written notification of a joinder of charges.
3. When a hearing involves a joinder of charges, the guilt or innocence of each student shall be ruled upon separately.
Similarly, joined charges against a single student shall be ruled upon individually.

Section I

1. If an accused student fails to appear for the hearing after having been duly served with notice, or withdraws from a hearing before its conclusion without the written permission of the Associate Dean of Student Life, immediate suspension from the University may be imposed. Such a suspension shall continue until the hearing can be concluded with the student present.

2. Students are responsible for appearing as witnesses before a hearing panel as requested by the Ethics Board, and no student may willfully interfere with the processes of the Ethics Board or its hearing panels. A student’s failure to appear and tell the truth in response to all relevant questions, or his or her interference with the processes of the Ethics Board or its hearing panels constitutes a violation of academic ethics.

Section J

Those present at a hearing of the Ethics Board are limited to the following: the Presiding Official, panel members, the member of the University bringing charges, the accused student(s), and not more than one representative of the accused student(s). Any witness called by either party may be present only when their testimony is required. The Associate Dean of Student Life or other administrative officer may also attend the hearing but cannot decide responsible or not responsible regarding the accused.

Section K

A full and complete record shall be made of the proceedings via digital audio recording. No record of the deliberation shall be made. The hearing panel may, however, prepare a brief written report detailing the reason(s) for the finding of guilt or innocence and any penalties imposed. The Office of the Dean of Student Life will maintain a permanent file of all such reports. If a student is found responsible, they will receive written notification of their sanction(s).

Section L

1. The Presiding Official shall conduct the hearing in an orderly fashion. He/ She shall have the authority to rule on peremptory challenges, exclude testimony and evidence that is repetitious or irrelevant to the charges, and shall make final decisions of all questions of procedure. They may ask the Associate Dean of Student Life questions for clarification.

2. The Presiding Official may recess the hearing when it is deemed necessary. During a recess of a hearing, no discussion of the case by panel members, the accused student, the accuser, or witnesses will be permitted.

Section M

The accused student shall be presumed not responsible until found responsible. A determination should be reached during deliberations based solely upon the information presented during the hearing, and not upon any preconceived assumptions.

Section N

Upon calling the hearing to order and introducing the panel, the Presiding Official shall read the charge(s) and ask the accused student to enter a plea of responsible or not responsible.

Section O

If the accused student pleads responsible to the charge(s), the professor shall present testimony which can aid the hearing panel in determining the severity of the offense. The student shall then be given the opportunity to present information to the hearing panel which he/ she wishes to be considered in determining a penalty. The hearing panel may also ask questions of both parties in order to ascertain the severity of the offense.

Section P

1. If the plea is not responsible, the professor shall present testimony and evidence in support of the charges. Evidence may include documents, the professor’s own testimony, and that of any witnesses. Before calling a witness, the professor should be prepared to establish that the witness will present evidence relevant to the case at hand. Only the panel may ask questions of the accused or the professor. The Associate Dean of Student Life may curtail questioning if it is determined to be irrelevant or repetitious.

2. Following the professor’s presentation, the accused student shall present testimony and evidence under the same restrictions.

3. Following the accused student’s presentation, the professor and the accused student may recall witnesses if they can establish the need to do so. Such a recall of witnesses shall be subject to the discretion of the Associate Dean of Student Life.

4. After testimony from both sides has been heard, the professor and the accused student shall be given the opportunity to present a closing statement and any mitigating circumstances which they feel are appropriate. If the charge being heard constitutes a second or subsequent offense by the student, the student shall have the opportunity to comment on each prior offense individually.

5. Following the closing statements, the professor, the accused student, his/ her representatives, and all witnesses are excused. All parties shall remain available and shall inform the Presiding Official of their whereabouts.

Section Q

1. The panel shall deliberate the charge(s) until each member is ready to vote or the Associate Dean of Student Life determines that any further deliberation will not be productive.

2. The accused student, professor, and/ or any witnesses may be recalled for further testimony at any time during the panel’s deliberation.

3. The individual decision of each hearing panelist on responsible/not responsible shall be based upon a preponderance of the evidence.

4. Voting of the hearing panel may be by secret ballot or verbally. Majority of votes will determine responsible or not responsible.

5. The accused student will be asked to return, and told of the results of the panel.

Section R

Notice of the outcome of the hearing shall be sent to the student(s), professor, and the Dean of the Krieger School of Arts and Sciences or the Whiting School of Engineering, depending on the school in which the student is enrolled. A copy will also be filed in the Office of the Dean of Student Life.
Penalties

Section A
If a student is found responsible for a violation of academic ethics, whether by direct settlement with the professor, by pleading guilty at a hearing, or by a ruling of a hearing panel, a notification of the violation must be made in the student’s file explaining the violation.

Section B
1. One or more of the following penalties may be imposed upon students found responsible for violations of academic ethics:
   a. A notation placed on the student’s permanent transcript explaining the violation and punishment.
   b. Retake of the examination, paper or exercise involved.
   c. Score of zero on the examination, paper, or exercise involved.
   d. Lowering of the course grade.
   e. Failure in the course.
   f. Failure in the course with a notation on the transcript that the grade was for a violation of academic ethics.
   g. Failure in the course with suspension from the University.
   h. Failure in the course with suspension from the University and notation on the transcript that the failing grade was for a violation of academic ethics.
   i. Suspension from the University for at least one Semester.
   j. Suspension from the University for at least one Semester with a notation on the transcript that the cause was a violation of academic ethics.
   k. Expulsion from the University with a notation on the transcript that the cause was a violation of academic ethics.

2. Hearing panels shall make every effort to select a penalty appropriate to the severity of the offense, and may take into consideration any mitigating circumstances brought to its attention, as well as any record or absence of prior misconduct. A hearing panel may also impose a penalty that is not enumerated above if to do so would appropriately reflect the severity of the offense.

3. In most cases, the penalty for a second or subsequent finding of guilt must be selected from items (f) through (k) of Section B-1 above.

Section C
The penalty decided upon by the hearing panel must be agreed be agreed upon by the majority of the panel.

Section D
A student found responsible for a violation of academic ethics in a course forfeits the right to withdraw from the course or to change a graded course to pass/fail, and any withdrawal from that course or change effected prior to the finding of responsibility shall be voided.

Section E
A student who has committed a violation of academic ethics has the option of making a timely and personal report of the offense to the professor in charge of the course or to the Dean of the respective school. A self-reported violation of academic ethics reported and dealt with under this section shall not constitute a first offense. Self-reporting is defined as reporting a violation of academic ethics without prompt by an instructor.

Appeals

Section A
A student found responsible for a violation of academic ethics may appeal the decision of the hearing panel to the Vice Dean of Undergraduate Education (or his or her designee) of the Krieger School of Arts and Sciences, the Vice Dean of Education of the Whiting School of Engineering, whichever is applicable. The appeal must be filed within 10 business days from the date of the decision from which the appeal is taken. The appeal must be in the form of a written statement setting forth the grounds for the appeal. A student may appeal due to procedural error and/or the severity of the sanction(s). The Vice Dean may disallow an appeal of any procedural error if that error did not cause harm to the accused student. Upon receipt of an appeal, the Vice Dean will review any and all documentation related to the case, obtain and audio recording of the hearing, and may interview panel members in determining the outcome of the appeal. The Vice Dean may uphold, overturn, or amend any or all sanctions based on his/her findings. A full written report of the disposition of each appeal shall be made by the Vice Dean of the respective school and to the Associate Dean of Student Life.

Records

Section A
Records of the Ethics Board are available to members of the Board, faculty, and administrative staff, including the pre-medical and pre-law advisors. Records will only be released if a written request has been made and approved by the Associate Dean of Student Life.

Section B
The records of the Undergraduate Academic Ethics Board shall be held in the Office of the Dean of Student Life.

Section C
1. It is strongly encouraged that if formal charges have not been brought against an accused student within three months or within the first month of the fall semester for charges carried over from the previous academic year, then any references to the accusation(s) shall be eliminated from all files into which they had been placed.

2. A case file concerning an accused student shall be retained for seven (7) years after that student graduates or otherwise leaves the University.

Summary of Procedures for Responding to Infractions of the Academic Ethics Code

Violations of Academic Integrity
Violations of academic ethics include, but are not limited to: cheating, plagiarism; submitting the same or substantially similar work to satisfy the requirements of more than one course without permission; submitting as one’s own the same or substantially similar work of another; knowingly furnishing false information to any agent of the University for inclusion in academic records; falsification, forgery, alteration, destruction or misuse of official University documents or seal.
Suspicion of a Violation of Academic Integrity

Faculty members and teaching assistants have a responsibility to act in accordance with the ethics code in all cases of suspected violations of academic ethics. Students have a responsibility to report suspected violations of the ethics code to the professor in charge of the course or to the Ethics Board.

The Associate Dean of Student Life in Mattin Suite 210, 410-516-8208, is the liaison for the Ethics Board. If a student is suspected of a violation of academic ethics, the professor in charge of the course must contact the liaison for the Ethics Board to determine whether the student has a record of a previous violation of academic ethics. The professor will review the evidence with the student. If the professor believes that a violation of academic ethics has occurred, the professor may

1. settle the case directly with the student, provided the student does not have a pervious violation of academic ethics on file with the Office of the Dean of Student Life (the Associate Dean of Student Life may be requested by the professor or student to mediate in such instances)
2. promptly request a hearing by the Ethics Board (by contacting the liaison) and submitting a written charge, describing the details for the case.

Direct Settlement between the Professor and Student

If this is a first offense, the professor may settle the case with the student if the student admits responsibility. Written notification of the violations and the settlement, signed by the professor and countersigned by the student, should be sent to liaison for the Ethics Board. The penalty imposed may be selected from the following: retake the examination, paper or exercise involved; earn a lower grade in the course; or fail the course. If the professor or student feels that none of these penalties is appropriate, the case must be submitted to the Ethics Board for resolution. If this is a student’s second violation of academic ethics, the case must be submitted to the Ethics Board.

Ethics Board Hearings

When direct settlement is not possible, due to either a dispute of the charge, a second charge, or a faculty referral, the case is brought before the Ethics Board. A hearing panel of two faculty and three student members is then scheduled. The accused student will be notified of the charge(s) and hearing date, time and location. If the case is reported at the end of the semester, when students and faculty are busy with examinations or have left campus, the case may be held over until the start of the next semester.

The professor submits all relevant documents to the liaison of the Ethics Board prior to the hearing. The accused student is given an opportunity to inspect all documents prior to the hearing under the supervision of an official of the Office of the Dean of Student Life. The student may also bring one representative to the hearing. The representative must be a full-time student presently enrolled in the School of Arts and Sciences or the School of Engineering. A tape of the hearing is made and can be furnished to the accused student for the purpose of preparing an appeal. No recording of the deliberation is made, although a brief written report is prepared detailing the reason(s) for the panel’s decision and the penalties imposed.

The hearing panel members are not informed of the details of the charges until the hearing is convened. The accused student may not approach the members of the panel, the accuser, or the accuser’s witnesses regarding any matter related to the hearing.

The hearing is conducted in an orderly fashion with testimony taken in turn from the accuser, the accused, and from witnesses. Cross-examination and closing statements are allowed. The decision of the hearing panel on responsibility shall be based upon a preponderance of the evidence. At least three votes are required for a finding of responsible, otherwise the case is dismissed.

Penalties and Records

If a student is found responsible for a violation of academic ethics, either by direct settlement with the professor, or by a ruling of a hearing panel, a notation explaining the violation must be made in the student’s academic advising records. Penalties for a violation that is heard by a Hearing panel may include those available to a professor who reaches a direct settlement with the student, plus others including notifications on a transcript and suspension or expulsion from the University. A student found guilty of a violation of academic ethics in a course forfeits the right to withdraw from the course, to change the graded course to satisfactory/ unsatisfactory, or to absolve the grade by repeating the course.

Self-Reports of Violations

A student who reports his/her own violation of academic ethics to the professor in charge of the course, or the Dean of the school, is subject to penalties, but the violation is not considered a first offense.

Student Life Policies

Drug, Alcohol, and Firearms Policies for Students

The University, in keeping with its basic mission, recognizes that its primary response to issues of alcohol and drug abuse must be through educational programs, as well as through intervention and treatment efforts. In addition to providing appropriate educational programs throughout the year, each division of the University will include such programs as part of its orientation for new students.

The University further recognizes that alcoholism and drug addiction are illnesses that are not easily resolvable by personal effort and may require professional assistance and/or treatment. Participation in such programs may be required of a student as a “condition of continual enrollment.” The University will adhere to strict policies of confidentiality for all participants in drug/alcohol abuse rehabilitation programs as described in University and Federal regulations covering confidentiality of student health records. Maryland and District of Columbia laws prohibit the possession or consumption of alcoholic beverages by persons under the age of 21. The possession, use, or distribution of illegal drugs as defined by federal, state, and local statutes is prohibited.

Students are expected to obey the law. Individuals who violate the law, in addition to being subject to criminal penalties, may be subject to University disciplinary measures. The University will not excuse acts of misconduct committed by students whose judgment is impaired due to alcohol or drug abuse.

Student Activities Alcohol Provisions

Generally, alcohol is not served at events sponsored by University-affiliated student groups. If a student group does desire to sponsor an
event at which alcohol will be served, it must receive permission of
the Director of Student Activities prior to the event taking place. The
conditions under which permission will be granted are as follows:

1. Only beer and/or wine may be served. Kegs and other bulk
quantities are not permitted unless they are managed and served
by a third-party vendor and approved by University officials.
2. The organization must agree to follow the procedures for assuring
that persons attending the event who are underage will not be
served (e.g. the employment of a licensed third-party security
vendor). In addition, the organization and/or individuals in the
organization may be subject to University disciplinary action if
underage patrons are served alcoholic beverages.
3. Publicity (posters, etc.) for events at which alcoholic beverages are
served must not include any mention of beer/wine. "Refreshments
available" or some facsimile thereof will be acceptable. News-
Letter ads may publicize beer/wine, but it cannot be the main
thrust of the ads.
4. Persons who violate or attempt to violate these regulations
(restrictions) will be asked to leave the event and may be subject
to university disciplinary action. The Associate Dean of Student
Life limits the number of events at which alcohol may be served.
Organizations that violate the alcohol policy will lose the privilege
of serving alcohol at their events and may be subject to University
disciplinary action.
5. No alcoholic beverages may be purchased through student
organization funds nor may the purchase of alcoholic beverages
for members or guests be undertaken or coordinated by any
member in the name of or on behalf of the student organization.
6. The sale of alcoholic beverages at Johns Hopkins' student
organization events must be through a State of Maryland licensed
vendor and must be sold on a "per drink" basis to individuals;
"open bar" events are prohibited. Beverages should be sold at
reasonable market value and prices should be included in the
event contract. Profit sharing is prohibited. Free drink vouchers are
prohibited. The distributing of drink tickets/vouchers at student
organization events is prohibited.
7. No member of Johns Hopkins' student organizations, collectively
or individually, shall purchase for, serve to, or sell alcoholic
beverages to anyone under the age of 21. It is the role of the third
day vendor to acquire, distribute and monitor the alcohol.
8. Alcohol events hosted on campus by Johns Hopkins' student
organizations must comply with University policies regarding the
reservation of adequate security and age verification procedures.
9. All recruitment activities hosted by a Johns Hopkins' student
organization must be dry, meaning no alcoholic beverages will be
served.
10. Johns Hopkins University student organizations may not collect
admissions fees (cover charges) in order to defray the cost of
alcohol.

Policy on Firearms

The possession, wearing, carrying, transporting, or use of a firearm
or pellet weapon is strictly prohibited on University premises. This
prohibition also extends to any person who may have acquired a
government-issued permit or license. Violation of this regulation
will result in a disciplinary action and sanctions up to and including
expulsion, in the case of students, or termination of employment, in
the case of faculty and staff. Disciplinary action for violations of this
regulation will be the responsibility of the divisional student affairs
officer, Dean or Director, or the Vice President for Human Resources,
as may be appropriate, in accordance with applicable procedures. Any
questions regarding this policy, including the granting of exceptions for
law enforcement officers and for persons acting under the supervision of
authorized University personnel, should be addressed to the appropriate
chief campus security officer.

The Johns Hopkins University Sexual Violence, Sexual Assault, Relationship Violence, and Stalking Policy

The Johns Hopkins University is committed to providing a safe
educational and working environment for its students, trainees, faculty,
staff and other members of the University community. The University
prohibits sexual violence[1] and sexual assault, (which along with
sexual harassment, prohibited by the University’s Policy Against Sexual
Harassment, are forms of “sexual misconduct”), domestic violence
and dating violence (collectively, “relationship violence”), and stalking.
This conduct is disruptive of the learning and working environment
of the University’s community members and will not be tolerated
by the University. The University is committed to preventing sexual
misconduct, relationship violence, and stalking, as well as addressing
its effects on the University community. The University has adopted this
Policy in order to inform students, trainees, faculty, and staff and other
members of the University community of their rights and responsibilities
in the event they are or have knowledge of someone involved in an
incident of sexual misconduct, relationship violence or stalking and of
the services available to victims of sexual misconduct, relationship
violence and stalking.

Please click here to review the full Sexual Violence, Sexual Assault, Relationship Violence, and Stalking Policy.

Procedure on Discrimination, Harassment, Sexual Misconduct, Relationship Violence, and Stalking

The Johns Hopkins University is committed to providing the members
of its community with an environment free from discrimination
and harassment, including sexual harassment, sexual violence[1]
and sexual assault (collectively, “sexual misconduct”); domestic
violence and dating violence (collectively, “relationship violence”); and
stalking. The University will not tolerate discrimination, harassment,
sexual misconduct, relationship violence and stalking. The University
is prepared to receive, investigate and resolve complaints of
discrimination, harassment, sexual misconduct, relationship violence
and stalking that are brought by members of the University community
to the attention of a responsible employee, as identified in these
Procedures.

Please click here to review the University’s full procedures on
Discrimination, Harassment, Sexual Misconduct, Relationship
Violence, and Stalking. (http://web.jhu.edu/administration/jhuoe/
equity_compliance/procedures.html)

Open Space Policies

This policy governs any open space on campus, and applies to all Johns
Hopkins University students, alumni, employees, and visitors.

• Alcoholic beverages are prohibited in open spaces at all times,
except by written permission of the Office of the Dean of Student
Life.
• Glass bottles of any kind are prohibited in open spaces after dark.
• All trash must be disposed of in trash cans or removed from open space.
• The operation of any non-University vehicle in open space is strictly prohibited.
• Disorderly conduct, disruptive or mischievous behavior, vandalism, fights, assaults, or any other violation of University policy, the Student Conduct Code, state law or city ordinance is prohibited.
• All persons on open spaces, including Johns Hopkins University students and guests, must comply promptly and completely with the requests of University staff acting in accordance with their duties, including, but not limited to, requests for identification, for noise or activity abatement, dispersal, and for the surrender of beverages for examination and/or confiscation.
• Students are responsible for informing their guests of all University policies in and out of buildings, and are accountable for the actions of their guests.
• Skateboarding is permitted on paved and bricked paths only. Skateboarding on stairs, benches, railings, and any other than paved or bricked paths is prohibited. Skateboarders are urged to use caution and yield to pedestrians.

While voluntary compliance with open space policy is expected, where violations are found, enforcement staff may, at their discretion, issue a warning, or, without warning require any person or group of people to leave open space for a policy violation and/or for exigent circumstances. Enforcement staff, at their discretion, may confiscate alcoholic beverages from persons in open spaces. Violators of state law or city ordinances may be subject to arrest by Campus Security Officers or Baltimore City Police.

Students who are found in violation of the alcoholic beverage restriction in this policy may be subject to disciplinary action, including up to a $50 fine for a first violation, and may face additional sanctions based upon the nature and circumstances of the misconduct incident. Additional violations of the policy will bring more severe sanctions. In addition to fines, sanctions for misconduct may range from a warning through expulsion.

Students who violate other sections of this policy, or who fail to comply with Campus Security Officers and other staff acting to enforce this policy, may face disciplinary action.

Open Space Policy Enforcement Procedures

Undergraduate students suspected of violating an open space policy may be referred to the Office of the Dean of Student Life and may face disciplinary action. Graduate students may be referred to their academic dean. The Johns Hopkins Office of Campus Safety and Security is working in conjunction with the division of Homewood Student Affairs to ensure enforcement of this policy. Campus Security Officers will patrol open spaces regularly to promote adherence to the open space policy. The following guidelines will be used:

• Alcoholic beverages will be confiscated.
• Beer kegs will be confiscated.
• Glass bottles will be confiscated or their proper disposal directed.
• Individuals who possess alcoholic beverages may be asked for personal identification. Individuals found violating policy or individuals who fail to comply with request of enforcement staff acting in performance of their duties, may be asked for personal identification and/or directed to leave the area.

If proof of identity is not provided:

• the individual may be escorted from University property as a trespasser
• the individual may be detained at the discretion of Campus Security Officers in order to establish his or her identity.

Reports of violations of open space policies will be submitted to the Office of the Dean of Student Life and will include the identity of the person involved. Undergraduate first-time violators may be subject to disciplinary action including, but not limited, a fine of up to $50. Undergraduate violators who have committed a prior offense, or have committed misconduct in open spaces, in addition to an alcohol possession violation, may face additional disciplinary action. Individuals who violate state law or city ordinance on open space may be subject to arrest by Campus Security Officers or Baltimore City police. Trials for arrested persons are conducted in the State Courts of Maryland.

University Policy on Hazing

The Johns Hopkins University prohibits hazing. The Johns Hopkins University prohibits hazing. Hazing is defined to be:

• any action taken or any situation created intentionally that causes embarrassment, harassment or ridicule and risks emotional and/or physical harm to members of a group or team, whether new or not, regardless of the person's willingness to participate.

If you're not sure whether or not something happening to you or to someone else is hazing, ask yourself these questions:

• Would I feel comfortable participating in this activity if my parents were watching?
• Would I get in trouble if a school/college administrator walked by and saw us?
• Am I being asked to keep these activities a secret?
• Am I doing anything illegal?
• Does participation in this activity violate my values or those of this organization?
• Is this causing emotional or physical distress or stress to myself or to others?
• Am I going to be able to get a job if I have to put a criminal arrest on my application?

Examples of conduct that would violate this policy may include but are not limited to:

1. All forms of physical activity not part of an organized, voluntary athletic context or not specifically directed toward constructive work
2. Any activity (including voluntary athletic contests and constructive work) that might reasonably bring harm to the individual
3. Paddling, beating, or otherwise permitting undergraduate or alumni members to hit individuals
4. Depriving individuals of the opportunity for sufficient sleep, decent and edible meals, or access of means of maintaining bodily cleanliness
5. Activities that interfere with an individual's academic efforts by causing exhaustion, loss of sleep, or loss of reasonable study time
6. Requiring individuals to consume alcohol or drugs
7. Forcing, coercing, or permitting individuals to eat or drink foreign or unusual substances
8. Any requirement which compels an individual to participate in any activity which is illegal, perverse, publicly indecent, contrary to the individual’s moral and/ or religious beliefs, or contrary to the Student Code of Conduct and/ or policies and regulations of the University.

Groups such as fraternities, athletic teams, and student organizations may be held accountable for misconduct by individuals committed in the context of group membership.

**Student Activities Policies & Room Reservation Policy for Levering Hall, Shriver Hall and the Mattin Center Meeting Rooms 160, 161 and 162**

At the conclusion of each semester, recognized student groups may reserve space for the subsequent semester during scheduling week. All groups are limited to reserving one ninety-minute weekly meeting and two special events. Two weeks after scheduling week, groups may reserve additional spaces with the approval of the Scheduling Coordinator. Each student organization will designate not more than two people per academic year who will take responsibility for reserving rooms with the Scheduling Coordinator. Please contact Pat Forster, Scheduling Coordinator, at 410-516-8018 or e-mail her at pataf@jhu.edu, with your scheduling representative’s name, telephone numbers and e-mail address.

Any group failing to use a confirmed room for 2 consecutive meetings without formally canceling the room with the Scheduling Coordinator will be notified that their remaining reservations are canceled for that semester. In addition, if your group has been suspended and appears on the FROZEN ACCOUNT list, please resolve those issues before coming to reserve rooms. If your group does not appear on the list of Recognized Student Groups, please see the Student Activities Office staff so that your status can be verified.

**Poster Policy**

Postering is one of many ways to publicize your group’s events. There are a number of community bulletin boards in the Mattin Center Courtyard and Levering Hall. Academic and other departments may maintain their own bulletin boards. When you poster, be sure you know on whose board you are placing the flyer, and follow that group’s rules. These rules and regulations govern posters and other forms of advertising on campus in a fair manner. In addition, posters and other forms of advertising should not disrupt academic classes, programs, or activities and should not damage the property of JHU. Failure to comply with the following guidelines may result in removal of poster, fines, and/ or disciplinary measures

1. Posters and flyers may be placed on campus bulletin boards only.
2. Bulletin board flyers should be 8.5” x 11” and not fixed over another flyer. Requests for exceptions for larger flyers or posters must be forwarded to the Office of Student Activities in the Mattin Center.
3. Flyers advertising expired events or not meeting this policy’s criteria, may be removed.
4. Chalk is allowed to promote events on sidewalks only. Any group that uses chalk anywhere other than the sidewalks will receive a bill from Plant Operations charging the group for the clean up.

This is not negotiable. Chalking should only be done in areas that can be rain-soaked. Check with the Office of Student Activities for allowable locations.

5. Banners may be hung on approved campus structures. Contact the Office of Student Activities in the Mattin Center for scheduling, approval, and necessary arrangements for hanging banners on campus.

6. Painted mural boards are coordinated by the Office of Student Activities in Mattin 161. Please email studentactivities@jhu.edu for reservations or more information.

Note: The University considers placing posters on glass to be a fire hazard and custodians are instructed to remove any potentially hazardous posters. These restrictions exist in order to improve the appearance of the Hopkins campus and to maximize the usefulness of the bulletin boards.

Check with Residential Life Office before posting in any residential area, designated boards excepted, and check with department offices before posterizing on their boards. Flyers posted in residence halls must include all necessary information; no teasers.

**Poster Locations (Subject to Change)**

- Levering Hall: Outside Levering Market (Garland and Arellano sides), lower Levering hallway, and Union Desk
- MSE Library: M-Level by pay phones, on B, C, and D levels near elevators
- Remsen: First and third floors
- Residences: A & B, each AMR house, Wolman, McCoy: one board per floor, AMR and Wolman mailrooms, McCoy lobby, and the top steps next to the Snack Bar
- Maryland Hall: First floor
- Shaffer: Next to rooms 3 and 100
- Outside: Outside Levering, and between MSE and the Remsen - Charles Street Gate.

**Vending and Solicitation Policy**

All vendors who wish to sell their goods in the Levering Union, on the Levering Patio, or on the quadrangles during special events such as Commencement must apply to the Director of Levering Hall & the Mattin Center located in Levering 102. The Director of these facilities retains the right to determine the appropriate vending times, locations, and goods sold. Vendors are required to sign a license agreement with the Director. Vendors will refrain from selling goods displaying the name Johns Hopkins University or the Johns Hopkins University seal or logo. Vendors will be prohibited from selling compact discs, tapes and other items that directly compete with items sold in other establishments on campus. Sales of computer and telecommunications equipment must be coordinated through the Purchasing and Telecommunications departments. Credit card promotions to students are prohibited.

**Group Members and Leaders Academic Policy**

All undergraduate student organization leaders must maintain a minimum Grade Point Average of 2.0 in order to remain in or to be elected/ selected to a student leader position. All undergraduate student organization members and leaders must be enrolled in at least 6 credit hours.
Fundraising

Any group that solicits funding from outside agencies (i.e. businesses, corporations, foundations) must submit all requests to the Office of Student Activities for review and approval.

University Policy on Automobiles and Parking

Undergraduate resident students are strongly discouraged from bringing cars to campus. The City will not grant residential parking permits to students residing in University housing and students who are residing in University housing are not eligible for University parking permits. Without campus or residential parking access, resident students with cars face ticketing and towing.

Violators are subject to the applicable University and City penalties, which include substantial fines, "Denver boots", and towing fees, which typically amount to several hundred dollars. Students who live more than one mile from campus can purchase a parking access card to park on campus while using University facilities. Owners of two-wheeled motor vehicles must also pay for parking.

The parking rules are in effect Monday through Thursday from 7 a.m. to 8:30 p.m., Friday 7 a.m. to 7 p.m., and on Saturday and Sunday the campus is open. Those who are eligible for paid parking must bring with them the following to show proof of eligibility:

- A valid J-CARD
- Vehicle registration in your name, your parent’s name or your spouse’s name
- Proof of local address
- Paid registration form (permit to register receipt)

University Policy on Pets

No pets of any kind are permitted in university housing. The University also has the following policy on dogs:

1. While on university property, dogs must be leashed, licensed, and under the control of their owners or handlers at all times.
2. Dogs are not allowed in the common areas of any University building, including classrooms, except when being taken to and from non-public areas. (Guide dogs for the visually impaired are permitted in common areas.)
3. Dogs may not be tied up and left unattended on any campus grounds.
4. Owners or handlers are responsible for the removal of excrement deposited by their animals on University property.

If any infraction of these rules is observed, Campus Security should be notified (410-516-4600), and they will attempt to resolve the problem with the owner. If unsuccessful, or unable to locate the owner, the Municipal Animal Shelter will be notified to impound the dog in accordance with applicable animal control laws. Owners will be responsible for all impoundment fees.

The University strongly encourages students not to bring their pets to school unless they have cleared it with both their landlord and their roommates and are sure they have the means to care for their pets properly. Pets are often abandoned because there is no one to care for them over vacations, or the landlord threatens to evict the owner. If you do own a pet and cannot keep it, contact Animal Rescue (410) 636-1360, the Humane Society (410) 833-8848, or Baltimore SPCA (410) 235-8826 which will do its best to find the animal a new place to live.

Information Technology Policies

Student Technology Policies

The Johns Hopkins University is committed to providing a robust information technology environment to support its students and faculty in the pursuit of their research and instructional objectives. In general, undergraduate and graduate students are afforded the same access to computing and networking resources as are faculty and staff.

Understanding that for the University to maintain an environment of open access to networked computing resources is important, those who use these facilities must comply with the written policies coercing their use as well as the "spirit and intent" of these policies. Appropriate use of the resources includes instruction, independent study, authorizes research, and the official work of the offices, departments, recognized student organizations, and the agencies of the University. Any activity that intentionally obstructs or hinders the authorized use of campus computing and network resources is prohibited.

For the comprehensive policy go to http://it.jhu.edu/policies/itpolicies.html.

Residence Requirement

The Homewood Schools’ freshman and sophomore residence requirement applies to students engaged in their first two years of full-time undergraduate study. Transfer students entering the university with freshman or sophomore status are subject to this same requirement. Since students cannot complete their residence requirement in the middle of the academic year, transfer freshmen entering the university in January must live in the residence halls their entering semester and the following academic year. Transfer sophomores entering in January fulfill the residence requirement by living in the residence halls their entering semester. Exceptions to this policy are made for individuals living at home in the Baltimore area with parents or guardians.

The benefits of the residence requirement are many. It is designed to provide the students with a variety of services and conveniences. Living oncampus supports the academic mission of the university and affords students the opportunity to interact, socialize, and unwind with their classmates.

University Policies

The following university policies are detailed in this section:

- Policy on Alcohol and Drug Abuse and Drug-free Environment (p. )
- Policy on Possession of Firearms on University Premises (p. )
- Policy on the Privacy Rights of Students (FERPA) (p. )
- Annual Security Report (p. )
- Equal Opportunity/Nondiscrimination Statement (p. )
- Sexual Violence, Sexual Assault, Relationship Violence, and Stalking Policy (p. )
- Procedures on Discrimination, Harassment, Sexual Misconduct, Relationship Violence, and Stalking (p. )
- Photography and Film Rights Policy (p. )
University Policies for Students
Policy on Alcohol and Drug Abuse and Drug-free Environment

Johns Hopkins University recognizes that alcoholism and other drug addictions are illnesses that are not easily resolved by personal effort and may require professional assistance and treatment. Faculty, staff, and students with alcohol or other drug problems are encouraged to take advantage of the diagnostic, referral, counseling, and preventive services available throughout the university. Procedures have been developed to assure confidentiality of participation, program files, and medical records generated in the course of these services.

Substance or alcohol abuse does not excuse faculty, staff, or students from neglect of their employment or academic responsibilities. Individuals whose work or academic performance is impaired as the result of the use or abuse of alcohol or other drugs may be required to participate in an appropriate diagnostic evaluation and treatment plan. Further, use of alcohol or other drugs in situations off campus or removed from university activities that in any way impairs work performance is treated as misconduct on campus. Students are prohibited from engaging in the unlawful possession, use, or distribution of alcohol or other drugs on university property or as a part of university activities.

It is the policy of Johns Hopkins University that the unlawful manufacture, distribution, dispensation, possession, or use of controlled substances is prohibited on the university property or as a part of university activities. Individuals who possess, use, manufacture or illegally distribute drugs or controlled dangerous substances are subject to university disciplinary action, as well as possible referral for criminal prosecution. Such disciplinary action of faculty and staff may, in accordance with the university policy on alcohol abuse and maintenance of a drug-free workplace, range from a minimum of a three-day suspension without pay to termination of university employment. Disciplinary action against a student may include expulsion from school.

As a condition of employment, each faculty and staff member and student employee must agree to abide by the university Drug-Free Workplace Policy, and to notify the divisional human resources director of any criminal conviction related to drug activity in the workplace (which includes any location where one is in the performance of duties) within five days after such conviction. If the individual is supported by a federal grant or contract, the university will notify the supporting government agency within 10 days after the notice is received.

Policy on Possession of Firearms on University Premises

The possession, wearing, carrying, transporting, or use of a firearm or pellet weapon is strictly forbidden on university premises. This prohibition also extends to any person who may have acquired a government-issued permit or license. Violation of this regulation will result in disciplinary action and sanction up to and including expulsion, in the case of students, or termination of employment, in the case of employees. Disciplinary action for violations of this regulation will be the responsibility of the vice president for human resources, as may be appropriate, in accordance with applicable procedures. Any questions regarding this policy, including the granting of exceptions for law enforcement officers and for persons acting under the supervision of authorized university personnel, should be addressed to the appropriate chief campus security officer.

Policy on the Privacy Rights of Students

The Johns Hopkins University complies with the provisions of the Family Educational Rights and Privacy Act of 1974 (P.L. 93-380), as amended, and regulations promulgated thereunder. Eligible students, as defined in the regulations, have the following rights: (1) to inspect and review their education records, as defined in the regulations; (2) to request the amendment of their education records if they are inaccurate or misleading; (3) to consent to the disclosures of personally identifiable information in their education records except to the extent permitted by law, regulation, or university policy; and (4) to file a complaint with the United States Department of Education if the university has failed to comply with the requirements of law or regulation. Copies of the university’s policy on Family Educational Rights and Privacy are available from the Registrar’s Office or may be accessed on the JHU website.

Annual Security Report

In accordance with the Crime Awareness and Campus Security Act of 1990 (P.L. 102-26), as amended, and regulations promulgated thereunder, the university issues an Annual Security Report, which describes the security services at each of the university’s divisions and reports crime statistics for each of the campuses. Copies of the report are available from the university’s Security Department, 3001 Remington Avenue, 410-516-4600.

Equal Opportunity/Nondiscrimination Statement

The Johns Hopkins University admits students of any race, color, religion, age, national or ethnic origin, disability, marital status or veteran status to all of the rights, privileges, programs, benefits, and activities generally accorded or made available to students at the University. It does not discriminate on the basis of sex, race, color, gender, marital status, pregnancy, ethnicity, national origin, age, disability, religion, sexual orientation, gender identity or expression, veteran status, or other legally protected characteristic in any student program or activity administered by the University, including the administration of its educational policies, admission policies, scholarship and loan programs, and athletic and other University-administered programs or in employment.

Questions regarding this policy, including the granting of exceptions for law enforcement officers and for persons acting under the supervision of authorized university personnel, should be addressed to the appropriate chief campus security officer.

Sexual Violence, Sexual Assault, Relationship Violence, and Stalking Policy

The Johns Hopkins University is committed to providing a safe educational and working environment for its students, trainees, faculty, staff and other members of the University community. The University prohibits sexual violence[1] and sexual assault, (which along with sexual harassment, prohibited by the University’s Policy Against Sexual
Undergraduate Students

Harassment, are forms of “sexual misconduct”), domestic violence and dating violence (collectively, “relationship violence”), and stalking. This conduct is disruptive of the learning and working environment of the University’s community members and will not be tolerated by the University. The University is committed to preventing sexual misconduct, relationship violence, and stalking, as well as addressing its effects on the University community. The University has adopted this Policy in order to inform students, trainees, faculty, and staff and other members of the University community of their rights and responsibilities in the event they are or have knowledge of someone involved in an incident of sexual misconduct, relationship violence or stalking and of the services available to victims of sexual misconduct, relationship violence and stalking.

Please click here to review the full Sexual Violence, Sexual Assault, Relationship Violence, and Stalking Policy.

Procedures on Discrimination, Harassment, Sexual Misconduct, Relationship Violence, and Stalking

The Johns Hopkins University is committed to providing the members of its community with an environment free from discrimination and harassment, including sexual harassment, sexual violence and sexual assault (collectively, “sexual misconduct”); domestic violence and dating violence (collectively, “relationship violence”); and stalking. The University will not tolerate discrimination, harassment, sexual misconduct, relationship violence and stalking. The University is prepared to receive, investigate and resolve complaints of discrimination, harassment, sexual misconduct, relationship violence and stalking that are brought by members of the University community to the attention of a responsible employee, as identified in these Procedures.

Please click here to review the University’s full procedures on Discrimination, Harassment, Sexual Misconduct, Relationship Violence, and Stalking. (http://web.jhu.edu/administration/jhuoie/equity_compliance/procedures.html)

Photography and Film Rights Policy

(jhu.edu/news_info/policy/photography.html)

The Johns Hopkins University reserves the right from time to time to film or take photographs of faculty, staff, and students engaged in teaching, research, clinical practices, and other activities, as well as casual and portrait photography or film. These photographs and films will be used in such publications as catalogs, posters, advertisements, recruitment and development materials, as well as on the university’s website, for various videos, or for distribution to local, state, or national media for promotional purposes. Classes will be photographed only with the permission of the faculty member.

Such photographs and film—including digital media—which will be kept in the files and archives of The Johns Hopkins University, will remain available for use by the university without time limitations or restrictions. Faculty, students, and staff are made aware by virtue of this policy that the university reserves the right to alter photography and film for creative purposes. Faculty, students, and staff who do not want their photographs used in the manner(s) described in this policy statement should contact the Office of Communications and Public Affairs.

Faculty and students are advised that persons in public places are deemed by law to have no expectation of privacy and are subject to being photographed by third parties. The Johns Hopkins University has no control over the use of photographs or film taken by third parties, including without limitation the news media covering university activities.
Graduate Students

Johns Hopkins University is proud to offer a rigorous and interdisciplinary graduate education taught by faculty who are academic and research leaders in their fields. Across the nine divisions of the university there are approximately 20,000 full-time and part-time graduate students working in over 180 fields of study. Combined with exceptional university facilities and resources, the endeavors of graduate students have contributed to groundbreaking discoveries, expansive and innovative collaborations, and the advancement of knowledge throughout the university and beyond.

The policies, procedures, resources, and opportunities included in this section are relevant for graduate students enrolled in the full-time degree programs in the Zanvyl Krieger School of Arts and Sciences and the Whiting School of Engineering on the Homewood campus. Please use the links at the left to navigate to your topic of interest.

Student Right to Know Information
The Higher Education Act of 1965, as amended in 2008, includes many student disclosures and reporting requirements by universities. These requirements include statistics and/or information on the following subjects:

1. Retention and graduation rates;
2. Financial assistance available to students and requirements and restrictions imposed on Title IV aid;
3. Crime statistics on campus;
4. Athletic program participation rates and financial support; and
5. Other institutional information including: the cost of attendance, accreditation and academic program data, facilities and services available to disabled students, and withdrawal and refund policies.

For the full Student Right to Know page, please visit: http://homewoodgrad.jhu.edu/student-services/student-right-to-know/

Admissions and Finances

Admissions

Admissions for Full-time Graduate Programs
The Office of Graduate Admissions and Enrollment is available to answer questions about the Krieger and Whiting Schools’ full-time graduate program application process and respond to general admissions inquiries and requests for information. Please visit grad.jhu.edu for a complete list of graduate programs offered by the Krieger School of Arts and Sciences and the Whiting School of Engineering and for information regarding the admissions process.

Admissions/Information for Visiting Graduate Students and Volunteers
The schools of Arts and Sciences and Engineering recognize and appreciate the contributions of volunteers and visiting graduate students to its mission of education and research and has policies in place to enable both schools to retain and set forth requirements pertaining to volunteers and visiting graduate students. Interested applicants should visit: http://grad.jhu.edu/visitingstudent for more information.

Costs of Attendance and Financial Aid

Costs of Attendance
See Financial Aid Website (http://pages.jh.edu/~finaid/grads_cost.html)

Financial Aid and Student Loans
All financial aid is distributed by individual departments. Graduate students should contact their departments for information concerning aid disbursement or the availability of funds. Students are required to fill out a new FAFSA form every year if they wish to continue receiving financial aid. For more information on student loans and work-study opportunities, go to the Student Financial Services website (http://www.jhu.edu/finaid/grads.html) or visit their office in Garland Hall.

Fellowships

Diversity Fellowships
Johns Hopkins is a community committed to sharing values of diversity and inclusion in order to achieve and sustain excellence. We firmly believe that we can best promote excellence by recruiting and retaining a diverse group of students, faculty and staff and by creating a climate of respect that is supportive of their success. This climate for diversity, inclusion and excellence is critical to attaining the best research, scholarship, teaching, health care and other strategic goals of the Health System and the University. Taken together these values are recognized and supported fully by the Johns Hopkins Institutions leadership at all levels. Further, we recognize that the responsibility for excellence, diversity and inclusion lies with all of us at the Institutions: leadership, administration, faculty, staff and students.

See http://grad.jhu.edu/admissions/diversity/fellowships/.

WSE-Specific Graduate Fellowship Information
The Whiting School of Engineering offers a number of endowed fellowships that provide supplemental financial aid to incoming and current full-time engineering students. Full-time degree seeking graduate students are automatically considered for the fellowships. Visit this link for more information.

KSAS-Specific Graduate Fellowship Information
The Krieger School of Arts and Sciences offers an incredible array of opportunities for student researchers in the areas of natural science, social science, and humanities. Visit this link for more information.

Veterans Educational Benefits
Johns Hopkins is approved by the Maryland Higher Education Commission for the training of veterans and the widows and children of deceased veterans under the provisions of the various federal laws pertaining to veterans’ educational benefits. Information about veterans’ benefits and enrollment procedures may be obtained at web.jhu.edu/registrar/veterans.html or the Office of the Registrar, 75 Garland Hall, 410-516-7071.
Students eligible for veterans’ benefits register and pay their university bills in the same manner as nonveteran students. The Department of Veteran Affairs determines the educational benefit a veteran is eligible to receive. Veterans educational benefits payments cover only a portion of assigned course fees. To receive veterans educational benefits the student must comply with the following procedures:

**Initial Enrollment**

Once admitted to the university, the student must complete an Application for Program of education or Training (VA Form 22-1990) from the Department of Veteran Affairs at www.gibill.va.gov (http://www.gibill.va.gov). A copy of the completed application, along with a certified copy of the DD-214, is sent to the Veterans Desk, Office of the Registrar, 75 Garland Hall, The Johns Hopkins University, Baltimore, Maryland 21218.

The student who is transferring from another university or college will need to obtain a Request for Change of Place of Training (VA Form 22-1995) from the Department of Veteran Affairs at www.gibill.va.gov (http://www.gibill.va.gov). The completed form should be sent to the Veterans Desk at the university.

**Re-enrollment**

Students who received veterans’ benefits at the university the preceding semester and plan to enroll with no change of objective should inform the Registrar’s Office at the time of registration that they want to be recertified under the provisions of their original VA Form 22-1990.

Students receiving veterans’ benefits must take courses that lead toward the exact objective (usually a specific degree) on the original VA application. Otherwise, they must submit a Request for Change of Program (VA Form 22-1995). Students utilizing veterans’ benefits must let the registrar know immediately of any change in their program or status that might affect the amount of their VA payment. If they fail to do so, the Department of Veterans Affairs will seek reimbursement from the student for any overpayment.

**Standards of Progress**

Continuation of VA payments depends on the student’s meeting the university’s academic standards for all students. The student must also meet any standards of progress which may be established by VA regulations.

**The College Navigator Tool**

Veteran students may go to the College Navigator (http://nces.ed.gov/collegenavigator) to access a school comparison tool.

**University Policies**

The following university policies are detailed in this section:

- Policy on Alcohol and Drug Abuse and Drug-free Environment (p.  )
- Policy on Possession of Firearms on University Premises (p.  )
- Policy on the Privacy Rights of Students (FERPA) (p.  )
- Annual Security Report (p.  )
- Equal Opportunity/Nondiscrimination Statement (p.  )
- Sexual Violence, Sexual Assault, Relationship Violence, and Stalking Policy (p.  )
- Procedures on Discrimination, Harassment, Sexual Misconduct, Relationship Violence, and Stalking (p.  )
- Photography and Film Rights Policy (p.  )

**University Policies for Students**

**Policy on Alcohol and Drug Abuse and Drug-free Environment**

(http://www.gibill.va.gov). The completed form should be sent to the Veterans Desk at the university.

- Substance or alcohol abuse does not excuse faculty, staff, or students from neglect of their employment or academic responsibilities. Individuals whose work or academic performance is impaired as the result of the use or abuse of alcohol or other drugs may be required to participate in an appropriate diagnostic evaluation and treatment plan. Further, use of alcohol or other drugs in situations off campus or removed from university activities that in any way impairs work performance is treated as misconduct on campus. Students are prohibited from engaging in the unlawful possession, use, or distribution of alcohol or other drugs on university property or as a part of university activities.

- It is the policy of Johns Hopkins University that the unlawful manufacture, distribution, dispensation, possession, or use of controlled substances is prohibited on the university property or as a part of university activities. Individuals who possess, use, manufacture or illegally distribute drugs or controlled dangerous substances are subject to university disciplinary action, as well as possible referral for criminal prosecution. Such disciplinary action of faculty and staff may, in accordance with the university policy on alcohol abuse and maintenance of a drug-free workplace, range from a minimum of a three-day suspension without pay to termination of university employment. Disciplinary action against a student may include expulsion from school.

- As a condition of employment, each faculty and staff member and student employee must agree to abide by the university Drug-Free Workplace Policy, and to notify the divisional human resources director of any criminal conviction related to drug activity in the workplace (which includes any location where one is in the performance of duties) within five days after such conviction. If the individual is supported by a federal grant or contract, the university will notify the supporting government agency within 10 days after the notice is received.

**Policy on Possession of Firearms on University Premises**

(http://www.gibill.va.gov). The possession, wearing, carrying, transporting, or use of a firearm or pellet weapon is strictly forbidden on university premises. This prohibition also extends to any person who may have acquired a government-issued permit or license. Violation of this regulation will result in disciplinary action and sanction up to and including expulsion,
in the case of students, or termination of employment, in the case of employees. Disciplinary action for violations of this regulation will be the responsibility of the vice president for human resources, as may be appropriate, in accordance with applicable procedures. Any questions regarding this policy, including the granting of exceptions for law enforcement officers and for persons acting under the supervision of authorized university personnel, should be addressed to the appropriate chief campus security officer.

Policy on the Privacy Rights of Students

(Full policy: jhu.edu/news_info/policy/ferpa.html)

The Johns Hopkins University complies with the provisions of the Family Educational Rights and Privacy Act of 1974 (P.L. 93-380), as amended, and regulations promulgated thereunder. Eligible students, as defined in the regulations, have the following rights: (1) to inspect and review their education records, as defined in the regulations; (2) to request the amendment of their education records if they are inaccurate or misleading; (3) to consent to the disclosures of personally identifiable information in their education records except to the extent permitted by law, regulation, or university policy; and (4) to file a complaint with the United States Department of Education if the university has failed to comply with the requirements of law or regulation. Copies of the university’s policy on Family Educational Rights and Privacy are available from the Registrar’s Office or may be accessed on the JHU website.

Annual Security Report

In accordance with the Crime Awareness and Campus Security Act of 1990 (P.L. 102-26), as amended, and regulations promulgated thereunder, the university issues an Annual Security Report, which describes the security services at each of the university’s divisions and reports crime statistics for each of the campuses. Copies of the report are available from the university’s Security Department, 3001 Remington Avenue, 410-516-4600.

Equal Opportunity/Nondiscrimination Statement

(webapps.jhu.edu/jhuniverse/administration/minutes_policies_reports/policies/equal_opportunity_statements/)

The Johns Hopkins University admits students of any race, color, gender, religion, age, national or ethnic origin, disability, marital status or veteran status to all of the rights, privileges, programs, benefits, and activities generally accorded or made available to students at the University. It does not discriminate on the basis of sex, race, color, gender, marital status, pregnancy, ethnicity, national origin, age, disability, religion, sexual orientation, gender identity or expression, veteran status, or other legally protected characteristic in any student program or activity administered by the University, including the administration of its educational policies, admission policies, scholarship and loan programs, and athletic and other University-administered programs or in employment.

Questions regarding Title VI, Title IX, and Section 504 should be referred to the Office of Institutional Equity, Wyman Park Building, Suite 515, Telephone: 410-516-8075, (TTY): 410-516-6225.

Sexual Violence, Sexual Assault, Relationship Violence, and Stalking Policy

The Johns Hopkins University is committed to providing a safe educational and working environment for its students, trainees, faculty, staff and other members of the University community. The University prohibits sexual violence[1] and sexual assault, (which along with sexual harassment, prohibited by the University’s Policy Against Sexual Harassment, are forms of “sexual misconduct”), domestic violence and dating violence (collectively, “relationship violence”), and stalking. This conduct is disruptive of the learning and working environment of the University’s community members and will not be tolerated by the University. The University is committed to preventing sexual misconduct, relationship violence, and stalking, as well as addressing its effects on the University community. The University has adopted this Policy in order to inform students, trainees, faculty, and staff and other members of the University community of their rights and responsibilities in the event they are or have knowledge of someone involved in an incident of sexual misconduct, relationship violence or stalking and of the services available to victims of sexual misconduct, relationship violence and stalking.

Please click here to review the full Sexual Violence, Sexual Assault, Relationship Violence, and Stalking Policy.

Procedures on Discrimination, Harassment, Sexual Misconduct, Relationship Violence, and Stalking

The Johns Hopkins University is committed to providing the members of its community with an environment free from discrimination and harassment, including sexual harassment, sexual violence and sexual assault (collectively, “sexual misconduct”); domestic violence and dating violence (collectively, “relationship violence”); and stalking. The University will not tolerate discrimination, harassment, sexual misconduct, relationship violence and stalking. The University is prepared to receive, investigate and resolve complaints of discrimination, harassment, sexual misconduct, relationship violence and stalking that are brought by members of the University community to the attention of a responsible employee, as identified in these Procedures.

Please click here to review the University’s full procedures on Discrimination, Harassment, Sexual Misconduct, Relationship Violence, and Stalking. (http://web.jhu.edu/administration/jhuoie/equity_compliance/procedures.html)

Photography and Film Rights Policy

(jhu.edu/news_info/policy/photography.html)

The Johns Hopkins University reserves the right from time to time to film or take photographs of faculty, staff, and students engaged in teaching, research, clinical practices, and other activities, as well as casual and portrait photography or film. These photographs and films will be used in such publications as catalogs, posters, advertisements, recruitment and development materials, as well as on the university’s website, for various videos, or for distribution to local, state, or national media for promotional purposes. Classes will be photographed only with the permission of the faculty member.

Such photographs and film—including digital media—which will be kept in the files and archives of The Johns Hopkins University, will remain available for use by the university without time limitations or
restrictions. Faculty, students, and staff are made aware by virtue of this policy that the university reserves the right to alter photography and film for creative purposes. Faculty, students, and staff who do not want their photographs used in the manner(s) described in this policy statement should contact the Office of Communications and Public Affairs.

Faculty and students are advised that persons in public places are deemed by law to have no expectation of privacy and are subject to being photographed by third parties. The Johns Hopkins University has no control over the use of photographs or film taken by third parties, including without limitation the news media covering university activities.

Graduate-Specific Policies

- Academic and Research Misconduct Policy (p. 60)
- Assistant Leave Policy (p. 60)
- Grievance Policy (p. 60)
- Jury and Witness Duty (p. 60)
- Homewood Schools (p. 60) Policy for Graduate Student Probation, Funding Withdrawal, and Dismissal
- Information Technology Policy (p. 60)
- G.W.C. Whiting School of Engineering - Specific Policies (p. )
- Zanvyl Krieger School of Arts and Sciences - Specific Policies (p. )

Academic and Research Misconduct Policy

The Krieger School of Arts and Sciences and the Whiting School of Engineering full-time programs and Engineering for Professionals have established the Academic and Research Misconduct Policy to address instances of misconduct by all graduate students enrolled in full-time, part-time or non-degree (special student) Krieger School of Arts and Sciences and Whiting School of Engineering graduate programs.

Procedures for handling allegations of misconduct by full-time and part-time graduate students: WSE and KSAS Graduate Student Misconduct Policy (PDF)

WSE and KSAS Procedures for Dealing with Issues of Research Misconduct (Applies to all Whiting School graduate students, both full-time and part-time)

Assistant Leave Policy

To ensure the personal well-being and productivity of our graduate students, safeguard against excessive demands on graduate students’ personal time, and introduce a minimum standard across the two Homewood schools regarding leave, the Deans of the Krieger School of Arts and Sciences (KSAS) and Whiting School of Engineering (WSE) have established guidelines for Research and Teaching Assistants to be able to take leave. A detailed description of the policy can be found here:http://homewoodgrad.jhu.edu/academics/policies/.

Grievance Policy

The Whiting School of Engineering (WSE) and the Krieger School of Arts and Sciences (KSAS) created a Grievance Policy. Any faculty member, postdoctoral fellow or graduate student of either school may grieve an adverse action or failure to act, or for a violation of University, School or departmental policy. Typically a complaint or dispute is brought to the attention of a department chair or center director and is resolved through informal discussion. In some circumstances, the Dean is asked to help in the informal resolution of grievances. The formal procedure set forth below is not meant to supplant attempts at resolving complaints through informal means. When at all possible, complaints and disputes should be settled through informal discussion, though there are no circumstances under which a grievance must be settled informally.

Please note that nothing in our policy should be construed to impinge upon the responsibilities of any office and/or regularly constituted body of the University, and should be applied only after every effort has been made to settle disputes informally. Moreover, no action may be taken with respect to a grievance that would conflict with or modify any policy approved by the Board of Trustees of the University, any policy of the University or WSE/KSAS, any federal, state, or local law or regulation, or any contract to which the University is a party.

The policy, along with proper procedure for filing a grievance is provided online here (http://homewoodgrad.jhu.edu/wp-content/uploads/sites/35/2014/08/Homewood-Grievance-Policy_October-2012.pdf).

Jury and Witness Duty

A Krieger School or Whiting School graduate student employed by either school (i.e., a teaching assistant, research assistant paid by the university, research assistant paid by an external grant/fellowship or hourly worker) summoned for jury duty or subpoenaed to testify, is authorized to be absent from his/her work for the actual time required by such service. A graduate student employee must present the summons or subpoena to his/her immediate supervisor before a leave can be issued.

Graduate student employees are eligible for paid leave of absence as a juror or court witness. Federal work study funds, however, cannot be used in these instances -- departments should fund this work using other resources.

Jury duty or duty as a court witness is service and time spent away from a University position as a result of a subpoena issued by a court. Service as a volunteer expert witness or other volunteer court duty is not included in the provisions in this leave of absence.

Homewood Schools Policy for Graduate Student Probation, Funding Withdrawal, and Dismissal

This policy addresses consequences of student underperformance, including funding withdrawal. Students who might lose financial support as a result of the termination of funding from an advisor’s sponsor should be given prompt notice, whenever possible.

The full policy can be viewed here. (http://homewoodgrad.jhu.edu/wp-content/uploads/sites/35/2014/08/Graduate-Student-Probation-Funding-Withdrawal-and-Dismissal-Policy.pdf)

Information Technology Policies

All users of Johns Hopkins University computing resources must comply with the University’s information technology policies. For the comprehensive policies go to http://it.jhu.edu/policies/itpolicies.html
G.W.C. Whiting School of Engineering - Specific Policies
See http://engineering.jhu.edu/graduate-studies/academic-policies-procedures-graduate/

Zanvyl Krieger School of Arts and Sciences - Specific Policies
See http://krieger.jhu.edu/research/policies/

Academic Policies

Much of the material contained in this section gives details pertaining to School-wide (Krieger School of Arts and Sciences and/or Whiting School of Engineering) or University-wide policies. However, there are graduate student issues and policies that are department specific. In those instances, students are referred directly to their department administrator or department handbook for further information.

Student Enrollment Statuses

Graduate students in the full-time ASEN degree programs are initially enrolled as full-time and are given a Resident status. Other registration statuses include: Graduate Study Abroad, Nonresident, Leave of Absence, Part-time and Visiting. Prior to a student changing his or her registration status, approval from the student’s degree program and appropriate office(s) must first be secured.

Degree-Seeking Graduate Students, School of Arts and Sciences

Graduate students who are full-time students are charged full tuition. The office of the deans must approve any exceptions.

Degree-Seeking Graduate Students, School of Engineering

Most graduate students enrolled in research-oriented degree programs (M.S., M.S.E., Ph.D.) in Engineering are full-time students. However, part-time study consistent with residency requirements is common in many engineering departments. Students should consult with individual departments to determine the possibilities for part-time study.

Visiting (Not Degree-Seeking) and Part-time Graduate Students

In some cases, graduate students from other institutions may participate in a visitation or residency at the Homewood Campus. These students are designated as “Visiting.” Although not candidates for a Johns Hopkins advanced degree, visiting graduate students (those not candidates for a Johns Hopkins graduate degree) may be enrolled on a full- or part-time basis with the approval of the chair of the department and the dean of their respective school. Visiting graduate students will be limited to two consecutive terms of either full- or part-time study.

There are two subdivisions of nondegree (visiting) graduate students: 1. visiting graduate student (primarily taking courses) and 2. visiting graduate scholar (primarily pursuing research). Both categories must apply through their intended program of study and through the online application: http://grad.jhu.edu/apply/visiting-students/.

Part-Time Status

Part-time graduate students may be enrolled with the written approval of the chair of a department or director of a degree program and the documented confirmation of the dean. Students will generally not be eligible if they are working primarily on the Homewood campus or working full-time on research for the degree. Part-time graduate students must meet one of the residency requirements before they receive an advanced degree. Part-time has two major components: 1. a student cannot be part-time without prior approval from OIS (when appropriate) and their departments, and 2. a part-time student cannot take more than 2 classes in a semester, or they will be automatically put back to full-time status.

Part-time tuition charges by the course. Student accounts has the most current tuition information on its site. (http://pages.jh.edu/~studacct/general/tuition.htm)

Health Insurance: part-time students are eligible to purchase the student health plan, but generally at their own cost.

International students wishing to change status to part-time must first meet with OIS to determine eligibility. There are two separate steps to switch an international to part-time status: 1. the student must secure permission from OIS to apply for part-time status (this is a USCIS form, and not an university registration/enrollment form), and then 2. the student needs to make sure their department has contacted the registrar’s office on their behalf to make the official switch to part-time status. International students cannot switch to part-time without completing both steps.

Postdoctoral Appointments

Postdoctoral fellows are at the university to undertake a research program in cooperation with a member of the faculty. All appointments are arranged through the individual departments. Proof of successful PhD completion will be required before any appointment may begin.

Residency Requirements

Every full-time WSE Master’s student must register as a full-time graduate student for at least two semesters or satisfy an equivalent requirement approved by the appropriate department. (Combined bachelor’s-master’s degree students are exempt, as are those who enter a WSE master’s degree program after two or fewer semesters following completion of a JHU undergraduate degree.)

Every full-time KSAS Master’s student must register for a minimum of two consecutive semesters as a full-time, Resident graduate student.

Every full-time PhD Student (WSE and KSAS) must register for a minimum of two consecutive semesters as a full-time, Resident graduate student.

Graduate Study Abroad (KSAS)

The status of Graduate Study Abroad is usually limited to those students in the Humanities Center and the departments of Anthropology and German & Romance Languages and Literatures, who are required as a part of their regular degree program to complete a semester or more of full-time study at a foreign university. While in the case of the History of Art Department study abroad is not a general requirement, many of its graduate students do go abroad to conduct dissertation research. The category of Graduate Study Abroad is considered a full-time status. The use of this category for situations other than those noted above requires
the approval of your department chair of the Homewood Graduate Board. A student on Graduate Study Abroad is required to pay 10% of the full-time tuition rate for each semester abroad. The KSAS Dean’s Office will pay the remaining 90% tuition balance.

Students are encouraged to contact the Student Insurance Coordinator in the Registrar’s Office prior to leaving campus to find out details regarding your health insurance coverage while abroad. Graduate Study Abroad students should discuss all plans with their department/advisor in advance. Additionally, international students should always consult with OIS before making any travel plans or status changes.

The Graduate Study Abroad Application is available here.

**Graduate Study Away (WSE)**

The Graduate Study Away status applies to degree-seeking WSE master’s and doctoral students engaged in graduate education at a different institution (coursework and/or research) with departmental/advisor approval. This status is considered a subcategory of the nonresident status. As such, WSE study away/abroad students will be required to pay 10 percent of the full-time tuition rate for each semester away/abroad. As this is not a full-time resident status, health insurance benefits are not guaranteed. Graduate Study Away students should discuss this with their department/advisor in advance. Additionally, international students should always consult with OIS before making any travel plans or status changes. The Graduate Study Away/Abroad Application is available here.

**Nonresident Status**

Nonresident status is a fulltime status typically reserved for students who have completed all required course work (and exams (internal and GBO), as per degree requirements) and are working on their thesis or dissertation. The University does not cover the cost of the University issued health insurance for Nonresident students. Though nonresident students are not required to carry health insurance, they are eligible to purchase themselves the University-sponsored plan.

**Eligibility**

All KSAS and WSE full-time program graduate students are eligible for Nonresident Status if they:

- Have completed all coursework and requirements for the graduate degree other than the presentation and defense of the master’s essay or doctoral dissertation
- Have reached the end of their departmental support period or have exhausted support from grants and cannot be fully supported by the department.
- Work 19.9 hours per week or fewer during the academic year if employed by Johns Hopkins University in any capacity (intersession or summer employment can be full-time, however). If working, students must be on salary (not stipend) and paid hourly. NOTE: Research or teaching assistants expected to work more than 19.9 hours per week do not qualify for Nonresident status.

**Tuition**

Students on Nonresident status are charged 10% of full-time tuition per semester.

**Restrictions**

Nonresident students are permitted access to campus, faculty advising and JHU services, however, they are not permitted to enroll in any courses, with one exception under certain and specific circumstances, international students who file for Curricular Practical Training F1 (CPT1) through the Office of International Student & Scholar Services may register for a course entitled “Research and Teaching Practicum” (KSAS) or “Engineering Research Practicum” (WSE).

The maximum amount of time that a student may retain Nonresident Status is four semesters for master’s students and ten semesters for doctoral students. Upon reaching this limit, the student will be required to register for either part-time status (WSE only) or full-time Resident status until degree completion.

**Application Procedures**

Students are required to complete and sign an Application for Nonresident Status indicating that they meet the requirements as stated above. The form should be signed by the department, the Office of International Student & Scholar Services (if applicable) and either the WSE Vice Dean for Education (or designee) for WSE, or the KSAS Vice Dean for Graduate Education (or designee).

Students should apply for Nonresident status well in advance of the first semester for which it is desired. When requesting a change of status for the current term, such petitions should be submitted no later than the end of the second week of the semester.

**Leave of Absence**

A Leave of Absence (LOA) is an approved absence from the University during which time students are not charged tuition nor required to register. Time spent on an LOA is regarded as an approved break in study and is not counted toward the total time-to-degree. If a student fails to register without obtaining an approved LOA the student will be considered withdrawn from their degree program.

Students are encouraged to contact the Student Insurance Coordinator in the Registrar’s Office prior to applying for an LOA to find out details regarding health insurance coverage while on LOA.

International students are encouraged to contact OIS before filing for LOA.

**Eligibility**

All KSAS and WSE full-time and part-time program graduate students are eligible for LOA if one of the following conditions prevents them from continuing with their graduate studies:

- A documented physical or mental medical condition.
- Compulsory military service.
- Personal or immediate family hardship.
- NOTE: Financial difficulty alone is not a valid reason for requesting an LOA.

**LOA Tuition and Financial Support**

Students on LOA are not charged tuition for the semesters they are granted the leave; the period of leave is simply regarded as an approved interruption of the degree program; however, the University cannot guarantee that financial support will be available when students resume their studies. After taking an LOA, students must re-apply for tuition assistance, research assistantships, fellowships and/or teaching assistantships. Such matters are left to the discretion of the department. Before applying for a LOA, students should consult their
department for information regarding funding opportunities upon return from LOA.

**LOA Restrictions**

Graduate students may apply for up to four semesters of LOA (not including the summer term) when medical conditions, compulsory military service, or personal or family hardship prevents them from continuing their graduate studies.

Continued approval is based on the reason(s) for the request. Additional information may be requested by the department, or either the WSE Vice Dean for Education (or designee) for WSE, or the KSAS Vice Dean for Graduate Education (or designee).)

Students on LOA are not to use any University student services or facilities (e.g., computing labs, library, labs, athletic facilities, etc.) and may not be enrolled at another University.

Students on LOA who wish to continue working at Johns Hopkins are not eligible to be paid through the Student Payroll Office and must therefore be hired through the appropriate divisional Human Resources Department.

No progress toward degree completion or coursework can be made while on an LOA.

**Application Procedures**

To be awarded a LOA, students are required to complete and sign an LOA Application form and to provide a letter stating the reason for their application. The form must be signed by the student’s department, the Office of International Student & Scholar Services (if applicable), and either the WSE Vice Dean for Education (or designee) for WSE, or the KSAS Vice Dean for Graduate Education (or designee).

Students wishing to return from an LOA must complete an Application to Return from LOA form.

The departure of a student from one of the Homewood Schools without prior arrangement of Nonresident status or a Leave of Absence will be deemed a permanent withdrawal from the student’s program. Students who withdraw from their program must be formally readmitted at the discretion of the department, before they may return to the University. If readmitted, they do not pay a second application fee, but must satisfy the residency requirement for the degree following readmission (even if previously satisfied) and pay all outstanding fees.

**Satisfactory Progress**

**Homewood Schools Graduate Student Academic Review Policy**

This policy applies to all full-time WSE doctoral students and master’s students conducting thesis research. Each graduate program is required to publish its own policies and standards with respect to academic standing. At the end of each semester, all full-time Homewood graduate programs are expected to review the academic records of their graduate students to evaluate academic progress.

Once per academic year, all full-time Homewood graduate programs are required to provide a written review to: (a) all doctoral students, and (b) all master’s students conducting thesis research.

Departments are encouraged to include mention of funding continuation, as appropriate. This review must include the opportunity for the student to offer self-evaluation.

Students who fail to attain a program’s minimum level of performance may be placed on academic probation or dismissed using the procedures outlined in the Homewood Schools Policy for Graduate Student Probation, Dismissal, and Funding Withdrawal. In making these decisions, particularly that of dismissal, the program will take into consideration extenuating circumstances beyond the student’s control.

**Probation/Dismissal/Withdrawal**

**Academic Probation**

Whenever it is determined that a graduate student has failed to meet minimum academic requirements, that student may be placed on academic probation. This change in status requires a formal letter and a meeting between the student and his/her faculty advisor or the departmental director of graduate studies. The letter should clearly outline the student’s academic shortcomings, indicate the corrective measures necessary to remain in the program and state the length of the student’s probationary period. Any funding ramifications for the student should be included as well. The probationary period must span at least four months and would typically end at the completion of an academic semester.

Within one month following the conclusion of the stated probationary period, the program must inform the student of his/her status based upon whether the student has met the requirements as stated in the probation letter. The options are as follows:

1. remove the student from probation
2. extend the probationary period, or
3. dismiss the student.

**Academic Dismissal**

**Dismissal After Probation**

This must be done with a formal letter citing the reason for dismissal and requires a meeting between the student and his/her faculty advisor or the departmental director of graduate studies. Academic dismissal will be noted on the student’s transcript at the request of the program and with the approval of the cognizant Dean. A student may appeal this decision.

**Dismissal Without Probation**

A student may be dismissed without a formal probation period under three circumstances:

1. if he/she meets the conditions for dismissal based on coursework as stated by the academic program in its department handbook or on its website;
2. if he/she fails an oral or written examination for which successful completion is necessary to continue in the program (as stated in the program’s degree requirements), or if he/she fails to meet any condition resulting from a qualifying or GBO exam; or
3. if he/she is found to have committed academic or research misconduct and expulsion is the outcome of the deliberations as outlined in the Homewood Procedures for Handling Allegations of Misconduct by Full-Time and Part-Time Graduate Students, the KSAS Policy on Integrity in Research or the WSE Procedures for Dealing with Issues of Research Misconduct. Under these circumstances, programs are expected to follow the same
procedures for Dismissal After Probation. In addition, students are also subject to immediate dismissal on non-academic grounds in accordance with the Homewood Procedures for Handling Allegations of Misconduct by Full-Time and Part-Time Graduate Students as well as applicable policies at jhu.edu/news_info/policy.

Academic Dismissal Consequences
When a student is dismissed from the University, several consequences follow:

• The Office of the Registrar cancels the student’s registration for the next semester and authorizes a refund of tuition paid for that semester.
• Notation of dismissal may be placed on the student’s transcript at the request of the program and with the approval of the cognizant Dean.
• The Office of Student Financial Services suspends financial aid to the student and work-study aid.
• The Office of International Student and Scholar Services performs duties as required by U.S. federal regulations regarding persons not eligible to study at the University.

Readmission Following Dismissal
The terms for readmitting a student who has been dismissed for academic reasons are established by individual departments. The readmission process should be described in the dismissal letter, if deemed appropriate. Students who have been dismissed should discuss the readmission process with their advisor. Procedural instructions for this policy can be found at http://homewoodgrad.jhu.edu/academics/policies/.

Withdrawal
Students wishing to withdraw from the University must file written notice with their Department.A Termination/Withdrawal Report (http://homewoodgrad.jhu.edu/academics/graduate-board/policies-and-forms) must be generated by the departmental administrator. Graduate students are encouraged to consult the chair of their department prior to submitting their written notice. Students who withdraw from their program must be formally readmitted, at the discretion of the department, before they may return to the University. If readmitted, they do not pay a second application fee, but must satisfy the residency requirement for the degree following readmission (even if previously satisfied) and pay all outstanding fees. Once a student withdraws from the University, their student transcript is closed – changes to their academic record will not be permitted.

Registration
All students must complete registration at the beginning of each term in accordance with instruction issued by the registrar before they can attend classes or use university facilities. Detailed instructions about registration will be provided to all students before the registration period each term. If the student has not been notified at least two weeks before the start of classes for any fall or spring term, the Registrar’s Office should be contacted immediately.

Students who for any reason do not complete their registration until after the prescribed registration period are required to pay a late registration service fee. The fee is $150 for registrations completed from the first day of classes through the end of the first week of classes, $200 for registration completed during the second week of classes, and $300 for registration completed after the second week. Graduate students must obtain permission from the chair of their department to register after the second week of classes.

Students will not be allowed to register if there are unpaid bills from a previous term. The student is required to pay tuition or make financial arrangements with the Student Accounts Office before registering for a given term.

Grades
Grading basis for graduate courses deliberately includes both letter grades and P/F grades. Instructors should have the widest discretion possible in grading graduate students’ work; therefore both grading bases are available in ISIS to the instructor for any course at the graduate level. While policies in most departments vary, most graduate students receive letter grades or Pass/Fail grades for their coursework. Students should consult their department chairs and instructors to determine their grading requirements.

Registrar deadlines and policies concerning grade changes are as follows:

Letter Grades (A through F)
Changing letter grades of “A” through “F” to a “Passing” grade is not permissible at any time.

All other grade change requests (e.g., “B” to “A”) are acceptable within one year only. Change requests beyond one year can only be changed as a result of clerical error, and must be accompanied by a written explanation/justification from the course instructor.

Incomplete Grades (I)
The grade of “Incomplete” (denoted by an “I” on the transcript) is reserved for instances in which it is expected that a course’s work will be completed in one semester, but for reasons beyond the student’s control, the work cannot be completed within that timeframe.

Dropping an “Incomplete” grade from the transcript is not permissible at any time.

Changing an “Incomplete” grade to a final grade (“A” through “F”, “Pass”) may be done by the instructor within one year without Dean’s Office approval. After one year, the student must submit an Incomplete Grade Extension Request form to the cognizant KSAS or WSE Vice Dean’s office for that grade to be eligible to be changed at a later date. The form may be submitted no later than ten days of the last day of the second semester following the semester the student initially enrolled in the course.

If the “Incomplete” grade remains after one year and the student does not submit an Incomplete Grade Extension Request form, the “Incomplete” grade becomes permanent and cannot be changed.

If the student successfully submits an Incomplete Grade Extension Request form but then fails to finish the course before the stated extension deadline, the “Incomplete” grade becomes permanent and cannot be changed. Under special circumstances, students may submit multiple Incomplete Grade Extension Request forms for the same course.
**In-Progress Grades (IP)**  
Reserved for classes in which it is expected that the assigned work will require more than one semester to be completed, but the class itself will meet for only one semester, such as graduate seminar courses.

Dropping an “In-Progress” grade is permissible only with the approval of the instructor and the Dean’s Office.

Changing an “In-Progress” grade to a final grade (“A” through “F”, “Pass”) is acceptable at any time before the student’s departure with the instructor’s approval.

**Missing Grades (MR, X)**  
A “Missing” grade (denoted by an “MR” or an “X” on the transcript) appears if the instructor has not submitted a grade within that timeframe.

An instructor may submit a Grade Change form directly to the Office of the Registrar to change a “Missing” grade to a final grade.

Dropping a “Missing” grade from the transcript is not permissible, nor is changing it to an “Audit.”

**Audit (AU)**  
When a graduate student enrolls in a course with “audit” status, he/she must reach an understanding with the instructor as to what is required to earn the “Audit.” If the student does not meet those expectations (e.g., fails to attend class), the instructor must notify the Registrar’s Office in order for the student to be retroactively dropped from the course. The course will not appear on the student’s transcript.

Changing a course registration from “Audit” [student receives no letter grade] to “Credit” [student receives letter grade], or from “Credit” to “Audit” is permissible during the Office of the Registrar’s official add/drop dates. Registration changes beyond this deadline are not permissible.

Changing a final grade (“A” through “F”, “Pass”), “Incomplete” grade, “In-Progress” grade or “Missing” grade to “Audit” is not permissible at any time.

The following ASEN Graduate Courses cannot be taken for AU (Audit):
- Graduate Research
- Dissertation Research
- Master’s Thesis
- Master’s Essay
- Independent Study

These courses can only be taken as P/F or a letter grade, at the instructor’s purview.

**Add/Drop**  
Prior to the beginning of classes: Returning graduate students may make changes to their registration by mail, in-person, or online through the ISIS system. The ISIS system is available for use up to ten weeks prior to the first day of classes.

First six weeks of classes: Graduate students may add or drop classes online (as long as the electronic Advisor Hold has been released) or in-person at the Office of the Registrar. All in-person adds and drops must have a signature from the faculty advisor or department chair. Any drops within the first six weeks of classes will not be noted on the transcript.

Note: the instructor’s signature must be included on any course add form submitted past the 6 week drop/add deadline. Detailed instructions for how to add or drop classes online are available on the Registrar’s website. A calendar with specific dates for adding/dropping courses is also available on their website.

Seventh and eighth week of classes: Graduate students may withdraw from a course with the signatures of the instructor, department chair, and the student’s respective Dean’s Office personnel (either the Director of Graduate Academic Affairs for Whiting School of Engineering or Krieger School of Arts and Sciences). All withdrawals during the seventh and eighth weeks will be noted with a “W” on the student’s transcript.

**Registration Holds**  
A registration hold will be placed on students who have not obtained clearance from the Office of International Student and Scholar Services (OISSS), Student Accounts, Student Health Insurance or Student Health and Wellness Offices. Students should meet with the office that placed the hold so that the hold can be removed. Students who have an advisor’s hold on their registration must get their advisor’s signature on their registration form and then submit that to the Registrar’s Office in person in order for the hold to be lifted.

**Transferring Courses**

**Whiting School of Engineering Master’s degrees (M.A., M.S., M.S.E)**

For WSE master’s students who earned an undergraduate degree outside of the Whiting School of Engineering or the Krieger School of Arts and Sciences, no coursework completed before the undergraduate degree was conferred can be applied to a WSE master’s degree, regardless of whether that course was applied to the undergraduate degree.

WSE master’s students may transfer in up to two courses from another institution which were completed after the undergraduate degree was conferred and not applied to a degree elsewhere. The student must obtain approval from the WSE master’s program to do so.

**EXCEPTION:** WSE master’s students in a department-approved study abroad program can transfer in additional coursework (i.e., beyond two courses), but in total, at least half of the courses/credits applied to the WSE master’s degree must be taken/earned at Johns Hopkins. Individual graduate programs reserve the right to enforce stricter policies.

**Research and Scientific Writing Courses**

Through the Center for Leadership Education graduate students may enroll in writing courses designed to assist with dissertation and grant writing. Students may enroll for this course at no additional charge. The course is offered in the fall and spring semesters however, space is limited. For additional information go to web.jhu.edu/Leadership.

**Transcripts**

Transcripts may be requested from the Registrar’s Office. A request for one copy is normally processed within two to three working days of receipt of the request. Requests for multiple transcripts
require additional time. Standard delivery of transcripts is made by U.S. Mail first-class. Transcripts may also be requested online at iwantmytranscript.com. Partial transcripts of a student’s record will not be issued.

**Summer and Intersession Courses**

Summer Courses: While most summer courses offered at the Homewood Campus are undergraduate level courses, graduate students may enroll in these courses with permission from their department chair and the course instructor. No financial assistance is available for graduate students who wish to take summer courses. In special cases, graduate students may also take courses at the Peabody Conservatory. In such cases, students should contact the Registrar’s Office for registration instructions.

Graduate students may register for the course Summer Independent Research (990.892) with the approval of their department chair. There is no charge for this course as independent research projects conducted during the summer are not graded and carry no academic weight. An NG (“no grade given”) will appear on the student’s transcript.

Intersession Courses: Graduate students are also eligible to enroll in Intersession. Grades are generally given on an P/F scale. Some students use this period to participate in research, independent study or internships. A list of Intersession offerings is published in late November or early December. A special form, available in the Registrar’s Office, is used for Intersession registration. Students should register before winter break. Students who register for research, independent study, or an internship during Intersession must have the approval signature of their faculty sponsor and academic advising office. This opportunity is offered tuition-free.

**Course Re-Take Policy**

At the discretion of the Homewood graduate program, a graduate student may retake a course, but the grade from the initial effort will remain on the transcript. This applies whether the initial effort occurred while the student was an undergraduate student or a graduate student.

Transcripts are normally issued only at the request of the student or with his/her consent. The only exception to this policy is the issuance of transcripts to offices and departments within the university.

Official transcripts of work at other institutions that the student has presented for admission or evaluation of credit become the property of the university and cannot be copied or reissued. If a transcript of this work is needed, the student must get it directly from the issuing institution.

**Graduate Degree General Requirements**

**Doctor of Philosophy**

- A minimum of two consecutive semesters as a full-time, resident graduate student.
- Completion of registration in the semester during which degree requirements are met.
- Certification by a department or program committee that all school*, departmental, program, and/or committee requirements have been fulfilled.
- A dissertation approved by at least two referees appointed by the department or program committee and submitted to the Commercial Binding Office.
- Successful completion of a Graduate Board Oral examination. As determined by the department or program committee, this is classified as either a preliminary or a final examination.
- Though time-to-degree is determined by the department and may not exceed 12 years, continuation in the program will be based/contingent upon satisfactory academic progress after eight years of enrollment.

**Krieger School of Arts and Sciences Master’s Degrees (M.A., M.F.A., M.S.)**

- A minimum of two consecutive semesters as a full-time, resident graduate student.
- Completion of registration in the semester during which requirements are met.
- Certification by a department or program committee that all requirements have been fulfilled.
- A thesis approved by at least one referee and submitted to the Commercial Binding Office when the department requires a thesis.
- Meets the requirements of the school’s time-to-degree policy. (http://homewoodgrad.jhu.edu/academics/graduate-board/degree-requirements)

**Whiting School of Engineering Master’s Degrees (M.A., M.S., M.S.E., M.S.E.M.)**

- Every student must register as a full-time graduate student for at least two semesters or satisfy an equivalent requirement approved by the appropriate department. (Combined bachelor’s-master’s degree students are exempt, as are those who enter a WSE master’s degree program after two or fewer semesters following completion of a JHU undergraduate degree.)
- Every student must be registered in the semester during which degree requirements are met; this includes students who have no courses remaining in which to enroll but must resolve coursework for which an “Incomplete” grade was assigned.
- Every student must provide certification by a department or program committee that all departmental or committee requirements have been fulfilled.
- If the student is submitting a formal essay to the MSE Library to help complete master’s degree requirements, the essay must be approved by at least one reader. (See the Homewood Academic Council Faculty Status table, under “Thesis Supervision of Graduate Students,” to determine who may serve as the reader/advisor. Additional readers, if required by program, need only program approval.)
- All courses applied to the master’s degree must be at the 300-level or higher. At their discretion, individual graduate programs may institute a higher course level as the minimum for their own students.
- Every student must earn the master’s degree within five consecutive academic years (10 semesters). Only semesters during which a student has a university-approved leave of absence are exempt from the 10-semester limit; otherwise, all semesters from the beginning of the student’s graduate studies—whether the student is resident or not—count toward the 10-semester limit.
• Every student must complete training on academic ethics.

• Every student must complete training on the responsible and ethical conduct of research, if applicable. (Please see the WSE Policy on the Responsible Conduct of Research.)

Time to Degree (TTD)
The time-to-degree (TTD) limit for degree candidates is typically determined by a specific program. However, Johns Hopkins University’s general policy requires that TTD not exceed twelve years for Ph.D. candidates, and five years for Whiting School and Krieger School terminal master’s candidates. TTD count begins with the first semester of registration as a matriculated student. Time spent on an approved Leave of Absence will not be counted toward the graduate student’s TTD. Students unable to complete degree requirements within the required time limit are required to withdraw from the University. Full TDD policies for the Krieger and Whiting Schools can be found at grad.jhu.edu/student-life/policies.

Co-tutelle de Thèse
It is the University’s current policy that Johns Hopkins will recognize dissertation research and subsequent dissertation submission for the purposes of a degree from Johns Hopkins alone. It will sign no agreement that supports the concept of a student submitting the same work to different universities to receive two distinct degrees.

The University, however, wants to promote international exchange and in this spirit the Graduate Board has agreed to accommodate students with a desire to include faculty from a foreign university to participate in their research and defense process. Upon submission and review of a current curriculum vita, the Graduate Board will allow one advisor to be a faculty member of the foreign university and in certain cases will allow the committee to be expanded to include other faculty from the foreign university as long as the majority represent Johns Hopkins. The university will provide no funds to cover expenses. Funding for travel would be up to the department or the foreign university.

All proposed co-tutelle agreements be submitted to the Graduate Board for review.

Commencement and Degree Conferral
The University Commencement Ceremony is held once per academic year, traditionally in May. Students who have not satisfied all graduation requirements by the deadlines determined by the Graduate Board or the WSE Office of Academic Affairs are not eligible to participate in the graduation ceremony. Students who complete the degree requirements prior to the ceremony in May can request an official statement of completion from the Office of the Registrar or the Homewood Graduate Board Office.

There are three official conferral dates for the University (December, May, August), but only one formal commencement ceremony each year.

Visit the registrar’s graduation website for deadlines and official conferral dates.

The conferral date is printed on diplomas.

Application for Graduation
All graduate students must complete an Application to Graduate in order to generate degree conferral and receive a diploma. The application is distributed by the Office of the Registrar. Students should consult with their Graduate Coordinator, the Homewood Graduate Board’s website and the WSE Office of Academic Affairs’ website respectively to find out about the current deadlines. The dates of these deadlines change each academic year.

In addition to submitting the general application to graduate, engineering students preparing to graduate from a master’s or doctoral program must complete paperwork indicating the courses they intend to apply to their degree. This paperwork is distributed by each department’s Graduate Coordinator and once completed should be returned to them.

Degree Completion Deadlines and Information
The Graduate Board and the WSE Office of Academic Affairs (for WSE master’s students) issues deadlines for submission of theses and essays in the spring semester for the following academic year. These deadlines must be met for a student to be listed as a degree candidate. Students can access the calendar of deadlines on the Homewood Graduate Board’s website, the website of the WSE Office of Academic Affairs, or by contacting their department administrator.

• Students who complete their master’s essay or doctoral dissertation during the summer are not required to register for the summer term.

• Graduate students completing a final degree during the first eight weeks of the fall semester or the first four weeks of the spring semester will generate a tuition reimbursement for that semester to whatever entity covered the cost - the student, the department, the advisor, etc. This applies only to students for whom completion of a master’s project, master’s essay, master’s journal submission or doctoral thesis is the sole remaining degree requirement at the start of the final semester.

• If a student completes a Tuition Deferral Form indicating an expectation to complete the degree within a specific grace period, no payment is required to register for that semester. If the grace period deadline is not met, however, that semester’s tuition charge will be added to the student’s account.

• Graduate students who complete their degree requirements by the winter deadline listed are not required to register for the spring semester.

Grades towards Degree Completion
Grades for courses that are required for graduation must be turned in by the grade-submission deadline. Graduating students who are taking courses at cooperative schools or other divisions of the University must make arrangements with their instructors on the first day of class to have final grades submitted to the host school’s Registrar and then to the Homewood Registrar by the Homewood grade-submission deadline. If such an arrangement cannot be made, students should withdraw from the course.

Graduation Closes the Graduate Record
Upon graduation, the graduate’s record is closed. No changes thereafter can be made to the graduate’s transcript.
Completing Graduation Requirements

Departmental graduation requirements vary; therefore, students are encouraged to speak with their departmental administrator to learn details of their requirements.

Graduate Board

The Homewood Graduate Board is responsible for the administration of policies and procedures for the award Doctor of Philosophy, Ph.D. of the Schools of Arts and Sciences and Engineering, and for Masters degrees in the School of Arts and Sciences.

The Graduate Board oversees:

- Graduate Board Oral Exams for ASEN Phd Students: With the approval of the department chair, a Graduate Board oral examination may be scheduled at any time during the academic year. Requests for a Graduate Board oral examination must be submitted to the Graduate Board a minimum of three weeks before the exam is to take place.
- Dissertation/Thesis Instructions
  The student is responsible for obtaining and observing the detailed instructions concerning submission of their dissertation/thesis from their departmental office, the Homewood Graduate Board Office (grad.jhu.edu/academics/gradboard/policies/candidacy/).
- Initial PhD Degree confirmation
- Dissertation submissions
- Recommendations for conferral to the Doctor of Philosophy Board
- Dissertation and Degree Completion Deadlines for the Graduate Board can be found here.

Doctor of Philosophy Board

The Doctor of Philosophy Board advises the Provost about University-wide issues pertaining to the Ph.D. It approves new degree programs and sets guidelines and policies that affect all Ph.D. students. The Board respects the strong tradition of local autonomy of the Schools and seeks to enhance the visibility and prominence of Ph.D. education across the University.

Master’s Degree Completion

All Whiting School of Engineering master’s students must complete the following steps for the degree to be conferred and to generate a diploma:

- An Application to Graduate must be submitted to the Office of the Registrar (Garland Hall) either online or on paper, depending upon status;
- Department-specific certification forms must be submitted to and approved by the department graduate coordinator, and then those forms must then be submitted to the WSE Office of Academic Affairs by the deadlines listed below;
- If a formal master’s essay is used to complete degree requirements, the student must submit a properly-formatted essay to the MSE Library Electronic Theses and Dissertations system by 4:00 p.m. on the date listed on the WSE website; the emailed submission receipt (generated by the library) must be included in paperwork forward to the WSE Office of Academic Affairs.

Visit: http://engineering.jhu.edu/graduate-studies/academic-policies-procedures-graduate/ for deadlines and additional policies.

Dissertation and Thesis/Essay Submission

ETD (Electronic Theses and Dissertations)

An electronic thesis or dissertation (ETD) is digital version of a dissertation that is available to the public via the Internet. Universities and colleges in the United States and abroad have been moving toward this type of publication for the past decade. In the fall 2013, Johns Hopkins launched its own ETD portal and process.

All thesis and dissertation submissions must be through the ETD process and portal. See the ETD page for more information, deadlines, and instructions.

The student is responsible for obtaining and observing the detailed instructions concerning submission of their dissertation/thesis from their departmental office, the Homewood Graduate Board Office (grad.jhu.edu/academics/gradboard/policies/candidacy/) and ETD guidelines http://guides.library.jhu.edu/etd of the Johns Hopkins Libraries and Museums. Students may also contact the ETD coordinator at dissertations@jhu.edu.

After submitting their dissertation to the ETD Submittal Tool http://etd.library.jhu.edu, the library will check the dissertation for proper formatting and either approve it or contact the student to make required changes. After the ETD is approved the student will receive an approval confirmation from the system. Students are required to forward this approval email to homewoodgradboard@jhu.edu with the following items:

- The title of their dissertation typed in the body of the email in title case format with correct spelling and punctuation.
- The degree type and program/department

The degree requirements are not complete unless the final ETD is submitted to the library by the published deadline and the above information is provided by the student to the Graduate Board Office.

Student Life

Johns Hopkins is an active and supportive community, filled with students of different viewpoints, different cultures, and different backgrounds. The thing that brings them all together is their desire to be here and to celebrate everything Johns Hopkins has to offer. The following section details campus resources specifically relevant to the graduate student experience.

J-Card

The J-Card is the multi-use identification card used for Johns Hopkins students, faculty and staff. It is issued to students after registering for the first time. The Office of ID Card Services is located in the basement of Garland Hall.

The card features typical identification information such as the person’s name, photograph, classification (student, faculty or staff) and a randomly generated ID number.

The J-Card acts as the individual’s library card for the Sheridan Library network. It allows the student to enter the MSE Library beyond Q-Level, to reserve and borrow books and to pay for photocopies or document printing on library printers.
Students must show their J-Card in order to gain access to any campus computer lab. Additionally, student employees need to present their J-Card to pick up their paychecks from the Student Payroll Office.

The J-Card is also used for identification if a student has purchased a campus dining plan. J-Cash can be used at a number of restaurants and vending machines, on and off-campus. Money can be added to any J-Card account by mail or in person at the Student Accounts Office, located at 31 Garland Hall. For a full list of locations where J-Cash can be used, visit their website: jcardonline.com.

Lost or stolen J-Cards should be reported to the Office of ID Card Services by calling (410) 516-5121 (weekdays 8:30 A.M. to 5 P.M.) or the Office of Security by calling (410) 516-4600 (all other times). The account will be temporarily suspended and a new J-Card will need to be issued for a nominal fee.

Bookstore
The University’s bookstore is located at the Barnes & Noble in Charles Commons on Saint Paul Street. Graduate students can purchase textbooks and supplies at this location. Please visit their store website for hours of operation and other pertinent information.

Computer Access
Computers available to all faculty, staff, and students are located in several public computer labs and kiosks across the Homewood Campus. Labs in Krieger Hall and the Milton S. Eisenhower Library feature extensive software allowing users to print, access email and the Internet and perform other general tasks as well as more advanced computing required for coursework and research. Computer kiosk locations in Krieger, the Martlin Center, Hodson Hall, Levering Hall and throughout the MSE library are more limited.

The largest of all the Homewood labs is the Krieger Academic Computing Lab, located in 160 Krieger Hall. To gain access to the lab, students must swipe their J-Card at the locked gate. A lab consultant can be contacted during working hours by calling (410) 516-4242 or emailing consult@jhu.edu.

Security, Shuttles and Transportation
Security
The Johns Hopkins University Campus Safety and Security Office is dedicated to establishing and maintaining a safe and secure environment in which to work and visit. The Homewood Communication Center operates 24-hours a day seven days a week at the Homewood Campus. In keeping with the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act, the Campus Safety and Security Office publishes crime reports and security bulletins. These may be found on their Campus Safety and Security Website.

Campus Security and local emergency services including Baltimore City Police, Fire or Ambulance can be summoned through Homewood’s Communication Center from any campus phone by dialing 6-7777. The universal 911 number may also be used to reach Homewood’s Communication Center from any on-campus phone. From off-campus, dial (410) 516-4600 to reach security. Crime and safety concerns may be reported to Campus Safety and Security by calling on-campus emergency numbers, (410) 516-7777 or 911. Additional services include the following:

Anonymous Tip Hotline

Crime Prevention Tips
Escorts
Lost and Found
Property Registration
Rape Aggression Defense (RAD)
Visit the Campus Safety and Security Website for more information.

Shuttles and Transportation
Homewood Parking and Transportation provides several services to faculty, staff and students. The primary services include:

Homewood - Peabody - JHMI Shuttle
Keswick - Homewood - Eastern - JHMI Shuttle
Homewood to Mt. Washington Shuttle
Blue Jay Shuttle
Carey Business School - Homewood (evening) Shuttle
Handicapped Services
Visit their website for schedules, locations and more information.

Student Employment
Student Employment Services is the human resources and employment center for full-time Homewood students who work for or wish to work for the University during their enrollment at Hopkins. Student Employment processes all student paychecks and maintains employment records and supporting documents. The office also supports a web based job search program which students can access through the Student Employment Services website. Students on Nonresident status must keep in mind that they can be paid at an hourly rate only and the number of hours worked on campus may not exceed 19.9 per week. A student job fair, hosted by Student Employment, is held annually in September. Students have the opportunity to meet and interview with a variety of on- and off-campus employers at the fair. All tax forms and any other required paperwork must be filed with the Student Employment office before students are eligible to receive their first paycheck from the University.

Volunteer opportunities and community-service information can also be found at this office.

Federal Work Study: Graduate students who meet certain financial-aid requirements have the option of applying for Federal Work Study (FWS) positions. FWS is a federally funded program that allocates funds to the University to pay a portion of the student’s salary. Approximately one-third of Hopkins students receive FWS funding. Eligibility for FWS positions is based on both the Free Application for Federal Student Aid (FAFSA) and the JHU Application for Financial Aid. The Office of Student Financial Services determines eligibility based on federal regulations. An FWS award is valid for one academic year. Students must reapply each year. The maximum FWS award is $2,000. Awards may be less, depending on the type and amount of other financial assistance a given student receives. FWS employees are limited to 20 hours of work per week.

Jobs posted on the Student Employment Services website indicate whether the position is FWS or non-FWS. Job fairs and student-employment orientations also offer opportunities for students seeking
FWS employment. Positions are available both on and off-campus and encompass a wide variety of skills and interests, including lab work, web design, research, and many more. Students in FWS positions are not prevented from working other paying jobs. For more information about Student Employment or to view current job postings and policies, please visit their website.

Travel Resources
As graduate students prepare to go overseas for research or to attend a conference it is helpful to consider administrative, health, and safety issues before leaving the country. Graduate students are also urged to complete the Johns Hopkins Travel Registry. Though this service is optional, travel registration can facilitate faster support in the event of an overseas emergency.

For more information and resources, visit http://homewoodgrad.jhu.edu/student-services/travel-resources/.

Career Center
The Career Center has services ranging from resume and curriculum vitae development to on-campus recruiting. As graduate students begin thinking about professional opportunities to pursue with their degree, the Career Center can help explore how skills, values, interests, and personality fit into this decision-making process. The Career Center has several assessments that have proved useful to graduate students who have not yet made a final decision about how they would like to use their degree after graduation. The Center also has counselors on hand to assist graduate students with any career-related issues that may arise. The Career Center also offers the following to graduate students:

Graduate Student Workshop Series
Each semester, the Career Center sponsors workshops specifically addressing the needs of graduate students. In the fall, look for “Writing your CV” and “The Academic Job Search for Graduate Students.” In the spring, the Career Center typically conducts workshops for those seeking to explore opportunities outside academia.

Individual Career Counseling
The Career Center also offers practical services for graduate students, including resume or CV support and taped mock interviews.

Dossier Service
The Career Center offers a dossier service for Ph.D. students in Arts & Sciences and Engineering disciplines Writing Seminars master’s students. This service provides a central location for housing recommendation letters when applying for academic positions.

Disabilities
Johns Hopkins University does not discriminate on the basis of gender, marital status, pregnancy, race, color, ethnicity, national origin, age, disability, religion, sexual orientation, veteran status or other legally protected characteristic in any student program, activity administered by the University, admission or employment.

A person with a disability is defined by the Rehabilitation Act of 1973 and by the Americans with Disabilities Act of 1990 as an individual who has a physical or mental impairment that substantially limits one or more major life activities, has a record of such an impairment, or is regarded as having such an impairment.

Student Disability Services Office (SDS)
Assists the University in compliance with the provisions of the Americans with Disabilities Act of 1990 (ADA), ADA Amendments Act (2008) and Section 504 of the Rehabilitation Act of 1973 for full-time undergraduate and graduate students in the Krieger School of Arts and Sciences and the Whiting School of Engineering.

Johns Hopkins University
Student Disability Services
3400 North Charles Street
385 Garland Hall
Baltimore, MD 21218
Phone: (410) 516-4720
studentdisabilityservices@jhu.edu
http://web.jhu.edu/disabilities

Tax Information
Student earnings are NOT automatically exempt from tax withholding, including Federal Work-Study earnings. All students are encouraged to complete/submit Tax Withholding Exemption Forms. For more information, please visit: https://orchid.hosts.jhmi.edu/stujob/tax.cfm. The JHU Tax Office is available for general questions and to point students to tax resources.

Please note that the Tax Office is unable to advise specifically on or prepare tax returns for JHU affiliates.

Parking on Campus
Parking is available for graduate students on campus at the San Martin and Decker Garages at monthly rates. Graduate students receiving a paycheck from the University are eligible for payroll deduction to pay for parking. Hang tags for free evening and weekend parking along academic buildings are also available. Hang tags can be purchased for a nominal fee which are valid for a maximum of 3 years. Go to the Parking Office, with your J-Card, to pick up your hang tag.

In addition to these spaces, there are a number of metered and timed parking zones around campus. Check the ordinances governing these roadside spaces. Many have two-hour time limits.

Orientation and Welcome Events for New Graduate Students
There are many resources available to assist new students in their acclimation to the Johns Hopkins Community. Orientation and Welcome Events information can be found at http://grad.jhu.edu/student-life/orientation/, and resources on getting settled in Baltimore as a new graduate student can be found here: http://grad.jhu.edu/student-life/orientation/

Recreation Center
Membership to the O’Connor Recreation Center is open to all faculty, staff, and students of the university. This includes Johns Hopkins University-Homewood, Peabody, School of Medicine, School of Public Health, School of Nursing, School of Education, Carey Business School, Bayview Medical Center, Johns Hopkins Hospital, School of Advanced International Study (SAIS), Johns Hopkins Medical Institutions, and the Applied Physics Lab (APL).
Gym
- Fitness and weight rooms
- Climbing wall
- Fields
- Tennis courts
- Pool (indoor)
- Experiential education
- Fitness classes (yoga, yogalates, pilates, step aerobics, cardio kick boxing, muscle classes and dance-based classes)
- Website: [http://web.jhu.edu/recreation/](http://web.jhu.edu/recreation/) or (410) 516-5229

Campus Ministries
Johns Hopkins University Campus Ministries promotes and supports spiritual development, theological reflections, religious tolerance and social awareness among students, faculty and staff within the university community. At its heart, Campus Ministries is a prophetic and pastoral presence which seeks to enhance the spiritual and ethical educational experience of the whole person mind, body and soul.

Website: [www.jhu.edu/~chaplain](http://www.jhu.edu/~chaplain) or (410) 261-1880

Community Engagement
The Center for Social Concern emphasizes the value of service with others. Volunteers and community members enter into an educational process where both benefit from the interaction, and reciprocal learning is the common ground for all of our initiatives. Our programs and efforts are striving to create a strong community in and around the Johns Hopkins campus.

GSCEP
The Graduate Student Community Engagement Program is designed to facilitate meaningful collaborations between individual Krieger, Whiting and the School of Education Johns Hopkins University graduate students and interested community partners. The main goals of GSCEP are to:

- Give Johns Hopkins graduate students the opportunity to enrich their graduate experience by giving them real-world opportunities in which to practice/apply their developing personal, professional, and academic skills (which serve to enhance their research and/or marketability while concurrently benefiting those served).
- Simultaneously support Johns Hopkins' actions to be a valued, committed and active member of the Baltimore community by providing specific (and at times, expert) graduate student support to valued community partners.
- [http://www.jhu.edu/csc/](http://www.jhu.edu/csc/)

Housing
Johns Hopkins University does not offer graduate student housing. Prior to or upon arrival, graduate students should secure their own independent housing.

The Baltimore City neighborhood immediately surrounding the Homewood campus is called Charles Village. In addition, there are lots of other proximal areas in which students may consider living including Hampden, Waverly, Roland Park, Guilford, Remington, Mt. Vernon and others.

Incoming graduate students in the Krieger School of Arts and Sciences and the Whiting School of Engineering who need housing accommodations while looking for a place to live can contact the Off-

Dining Services
An assortment of entrees, snacks, coffee beverages and other fare is available at a variety of on-campus locations that are open during all three meals and snack-times. Homewood's dining services can accommodate students with dietary restrictions whether that would be kosher, vegetarian, vegan or some other requirement. All locations accept J-Cards and cash, and some take credit cards.

Off-Campus Dining: There are many restaurants surrounding the campus and in adjacent neighborhoods. For the “insider’s guide” to these venues, please contact the Graduate Representative Organization (GRO), which publishes information and student reviews on these and other Baltimore eateries.

Meal Plans: Graduate students may opt to enroll in a meal plan. Meal plans on the Homewood campus are based on a block meal system, designed for both convenience and flexibility. Each block counts as one meal. Blocks expire at the end of each semester. Added to blocks, points allow students to purchase food at the Levering Food Court, and Blue Jay Café. Points have a dollar-for-dollar value and roll over from the fall to the spring, expiring at the end of the spring semester.

Additional information on specific plans, kosher or other dining options is available through the Office of Housing and Dining Services: [http://www.jhu.edu/hds/](http://www.jhu.edu/hds/)

Weather Emergencies
When there is an alteration or curtailment of the operating schedule of the University or a designated unit, an official announcement will be made on the University Emergency Telephone Hotline. As conditions may vary in the geographic areas where Johns Hopkins has campuses, there may be times when the Required Attendance Policy is invoked for some campuses and not others. In addition, conditions may be different on campus than they are in the area where a student lives. In times of bad weather, students should call the University Emergency Telephone Hotline to check on the status of the campus where they work.

- Baltimore - (410) 516-7781
- Outside Baltimore – (800) 548-9004

Each year the University publishes a list of radio and television stations that will be requested to announce operation changes. Because there can be mistakes in the message broadcasted, students can verify the message by calling the University Emergency Telephone Hotline. Students may also check the JHU emergency resources website.

Graduate Student Organizations and Advocacy
There are a variety of graduate student organizations on campus, ranging from cultural, athletic, academic and social. For a sample of what is available to graduate students, please visit the following link. ([http://homewoodgrad.jhu.edu/life-at-hopkins/graduate-student-organizations](http://homewoodgrad.jhu.edu/life-at-hopkins/graduate-student-organizations) For additional academic, cultural, athletic and social groups/organizations/clubs, please visit the following link ([http://webapps.jhu.edu/jhuniverse/campus_life/student_activities_organizations](http://webapps.jhu.edu/jhuniverse/campus_life/student_activities_organizations)). Every group/organization/club is different, and some may only be open to undergraduate students or to students from a certain campus. Other may not be bound by
similar parameters. Graduate students are encouraged to contact any group/organization/club in which they are interested directly for more information. There are also several offices and student groups on the Homewood Campus that advocate for graduate students on issues both academic and pertaining to student life.

Graduate Representative Organization

The Johns Hopkins University Graduate Representative Organization (GRO) works with specific divisions to represent graduate student interests (health insurance subsidies, compensation) to various levels of the JHU administration. The GRO organizes graduate student orientation, social events, sports activities, funds campus groups, and much, much more. Indeed, the GRO is proud to have earned the National Association of Graduate-Professional Students’ (NAGPS) 2000 - 2001 Outstanding Graduate Student Association award, its highest honor.

The GRO is made up of graduate student representatives from every department at Homewood. This group of representatives, the GRO General Council, elects an Executive Board for an annual term. Together, the Council and Executive Board are responsible for programming, advocating, and facilitating communication for graduate students on the Homewood Campus. The GRO also holds occasional programs with the student government on the Medical Campus.

http://www.jhu.edu/gro/

Guide to Living in Baltimore

Baltimore, the largest city in Maryland, is the center of a metropolitan area of 1.5 million people. Baltimore is a vital city long known for its ethnic neighborhoods where each wave of immigration to the United States has added to its character. People of many different backgrounds give the city a melting pot vitality that is reflected in the wide variety of restaurants, shops, and festivals.

http://www.groguide.org/

Krieger School of Arts and Sciences

William Egginton
Vice Dean of Graduate Education
410-516-7510
egginton@jhu.edu
Wyman N600

Renee Seitz
Director of Graduate Academic Affairs
410-516-8477
rseitz5@jhu.edu
Wyman N600

Whiting School of Engineering

Edward R. Scheinerman
Vice Dean of Education
410-516-7210
ers@jhu.edu
103 Shaffer Hall

Christine Kavanagh
Director of Graduate Academic Affairs
410-516-7395
christinekavanagh@jhu.edu

Shaffer Hall 103

The Office of Institutional Equity
Disability Services and Compliance

The Director of ADA Compliance and Disability Services in the Office of Institutional Equity serves as the central point of contact for information on physical and programmatic access, specific accommodations, resolution of complaints and problems, faculty and staff concerns, and identification of available services. In addition, the office can provide training, consultation, and information regarding disability issues.

Contact: Abby Hurson, Director or (410) 516-8075

Graduate students in the Krieger and Whiting Schools can also visit the Disabilities page: http://web.jhu.edu/disabilities.

Discrimination/Compliance

• Sexual Harassment
• Training
• Meditation

The Office of Equity Compliance and Education is responsible for the investigation and resolution of discrimination complaints received from faculty, staff, and students at Johns Hopkins University. OIE also provides mediation services for University related issues, as well as, education/training on sexual harassment.

Website: www.jhuaa.org or (410) 516-8075

Health and Wellness

Health Insurance (CHP- Cigna)

It is University policy that all full-time students in the Schools of Arts and Sciences and Engineering maintain adequate health insurance coverage to provide protection against unexpected accidents and illnesses. As a full-time student, you must either purchase the University plan or sign a waiver indicating you have health insurance coverage comparable to the University plan (International Students are required to purchase the University plan). Details about the student health plan offered by the University can be found on the registrar’s website. (http://web.jhu.edu/registrar/students/health)

Health and Wellness Center

The Johns Hopkins University Student Health and Wellness Center exists to affirm the clear role of health and wellness in advancing academics. Its primary mission is to maintain and contribute to a healthy and safe learning environment for the student community in the Schools of Arts and Sciences.

Website: http://ww2.jhu.edu/shcenter/ or (410) 516-8270

Counseling Center

The Johns Hopkins University Counseling Center serves full-time undergraduate and graduate students from the schools of Arts and Sciences, Engineering, Nursing, and the Peabody Institute. All of these students are encouraged to utilize the services offered by the Counseling Center. All services are confidential and free of charge.

The Counseling Center offers the following services:
• Counseling
• Groups
• Consultation
• Referral
• Career Decision-Making

Website: http://www.jhu.edu/~ccenter/ or (410) 516-8278

International Graduate Students

The Office of International Students and Scholar Services (OIS) assists Hopkins’ international community with visa status and with the challenges of making a transition from one setting to another.

The OIS staff is prepared to help with daily issues students face in adapting to an academically and culturally different environment. This office should be considered by international students as their primary source for important information regarding their status in the United States.

OIS staff members can answer questions and advise students on immigration regulations, financial concerns, health matters, housing, employment possibilities and other issues relating to an international student’s period of stay in the U.S.

International Bridge Program (http://oisss.jhu.edu/current-students/GradBridge)

Studying in a foreign country can be both challenging and exciting. International students often experience a period of cultural adjustment when they first arrive to the United States and specifically Johns Hopkins University.

The International Graduate Student Bridge Program is designed to better support this transition process for new international graduate students through monthly informational seminars and presentations on practical subjects—such as adjusting to graduate school in the US, taxes, credit in the United States, career preparations and enhancing communication and networking skills.
# Departments, Program Requirements, and Courses

## Course Identification

Courses listed in the catalog are those the departments plan to offer, however, not every course is available during a given year. Necessarily, some courses will be canceled and other courses scheduled. The schedules of graduate and undergraduate courses for a given term are published before the end of the preceding term. In the course listings that follow, the credits shown are for one semester only. No credits are listed for graduate (600-level) courses; many departments indicate instead the hours of class time per week.

A code number, indicating the department or program; a course number, indicating level; and sometimes a code letter, indicating area, for purposes of the distribution requirements, identify courses.

## Code Numbers

Department and program code numbers for the School of Arts and Sciences and Engineering are as follows:

<table>
<thead>
<tr>
<th>Code</th>
<th>Department</th>
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<tbody>
<tr>
<td>362</td>
<td>Africana Studies</td>
</tr>
<tr>
<td>070</td>
<td>Anthropology</td>
</tr>
<tr>
<td>550</td>
<td>Applied Mathematics and Statistics</td>
</tr>
<tr>
<td>375</td>
<td>Arabic</td>
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<tr>
<td>371</td>
<td>Art</td>
</tr>
<tr>
<td>290</td>
<td>Behavioral Biology</td>
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<tr>
<td>020</td>
<td>Biology</td>
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<tr>
<td>580</td>
<td>Biomedical Engineering</td>
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<tr>
<td>250</td>
<td>Biophysics</td>
</tr>
<tr>
<td>372</td>
<td>Chaplain</td>
</tr>
<tr>
<td>540</td>
<td>Chemical and Biomolecular Engineering</td>
</tr>
<tr>
<td>663</td>
<td>Center for Leadership Education</td>
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<tr>
<td>030</td>
<td>Chemistry</td>
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<tr>
<td>373</td>
<td>Chinese</td>
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<tr>
<td>560</td>
<td>Civil Engineering</td>
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<tr>
<td>040</td>
<td>Classics</td>
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<tr>
<td>050</td>
<td>Cognitive Science</td>
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<tr>
<td>600</td>
<td>Computer Science</td>
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<tr>
<td>270, 271</td>
<td>Earth and Planetary Sciences</td>
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<tr>
<td>310</td>
<td>East Asian Studies</td>
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<tr>
<td>180</td>
<td>Economics</td>
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<tr>
<td>520</td>
<td>Electrical and Computer Engineering</td>
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<tr>
<td>662</td>
<td>Engineering Management</td>
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<tr>
<td>060</td>
<td>English</td>
</tr>
<tr>
<td>370</td>
<td>English as a Second Language</td>
</tr>
<tr>
<td>660</td>
<td>Entrepreneurship &amp; Management</td>
</tr>
<tr>
<td>061</td>
<td>Film and Media Studies</td>
</tr>
<tr>
<td>500</td>
<td>General Engineering</td>
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</tbody>
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## Course Numbers

Course numbers have the following significance:

<table>
<thead>
<tr>
<th>Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-299</td>
<td>Undergraduate course, lower level</td>
</tr>
<tr>
<td>300-499</td>
<td>Undergraduate course, upper-level</td>
</tr>
<tr>
<td>500-599</td>
<td>Independent study/research/internship</td>
</tr>
<tr>
<td>600-799</td>
<td>Course offered for advanced degree programs</td>
</tr>
<tr>
<td>800-849</td>
<td>Independent study/research and dissertation, graduate level</td>
</tr>
</tbody>
</table>
**Zanvyl Krieger School of Arts and Sciences**

All the undergraduate and graduate programs in Arts and Sciences come under the direction of the dean of the Krieger School of Arts and Sciences. The excellence of these programs has been maintained and enhanced ever since 1876, when Daniel Coit Gilman assembled a Faculty of Philosophy of international distinction. The creative vision of these first professors remains and is reflected in a school that encourages independent research and creative thinking at all levels. The departmental descriptions that follow are notable for the wide range of interdepartmental offerings and the opportunities available for a student to structure a unique field of study in the humanities, natural sciences, quantitative studies, and social and behavioral sciences.

**Center for Africana Studies**

The Center for Africana Studies (CAS) offers a rigorous focus on African-descended peoples and their cultures across the globe. Over the past millennium, the contribution, traditions, and values of African, African-American, and African Diaspora cultures helped create the modern and pre-modern world. Africana Studies, as a field of study, grew from the activist and scholarly traditions of Black Studies and the blending of peoples and ideas between Europe, Africa, and the America. It therefore offers a broad, multidisciplinary approach to history and culture centered on the interests, conditions, philosophies, conceptual schemes, and value systems of African-descended people everywhere. Our courses focus on the human experience in the context of social, political, demographic, cultural, religious, and economic systems. They also offer a unique perspective on racism, colonialism, capitalism, and geography that properly situates the importance of people of color to the making of the modern world.

Africana Studies offers a multidisciplinary curriculum that expands the scope and range of traditional academic disciplines to the presence, roles, cultural contributions, experiences, and particular interests of African peoples and their descendants.

**Requirements for a B.A. Degree**

Also see Requirements for a Bachelor's Degree (p. 24).

Students who choose to major in Africana Studies must complete at least 33 credit hours of course work in three areas of African Studies - African and African Diaspora Studies, African American Studies, and Urban Studies. All course must be taken for a letter grade and be completed with a grade of C- or better.

**Undergraduate Minor Requirements**

Students who wish to minor in Africana Studies must complete a minimum of 18 credits, including two core courses and electives. Three of the electives must be upper-level courses. All course must be taken for a letter grade and be completed with a grade of C- or better.

**Honors**

Students who wish to do honors in Africana Studies are required to take a two-semester research seminar, in which they will prepare an honors thesis in consultation with a faculty advisor in the student’s particular area of interest and the faculty coordinator of the undergraduate research seminar. The research seminar will provide guidance on research design, methodology, and analysis and presentation of findings, and give students an opportunity to discuss one another's projects, share experiences, and receive constructive comments from their peers as well as the faculty coordinator.

In selecting research topics and collecting materials, students are encouraged to explore resources outside those immediately available on campus. With its rich collection of museums and archives, large and historic African-American communities, and growing populations of recent migrants from Africa, the Baltimore-Washington area offers many opportunities for research in Africana Studies. Students who wish to undertake research in Africa or in African American or African Diasporic communities beyond the local area will be encouraged to take advantage of summer research grants and/or study abroad opportunities available at Hopkins. The center will work with other departments and programs at Hopkins on behalf of students who wish to combine their research in Africana Studies with work in another field or ongoing program, such as the joint Minority Health Program recently established by the School of Public Health and Morgan State University.

**Core Courses (Select three of the following)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>AS.362.101</td>
<td>Introduction to Africana Studies</td>
</tr>
<tr>
<td>or AS.362.104</td>
<td>Introduction to the African Diaspora</td>
</tr>
<tr>
<td>or AS.362.111</td>
<td>Introduction to African American Studies</td>
</tr>
<tr>
<td>or AS.362.122</td>
<td>History of Africa</td>
</tr>
<tr>
<td>or AS.362.202</td>
<td>The History of Black Americans, Part I: 1619-1917</td>
</tr>
<tr>
<td>or AS.100.121</td>
<td>History of Africa to 1880</td>
</tr>
<tr>
<td>or AS.100.122</td>
<td>Introduction to History of Africa (since 1880)</td>
</tr>
</tbody>
</table>

**Electives**

Three credits at any level of Africana Studies courses

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Twelve credits of 300-level or higher Africana Studies courses</td>
</tr>
<tr>
<td>12</td>
<td>Twelve credits at any level of Africana Studies courses</td>
</tr>
<tr>
<td>33</td>
<td>Total Credits</td>
</tr>
</tbody>
</table>
Nine credits of 300-level or higher Africana Studies courses 9
Total Credits 18

For current faculty and contact information go to http://krieger.jhu.edu/africana/directory/index.html

Faculty

Director
Hollis Robbins
Director, Coordinator of Undergraduate Studies

Co-Coordinator of Undergraduate Studies
Floyd W. Hayes III

Faculty
Katrina Bell McDonald
Department of Sociology

James Calvin
Carey Business School

Nathan Connolly
Department of History

Jane Guyer
George Armstrong Kelly Professor, Department of Anthropology

Michael Hanchard
Department of Political Science

Floyd W. Hayes, III
Center for Africana Studies

Pier Larson
Department of History

Hollis Robbins
Chair, Department of Humanities, Peabody Institute

Lester Spence
Department of Political Science

Professor Emeritus
Sara Berry
Department of History

Affiliated Faculty
Ron Walters
Department of History

Michael Johnson
Department of History

Richard Jasnow
Department of Near Eastern Studies

Philip Morgan
Harry C. Black Professor, Department of History

Niloofar Haeri
Chair, Department of Anthropology

Debra Furr-Holden
Department of Mental Health, Bloomberg School of Public Health

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

AS.362.101. Introduction to Africana Studies. 3 Credits.
Introduction to the content and contours of Africana Studies as a field of study - its genealogy, development, and future challenges. Focuses on historic and contemporary experiences of African-descended peoples in the Americas.
Area: Humanities, Social and Behavioral Sciences.

AS.362.103. Introduction to African Arts. 3 Credits.
This course provides an overview of principal visual arts of Africa, pre-historic to contemporary.
Instructor(s): N. Bridges
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.104. Introduction to the African Diaspora. 3 Credits.
This course will begin in Africa before Atlantic slave trade, move to cover that trade into Brazil, the Caribbean and South Carolina. Comparisons of slave systems with Africa, Brazil, some parts of the Caribbean and Carolina (later South Carolina).
Instructor(s): P. Romero
Area: Humanities
Writing Intensive.

AS.362.105. Reading Seminar: Black Society in the Americas. 3 Credits.
Jointly offered with Moira Hinderer, based on themes developed from the archives of the Afro-American Newspaper and selected readings of African American Societies from across the hemisphere of the Americas.
Instructor(s): F. Knight; M. Hinderer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.111. Introduction to African American Studies. 3 Credits.
This course is an introduction to the origins and emergence of African American Studies as an academic discipline in the American academy. The course is centered on the social realities of people of African descent living in the United States.
Instructor(s): K. McDonald
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.112. History of Africa. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.362.175. Freshman Seminar: Remembering the Black Power Movement. 3 Credits.
This course critically examines trends, developments, contradictions, and dilemmas related to the Black Power Movement for black identity and self-determination in the late 1960s and 1970s.
Instructor(s): F. Hayes
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.
AS.362.200. African American Poetry and Poetics. 3 Credits.
This course will explore the history and development of African American poetry from 1750 to the present (blues, rap, and hip-hop) examining the role of race, art, and cultural identity.
Instructor(s): H. Robbins
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

This survey course addresses the making and historical experiences of African Americans from the early seventeenth century to the conclusion of World War I.
Area: Humanities.

AS.362.204. Women in African History. 3 Credits.
Selected readings written by or about notable African women from the 17th century to the present. Themes explored include slavery, power and religion, economics, health and politics.
Instructor(s): P. Romero
Area: Humanities
Writing Intensive.

AS.362.206. Research Seminar: Baltimore History from the AFRO Newspaper Archives-Community Based Learning. 3 Credits.
This small, project-oriented class will introduce you to methods in historical research while exploring major topics in twentieth century Baltimore history. We will use the rich reporting of Baltimore’s Afro-American Newspapers, to explore Baltimore’s place in the larger history of Black urban experience. Students will analyze images and exhibits related to African-American history, as well as research and curate small online exhibits of primary source materials including photographs, newspaper clippings, correspondence, pamphlets, flyers, and maps. We will be among the first scholars to work in the Afro’s rich archival collections, which include over a million images.
Instructor(s): M. Hinderer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.208. From Nok to Nsukka: Approaches to the Art of Nigeria. 3 Credits.
This course provides an introduction to art traditions within Nigeria’s borders; it also explores historiography and the impact of modern nation-building on art history and the development of museum exhibitions.
Instructor(s): K. Gunsch
Area: Humanities.

AS.362.210. African American Women’s History. 3 Credits.
This course will explore the diversity of African-American women’s lives and the development of women, work, and culture from the colonial era through the late twentieth century. Using primary and secondary sources the class will explore the social, political, religious, and economic factors that produced change and transformation in the lives of African American women.
Instructor(s): A. Coleman
Area: Humanities.

AS.362.220. Discourses in the African Diaspora. 3 Credits.
The African Diaspora has emerged as one of the “hot” topics of discussion in contemporary global race relations. The purpose of this course is to engage in a semester-long study into the meaning of the “African Diaspora.” Beginning with a brief reflection on some of the theoretical overlays on the topic, the course moves quickly into the heart of the subject matter. The course poses that beyond theoretical discussions, there is much to be learned from a close examination of the narrative accounts of individuals who have lived transnationally - who have themselves been actors and agents of the Diaspora.
Instructor(s): B. Vinson
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.303. Global Africa. 3 Credits.
This course will examine the literature surrounding cross-cultural exchange, through an interrogation of key concepts in African and transnational studies namely “diapora” “globalization,” and “transnationalism.”
Instructor(s): J. Ahlman
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.304. Survey of African American Culture. 3 Credits.
This course will trace the development of Black culture in the United States from slavery to the present with a focus on blackness as performance, culture as commodity, and the global impact of black culture in today’s international market place.
Area: Humanities
Writing Intensive.

AS.362.306. Seeing Baltimore History: Race & Community. 3 Credits.
This course will explore major topics in 20th century Baltimore history, using local newspapers and the archival collections of the Baltimore Afro American Newspaper.
Instructor(s): M. Hinderer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.308. From Civil Rights to Multi-Culturalism: Student Movements for Social Change. 3 Credits.
This colloquium examines the historical and contemporary connections between student activism and the struggle for civil rights in America, combining classroom study with practical community collaboration. Scholarly readings and class discussions will provide historical context, familiarizing students with the history of student activism and the struggle for African American civil rights in the United States since World War II. A key focus of the class will be the black experience on campus, in communities, and in American society more generally. Students will also participate in collaborative fieldwork, partnering with local high school students and community activists to create a documentary film focusing on civil rights and community relations in Baltimore. A historical understanding of the student and civil rights movements will both inform, and be enriched by, students’ participation in the documentary project.
Instructor(s): M. Carter
Area: Humanities, Social and Behavioral Sciences.
AS.362.313. The Construction of the African Diaspora in the Americas. 3 Credits.
An examination of the various ways in which an African Diaspora developed across the Americas between 1492 and the present. Attention will be paid to the period of the Transatlantic slave trade but the greater emphasis will be on the complex societies that emerged by the early twentieth century and the responses of people of African descent to these societies. Readings will range across history, demography, economics, politics and culture in order to define a Diaspora and examine the factors that encourage or inhibit its formation. Cross listed with Africana Studies
Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.314. Race, Science and U.S. Society. 3 Credits.
This course will examine the historical and contemporary intersection of racial ideology and scientific theory with a focus on how such inter-workings influence societal notions of race in the US from the colonial era to the present. Despite the fact that the concept of separate biological races has long been debunked, the myth of race as scientific reality remains a pervasive myth in American society.
Area: Humanities
Writing Intensive.

AS.362.315. RACE AND MUSIC IN LATIN AMERICA. 3 Credits.
This course traces the ways in which people have deployed, defined, or deemphasized race through music in Latin America. Paying attention to processes of migration and exchange, we will compare the influences of musics with roots in the Americas, Africa, Asia, and Europe on contemporary and past understandings of race in the region. We will interrogate the connections between color, class, and music, and how they, in concert, have produced social meaning.
Area: Humanities.

AS.362.317. Philosophy of Martin Luther King, Jr. 3 Credits.
This course will introduce students to the philosophical thought of Dr. Martin Luther King, Jr. Since Dr. King was primarily a moral and social philosopher we will pay special attention to his contribution to ethics and social philosophy. We will explore his relationship with the Western philosophical tradition (especially Personalism), and the African-American tradition. In particular we will explore the philosophical bases of Dr. King’s conceptions of God, the human person, freedom, justice, community, love, hope democracy, nonviolence, race, class, and other central themes.
Area: Humanities
Writing Intensive.

AS.362.340. Power and Racism. 3 Credits.
This course investigates the impact of white supremacy and anti-black racism, as a global system of power, on the political development of the United States of America.
Instructor(s): F. Hayes
Area: Social and Behavioral Sciences
Writing Intensive.

AS.362.343. The Power of Place: Race and Community in East Baltimore. 3 Credits.
Despite this long, rich past, much of the history of black East Baltimore has been lost, preserved only in limited fragments, in scattered repositories, or not at all. Today, the history of this neighborhood and the experiences of people who have made it home are at risk of being lost forever. Students in this class will help to change this. Focused on the “Middle East” neighborhood, nearby the site of JHU’s new biomedical park and the downtown campus, over the next fourteen weeks we will document and explore this neighborhood’s rich history from the 1920s to the present day. Collecting and analyzing oral histories with current and former residents and supporting the work of several community organizations dedicated to improving quality of life for those who make the neighborhood home today will be critical to our work. Interviews, photographs, and related material collected as part of this class will become part of the JHU Center for Africana Studies “East Baltimore Oral History Project.”
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.344. Education Politics in Urban America. 3 Credits.
This seminar analyzes trends, developments, and future challenges related to the politics of urban public schooling with a concentration on community political dynamics and the struggle for equal educational opportunity and quality education. The course emphasizes the impact of socioeconomic class inequality, racial/ethnic conflict, and gender politics on the changing character of public school reform since the 1954 Supreme Court decision of Brown v. Board of Education.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.351. Crossing “El Massacre”: Racial Identity, Nationalism and Anti-Haitianism in the Dominican Republic. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.355. The Obama’s: Race and Politics in Comparative Perspective. 3 Credits.
This course will compare racial politics in the United States and Brazil by examining issues such as race, religion, and political behavior that arose during Barack Obama’s political campaign and time in office. What are racial politics? How are they different in Brazil and the United States? Why was Michelle Obama’s skin complexion an issue important to African-descended women in the United States and Brazil? Does the election of an African-descended president mean there are no racial problems in the United States? Have white racial attitudes dramatically changed? Although Brazil historically touted itself as a racial democracy, why have they never elected and African descended president in a country where African-descended people now outnumber whites? Does blackness carry global currency to such an extent that it explains why five Brazilian politicians changed their names to Barack Obama when running for office? Students will learn about political opinion and behavior and racial identification in two different countries while considering these issues in a contemporary context.
Instructor(s): G. Mitchell
Writing Intensive.
AS.362.357. Black Existential Thought. 3 Credits.
Black existentialism is a branch of Africana philosophy—the philosophical tendencies that arose out of the experience of the African Diaspora. This course is a philosophical interrogation into the meaning of the lived experience of being black in the context of an anti-black world through addressing such existential questions as freedom, identity, anguish, dread, responsibility, embodied agency, evil, resentment, liberation, and nihilism.
Instructor(s): F. Hayes
Writing Intensive.

AS.362.362. Before the Wire: Black Baltimore History in the 20th Century. 3 Credits.
This course focuses on the history of urban Black communities in the twentieth century, with emphasis on Baltimore City. We will pay particular attention to the idea of “the ghetto,” examining both the origins of this idea and its effect on the political, economic, social, and cultural development of urban communities. In this class each student will create an original research project focused on some aspect of African American life in twentieth century Baltimore.
Area: Humanities, Social and Behavioral Sciences.

AS.362.370. Senior Seminar: Historical Perspectives in Africana Studies. 3 Credits.
Instructor(s): N. Connolly
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.374. Black Cinema. 3 Credits.
Close examination of films directed by African American filmmakers as well as a focus on historical and cultural representation of African Americans in American film.
Instructor(s): H. Robbins; L. DeLibero
Area: Humanities.

AS.362.375. Bebop, Modernism, & Change. 3 Credits.
This course explores the socio-political content, meanings, & intent of bebop, from the 1940’s-1960’s & examines the broader history of jazz & its impact on the social transformation of modern America.
Instructor(s): F. Hayes
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.401. Comparative Slavery in the Americas. 3 Credits.
This course examines the development of slavery and racial thought in Latin America and the Atlantic World from the fifteenth century until its demise in the middle and late nineteenth century. Readings in social and cultural history are intended to focus on the life and labor of slaves, while readings from economic and legal history evaluate slavery as an institution. Intellectual histories are also assigned in an attempt to map the development of slavery as an institution typified by racial caste. The primary goal of this course is to give students a background in the major historical debates that have shaped the production of the history of slavery, including questions of identity (creolization vs. “African survivals”), slave agency and control, and economic vs. racial causes of slavery and the slave trade. All of these topics will be examined through the overarching theme of the course, which is the Tannenbaum thesis: namely, to what extent slavery was experienced differently in Latin America, Anglo-America, and in Africa itself.
Instructor(s): J. Clark
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.412. Black Political Thought and the Enlightenment. 3 Credits.
This course examines how modern black political thought emerged through a series of critical engagements with Enlightenment ideas about universalism, progress, the authority of reason, and the foundations of citizenship. Course readings include texts by W. E. B. Du Bois, Paul Gilroy, Cornel West, Frantz Fanon, C. L. R. James, and others.
Instructor(s): A. Culver
Writing Intensive.

AS.362.414. Jim Crow in America. 3 Credits.
This course explores the cultural, economic, legal, and political factors that led to the establishment and maintenance of racial apartheid in the United States during the nineteenth and twentieth centuries.
Instructor(s): N. Connolly
Area: Humanities
Writing Intensive.

AS.362.416. Black Nationalism and its Critics. 3 Credits.
This seminar will pursue an in-depth, critical analysis of the history and philosophy of black nationalism and its relationship to other trends in black political thought. Readings from Alexander Crummell, Martin Delany, Frederick Douglass, W. E. B. DuBois, Marcus Garvey, Malcolm X, James Baldwin, and others.
Instructor(s): A. Culver
Area: Humanities, Social and Behavioral Sciences.

AS.362.457. Richard Wright & Modernism: Philosophy, Literature & Politics. 3 Credits.
The purpose of this seminar is to develop an interpretation that accounts for Wright’s philosophical, literary, and political commitments. In order to understand his development as a writer and intellectual-activist, we will examine his personal life experiences in the South and later in the Communist Party, as well as the complex philosophical ideas that shaped his thinking and writing. Through a critical and close reading of his fiction and nonfiction, seminar members will examine Richard Wright’s contribution to Africana existential thought, which is premised upon concerns of freedom, angst, resentment, responsibility, embodied agency, sociality, and liberation.
Instructor(s): F. Hayes
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.501. Independent Study. 0 - 3 Credit.
This course is available to students who wish to pursue selected, special work that may not be included in the Center’s other courses.
Instructor(s): F. Hayes; F. Knight; M. Shell-Weiss; S. Berry.

AS.362.510. Directed Research in Africana Studies. 3 Credits.
Instructor(s): F. Hayes; P. Romero
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.590. Independent Study for Africana Studies. 3 Credits.
Instructor(s): F. Hayes
Writing Intensive.

AS.362.595. Summer Internship. 1 Credit.
Cross Listed Courses

History of Art

AS.010.240. Introduction to the Arts of the African Diaspora. 3 Credits.
This is an introduction to the Art of the African Diaspora. It is designed to provide foundational knowledge of the major theoretical understandings of Diaspora and the ways in which they help to illuminate the artistic traditions of people of African descent. The course will present a series of case studies in order to begin to understand the art of the Diaspora and the complexities of its study.
Instructor(s): T. Wofford
Area: Humanities.

AS.010.242. African American Art. 3 Credits.
This is an introduction to the history of African American art. While organized chronologically, the course will emphasize a series of case studies of artists and movements in order to understand African American art and the complexities of its study. The course will explore how black artists in the United States have engaged with key issues such as race, gender, class and ethnicity as well as debates about representation and the role of the artist. Cross-list with Africana Studies
Instructor(s): T. Wofford
Area: Humanities.

AS.010.254. Art and Architecture of Early Christian and Medieval North Africa. 3 Credits.
Survey of Early Christian and medieval art and architecture in North Africa, with an emphasis on indigenous developments and cultural exchange in the Mediterranean world, 4th to 13th century. Dean's Teaching Fellowship course.
Instructor(s): N. Dennis
Area: Humanities.

English

AS.060.129. Writing Africa Now. 3 Credits.
This course surveys post-2000 literary and cultural production from sub-Saharan Africa. Topics will include debates over genre and fiction’s relevance to African experience, legacies of canonical writing about independence, urban Africa as violent or “tragic” landscape, and problems of scale and geographical context. Readings by authors such as Adichie, Wainaina, Duiker, and Vladislavic, and students will be introduced to the main print and online arteries of African intellectual discussion. This class is for non-majors and does not count towards the English major or minor.
Instructor(s): J. Jackson
Area: Humanities
Writing Intensive.

AS.060.340. The Literature of Atlantic Slavery. 3 Credits.
This seminar will trace the historical development of the slavery debate in the Atlantic world through examination of key texts from a host of genres and locations—Quaker religious tracts, political documents like the Haitian Declaration of Independence, Cuban antislavery novels, slave narratives, and “classics” of American literature like Melville’s Benito Cereno. We will consider how the institution of Atlantic slavery was variously represented, justified, and criticized, discovering in the process the deep structures of modern slavery discourse. Texts may include: Aphra Behn, “Oroonoko”; John Woolman’s “Journal”; Robert Wedderburn, “The Horrors of Slavery and Other Writings”; Gertrudis Gomez de Avellaneda, “Sab”; Frederick Douglass, “My Bondage and My Freedom”; Herman Melville, “Benito Cereno”; Harriet Beecher Stowe, “Dred”; Antonio Castro Alves, “The Slaves”.
Instructor(s): J. Hickman
Area: Humanities
Writing Intensive.

AS.060.353. World Literature in Theory and Practice. 3 Credits.
This course takes stock of how the current hot topic of “world literature” has evolved from Immanuel Wallerstein’s work on world-systems theory over the course of the last three decades. We will read work by a wide range of literary critics engaged with the topic of world literature, including Franco Moretti, Pascale Casanova, David Damrosch, Emily Apter, and Alex Beecroft, as well as major “world” novels by Herman Melville, Amitav Ghosh, and Chimamanda Adichie. Students will also be introduced to critical approaches that offer a conceptual alternative to the world literature framework, for example, Edward Said’s ideas on worldliness and contrapuntalism, Gaston Bachelard’s phenomenology of the home, Fredric Jameson’s concept of cognitive mapping, and Eric Hayot’s work on literary “world-creation.” We will ask just how broadly the field can be defined before it loses its critical cohesion. In other words, does world literature exist?
Instructor(s): J. Jackson
Area: Humanities
Writing Intensive.

AS.060.359. Traveling Literature in Africa and the African Diaspora. 3 Credits.
Area: Humanities
Writing Intensive.
AS.060.366. Ellison. 3 Credits.
After his landmark novel “Invisible Man” appeared in 1952 and won the National Book Award, Ralph Ellison was one of the most highly regarded and influential American writers. Although his writing—beginning with the powerful short stories and criticism that he published in the 1930s and 40s—was steeped in African American history, literature, music, and folklore, he also thought of himself as part of the great tradition of American, European, and classical literature, from Homer through Joyce. He quickly set to work on a second novel dealing with the assassination of a racist senator during the height of the Civil Rights movement, but he came to the end of his life in 1994 without having completed the novel to his own satisfaction. This massive book, which appeared posthumously in a very abbreviated form as Juneteenth and more recently in the much longer Three Days before the Shooting, reveals the work of a master while at the same time it leaves critics and readers with an exceptional puzzle: What would his final intention have been? Why was he unable to complete the novel? How does it speak to the key issues of African American identity, freedom, and the American ideal that Ellison grappled with all his life? At the same time that he worked on his second novel, Ellison became one of the most prolific and important essayists of the twentieth century, and wrote brilliantly about American race relations from the era of segregation through the twentieth century. Even as he was celebrated by the literary establishment, however, Ellison at times found himself as odds with younger black writers and thinkers who felt that public activism, not just artistic greatness, was required of the African American writer. Using Ellison as a lens through which to see the course of American race relations from slavery to the present, the course will include study of all of Ellison’s major work: the short stories collected in “Flying Home”; “Invisible Man”; the essays collected in “Shadow and Act” and “Going to the Territory”, as well as others; and “Three Days before the Shooting”. Instructor(s): E. Sundquist
Area: Humanities
Writing Intensive.

AS.060.369. The Harlem Renaissance. 3 Credits.
Area: Humanities
Writing Intensive.

AS.060.376. The Imprisonment of the African Writer from Mandela to Present. 3 Credits.
An international newspaper report in 1965 on writers from an African nation reads thus: “A year ago, one playwright was acquitted of holding up a radio station. A month ago, one poet was principal actor in a gun-running melodrama.” This course examines the phenomenon of writers in politics. It explores the concept of engagement or commitment in literature as developed by Jean-Paul Sartre, particularly in postcolonial African literature. We will discuss the traditional notions of art and activism, imagination and ideology. The questions that are crucial to our concerns in this course include: why is writing in Africa a very hazardous career? How do writers respond to the threat and actual experience of metaphoric, physical, and spiritual confinement and harm? What does the precarious situation of the African writer reveal about the nature of postcolonial societies? Texts include selections from theoretical essays and autobiographical narratives such as: Nelson Mandela, “No Easy Walk to Freedom”; Wole Soyinka, “The Man Died”; Ngugi wa Thiong’o, “Detained: A Writer’s Prison Diary”; Jack Mapanje, “The Chattering Wagtails of Mikuyu Prison”; Denis Brutus, “Letters to Martha and Other Poems from a South African Prison”; Ken Saro-Wiwa, “A Month and a Day: A Detention Diary”; and Michel Foucault, “Discipline and Punish”. Instructor(s): O. Ibironke
Area: Humanities
Writing Intensive.

AS.060.668. The Slavery Debate in the Atlantic World. 3 Credits.
This graduate seminar will trace the historical development of the slavery debate in the Atlantic world through examination of key texts from a host of genres and locations—Quaker religious tracts, political documents like the Haitian Declaration of Independence, Cuban antislavery novels, slave narratives, and “classics” of “American” literature like Melville’s Benito Cereno. Our historical investigations into the rhetorical field of anti- and proslavery will be framed by a theoretical interest in political theology. How might critical reflection on sovereignty, recent and not so recent—from Derrida back to Bodin (widely acknowledged as having provided one of the first philosophical defenses of antislavery)—help us recast the intellectual history of the slavery debate and Atlantic radicalism, more generally?
Instructor(s): J. Hickman
Area: Humanities.

Film and Media Studies

AS.061.321. The Uses Of Difference: Race in Hollywood. 3 Credits.
Area: Humanities.

Anthropology

AS.070.103. Community Based Learning - Africa & The Museum. 3 Credits.
An introduction to Africa, artistic creativity, collection and exhibition: as African history, as anthropology of art and objects, and as public controversy in our national institutions. Works with the Baltimore Museum of Art. Cross-listed with Africana Studies and Programs in Museums and Society.
Instructor(s): J. Guyer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.109. The Social Lives of Global Health Programs. 3 Credits.
The course critically examines the techniques, practices, and experiences of global health policies and programs, and explores how global health programs affect the lives of individuals and communities in diverse locations.

AS.070.150. The Anthropology of Africa. 3 Credits.
This graduate seminar will trace the historical development of the slavery debate in the Atlantic world through examination of key texts from a host of genres and locations—Quaker religious tracts, political documents like the Haitian Declaration of Independence, Cuban antislavery novels, slave narratives, and “classics” of “American” literature like Melville’s Benito Cereno. Our historical investigations into the rhetorical field of anti- and proslavery will be framed by a theoretical interest in political theology. How might critical reflection on sovereignty, recent and not so recent—from Derrida back to Bodin (widely acknowledged as having provided one of the first philosophical defenses of antislavery)—help us recast the intellectual history of the slavery debate and Atlantic radicalism, more generally?
Instructor(s): J. Hickman
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Instructor(s): J. Hickman
Area: Humanities.
AS.070.294. Political Anthropology of Africa. 3 Credits.
The course will explore classical and contemporary ethnographies of the political in Africa, examining how their authors address issues of power, hierarchy and symbol. We will study various articulations of state, ethnicity and community that are analyzed by observing relations between power and resistance or between law, economy and violence through war, custom and ritual. The seminar will also address the way in which Africa has been constructed as a key source of the sub-field of political anthropology through colonial trajectories, postcolonial detours and the political imagination of the past and the future.
Instructor(s): J. Obarrio
Area: Humanities, Social and Behavioral Sciences.

AS.070.602. Black Musics in Latin America and the Caribbean. 3 Credits.
This course asks how black Caribbean and Latin American musics are connected, firstly to the national societies in which they live, and secondly to the larger context of the African diaspora and its global representations, both theoretically and through case studies from various Afro-Latin and Afro-Caribbean populations. Open to graduate and advanced undergraduate students, although the latter might find the class reading-intensive. Musical training or experience are not required. Cross-listed with PLAS, Africana Studies, Musicology (Peabody)
Area: Humanities, Social and Behavioral Sciences.

History

AS.100.121. History of Africa to 1880. 3 Credits.
A history of Africa from human evolution to the mid-nineteenth century focusing on key themes in social, economic, and political history.
Instructor(s): P. Larson
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.122. Introduction to History of Africa (since 1880). 3 Credits.
An introduction to the African past. First term: to 1880. Second term: to since 1880. Cross-listed with Africana Studies Cross-listed with Africana Studies
Instructor(s): P. Larson
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.153. Making America: Immigration/Race/Citizenship. 3 Credits.
Debates over who should come, who is eligible for citizenship and rights as old as the process of immigration to the United States itself. Beginning with the end of Reconstruction and continuing through the 20th century interwar period, this course explores who came, why, how they were received, how these waves of newcomers transformed American politics, society and culture, and what these debates can teach us about debates over contemporary immigration today. Class is conducted twice weekly lecture format, with separate required discussion sections. Cross listed with Africana Studies
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.304. New World Slavery. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.312. Emancipations. 3 Credits.
Comparative exploration of black emancipation and freedom struggles, including slave rebellions in the Caribbean and United States, global civil rights and black power, African nationalism, and the end of apartheid.
Instructor(s): A. Ewing
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.313. The Construction of the African Diaspora in the Americas. 3 Credits.
An examination of the various ways in which an African Diaspora developed across the Americas between 1492 and the present. Attention will be paid to the period of the Transatlantic slave trade but the greater emphasis will be on the complex societies that emerged by the early twentieth century and the responses of people of African descent to these societies. Readings will range across history, demography, economics, politics and culture in order to define a Diaspora and examine the factors that encourage or inhibit its formation. Cross listed with Africana Studies
Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.320. Writing U.S. Empire. 3 Credits.
This course will teach students how to write analytic history and how to interrogate primary documents through a focused look at American imperialism between the 1890s and 1930s.
Instructor(s): N. Connolly
Writing Intensive.

AS.100.336. Race, Slavery, and Emancipation: The U.S. and the Black Atlantic, 1600-1880. 3 Credits.
This readings seminar places race, slavery, and emancipation in US history into the larger context of Black Atlantic to understand how global slave systems adapted to conditions in North America.
Instructor(s): M. Heerman
Area: Humanities, Social and Behavioral Sciences.

AS.100.338. Contemporary African Political Economies in Historical Perspectives. 3 Credits.
How have contemporary achievements and problems in Africa been shaped by past events? What insights may be gained into contemporary conditions by viewing them in historical perspective? Using a series of case studies, this course will examine the history of issues such as economic development, nation building, migration, poverty and social conflict that affect many African nations today. Cross listed with Africana Studies
Instructor(s): S. Berry
Area: Humanities, Social and Behavioral Sciences.

AS.100.343. The Power of Place: Race and Community in East Baltimore. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.399. Decolonization and Nationalism in Africa. 3 Credits.
The end of European colonization in Africa after World War II and its causes, with an examination of the emergence and various forms of African nationalism. Cross listed with Africana Studies.
Instructor(s): P. Larson
Area: Humanities
Writing Intensive.
AS.100.439. Cuban Revolution and the Contemporary Caribbean. 3 Credits.
A lecture course dealing with the development of the Cuban Revolution and the tortuous history of the Caribbean during the 19th and 20th centuries.
Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.440. The Revolutionary Experience in Latin America. 3 Credits.
Comparative examinations of revolutionary political changes in Haiti, Mexico, Bolivia, and Cuba. Cross-listed with Latin American Studies
Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.458. Visions of Africa. 3 Credits.
This course examines the ways in which representations of, and journeys to, Africa have shaped the contours of African American political activity, literary production, and social thought, 1619-2011. Cross listed with Africana Studies
Instructor(s): A. Ewing
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.463. African Diasporas: The Brazilian Experience. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.486. Jim Crow in America. 3 Credits.
Through an examination of law, culture, and politics, this course explores the history of legalized racial segregation in the United States.
Instructor(s): N. Connolly
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

Instructor(s): B. Vinson.

AS.100.709. Modern Latin America.
This course will examine selected themes in Modern Latin American history such as legacies of the colonial administrations, the plural societies, political cultures, slavery, and other forms of servitude; religious impact, independence movements, globalization and narco trafficking. Reading knowledge of Spanish required.Reading knowledge of Spanish. Graduate Students only
Instructor(s): F. Knight.

AS.100.746. History of South Africa.
A reading seminar focusing on significant and/or recent studies in the social history of South Africa. Cross listed with Africana Studies.
Instructor(s): P. Larson.

Near Eastern Studies

AS.130.400. Introduction to Middle Egyptian. 3 Credits.
Introduction to the grammar and writing system of the classical language of the Egyptian Middle Kingdom (ca. 2055-1650 B.C.). In the second semester, literary texts and royal inscriptions will be read. Course meets with AS.133.600.
Instructor(s): K. Davis
Area: Humanities.

AS.133.611. Middle Egyptian Texts.
In this course we read a variety of Middle Egyptian hieroglyphic compositions and documents. Knowledge of Middle Egyptian Required.
Instructor(s): B. Bryan; R. Jasnow.

Philosophy

AS.150.321. African Philosophy. 3 Credits.
This course surveys some distinctively Sub-Saharan African contributions to major areas of philosophical inquiry, including metaphysics, epistemology, ethics and political philosophy.
Instructor(s): S. Koll
Area: Humanities.

Economics

AS.180.355. Economics of Poverty and Inequality. 3 Credits.
This course focuses on the economics of poverty and inequality. It covers the measurement of poverty and inequality, facts and trends over time, the causes of poverty and inequality with a focus on those related to earnings and the labor market, and public policy toward poverty and inequality, covering both taxation and government expenditure and programs. By the nature of the material, the course is fairly statistical and quantitative. Students should have an intermediate understanding of microeconomic concepts. Basic knowledge of regression analysis is also helpful.
Prerequisites: AS.180.301.
Instructor(s): R. Moffitt
Area: Social and Behavioral Sciences.

Political Science

AS.190.214. Introduction to Racial and Ethnic Policy. 3 Credits.
What do scholars mean when they use concepts of race and ethnicity, and what are the political implications of these concepts in everyday life? One aim of this course is to answer this question. The second aim of this course is to help first-year college students develop familiarity with these concepts and an understanding of how ideas about racial and ethnic difference have impacted the formation of societies, governments, laws, policies and individuals, even themselves. Comparative in scope, this course will lead students through readings about racial and ethnic relations in countries like Brazil, England, Northern Ireland and China, often utilizing the United States as a referent. (AP) Cross-listed with Africana Studies
Instructor(s): L. Spence
Area: Social and Behavioral Sciences.

AS.190.340. Black Politics I. 3 Credits.
This course is a survey of the bases and substance of politics among black Americans and the relation of black politics to the American political system up to the end of Jim Crow. The intention is both to provide a general sense of pertinent issues and relations over this period as a way of helping to make sense of the present and to develop criteria for evaluating political scientists’ and others’ claims regarding the status and characteristics of black American political activity.
Instructor(s): L. Spence
Area: Social and Behavioral Sciences.

AS.190.384. Urban Politics & Policy. 3 Credits.
An analysis of public policy and policy-making for American Cities. Special attention will be given to the subject of urban crime and law enforcement, poverty and welfare, and intergovernmental relations.
Cross-listed with Africana Studies
Instructor(s): L. Spence; R. Katz
Area: Social and Behavioral Sciences.
AS.190.395. Crime and Society. 3 Credits.
Contrary to the image most Americans have of their country, the United States is a tough nation with respect to crime. The U.S. has constructed a considerably more harsh criminal justice regime than any of its advanced industrial counterparts. In recent years, America's prisons and jails have held more than one percent of the nation's adults--2.3 million people--with many more on parole, probation or temporarily free on bail awaiting trial. In Western Europe, by contrast, fewer than two-tenths of one percent of the adult populace is behind bars. This enormous discrepancy in incarceration rates is more a function of the relative severity of America's criminal laws than differences between Europe and the U.S. in the actual incidence of serious crime. And, of course, while Western European nations no longer execute convicted criminals, the U.S. remains committed to the use of capital punishment. We will explore these and related issues of crime and punishment in the U.S.
Instructor(s): B. Ginsberg
Area: Social and Behavioral Sciences.

AS.190.647. Black Political Thought.
Graduate students only This course will focus on black political thought's engagements with and relevance to nationalism, feminism and diasporic identification as a means of highlighting the ways in which black political thought has both paralleled and distinguished itself from dominant themes, concerns and investigations of Western political and social theory in the 20th century. This aspect of the course will trace black political thought's relation to Marxism, Cultural Studies, Surrealism, Liberalism and other critical methodologies and perspectives.
Area: Social and Behavioral Sciences.

Grad Students only
Area: Social and Behavioral Sciences.

AS.191.340. Education Politics in Urban America. 3 Credits.
This seminar analyzes trends, developments, and future challenges related to the politics of urban public schooling with a concentration on community political dynamics and the struggle for equal educational opportunity and quality education. The course emphasizes the impact of socioeconomic class inequality, racial/ethnic conflict, and gender politics on the changing character of public school reform since the 1954 Supreme Court decision of Brown v. Board of Education. Cross-listed with Africana Studies.
Instructor(s): F. Hayes
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.371. Theorists of African National Liberation. 3 Credits.
The second half of the 20th century witnessed a number of anti-colonial struggles across the African continent. This course reads the work of various theorists, novelists and organic intellectuals from these struggles in order to examine a number of important theoretical questions, such as: What is 'Africa'? How does colonial rule operate? What might political, economic and social liberation look like? These analyses will then be used to examine a number of contemporary issues facing the African continent. Cross-listed with Africana Studies.
Instructor(s): I. Kamola
Area: Social and Behavioral Sciences.

Public Policy

Perm. Req'd. This course teaches students to think analytically and to apply analytic thinking to policy problems. Students work through several real-world problems primarily in social, urban, and health policy, to master the essential steps of any policy analysis: identifying the problem, assessing the available evidence, specifying goals and constraints, and examining policy alternatives. Course goals also include understanding some of the major policy debates of the day, and communicating in a simple, clear, and direct way.
Writing Intensive.

AS.195.685. Adolescents, Crime, and Justice.
Instructor(s): D. Altschuler.

German Romance Languages Literatures

AS.210.177. Portuguese Elements. 4 Credits.
This one-year course introduces students to the basic skills in reading, writing, and speaking the language. Emphasis is placed on oral communication with extensive training in written and listening skills. Class participation is encouraged from the very beginning. All classes are conducted in Portuguese. Extensive language lab is required. Students must complete both semesters with passing grades to receive credit. May not be taken on a Satisfactory/Unsatisfactory basis. No previous knowledge of Portuguese is required.
Instructor(s): F. Azeredo Cerqueira.

AS.210.277. Intermediate/ Advanced Portuguese. 3 Credits.
More advanced training in the skills of the language with emphasis on vocabulary building, ease and fluency in the language through the use of a multifaceted approach. Materials used immerse students in the cultures of Brazil, Portugal, and Portuguese-speaking Africa, and reflect the mix of cultures at work in the contemporary Lusophone world. All classes are conducted in Portuguese. Extensive language lab is required. May not be taken on a Satisfactory/Unsatisfactory basis.
Prerequisites: AS.210.178 or instructor approval.
Instructor(s): F. Azeredo Cerqueira
Area: Humanities.

AS.210.391. Advanced Portuguese Language & Literature I. 3 Credits.
This third-year course focuses on reading, writing, and oral expression. Under the supervision of the instructor, students will read one or two complete works by major Brazilian, Portuguese, and/or Afro-Portuguese writers each semester, followed by intense writing and oral discussion on the topics covered. Grammar will be reviewed as necessary. Lab work is required. All classes are conducted in Portuguese.
Prerequisites: AS.210.278 or instructor approval.
Instructor(s): F. Azeredo Cerqueira
Area: Humanities
Writing Intensive.
AS.211.394. Brazilian Cult & Civ. 3 Credits.
This course is intended as an introduction to the culture and civilization of Brazil. It is designed to provide students with basic information about Brazilian history, art, literature, popular culture, theater, cinema, and music. The course will focus on how indigenous Asian, African, and European cultural influences have interacted to create the new and unique civilization that is Brazil today. The course is taught in English, but ONE extra credit will be given to students who wish to do the course work in Portuguese. Those wishing to do the course work in English for 3 credits should register for section 01. Those wishing to earn 4 credits by doing the course work in Portuguese should register for section 02. The sections will be taught simultaneously. Section 01: 3 credits Section 02: 4 credits (instructor’s permission required)
Instructor(s): M. Bensabat Ott
Area: Humanities
Writing Intensive.

AS.212.305. Introduction to Francophone Caribbean Literature and Postcolonial Studies. 3 Credits.
This course is designed to introduce students to the history and cultural contexts of Francophone Caribbean writings. It offers a panorama of twentieth-century Francophone Caribbean literature from the négritude movement to the contemporary period. It introduces to various texts by Aimé Césaire, Marie Chauvet, Maryse Condé, Patrick Chamoiseau, René Depestre, Frantz Fanon, Edouard Glissant, Dany Laferrière, Jean Métellus, and Jacques Roumain. We will explore these writings of various literary genres in relation with topics such as memories of slavery, re-writings of history, representations of sexuality, exile, exoticism, métissage and créolité. Great emphasis will be laid on the specific historical and cultural background of Guadeloupe, Martinique and Haiti. Another significant component of this module will be the constant oscillation between theories and fictions, contexts and contents. More generally, this course will provide students with an insight into the French-language contribution to postcolonialism, and an examination of Francophone postcolonial thought and culture. Challenges will also be made with American and British literature (with authors such as James Baldwin and Graham Greene) and with Anglophone Caribbean literature (with authors such as Edwidge Danticat). Key notions of postcolonial theory such as exoticism, hybridity and métissage will be examined and, hopefully, challenged.
Prerequisites: AS.212.201 OR AS.212.202 or permission
Area: Humanities.

Taught by Visiting Professor Lydie Moudileno: The course will examine representation of Europe, mostly but not exclusively France and Paris in the fiction produced by writers from the former French colonies, from the 1950’s to the present.

AS.215.458. Cuba and its Culture Since the Revolution. 3 Credits.
We will study the visual and textual arts, cinema, political culture, and blogosphere; reaching back to the first phases in the building of the revolutionary state apparatus and its sovereign mandate. Taught in Spanish.
Instructor(s): E. Gonzalez
Area: Humanities.

Readings from colonial times to the present from three cultural legacies, Hispanic, English and French. Centered on slavery and its sequels.
Instructor(s): E. Gonzalez.

Sociology

AS.230.112. Freshmen Seminar on Race & Education. 3 Credits.
The goal of this course is to explore issues of race and ethnicity in American education. We begin by studying the landmark Supreme Court case, Brown V. Board of Education, and related school segregation and resegregation issues. Through lectures, discussions, and films, students will become familiar with various sociological lenses through which the educational issues facing blacks, Asians, Latinos, and American Indians are analyzed. Cross-listed with the Center for Africana Studies.
Instructor(s): P. Bennett
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.208. Introduction to Race and Ethnicity. 3 Credits.
This course offers an historical overview of race and ethnicity in American society, and the processes that have led to ethnic and racial boundaries. We explore the social dynamics of racial/ethnic hostility and racial/ethnic protest movements. In addition, we examine how race and ethnicity have been used to justify segregation, domination and genocide, but also to create a sense of community, shared responsibility and belonging. Cross-listed with Africana Studies
Instructor(s): K. McDonald
Area: Social and Behavioral Sciences.

AS.230.309. Segregation & Social Inequality. 3 Credits.
This course presents an in-depth study of racial and ethnic residential segregation and its relationship to social inequality. Through various theoretical perspectives, students will explore the history and contemporary patterns of residential segregation in the United States. In doing so, students will learn about the persons, organizations, and social phenomena that contribute to neighborhood segregation, such as homeowner associations, federal and local governments, developers, as well as differences between groups in racial preferences and socioeconomic status. Through lectures, readings, discussions, and films, students will gain insight into the causes of segregation, as well as its social, economic, and demographic consequences. Cross listed with the Center for Africana Studies.
Instructor(s): P. Bennett
Area: Social and Behavioral Sciences.

AS.230.313. Space, Place, Poverty & Race: Sociological Perspectives on Neighborhoods & Public Housing. 3 Credits.
Is a neighborhood just a grouping of individuals living in the same place, or do neighborhoods have collective meanings and impacts on children and families? We will capitalize on research methodologies used to define and describe neighborhoods and their effects on economic and educational outcomes. These include case studies, census data, surveys, quasi/experimental data. Focus is on how research measures neighborhood effects and incorporates community level processes into models of social causation (e.g., social capital/control, community efficacy, civic engagement). Also examined: patterns in residential mobility, segregation, and preferences within black and white populations; development of housing policy in the U.S.; programs to determine how neighborhoods affect issues of social importance. Statistics and public policy background is helpful but not required.
Instructor(s): S. Deluca
Area: Social and Behavioral Sciences
Writing Intensive.
AS.230.316. African American Family. 3 Credits.
This course is an examination of sociological theories and studies of African-American families and an overview of the major issues confronting African-American family life. The contemporary conditions of black families are explored, as well as the historical events that have influenced the family patterns we currently observe. Special attention will be given to social policies that have evolved as a result of the prominence of any one perspective at a given point in time.
Instructor(s): K. McDonald
Area: Social and Behavioral Sciences.

AS.230.320. Education & Inequality: Individual, Contextual, and Policy Perspectives. 3 Credits.
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.356. Contemporary African Social Movements. 3 Credits.
This course is a survey of contemporary social movements in sub-Saharan Africa. The course will begin with an introduction to social movement theory. Subsequent weeks will each focus on a different type of movement (e.g. independence movements, labor movements, women’s movements, environmental movements, etc.) The limited coverage of African issues in the US media tends to focus on either catastrophes or on development projects that are driven by international NGOs and the governments of northern countries. Through this course, students will gain a clear understanding of the broad range of actions that African civil society is using to address social problems throughout the continent. Materials used will include academic analysis of movements, writings by movement participants themselves, and films. The course will also introduce students to the most widely used social movement theories. Because these theories have been largely developed by social scientists in northern countries, the students will be asked to assess their applicability to African movements. Through this critical application of social theory, students will investigate the specific possibilities and constraints facing social and political actors in contemporary Africa. Cross listed with Dean’s Teaching Fellowship, International Studies (CP) and Africana Studies.
Instructor(s): B. Scully
Area: Social and Behavioral Sciences
Writing Intensive.

Program in Latin American Studies

AS.361.350. Mestizaje and Race in Latin America. 3 Credits.
The course problematizes how race and mestizaje became socio-political realities and forms of lived experience in Latin America, shaping such things as governmental practices, spatial configurations, interpersonal relations, and political mobilizations. PLAS Teaching Fellowship.
Instructor(s): A. Reyes Kipp
Area: Humanities, Social and Behavioral Sciences.

Anthropology

The Anthropology Department specializes in socio-cultural anthropology: the study of social and cultural forms of human life using ethnographic, historical, and comparative methods. Faculty in our department are engaged in research that addresses topics considered traditional such as the study of ethnicity, language, religion, family and kinship, or medical pluralism, and also new and emergent issues such as those relating to childhood, technological imaginaries, biomedicine, ecology, state, violence, and popular economies. In all cases, the acute awareness of shifting contexts in which institutions are embedded and the impact of global, regional, and national politics on social life is built into the methodology and the theory engaged by faculty and students. Faculty in our department have research expertise in the Americas, South Asia, the Middle East, and sub-Saharan Africa. Our research is oriented toward the investigation of a number of cross-cutting themes of trans-regional concern rather than a comprehensive coverage of global cultural areas.

The department’s distinctive orientation to anthropology can be characterized in terms of its orientation to non-European anthropological and philosophical traditions, alongside the dominant anthropologies which have been seen as definitive of the discipline in the past. In terms of specific topics, faculty in our department are engaged in research on violence, social suffering and theories of everyday life; the material and moral force of the state; money and value; environments; new kinship; anthropology of religion and secularism; anthropology of medicine; media and visual anthropology; health and well-being; and anthropology of language.

The department offers a B.A. program and a Ph.D. program. The B.A. prepares students either to continue to various employment opportunities or degree in anthropology (and related fields) or to develop anthropological skills and imagination as complementary to pre-professional training, such as medicine, engineering, and international relations. Undergraduate course work offers an introduction to the basic methodologies and theories of contemporary anthropology through discussion and directed research on these and other topical issues. Student advising helps interested students to develop concentrations, through sequences of complementary courses tailored to their own interests, including electives outside the department. In addition, majors have the option to pursue an honors program.

Undergraduate majors in anthropology are required to do ten courses, four of which are required courses and an additional four must be taken at 300-level or higher, in addition to a language requirement. Students wishing to write an honors thesis are also required to do two additional courses in which they work on their dissertation topics. Minors are required to take seven courses, four of which are required courses.

The core curriculum for majors develops a step-wise sequence from the freshman seminar to the senior honors option. We offer an elective 100-level Freshman Seminar that introduces anthropological approaches to a broad range of contemporary issues. Here, we hope to develop curiosity in anthropology as a way of knowing the world, and to encourage critical reflection by students on their own life experiences. Our 100-level introductory course, Invitation to Anthropology, is geared toward freshmen and sophomores. The objective of this course is twofold: to offer anthropological knowledge and analytic skills to a broad range of students, and to prepare potential majors for further training in social theory and fieldwork methods. Following from this introductory course, our 200-level Ethnographies course furthers student understanding of essential themes through close attention to classic and contemporary ethnographic works in the discipline. The 300-level Methods course is an additional requirement for majors, deepening students’ capacity to link theory and method, preparing students to carry out field research, and guiding students in the writing up and presentation of original research. Building on these foundations, the 400-level Logic of Anthropological Inquiry course, also required of majors, is a thematic capstone course that demands an extended engagement with classic debates and encourages integrative thinking across the range of anthropology courses taken. Majors in anthropology may decide to pursue an honors thesis based on an extended research project. They should discuss their interest in writing a thesis with their
faculties' cooperation with other universities. For example, the Library of Congress, and the other specialized libraries and anthropological holdings are available at the Smithsonian Institution, H. Welch Medical Library, and other libraries at Johns Hopkins. These libraries offer an excellent collection in the Milton S. Eisenhower Library, the William H. Welch Medical Library, and the Maryland Historical Society. Courses in medical anthropology serve pre-med and public health students. Philosophical and theoretical courses are attractive to humanities students. We see teaching and research as integrally linked, and invite undergraduate students to envisage research as they take introductory and advanced courses in anthropology.

The training of graduate students focuses on providing students with a vocabulary and grammar to engage in anthropological reasoning in socio-cultural anthropology and with skills in research methods. The department emphasizes training in anthropological theory in relation to new developments in other disciplines within the social sciences; understanding of regions in terms of cross-cutting questions rather than geographical questions alone; and the capability to place a problem within a broad history of anthropology that is engaged through multiple national and regional traditions.

Our faculty brings into the classroom an extraordinary range of personal and professional experiences. We are proud to have one of the most diverse faculties in the discipline worldwide, both in terms of gender and ethnic or national origins. Their collective fieldwork experience spans the world, including the Americas, the Middle East, sub-Saharan Africa, and South Asia.

Facilities

In addition to the regular departmental colloquium where invited speakers from Hopkins and other campuses around the world present their ongoing research, the department holds one or two special symposia every year, including one organized by graduate students. The department also invites a distinguished scholar each year to present the Sidney W. Mintz Lecture. The purpose of the Mintz lectures is to integrate scholarly and social concerns, focusing on questions of political and economic inequality, racism, gender, and ethnic differences from an interdisciplinary perspective. Previous lectures have subsequently been published in Current Anthropology.

The Baltimore-Washington area is unusually rich in library, archival, and museum resources relating to anthropology. In addition to the excellent collection in the Milton S. Eisenhower Library, the William H. Welch Medical Library, and other libraries at Johns Hopkins, major anthropological holdings are available at the Smithsonian Institution, the Library of Congress, and the other specialized libraries and museums in nearby Washington, D.C. Students can use the Smithsonian Institution's ethnological and library collection through a cooperative arrangement.

Financial Aid

Undergraduate majors and non-majors are eligible to apply for a Provost's Undergraduate Research Award to support special research and write-up projects in their senior year.

Graduate fellowships and teaching assistantships are available, and most students admitted receive support. Stipends are currently offered at $20,000 per year plus fellowships that cover tuition. Some additional funds are usually available on a competitive basis for summer field research (including travel grants from the Institute for Global Studies, the Program for the Study of Women, Gender, and Sexuality, and the Program for Latin American Studies), for special language-learning needs, and for dissertation write-up; the award of an Owen Fellowship in Arts and Sciences provides an additional $5,000 per annum for three years on a competitive basis. Write-up students may apply for a Dean's Teaching Fellowship.

Courses in the department are open to all students in the university, regardless of their majors. Although there are no formal prerequisites, students with no previous courses in Anthropology are encouraged to consider courses at the 100- or 200-level. Freshman seminars are designed to introduce students to different perspectives within anthropology through close examination of a contemporary issue.

Requirements for the B.A. Degree

(Also see Requirements for a Bachelor's Degree (p. 24))

To fulfill B.A. degree requirements with an anthropology major, students must complete a total of 30 credits (10 courses) in Anthropology and foreign language through the intermediate level. Only with permission of the director of undergraduate studies may students use one class taken at another institution towards the major. Students must take completed course materials to the director of undergraduate studies to discuss this exception. Majors must receive a grade of C or better in all major requirements and no major requirements may be taken satisfactory/unsatisfactory. Complete major requirements are:

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>AS.070.132 Invitation to Anthropology</th>
<th>3</th>
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<tbody>
<tr>
<td></td>
<td>AS.070.273 Ethnographies: Our Animals Ourselves (new course name Ethnographies)</td>
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<td></td>
<td>AS.070.317 Methods (new course name Methods)</td>
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<tr>
<td></td>
<td>AS.070.419 Logic of Anthropological Inquiry (new course name The Logic of Anthropological Inquiry)</td>
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</tbody>
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Anthropology Electives

Two 100- or 200-level courses in the Anthropology Department ** 6
Four 300- or 400-level courses in the Anthropology Department ** 12

Foreign Language

- One cross-listed course taught outside the Anthropology Department may apply towards the major. With permission, one independent study may apply towards the major.
- Students pursuing honors in the major may apply the senior essay courses towards their required electives.

* * *
Honors Thesis in Anthropology

Students with at least a 3.5 GPA (major GPA) by their junior year are encouraged to write a senior thesis by registering for the two-semester Senior Essay (AS.070.561 Senior Essay-Fall and AS.070.562 Senior Essay - Spring) under the guidance of a faculty advisor.

Minor in Anthropology

A minor in anthropology is available to undergraduate students in any major. One independent study may apply towards minor requirements. Minors must receive a grade of C or better in all minor requirements and all course must be taken for a letter grade (no satisfactory/unsatisfactory grading). One cross-listed course taught outside the Anthropology Department may apply towards the minor; all other courses must be taken in the department. Only with permission of the director of undergraduate studies may students use one class taken at another institution towards the minor. Students must take completed course materials to the director of undergraduate studies to discuss this exception. If one of these is accepted, the student may not take a cross-listed course.

Requirements for the minor are:

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tr>
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<td>3</td>
</tr>
</tbody>
</table>

**Anthropology Electives**

- One 100- or 200-level course in the Anthropology Department | 3
- Two 300- or 400-level courses in the Anthropology Department | 6

Ph.D. in Anthropology

The graduate program in anthropology leads to the Ph.D. degree. By admitting a small cohort each year, the Department of Anthropology encourages close working relationships between students and faculty and the opportunity for students to develop their anthropological interests in ways that are uniquely suited to them to become researchers, scholars, and teachers. We also encourage and help develop students wishing to pursue non-academic research careers in keeping with the needs of the contemporary world.

Requirements for the Ph.D. Degree

Students will usually spend three years in residence, one year or more conducting field research, and a final year completing the dissertation. Requirements include:

- A total of ten courses to be completed in the first three years. The first of these courses is Proseminar and is a requirement for incoming students.
- Students will sit a three-hour exam near the end of their first year. Incoming graduate students will be provided with a reading list at the start of the summer before the academic year to initiate their self-directed growth as anthropologists and to help them prepare for the exam.
- Students are expected to conduct exploratory fieldwork during the first summer. They are to write a proposal for this fieldwork and discuss their work upon return in a departmental methodology workshop. This workshop accompanies the Methods course, which is a requirement for students in their second year.
- For the comprehensive exams, students are required to write two essays (one conceptual and one on their study area). These essays will ideally also help develop their dissertation research proposal. The essays should preferably be completed by the end of the second year. A course called Regions has been developed to assist students in writing the essays.
- Students are also encouraged to take the Proposal Writing course offered and to apply for fieldwork grants from external agencies.
- A student should be able to demonstrate a reading knowledge of at least one foreign language relevant to his/her field of study before completing the comprehensive exams.
- A Post-Field course will be offered to those returning from the field to help them begin writing their dissertation, along with relevant professionalization workshops as needed. Post-field students are required to give a seminar on their research in the departmental colloquia series.

For further information about graduate study in anthropology, contact the academic program administrator in the Department of Anthropology or visit the departmental website at [http://anthropology.jhu.edu](http://anthropology.jhu.edu).

Interdisciplinary Ph.D. Degrees

Students may petition the department and the graduate board to create joint Ph.D. courses of study. Past cases have included Anthropology/Public Health and Anthropology/Intellectual History (in the Humanities Center).

For current faculty and contact information go to [http://anthropology.jhu.edu/faculty.html](http://anthropology.jhu.edu/faculty.html)

Faculty

Chair

Niloofar Haeri
Professor and Chair: Islamic prayers and experiences of religiosity, gender, ritual and language, public appearance and notions of modesty among Jews, Christians and Muslims, social history of moral values in Iran since early 20th century; language ideology, vernacularization and modernity. Egypt, Iran and the Middle East

Professors

Veena Das
Krieger-Eisenhower Professor: Feminist movements, gender studies, sectarian violence, Medical Anthropology, post-Colonial and post-Structural theory; South Asia, Europe

Jane Guyer
George Armstrong Kelly Professor: Social and economic anthropology, money and culture, household and gender; West Africa

Deborah Poole
Professor: visuality and representation; race and ethnicity; violence, liberalism, and the state; law and judicial reform; Latin America (Peru, Mexico).

Associate Professors

Clara Han
Associate Professor: Anthropologies of health, well-being, and care; violence; poverty; moral community; subjectivity; law, specifically in
AS.070.106. Brains/Minds: An Anthropological Critique. 3 Credits.
Are our minds the products of our physical brains? Can biological mechanisms of the brain explain the diversity of our mental lives? This course will explore the strange ways in which contemporary neurosciences influence and change our conceptions of mind, selfhood and interpersonal relations. We will examine the psychobiological accounts of behavior and their anthropological critique thereby tracking the hopes and anxieties that accompany and surround the contemporary transformation of ideas and techniques in modern psychobiology.
Instructor(s): B. Polat
Area: Humanities
Writing Intensive.

AS.070.109. The Social Lives of Global Health Programs. 3 Credits.
The course critically examines the techniques, practices, and experiences of global health policies and programs, and explores how global health programs affect the lives of individuals and communities in diverse locations.

AS.070.111. Writing Animals. 3 Credits.
How do humans and nonhuman animals relate to one another? How do we write about interspecies relations? James Clifford and George Marcus’s edited volume Writing Culture: The Poetics and Politics of Ethnography (1986) heralded a new period of critique in anthropology and engagement with questions of cultural representation and invention. In this course, we will revisit those debates with an emphasis on investigations and writings of human and nonhuman relations.
Area: Humanities, Social and Behavioral Sciences.

AS.070.112. Troubling Africa: Bodies, Politics, Experience of the Well-being. 3 Credits.
The course seeks to engage students on the question of how well-being is construed in African contexts. By examining well-being through an ethnographic lens, we will explore the construction of “Africa” for the way it gives shape to particular ideas about the body, politics and experience. Well-being as an ethnographic object has a rich history in various African locales, and continues to be an important trope in contemporary life, whether figured as wealth, health, and stability or as loss, disease or disorder. In order to trouble both notions of well-being and the idea of “Africa”, the course will do two things: firstly, we will look for the ways in which the geo-cultural notion of an “African” experience has informed scholarly analysis, political histories, and modes of governance. Reading critically will allow us to de-stabilize the categories of life and well-being that are ascribed to, and claimed by, “Africans”. Secondly, we will examine particular forms of trouble that often attach to the imagination of Africa, with specific reference to forms of mental, physical and social disorder. Rather than arriving at a deconstruction of the idea of Africa, or suggesting a vital form that is essential to Africa, the course relies on ethnographic and historical modes of exposition to ask a series of questions about local lives. While grounded within anthropology the course will read texts that go beyond the borders of the discipline, both scholarly and popular, in order to track the development of specific ideas about well-being in Africa and to examine anthropology’s involvement in these ideas. The course is organized thematically rather than adhering to a chronological or spatial logic. The intention is to place together quite different texts that work in tension to illuminate the particular theme for each week.
Instructor(s): T. Cousins
Area: Social and Behavioral Sciences.
Instructor(s): A. Pandian

Themes such as faith, war, technology, money and ecology. on the challenges of contemporary life around the globe, focusing on also flashes glimpses of melting icecaps and burning rubble. These complex times for human beings, both exhilarating and deeply

Area: Humanities, Social and Behavioral Sciences.

This course introduces the students to some of the main themes and new themes and debates, such as the secular/religious divide, the contemporary re-articulations of such themes and the emergence of 'Orient' and by presenting an overview of the 'zones of theory' which debates shaping the anthropology of the Middle East. It will begin to say about hollywood films, cyber space, shopping malls, fast food, raves, hip-hop, and the 24 hour news media? Through an investigation of anthropological engagements with mass and popular cultural forms, as they are consumed, enacted, or resisted across the globe, students will explore different methodologies and approaches to the study of contemporary cultural forms.

Area: Humanities, Social and Behavioral Sciences.

This course will introduce students to the study of the HIV/AIDS epidemic as scholars in the social science and humanities have undertaken it. The readings will include ethnographies of the disease in the non-west and short theoretical readings to complicate notions of health, pleasure, healing and cure. Furthermore, by focusing on the various regions of Africa, the course hopes to demonstrate the manner in which the social and cultural landscape change the experience of the epidemic.

Instructor(s): V. Saria
Area: Humanities, Social and Behavioral Sciences.

New to Baltimore? Wondering about The Wire? This introductory course focuses on the social, cultural, and natural life of Baltimore, once the third-largest American city. We will consider economic development, urban crime, artistic production and environmental activism, looking comparatively to Philadelphia, Pittsburgh, and Detroit. Our materials will include oral histories, literary portrayals, film and television clips, and field trips to a local art museum, a nature park, a former industrial mill, and a historic cinema.

Area: Humanities, Social and Behavioral Sciences.

What tools do anthropologists use to understand the contemporary? How do anthropologists understand the world in which we live and the objects that surround us in daily life. What might anthropologists have to say about hollywood films, cyber space, shopping malls, fast food, raves, hip-hop, and the 24 hour news media? Through an investigation of anthropological engagements with mass and popular cultural forms, as they are consumed, enacted, or resisted across the globe, students will explore different methodologies and approaches to the study of contemporary cultural forms.

Instructor(s): A. Goodfellow
Area: Humanities, Social and Behavioral Sciences.

This course explores the place of water in human collective life, religious practice, cultural identity, and political aspiration. Students will learn basic ethnographic methodologies and writing strategies through both seminar discussions and class fieldtrips to water sources and sites in and around Baltimore. Some seminar discussions and fieldtrips will be carried out jointly with the freshman seminar in Political Science 090.199 (“Politics of Water”)

Instructor(s): D. Poole
Area: Humanities, Social and Behavioral Sciences.

Instructor(s): N. Mahadev

This introduction to the budding field of Anthropology of Christianity will help students learn about the diversity of Christianities that have emerged as Christian religious ideas and practices have been promoted and propelled in various regions of the world. As students, investigators and scholars of religion, how do we make sense of, and describe, the wide array of ideas and experiences that Catholic, Protestant and Pentecostal Christians of various cultural backgrounds hold to be true?

Instructor(s): N. Mahadev
Area: Social and Behavioral Sciences.

Area: Humanities, Social and Behavioral Sciences.

This course introduces the students to some of the main themes and debates shaping the anthropology of the Middle East. It will begin by critically analyzing the definition of the ‘Middle East’ and of the ‘Orient’ and by presenting an overview of the ‘zones of theory’ which characterized the discipline at its inception. It will then explore the contemporary re-articulations of such themes and the emergence of new themes and debates, such as the secular/religious divide, the modernity debate, the anthropology of Islam and the ethical turn, gender and feminism, neoliberalism, consumerism, cosmopolitanism, migration and mediation. The objective is to convey the main lines of anthropological inquiry within each theme, and to show their relevance to the understanding of contemporary Middle Eastern societies.

Area: Humanities, Social and Behavioral Sciences.

Instructor(s): A. Pandian
Area: Humanities, Social and Behavioral Sciences.

In this course, investigators and scholars of religion, how do we make sense of, and describe, the wide array of ideas and experiences that Catholic, Protestant and Pentecostal Christians of various cultural backgrounds hold to be true?

Area: Humanities, Social and Behavioral Sciences.

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Area: Humanities, Social and Behavioral Sciences.

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AS.070.144. Anthropology and Visual Media. 3 Credits.
This course examines the production of visual media within anthropology. We look at the particular ways in which visual media such as film, television, and photography shape anthropological practice. Instructor(s): C. Venkataramani
Area: Humanities, Social and Behavioral Sciences.

AS.070.145. Race and Mestizaje in Latin America. 3 Credits.
The course takes mestizaje as an entry point to explore racial projects of the state in Latin America and its mechanisms of exclusion and inclusion in different local settings.
Area: Humanities, Social and Behavioral Sciences.

AS.070.150. The Anthropology of Africa. 3 Credits.
This course revitalizes classic debates about the forms and dynamics of Africa self-governance, once depicted as "The African Genius". Anthropological approaches and artistic sources are brought to bear on current African politics and governance.
Area: Humanities, Social and Behavioral Sciences.

AS.070.152. Freshman Seminar: Human Rights in Anthropology. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.070.166. Desire and Anthropology. 3 Credits.
Desire seems to lie at the heart of who we are. Has this always been the case? How did desire become the core of our identities in the Western world? How do people in other places imagine, manage, and struggle with what they want, for themselves and from each other? This course will introduce anthropological thinking and method through a focus on human desire. We will examine how objects of human longing are experienced around the world, in relation to questions of religion, sexuality, media, and ecology.
Area: Humanities, Social and Behavioral Sciences.

AS.070.179. Child Adoption and Family Making. 3 Credits.
The course takes child adoption as a starting point to critically explore how kinship and family are connected to legal practices, technological innovations, and broader historical, political, and socio-economic processes. Dean’s Prize Freshman Seminar
Instructor(s): A. Reyes Kipp
Area: Humanities, Social and Behavioral Sciences.

AS.070.189. Islamic Critique: Ethical and Political Reasoning. 3 Credits.
This course investigates the concepts and practices of critique available in contemporary Muslim societies. Focusing on moral and political dimensions of critique, we examine genealogies and exchanges among Islamic traditions and those of the European Enlightenment. Dean’s Prize Freshman Seminar
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.195. Christianities in Cross-Cultural Perspective. 3 Credits.
This introduction to the budding field of Anthropology of Christianity will help students learn about the diversity of Christianities that have emerged as Christian religious ideas and practices have been promoted and propelled in various regions of the world. As students, investigators and scholars of religion, how do we make sense of, and describe, the wide array of ideas and experiences that Catholic, Protestant and Pentecostal Christians of various cultural backgrounds hold to be true?
Dean’s Prize Freshman Seminar
Area: Humanities, Social and Behavioral Sciences.

AS.070.199. Sexual Politics/Sexual Cultures. 3 Credits.
Sexual Politics, Sexual Cultures examines the place of sexuality in notions of citizenship, the human, and cultural life from a cross-cultural perspective. The class begins by evaluating early anthropological engagements with questions of sexuality and moves towards more recent efforts to understand public and political debates about queer families, emergent transnational sexual identities, and HIV/AIDS. The course draws from the work of such thinkers as Malinowski, Freud, Foucault, Cohen, Biehl, Weston, and Herdt.
Area: Social and Behavioral Sciences.

AS.070.200. On Secrets - Their concealment, Revelation & Beyond. 3 Credits.
We track secrecy as a social process. We examine secrets – their concealment and modes of existence (secret societies, esoteric rituals, state secrecy); the politics of their revelation (from colonial contexts to Wikileaks); and their modes of existence thereafter in the modern world (within public spheres, as intellectual property).
Instructor(s): U. Nair
Area: Humanities, Social and Behavioral Sciences.

AS.070.203. Healing: Politics and Poetics. 3 Credits.
Metaphors of health and illness; individual and social. The body in pain and the body politic. Ethnographies of historical memory vis-à-vis medicine, epidemics, sacredness, shamanism, terror, humanitarianism, truth and reconciliation.
Instructor(s): J. Obarrio
Area: Humanities, Social and Behavioral Sciences.

AS.070.219. Anthropology & Public Action. 3 Credits.
Anthropologists have used their expertise in public debates, legal cases, advisory roles and so on, and have studied the “public sphere”. General and case studies, following of our professional association, shows how anthropological knowledge has been mobilized.
Instructor(s): J. Guyer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.220. Making the Middle East. 3 Credits.
This is a course about the Middle East and how it is constituted as an area of study and intervention. The Middle East is not a neutral geographic description, and this will be a course about these people and institutions, the various ways in which they produce the Middle East, and the complex relationship between policy, academic knowledge, and humanitarian and military interventions.
Area: Humanities, Social and Behavioral Sciences.

AS.070.222. Africa in the 21st Century. 3 Credits.
Rapid urbanization has created new needs, occupations, entertainments, etc., outside the “formal sector”. We use anthropological studies, African literature, film and the press on-line to understand making a living.
Instructor(s): J. Guyer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.225. The Nature of Extraction. 3 Credits.
How are cultural and political lives shaped by the promise of subsoil resources? This course explore the multiple ways in which mineral extraction reshapes politics, law and ethical life.
Instructor(s): D. Poole
Area: Humanities, Social and Behavioral Sciences.
**AS.070.248. Medical Anthropology. 3 Credits.**
How can we explore illness as moral experience; the interplay of social processes, biology, and medicine; the social experiences of death and dying? We explore these questions in ethnographic work, as well as film, medicine and public health studies
Instructor(s): C. Han
Area: Humanities, Social and Behavioral Sciences.

**AS.070.252. Drugs, Culture, Politics. 3 Credits.**
Through the study of the ways in which drugs, states, and people are interlinked by the use, trade, and regulation of various legal and illegal intoxicants (and pharmaceuticals), this course will explore key areas of anthropological interest. We will look at the ways drugs work in and on the body, the person, and the collective, and investigate the place of drugs in religion, medicine, society, law, economy, and the family.
Instructor(s): J. Williams
Area: Humanities, Social and Behavioral Sciences.

**AS.070.256. Monsters, Beasts & Aliens: Cosmology in Asian Religious Traditions. 3 Credits.**
This course examines the types of beings that act as agents in Asian religious worlds. Using primary sources, along with literature from Anthropology and Religious Studies, we will explore issues of narrative, belief, personhood, otherness, and marginality. Some of the central questions of the course are: What types of creatures populate the Buddhist and Hindu cosmos? How do we make sense of worlds that contain different beings than our own? What makes us, or others, “believe” in the beings that are beyond our perception? Do religious traditions need monsters and beasts in the world in the same way they need gods? The course is organized around a three-part cosmology, found in many Asian religious traditions, which divides the universe into the realms (1) above the earth, (2) on the earth, and (3) below. The course thus first explores encounters with beings of the underworld and graveyards (“monsters”), and investigates religious practices and beliefs related to these monsters. The “beasts” section of the course turns to beings encountered on the earth: from local spirits and mountain deities, to monkey-men and yetis. Finally, we will look at transcendent or non-terrestrial beings (“aliens”), and examine how they act upon, or through, humans.
Instructor(s): C. Hatchell
Area: Humanities, Social and Behavioral Sciences.

**AS.070.258. Scientific Inquiry as a Social Process. 3 Credits.**
This course examines the social character of scientific inquiry by exploring a select set of themes and concepts that have been used to study the everyday knowledge-making in the scientific laboratory. The course readings aim to introduce students to the socio-historical and institutional aspects of scientific knowledge, offering a critical exploration of the following questions: What counts as scientific knowledge? How is it produced? Can there be a scientific study of scientific inquiry?
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**AS.070.259. Gift and Sacrifice. 3 Credits.**
How do gifts become the foundation of society? How does the fetish take control over a person? What is the meaning of the ritual sacrifice of living beings and things? The course will explore classical and contemporary anthropological explorations of circulation, exchange, of power, dread and desire.
Instructor(s): J. Obarrio
Area: Humanities, Social and Behavioral Sciences.

**AS.070.261. Making Kin. Thinking Family. 3 Credits.**
What makes one a relative? How do we know we are related as Kin, or as family? This course provides a survey of ethnographic material devoted to the modalities through which kin relations and family are made and come to be known. Students will engage the work of Strathern, Rapp, Das, Trawick, Carsten, Haraway, Malinowski, Morgan, Leach, and others.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**AS.070.262. Cuban Intellectuals, Cinema, and the State. 3 Credits.**
This course examines the relationship between intellectuals and the Cuban state, focusing on how cinema and other arts have been mobilized both as propaganda and as sites for social criticism. Screenings are required for this course and will take place on Tuesdays from 7 pm to 9:30 pm. Cross-list: Film and Media Studies, PLAS, Romance Languages.
Instructor(s): L. Humphreys
Area: Humanities, Social and Behavioral Sciences.

**AS.070.264. Discover Hopkins: What is Scientific Experimentation?. 1 Credit.**
How do scientists design and conduct experiments? In what ways experimental results advance our understanding of scientific theories? In this introductory course, we will discuss how experimentation contributes to scientific knowledge making. Reading a number of key articles, we will explore the ways in which an experimental model is developed in behavioral neuroscience. We will discuss how neurobiologists interpret psychological concepts and theories by drawing on animal experimentation.
Instructor(s): B. Polat
Area: Humanities, Natural Sciences, Social and Behavioral Sciences.

**AS.070.265. Anthropology of Media. 3 Credits.**
We will examine the mediation of contemporary cultural life through technologies such as cinema, television, radio, design, and the Internet, investigating questions of desire, power, identity, and belonging. Student coursework will center on the development of an ethnographic video project.
Area: Humanities, Social and Behavioral Sciences.

**AS.070.267. Portraits of a Nation. 3 Credits.**
This course focuses on the role that fiction and documentary films play in portraying people and places in association with poverty, violence, and criminality. Students will watch and read about documentary and fiction films in order to critically discuss the different perspectives and imaginary they propose. Special attention will be paid to portraits of so-called developing nations and countries.
Area: Humanities, Social and Behavioral Sciences.

**AS.070.268. Anthropology of Health and Disease. 3 Credits.**
This course offers a wide-ranging study of the problems of disease and health, including the areas of birth and reproduction, poverty and local ecologies of care, death and dying, and sexuality. Considering these areas across world regions, this course invites students to question the lines of normal and abnormal, the margins of institutions, the measures of success in global health, and the transformation of living and dying in relation to violence, institutional failure, and new technologies.
Instructor(s): C. Han
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.
AS.070.271. Media, Culture, and Publics. 3 Credits.
How do media shape local and global publics? This course examines methodological and theoretical accounts of media and its impact on ideologies and practices of nationalism, religion, citizenship, and socialism.
Instructor(s): L. Humphreys
Area: Humanities, Social and Behavioral Sciences.

AS.070.272. The Savage & the Primitive. 3 Credits.
This class will investigate the figure of the savage and the place of the primitive in anthropology, drawing on the disciplines' engagement with hunting/gathering, stone age economics, head hunting, human sacrifice, and other practices considered primitive in the present and the past.
Instructor(s): A. Goodfellow
Area: Humanities, Social and Behavioral Sciences.

AS.070.273. Ethnographies: Our Animals Ourselves. 3 Credits.
Topic: Our Animals Ourselves. How does the figure of the animal appear in anthropological thought? Looking at classical topics such as totemism, sacrifice and pastoralism, as well as emerging topics of animal rights and vegetarianism, we shall see how anthropological concepts bend or are bent by the animal as boundary marker or bridge between self and other. Required background: two or more prior courses in anthropology (not cross-listed courses). Course is a requirement for anthropology majors.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.274. Interrogating Development. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.070.277. Indigenous Agency and Innovation. 3 Credits.
This course will introduce students to the diversity of indigenous peoples and their situations globally, as well as to their agency and innovation in grappling with challenges across a range of social systems, political contexts, and ecological conditions. Cross-list: PLAS
Instructor(s): E. Cervone
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.282. The Making of Everyday Life in Contemporary Afghanistan. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.283. Technologies of Health and Development. 3 Credits.
This course examines the ways in which expanding global health initiatives are re-imagining development and re-orienting ideas about global public goods, forms of risk, and modes of entitlement. Through an engagement with literature from anthropology, history of medicine, science studies, and from within public health, the course seeks to apply a critical perspective to the role of public-health-as-development programs and to explore how these global technologies map onto the lives of individuals.
Area: Humanities, Social and Behavioral Sciences.

AS.070.285. Understanding Aid: Anthropological Perspectives for Technology-Based Interventions. 3 Credits.
This course combines anthropological perspectives with the discussion and examination of technology-based interventions in the field of development aid policies, with particular focus on activities related to water resources, sanitation, and hygiene. Readings and discussions analyze some of the theoretical, historically rooted, and practical issues that challenge those who hope to provide effective aid. A key aim of this course is to provide students with better understanding of cultural, social, environmental and economic issues relevant to technical intervention in developing countries.
Instructor(s): E. Cervone; W. Ball
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.286. Crafting Community Development Projects in Baltimore. 3 Credits.
Students will craft community development project proposals in the areas of education, health, community building or economic development. This hands-on course will focus on Baltimore City as it introduces students to the theory and practice behind community development projects, and their application to the arts. Students will conduct their work in groups and elaborate their project proposal in the city of Baltimore.
Instructor(s): E. Cervone
Area: Humanities, Social and Behavioral Sciences.

AS.070.287. Displaying Race. 3 Credits.
Through hands-on archival and museum research, students in this class will develop a proposal for displaying a small collection of plaster busts that were cast in the late 19th century from live indigenous subjects. Readings from the class will explore the ethical, legal and political issues surrounding the public display of anthropological and historical artifacts that were collected as part of now discredited regimes of racial classification. How can displays be used to reveal the distance that separates 19th century racial thought from our modern day understandings of physical and cultural difference? How can we responsibly display likenesses that may have been collected under coercive conditions? How can such objects be used to educate people about the place of indigenous peoples in the museum? What laws and ethical conventions govern the display of such objects? In addition to regular class meetings, students will be expected to carry out archival research and interviews in local archives and museums.
Instructor(s): E. Cervone
Area: Humanities, Social and Behavioral Sciences.

AS.070.288. Tibetan Buddhist Culture. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.070.290. Modern South Asia: Bangladesh/Pakistan. 3 Credits.
Bangladesh and Pakistan, two major regional players in South Asia, originate in the 1947 Partition of India and shared nationhood between 1947 and 1971, ending with the War of Independence in 1971 in which Bangladesh separated from Pakistan. Since that time the two nations have been on different paths that have sometimes mirrored each other. This course brings together contemporary works of national histories, social movements and cultural production to consider the politics of self-differentiation and the points of convergences.
Instructor(s): N. Khan
Area: Humanities, Social and Behavioral Sciences.
AS.070.291. Social Networks and Beyond. 3 Credits.
What is a network? We all cultivate, take part in, think with, are frustrated by, and utilize networks of all different kinds, but what are they? Can they be located? In what ways do they (not) exist? What counts as participation? This course investigates how social scientists and other have approached networks. The goal is to discuss connections and to discover the different agents at work in their making and imagination. Students will read literatures touching on the topics of rumor, conspiracy, the internet, kinship, epidemiology, and finance so as to become aware of how anthropologists conceive of and contribute to the formation of networks.
Instructor(s): A. Goodfellow
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.293. Anthropology of Material Worlds. 3 Credits.
This course explores how anthropologists study material forms and objects in relationship to social, political and cultural life. Topics to be considered include, totemism, art, engineering, garbage, display, collection, and the fetish.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.294. Political Anthropology of Africa. 3 Credits.
The course will explore classical and contemporary ethnographies of the political in Africa, examining how their authors address issues of power, hierarchy and symbol. We will study various articulations of state, ethnicity and community that are analyzed by observing relations between power and resistance or between law, economy and violence through war, custom and ritual. The seminar will also address the way in which Africa has been constituted as a key source of the sub-field of political anthropology through colonial trajectories, postcolonial detours and the political imagination of the past and the future.
Instructor(s): J. Obarrio
Area: Humanities, Social and Behavioral Sciences.

AS.070.296. Living in the Shadows of the City: Anthropological Perspectives on Urban Lives. 3 Credits.
How can we understand the city from positions of marginality and risk? What challenges does urban living pose to its most vulnerable residents? We will examine these questions, and methodological and conceptual issues they raise, with anthropological research from five cities: Johannesburg, São Paulo, Ibadan, New York, Kuala Lumpur. We will explore each city from the perspective of particular residents and the specific struggles they face, including crime and security, economic uncertainty, and sexual discrimination.
Area: Humanities, Social and Behavioral Sciences.

AS.070.297. Violence in Contemporary Post War Cinema. 3 Credits.
This class takes contemporary feature films on political violence as ethnographic documents to consider the problem of (re)presentation of violence and suffering in the aftermath of devastating violence. Specifically, it takes as point of departure feature film’s ability to connect everyday life, fiction and major historical events through ordinary and epochal conversations to examine the relation between trauma and mechanical repetition of violence as well as the specific ways in which victims restore senses of intimacy and trust in everyday life.
Area: Humanities, Social and Behavioral Sciences.

AS.070.298. Political Anthropology. 3 Credits.
Is the state a myth? What is the connection between democracy and secrecy? How do gifts and magic work in relation to law and war? What social movements are emerging in the post-colonial world? This course revisits classical and contemporary ethnographies of power and authority, hierarchy and symbol. Studies of ritual and collective memory as critiques of state fetishism, nationalism and community. Local customs and rules, vis-à-vis international law, human rights and economic globalization.
Area: Humanities, Social and Behavioral Sciences.

AS.070.299. Visual Economies in the Americas. 3 Credits.
Area: Humanities, Social and Behavioral Sciences

AS.070.302. The Social Lives of Global Health Programs. 3 Credits.
The course critically examines the techniques, practices, and experiences of global health policies and programs worldwide, and the effects they have on individuals, families, communities, and states.
Instructor(s): L. Reynolds
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.304. Child Adoption and Family Making. 3 Credits.
The course takes child adoption as a starting point to critically explore how kinship and family are connected to legal practices, technological innovations, and broader historical, political, and socio-economic processes. Cross List: WGS, PLAS. Dean’s Teaching Fellowship Course
Instructor(s): A. Reyes Kipp
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.305. Indigenous peoples and the modern state. 3 Credits.
Through diverse readings and films, this course will investigate the tense relationship between indigenous peoples and sovereign states, which has occupied scholars in disciplines like political science, law, anthropology, and history.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.306. Healing: Politics and Poetics. 3 Credits.
Area: Humanities, Social and Behavioral Sciences

AS.070.307. Markets and Morals. 3 Credits.
This course studies markets across diverse religious and political settings to explore the cultural rationalities and moral dimensions of economic activities such as exchange, circulation, investment, credit, debt and value.
Instructor(s): A. Saraf
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.
AS.070.309. Anthropology of Media. 3 Credits.
We will examine the profound mediation of contemporary human life through technologies like film, television, radio, mobile phones, iPods, and the Internet, investigating questions of desire, politics, production, and the virtual. SPECIAL NOTE: There will be a $30 lab fee for the course.
Instructor(s): A. Pandian
Area: Humanities, Social and Behavioral Sciences.

AS.070.310. Troubling Africa: Bodies, Politics, Experience of Well-Being. 3 Credits.
Dean’s Teaching Fellowship Course: Explores well-being in Africa in anthropological and popular accounts, paying special attention to the role of ritual, memory, experience, and the politics of sexuality.
Instructor(s): T. Cousins
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.311. Martyrdom between Judaism, Christianity, and Islam. 3 Credits.
The course proposes to follow the development, from Ancient times up to the present, of Jewish, Christian and Muslim traditions that make martyrdom a contested form of witnessing to God’s power and justice.
Area: Humanities, Social and Behavioral Sciences.

AS.070.312. Monsters’ Lives. 3 Credits.
Drawing on anthropological theory the course examines cultural context and conditions that have shaped our ideas about the monstrous. We discuss the relationship between monsters and marginal forms of life, and how images and ideas about “monstrosity affect the life of human beings who happen to share the marginality of monsters.
Instructor(s): E. Cervone
Area: Humanities, Social and Behavioral Sciences.

AS.070.313. The Anthropology of Belief: Religious Experience, Publics, and Personhood. 3 Credits.
The aim of this course is to enable you to ask intelligent questions about the ways individuals are called upon as “religious”, and more specifically, to allow you to engage in a reflection on the publics of which they are a part, and the means by which they come to cultivate a sense of personhood. Closely reading theory, ethnography, and literature in relation to each other, we will try to develop a nuanced understanding of the many ways in which human beings have imagined and conducted themselves as religious persons. How do ideas of imagination, habit, desire, and the senses play into our understanding of cultures of faith?
Instructor(s): M. Wilson
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.316. ‘Casting’ India: Hierarchy, Inequality & Social Change in the Anthropological Imagination. 3 Credits.
Dean’s Teaching Fellowship Course: This course traces anthropological representations of the Indian caste system. It pays special attention to the afterlife of the ‘caste study’ in modern scholarly, political and administrative accounts of India’s ‘untouchable’ castes.
Instructor(s): H. Betlem
Area: Humanities, Social and Behavioral Sciences.

AS.070.317. Methods. 3 Credits.
Topic: Understanding Baltimore. This course aims to teach basic fieldwork skills: choosing and entering a community; establishing contacts; learning to listen and to ask questions and locating archival material that might be relevant. It is a hands-on course that will focus on the Arts District North Station in Baltimore. Required course background: two or more prior courses in anthropology (not cross-listed courses). Course is a requirement for anthropology majors.
Instructor(s): J. Guyer; N. Haeri
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.319. Logic of Anthropological Inquiry. 3 Credits.
Anthropology combines theory and methods from the sciences and the humanities. We take a close look at those logics, as shown in ethnography as a mode of inquiry and as a genre of writing. This will count as a required course for Anthropology majors but open to all undergraduates.
Instructor(s): J. Obbario
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.321. Prisons and Police. 3 Credits.
How does incarceration generate sociality? How do prisons and policing figure in anthropological thought and social theory? This seminar explores both the emergence of prisons as forms of punishment and reform as well as sociality, and consider policing in relation to concepts of population as well as neighborhood. It draws from classic topics in anthropology of law, custom, and crime as well as explores contemporary engagements with topics of incarceration and security. It draws widely from ethnography, social and political theory, film, public health studies, and sociological works on incarceration.
Instructor(s): C. Han
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.322. Anthropology and Fiction. 3 Credits.
Looking at fiction, poetry, visual montage, and other forms of experimental writing in contemporary anthropology, we will explore ethnography as a creative practice of provoking altered states such as compassion, dream, wonder, and shame.
Instructor(s): A. Pandian
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.323. Money and Moral Economy. 3 Credits.
What is fairness in market economies? Anthropological study of money in the mediation between “goods” (as commodities) and “the good” (as a quality of life).
Instructor(s): J. Guyer
Area: Humanities, Social and Behavioral Sciences.

AS.070.325. Anthropology Of Money. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.070.326. Bodies in Anthropology. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.
AS.070.327. Poverty's Life: Anthropology of Health & Economy. 3 Credits.
Medicine, economics, and ethics have profoundly shaped debates on poverty. This course analyzes these debates and tracks the relationships between body, economy, and the everyday. How can anthropological reasoning and methods inform approaches to health and economic scarcity and insecurity?
Instructor(s): C. Han
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.328. Ethnographies: Our Animals Ourselves. 3 Credits.
Topic: Our Animals Ourselves. How does the figure of the animal appear in anthropological thought? Looking at classical topics such as totemism, sacrifice and pastoralism, as well as emerging topics of animal rights and vegetarianism, we shall see how anthropological concepts bend or are bent by the animal as boundary marker or bridge between self and other. Required course background: two or more prior courses in anthropology (not cross-listed courses). Course is a requirement for anthropology majors.
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.329. Care and Affliction in the Everyday. 3 Credits.
How are illness, suffering, and potentials for well-being shaped through our everyday relations? In this seminar, we will explore how relations of care make and unmake lives in contexts of inequality and precariously. We examine how a multiplicity of social ties, from kinship to neighborhood networks, articulates with institutional margins, and mediates violence, scarcity, and material realities of disease and illness. Cross-listed with Public Health Studies
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.331. Anthropology of Poetry and Prayer. 3 Credits.
What kind of activity is prayer? Are we talking to God(s), to our ancestors, to ourselves? What are the differences between choosing our own words and repeating the words of an established prayer? The course will explore these and similar questions with particular attention to the language of prayers across a number of religious traditions.
Instructor(s): N. Haeri
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.335. Ducks, Rodents and Humans: Contemporary Sciences of Emotions. 3 Credits.
This course introduces students to the changing scientific conceptions of emotions by attending to the ways in which early emotional relations have been studied in diverse scientific traditions and across species.
Instructor(s): B. Polat
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.337. Digital Media, Democracy, and Control. 3 Credits.
This course examines how digital technologies enable new publics that circumvent state and social controls as well as how they are mobilized to confirm existing racial, gendered, and political hierarchies.
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.338. Anthropology of Prayer. 3 Credits.
What kind of activity is prayer? Are we talking to God(s), to our ancestors, to ourselves? What are the differences between choosing our own words and repeating the words of an established prayer? The course will explore these and similar questions with particular attention to the language of prayers across a number of religious traditions.
Instructor(s): N. Haeri
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.341. Senses of Community. 3 Credits.
How do ideals of community, place and belonging shape our sense of history and political possibility? This class explores this question through case studies that focus on competing experiences with, and desires for, community in modern Latin America. Cross-listed with Program in Latin American Studies
Area: Humanities, Social and Behavioral Sciences.

AS.070.344. Muslim Societies and Modern States: Ethnographic Encounters. 3 Credits.
Through a close reading of four recent ethnographies, this course explores the diverse ways Muslims encounter the power of modern states in the contemporary world. Topics include: state-led efforts to reform educational discipline and curricula in Yemen, the imaginary topos of dreams as a space of encounter in Egypt, and legal institutions in Egypt and Pakistan. Diverse ethnographic approaches to a common theme raise such questions as: how do legal reforms constrain, enable or express forms of moral striving in everyday life? what forms of knowledge are sanctioned by the state and what forms exceed its limits? what kinds of community become possible in the grip or the margins of modern governance?
Instructor(s): J. Bush
Area: Humanities, Social and Behavioral Sciences.

AS.070.346. Cinema and Ethnography. 3 Credits.
Films, like ethnographies, stage encounters with foreign worlds. We will investigate this parallel by examining, side-by-side, cinematic and anthropological representations of subjects like environmental conflict, urban poverty, religious pilgrimage and media culture.
Instructor(s): A. Pandian
Area: Humanities, Social and Behavioral Sciences.

AS.070.347. Anthropology and Public Action. 3 Credits.
Anthropologists have used their expertise in public debates, legal cases, advisory roles and so on, and have studied the “public sphere”. General and case studies, following of our professional association, shows how anthropological knowledge has been mobilized.
Instructor(s): J. Guyer
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.348. Anthropology of Mental Illness. 3 Credits.
Mental illness and madness have been powerful lenses for anthropologists to study the individual’s relationship to the social and how societies may secure the boundaries of the normal and the abnormal. We will examine genealogies of anthropological thought on mental illness and study the cross-pollination of anthropology and psychiatry.
Instructor(s): C. Han
Area: Humanities, Social and Behavioral Sciences.
AS.070.349. Buddhism and Science. 3 Credits.
The discourse of Buddhism and Science represents these two distinct
truth systems as commensurable. This course examines this discourse
anthropologically, towards understanding the logics and practices
whereby such commensurability comes to be claimed.
Instructor(s): U. Nair
Area: Humanities, Social and Behavioral Sciences.

AS.070.352. Evolution, Ecology, Becoming. 3 Credits.
The concept of evolution is central to social theory. Originating in
the question of the species, it has moved into questions of human
ecology, cultural forms and modes of thought. While it remains a deeply
contested, often criticized concept, particularly in its neo-Darwinian
manifestation, it orients anthropological thinking in ways that are as
yet to be examined. Reaching into the archives of anthropology and
other cognate disciplines, this course will examine the writings of Lyell,
Darwin, Marx, Morgan, Boas, Steward, Bateson, Ingold among others.
Co-listed with AS.070.610
Instructor(s): A. Goodfellow; N. Khan
Area: Humanities, Social and Behavioral Sciences.

AS.070.354. Engendering Life. 3 Credits.
This course explores the role of gender in the production and
contestation of socio-economic inequality and political domination.
Examples will be drawn from Latin America and other colonial and post-
colonial societies.
Instructor(s): E. Cervone
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.357. An Anthropology of the City. 3 Credits.
Strangers, neighbors, proximities, contagion, segregation. How do these
notions track with notions of the city? In this course, we will explore
the city through both anthropological literature and primary materials
across different world regions. We will focus specifically on themes of
dying and death, proximity, and stranger sociability. Particular attention
will be paid to studies of poverty.
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.368. Modern South Asia. 3 Credits.
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.371. Forms of Critique in Islam. 3 Credits.
This course examines concepts and practices of critique brought to
bear in (and upon) Muslim societies. Readings classic ethnographic
monographs along with primary texts of Muslim critics, we focus on
forms of reasoning, ethical practices and aesthetic expressions of
political critique. Dean’s Teaching Fellowship Course
Instructor(s): J. Bush
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.375. Language in Ritual. 3 Credits.
This course focuses on language in ritual. It examines the roles of
language in prayer, liturgical and other ritual performances from diverse
shamanic and religious traditions, including Buddhism, Hinduism and
Islam.
Area: Humanities, Social and Behavioral Sciences.

AS.070.377. Ethnographic Writing. 3 Credits.
We will closely examine the narrative form and force of a few major
works of anthropological writing, and pursue experiments of our own in
ethnographic description and expression. Co-listed with AS.070.603.
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.384. The Image in South Asia. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.070.385. From Sexual Nature to Sexual Politics. 3 Credits.
This course traces anthropological concern with questions of sexuality.
Students will explore anthropological notions of primary promiscuity,
cultural configurations of the correspondence between sex, procreation,
and birth, and ideas about sexual rites of passage. The course will end
with a discussion of sexual politics in Euro-America and public concern
over HIV/AIDS. The course draws on the work of Freud, Malinowski,
Meade, Herdt, Povinelli, Rubin, Bersani and Halperin. Cross-listed with
Women Gender Studies
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.408. Creative Expression. 3 Credits.
Tacking between theoretical and ethnographic texts on art and poetry,
visual image and dramatic performance, living body and natural
landscape, this course seeks anthropological ground for an impersonal
and asubjective philosophy of creative expression. Drawing from
thinkers such as Nietzsche, Bergson, Whitehead, Merleau-Ponty, and
Deleuze, and studies set in China, India, Indonesia, Melanesia, and
aboriginal Australia, we will confront the working intuitions of artists and
“creators” of various kinds with the unpredictable life of the worlds in
which they work.
Area: Humanities, Social and Behavioral Sciences.

AS.070.410. Family and Household. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.070.412. Truths in Diaspora- From Revelation to Observation. 3 Credits.
The course examines four systems of truth (religious, mathematical,
scientific, psychoanalytic), and four concepts of diaspora (publics,
circulations, power, discipline). The aim is to understand how truths
subsist in diaspora amongst other truths – when dispersed beyond
their institutional homes, when held to by members of scattered social
groupings.
Instructor(s): U. Nair
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.414. Kinship at the Core. 3 Credits.
It is often said that the study of kinship defines anthropology as a
distinct discipline within the social sciences. This course tracks the
emergence of kinship as a subject and object of anthropological inquiry,
and traces some of the transformations that mark the effort to develop
theories of kinship (genealogical method, social contract, structural-
fundamentalism, structuralism, psychoanalysis, etc). A sample of authors
to be read include: Morgan, Rivers, Malinowski, Radcliff-Brown, Leach,
Levi-Strauss, Pateman, Schneider, Trawick, and Povinelli. Open to
Graduate Students.
Instructor(s): A. Goodfellow
Area: Humanities, Social and Behavioral Sciences.
**AS.070.415. The Machine in Nature. 3 Credits.**
The picture of nature as machine-like or systematic in its organization was once dominant in ecological anthropology and cognate disciplines but fell out of favor in the 1970s and 80s. More recently it is enjoying a revival in efforts to conceptualize anthropogenic climate change. In this course we will read classical and newer writings to understand the promise and problems with this mode of viewing nature. Readings include Pierre Hadot, Karl August Wittfogel, Roy Rappaport, Philippe Descola, Gregory Bateson, Clifford Geertz, Stephen Lansing, Anna Tsing and Stefan Helmreich.
Instructor(s): N. Khan
Area: Humanities, Social and Behavioral Sciences.

**AS.070.416. Visual Languages in Medical Knowledge. 3 Credits.**
This interdisciplinary course will track the mediation of images in the making of medical knowledge and show how sensory knowledge is incorporated or transformed in the process. Open to Graduate Students Co-listed with AS.211.416 and AS.214.616
Instructor(s): V. Das
Area: Humanities, Social and Behavioral Sciences.

**AS.070.419. Logic of Anthropological Inquiry. 3 Credits.**
Anthropology combines theory and methods from the sciences and the humanities. We take a close look at those logics, as shown in ethnography as a mode of inquiry and as a genre of writing. This will count as a required course for Anthropology majors but open to all undergraduates.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**AS.070.420. Anthropology of Death and Dying. 3 Credits.**
This course is organized around understanding the experience, representation and management of death and dying at different scales of social life connecting individual biographies with institutional settings.
Instructor(s): V. Das
Area: Humanities, Social and Behavioral Sciences.

**AS.070.430. Anthropology and the Local. 3 Credits.**
Attention to “the local” may be one defining feature of the discipline of anthropology today. This seminar examines pictures of the local within anthropological thought and ethnography as a genre. It will track how the “local” emerges within wider debates on scale and perspective; diversity and pluralism; and self-making in anthropological thought.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**AS.070.435. It’s all Relative: Kinship Studies in the New Millennium. 3 Credits.**
The study of kinship was once recognized as the defining province of anthropology. With the advent of new reproductive technologies, shifts in the legal status of marriage, and recent reconfigurations in domestic arrangements, the orienting coordinates of kinship studies (meaning heterosexual reproduction and marriage) appear to be pushed out of shape. This course explores recent anthropological efforts to come to terms with family and kin relations built outside of marriage and heterosexual reproduction.
Prerequisites: AS.070.132
Area: Humanities, Social and Behavioral Sciences.

**AS.070.503. Independent Study. 3 Credits.**
Instructor(s): Staff.

**AS.070.504. Independent Study. 0 - 3 Credit.**
Instructor(s): Staff.
AS.070.605. Anthropology and the Everyday.
Analysis of the everyday groans under the theoretical weight of concepts such as “modernity,” “governmentality,” “capitalism,” “globalization” and more recently “security.” What might a sharper focus on the everyday yield in terms of its own analytical frameworks and empirical descriptions? We read some contemporary greats (Foucault, Derrida, Cavell, de Certeau, Lefebvre). Simultaneously we look at how each has been received within ethnography by reading anthropologists in engagement with them (Mahmood, Ivy, Das, Siegel, Harvey). We ask what critical stakes anthropology maintains in relation to the everyday.
Instructor(s): N. Khan
Area: Humanities, Social and Behavioral Sciences.

AS.070.606. Professionalization.
Instructor(s): N. Khan
Area: Humanities, Social and Behavioral Sciences.

AS.070.608. First Year Proposal Writing.
Instructor(s): N. Khan
Area: Humanities, Social and Behavioral Sciences.

The concept of evolution is central to social theory. Originating in the question of the species, it has moved into questions of human ecology, cultural forms and modes of thought. While it remains a deeply contested, often criticized concept, particularly in its neo-Darwinian manifestation, it orients anthropological thinking in ways that are as yet to be examined. Reaching into the archives of anthropology and other cognate disciplines, this course will examine the writings of Lyell, Darwin, Marx, Morgan, Boas, Steward, Bateson, Ingold among others.
Co-listed with AS.070.352
Instructor(s): A. Goodfellow; N. Khan
Area: Humanities, Social and Behavioral Sciences.

AS.070.611. Intimacy & Corruption.
Course takes problem of corruption as an ethnographic site from which we can explore how concepts of visibility, secrecy, intimacy and transgression inform political life. We will examine how ideas of intimacy and propriety are expressed in public scandals of corruption, as well as the forms of anxiety that surround routine practices of bribery, influence-peddling and enticement.
Instructor(s): D. Poole.

AS.070.616. Proseminar.
This course will consist of close reading of anthropological and philosophical texts to trace important aspects of the underlying presuppositions of social theory. We will try to see how regions generate both data and theory; and also see how some abiding concerns around the relation between structural formations and formations of subjects are expressed in classical and current anthropological thought.
Instructor(s): V. Das.

This seminar will focus on learning method in anthropology. We will explore the relation of the empirical and conceptual through ethnographic materials gathered during preliminary fieldwork, and we will explore the craft of ethnographic writing. Limited to Anthropology Graduate Students
Instructor(s): C. Han.

AS.070.619. Ethnography and Literature.
We will look at ethnography as a particular genre of narration and ask how we might analyze the relation between ethnography and literature at the level of imagination, techniques of narration, and the place of the rest in wording the world.
Instructor(s): V. Das
Area: Humanities, Social and Behavioral Sciences.

AS.070.621. An Ontological Turn?.
Recent years have seen a number of ambitious and controversial efforts to find, in ontology, a means of surpassing the inherited humanism, culturalism, and essentialism of anthropology. This course will critically examine this proposition of a fundamental “turn” in our thinking, juxtaposing recent work on matters of perspectivism, materialism, relationality, and divinity with earlier attempts in anthropology to grasp being and becoming otherwise.
Instructor(s): A. Pandian.

AS.070.630. Senses of the State.
This course examines how anthropologists study the temporal, material and sensory domains through which people make sense of the state as a bureaucratic, governmental and sovereign presence in their lives.

AS.070.637. (Im)possible community.
Recent debates on community in continental thought and its relevance for historical and ethnographic studies of political communities. Emphasis is on questions of myth, futurity, labor, expenditure, sacrifice as political concepts. Bataille, Heidegger, Derrida, Nancy, Blanchot, and current political anthropology.
Instructor(s): J. Obarrio.

AS.070.650. Post-fieldwork.
Open to Anthropology graduate students only.
Instructor(s): N. Khan
Area: Humanities, Social and Behavioral Sciences.

AS.070.655. The Place of Law.
This course explores the intimate relationship of law to place. What affective force does law gain through its appeal to origins and custom? How does law invoke belonging as place?
Instructor(s): D. Poole
Area: Humanities, Social and Behavioral Sciences.

AS.070.659. Proposal Writing.
The seminar will offer a forum for students to discuss research projects, prepare grant proposals and think further about issues of ethnographic methodology and writing. Open to Anthropology graduate students only.
Instructor(s): D. Poole.

AS.070.661. Inquiries between Life and Death.
This seminar explores ethnographic and philosophical engagements with the articulations of life and death. It aspires to move through and beyond vital politics and necropolitics, to engage the interweaving of care and destruction in the everyday. We will put ethnography in conversation with selected texts of Freud, Laplanche, Lingis, Foucault, Deleuze, Cavarero, among others.
Instructor(s): C. Han
Area: Humanities, Social and Behavioral Sciences.

AS.070.663. Semiotics.
Area: Humanities, Social and Behavioral Sciences.
**AS.070.667. Encountering Experience.**
What do we seek in attending to experience? Reading from Hume, Emerson, Dilthey, James, Dewey, Merleau-Ponty, Deleuze, Turner, Jackson, Desjarlais and others, we will examine experience as concept, object, and mode of inquiry. Considering problems of sensation, expression, movement, time, and world, we will query identification of experience as property of the human/subject alone.
Instructor(s): A. Pandian.

**AS.070.668. Family and Household.**
Area: Humanities, Social and Behavioral Sciences.

**AS.070.670. Politics and Force.**
How do political claims gain force? What makes a claim "political" and how does it acquire life in multiple social worlds? This course explores these questions through anthropological engagements with affect, aesthetics, visibility, and the state.

**AS.070.674. Creative Expression.**
Tackling between theoretical and ethnographic texts on art and poetry, visual image and dramatic performance, living body and natural landscape, this course seeks anthropological ground for an impersonal and asubjective philosophy of creative expression. Drawing from thinkers such as Nietzsche, Bergson, Whitehead, Merleau-Ponty, and Deleuze, and studies set in China, India, Indonesia, Melanesia, and aboriginal Australia, we will confront the working intuitions of artists and “creators” of various kinds with the unpredictable life of the worlds in which they work.
Area: Humanities, Social and Behavioral Sciences.

**AS.070.675. Before the Law.**
The course will explore the foundation of law and the political in classical political anthropology and postmodern philosophy. Kinship, custom, magic, sacrifice and war as prepolitical realms. State of nature, exception, and force of law; biopolitics, micropolitics and segmentarity. Readings: Africanist ethnography, Clastres, Sahlins, Deleuze, Derrida, Agamben, Nietzsche, Benjamin, Kafka.
Instructor(s): J. Obarrio
Area: Humanities, Social and Behavioral Sciences.

**AS.070.677. Anthropology of Death and Dying.**
This course is organized around understanding the experience, representation and management of death and dying at different scales of social life connecting individual biographies with institutional settings.
Instructor(s): V. Das
Area: Humanities, Social and Behavioral Sciences.

**AS.070.678. Readings in Ethnography.**
Area: Humanities, Social and Behavioral Sciences.

**AS.070.680. Reading Course in the History of Anthropology: Revolutions and Recuperations.**
Organized around chronological units: The Unknown in the Present; Library and Field; The Primacy of Experience; The Idea of Logic; Defying Logic; Contingency and Emergence. Requests can be entertained.
Instructor(s): J. Guyer
Area: Humanities, Social and Behavioral Sciences.

**AS.070.684. Genealogy as Method.**
Notions of genealogy have long been central to anthropological inquiry. Whether seen as a method enabling the develop of Anthropology into a comparative science, or as critical constructions enabling the conditions of possibility for contemporary social structures to emerge, genealogical methods remain central to the production of anthropological knowledge. Yet, what is often overlooked is what genealogy consists of and what counts as genealogical knowledge. What are anthropologists doing when engaging notions of genealogy? By exploring ethnographic, philosophical, and historical texts, students will investigate the place of genealogical methods and their place in the production of knowledge. Scholars whose work will be explored include, W.H.R. Rivers, Malinowski, Levi-Strauss, Fassin, Nietzsche, Foucault, Asad, Strathern, and Povinelli.
Instructor(s): A. Goodfellow.

**AS.070.685. About Time.**
This seminar will explore conceptions of temporality in ethnographic, philosophical and literary sources. It will review the status of the ‘ethnographic present’, the contemporary, the future and the untimely. Relations between temporality, economy and the political: remains of time, surplus value, antagonism. Theologies of time. Time and the Real. Time and the Other. Social processes of development, finance, democracy and revolution.
Area: Humanities, Social and Behavioral Sciences.

**AS.070.686. Ethnography of Emergence.**
As ‘locality’ is being currently re-defined, these changes in spatial perception make the “contemporary” appear untimely and uncanny. What are the thresholds where the emergent becomes crystallized? The course explores unprecedented, sudden eruptions and reconfigurations, considering the ways in which Anthropology’s long-cultivated sensibility to singularities, between salvage and prediction, now turns towards novel phenomena in the present. The focus will be on method and theory of ethnographic inquiry.
Instructor(s): J. Obarrio
Area: Humanities, Social and Behavioral Sciences.

**AS.070.688. Anthropology & Fiction.**
Looking at fiction, poetry, visual montage, and other forms of experimental writing in contemporary anthropology, we will explore ethnography as a creative practice of provoking altered states such as compassion, dream, wonder, and shame.
Instructor(s): A. Pandian
Area: Humanities, Social and Behavioral Sciences.

**AS.070.690. Performance in Anthropological Theory.**
This course will cover performance theories in language, ritual and theatre. It will also look at recent applications of performance theory to economics and law and ask if the assumptions underlying notions of performance remain constant across these fields.
Instructor(s): V. Das
Area: Humanities, Social and Behavioral Sciences.
AS.070.692. Death & Extinction.
The classical anthropological literature on death treats the restoration of the social in the aftermath of death through, for instance, the study of funereal practices and acts of mourning and commemoration. In this course we reverse the order, considering writings in the face of death, however defined, individual or collective. Course themes emphasize theological, political and ecological perspectives on death and species extinction, although students will be asked to suggest readings in line with their own research interests and lead seminar discussions on the readings.
Instructor(s): N. Khan
Area: Humanities, Social and Behavioral Sciences.

AS.070.696. Philosophy & Anthropology.
This seminar will read selected philosophical texts in conjunction with anthropological texts, asking what are sites of mutual attraction? In what ways do anthropological texts leave traces in philosophical texts?
Instructor(s): C. Han; V. Das
Area: Humanities, Social and Behavioral Sciences.

AS.070.698. Defining Region.
This course will be run on a workshop model to help those students writing their regional essay for the comprehensive exams. We will work toward defining a conceptual theme within a region that could be bounded one or one created through networks and movements. Each student will create an annotated bibliography, identify the shape of the argument as it emerges in engaging these readings, create an outline and work toward a draft of the final essay. Open to anthropology graduate students only.
Instructor(s): J. Guyer; V. Das
Area: Humanities, Social and Behavioral Sciences.

AS.070.701. Colloquia Series.
In this year-long course, students will be introduced to the formative influences and major writings of visitors in advance of their coming to give talks in the Department of Anthropology’s Colloquia Series. The students will also undertake interviews of visitors to be edited and posted online at the department website to build an archive. This is required course for incoming graduate students. Open to Anthropology Graduate Students Only.
Instructor(s): N. Khan
Area: Humanities, Social and Behavioral Sciences.

AS.070.702. Colloquia Series.
The Colloquia Series is a seminar in which graduate students engage the work of invited speakers. Graduate students learn to develop questions and craft responses in relation to work-in-progress through engagement with the author and in relation to specific debates or tensions in which the author’s work emerges. Required for first year graduate students. Open to anthropology graduate students only.
Instructor(s): C. Han
Area: Humanities, Social and Behavioral Sciences.

AS.070.710. Law and Political Theology.
The course will explore relations between law and sacredness in political theory and anthropology, regarding both Islam and Christianity. Colonial subjection and subjectivity. Benjamin, Kafka, Agamben, Nancy, Asad and recent anthropology of legal regimes and religion.
Instructor(s): J. Obarrio.

AS.070.712. Risk.
This class explores ecologies of risk as they play out in law, environmental governance, and the fiscal and regulatory regimes that govern politics and life in neoliberal societies.
Instructor(s): D. Poole.

The picture of nature as machine-like or systematic in its organization was once dominant in ecological anthropology and cognate disciplines but fell out of favor in the 1970s and 80s. More recently it is enjoying a revival in efforts to conceptualize anthropogenic climate change.
In this course we will read classical and newer writings to understand the promise and problems with this mode of viewing nature. Readings include Pierre Hadot, Karl August Wittfogel, Roy Rappaport, Phillippe Descola, Gregory Bateson, Clifford Geertz, Stephen Lansing, Anna Tsing and Stefan Helmreich.
Instructor(s): N. Khan
Area: Humanities, Social and Behavioral Sciences.

AS.070.718. Suspicious Interlocutors: Psychoanalysis and Anthropology.
The conversation between anthropology and psychoanalysis is long standing and often proves to be as contentious as it is complementary. This course investigates the dialogue between the two disciplines by tackling back and forth between the ethnographic materials inspired and informed by psychoanalytic insights, and the use of ethnographic sources and anthropological materials in psychoanalytic writings. Students will engage works from such scholars as Freud, Malinowski, Lacan, Levi-Strauss, Trawick, Cohen, Bose, Sachs.
Instructor(s): A. Goodfellow
Area: Humanities, Social and Behavioral Sciences.

AS.070.719. Suspicious Interlocutors Part II: Psychoanalysis and Anthropology.
This course is a continuation of Anthropology AS.070.718, offered in Spring 2013. Students will continue the previously begun investigation of the conversation between anthropology and psychoanalysis, which proves long-standing and often as contentious as it is complementary. The course will tackle back and forth between ethnographic materials inspired and informed by psychoanalytic insights, and the use of ethnographic sources and anthropological materials in psychoanalytic writings. Students will engage works from such scholars as Freud, Lacan, Cavell, Klein, Derrida, Siegel, Das, Reynolds, Levi-Strauss, Seremetakis.
Area: Humanities, Social and Behavioral Sciences.

This seminar will closely engage key works in science and technology studies and the anthropology of science and medicine, focusing specifically on complexity, experiment, error, and translation. We will pay particular attention to how anthropological questions can be brought to bear on science and medicine by fostering close discussion between graduate student research and course readings.
Instructor(s): C. Han.

AS.070.801. Dissertation Research.
Instructor(s): Staff.

Instructor(s): Staff.

AS.070.808. Directed Readings on Space and Territory.
Through close readings of theoretical and ethnographic texts, this class explores the concepts of space and territory that animate anthropological understandings of context, potentiality, environment, and emergence.
Instructor(s): D. Poole
Area: Humanities, Social and Behavioral Sciences.
AS.070.810. Reading Course: Anthropology & Translation. Questions of translation come up at every turn in anthropological research and writing and yet the volume of work on the subject is rather thin. In literature, translation studies comprise a vast body of work but the more sociological and anthropological questions remain unposed: What is the relationship between translation and the production of knowledge both inside and outside the Euro-American zone? Who do university students in the social sciences read and why those authors? What would be an anthropology of translation? We will explore these and similar questions in the readings. 
Instructor(s): N. Haeri
Area: Humanities, Social and Behavioral Sciences.

AS.070.815. Reading Course: Experimental Ethnography. Instructor(s): A. Pandian
Area: Humanities, Social and Behavioral Sciences.

AS.070.816. Risk. This class explores ecologies of risk as they play out in law, environmental governance, and the fiscal and regulatory regimes that govern politics and life in neoliberal societies. 
Area: Humanities, Social and Behavioral Sciences.

AS.070.821. Nature in Romantic Thought. Instructor(s): N. Khan
Area: Humanities, Social and Behavioral Sciences.

AS.070.822. Law and Political Theology. The course will explore relations between law and sacredness in political theory and anthropology, regarding both Islam and Christianity. Colonial subjection and subjectivity. Benjamin, Kafka, Agamben, Nancy, Asad and recent anthropology of legal regimes and religion. 
Area: Humanities, Social and Behavioral Sciences.


AS.070.850. Readings in Medical Anthropology. 

AS.070.851. Readings in Medical Anthropology. Instructor(s): C. Han.

AS.070.864. Directed Reading: Medical Anthropology & History. Instructor(s): C. Han.

AS.070.866. Directed Readings and Research. Instructor(s): A. Pandian.

AS.070.867. Directed Reading and Research. Instructor(s): C. Han; N. Khan.

AS.070.869. Directed Reading and Research. Instructor(s): A. Pandian.

AS.070.870. Directed Readings and Research. Instructor(s): A. Goodfellow
Area: Humanities, Social and Behavioral Sciences.

AS.070.871. Directed Reading and Research. Instructor(s): V. Das.

AS.070.872. Directed Readings and Research. Instructor(s): V. Das.

AS.070.874. Directed Readings and Research. Instructor(s): N. Haeri.

AS.070.879. Directed Reading and Research. Instructor(s): J. Guyer.

AS.070.880. Directed Readings and Research. Instructor(s): J. Guyer.

AS.070.883. Directed Reading and Research. Instructor(s): N. Haeri.


AS.070.885. Directed Reading and Research. Instructor(s): D. Poole.

AS.070.886. Directed Readings and Research. Instructor(s): D. Poole.

AS.070.892. Directed Readings and Research. Instructor(s): N. Khan.

AS.070.893. Directed Reading and Research. Instructor(s): J. Obarrio.

AS.070.897. Dir Reading & Research. Instructor(s): S. Berry.

Cross Listed Courses

History of Art

Instructor(s): N. Dennis
Area: Humanities.

AS.010.309. Gifts and Thefts in the Middle Ages. 3 Credits. Why were some medieval objects valued as gifts, others appropriated as spolia, and still others taken by force? How does transferring objects from one cultural context into another change their meaning? Western, Byzantine, and Islamic art, 6th-13th centuries. 
Instructor(s): R. Danford
Area: Humanities.

AS.010.382. The Politics of Display in South Asia. 3 Credits. Through examining collecting, patronage, colonial exhibitions, and museums, this course examines how South Asia has been constructed in practices of display. Themes: politics of representation, spectacle, ethnography, and economies of desire related to colonialism and the rise of modernity. Cross-list with Anthropology, Museums and Society and Political Science. 
Instructor(s): R. Brown
Area: Humanities
Writing Intensive.
**AS.010.603. The Active Body: On Display and in Performance.**
An examination of two recent developments in art history and museum studies: the recognition of the object as active and agentic and a growing critical engagement with the body of the artist and performance art. The seminar will unsettle these two themes with the history of living humans on display, from nineteenth-century exhibitions to present-day craftspeople, thinking through bodies, objects, and performance through disciplinary engagements from anthropology, political theory, art history, and museum studies. Open to motivated undergraduates.
Instructor(s): R. Brown
Area: Humanities.

**AS.010.607. The Epistemology of Photography.**
This seminar will ask how photography produces ways of knowing: how does photography’s reality-effect shape its dissemination and absorption? Is photography’s emergence during the colonial era coincidental or catalytic? How is memory (re)constituted in a photography-saturated world? What kinds of histories does photography encourage and discourage? Is a photograph an object? We will read across disciplines (literature, anthropology, history, history of art, political science, theory) to investigate the epistemology of photography and the photograph.
Instructor(s): R. Brown.

**AS.010.634. The Politics of Visual Culture.**
In-depth reading and discussion at the intersection of visual culture and the political. Issues may include photography and colonialism, national symbolism, commodification of culture, visual and ethnographic display, the national museum, repatriation, modernity and the spectacle.

**Film and Media Studies**

**AS.061.391. Love and Film. 3 Credits.**
In this course, we explore different understandings of “love” and the way that film has dealt with the concept as a medium. We explore a variety of approaches to the question of “love” - from the agamic to the familial to the romantic - through a series of interdisciplinary readings ranging from philosophy to anthropology. We will also equally explore the question of how film has engaged with the question of love as a concept, and what depictions of human affection - from the general to the personal - it has offered us. Screenings are required for this course.
$40 Lab fee. Cross-listed with Study of Women, Gender and Sexuality
**Prerequisites:** AS.061.140 or AS.060.141
Instructor(s): M. Ward
Area: Humanities.

**History**

**AS.100.343. The Power of Place: Race and Community in East Baltimore. 3 Credits.**
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**AS.100.702. Race and Migration in Modern History.**
Instructor(s): M. Shell-Weiss.

**Near Eastern Studies**

**AS.130.102. From the Neanderthals to the Neolithic. 3 Credits.**
Emphasizing theories about human biological and cultural development, this course consists of an in-depth survey of Neanderthal morphology and culture, a brief discussion of evolutionary theory and our fossil ancestors, and concludes with an exploration of the mechanisms and results of the shift from hunting and gathering to farming. (Course formerly known as Introduction: Human Prehistory.) Cross-listed with Anthropology.
Instructor(s): S. McCarter
Area: Humanities.

**AS.130.110. Introduction To Archaeology. 3 Credits.**
An introduction to archaeology and to archaeological method and theory, exploring how archaeologists excavate, analyze, and interpret ancient remains in order to reconstruct how ancient societies functioned. Specific examples from a variety of archaeological projects in different parts of the world will be used to illustrate techniques and principles discussed. Cross-listed with Anthropology.
Instructor(s): S. McCarter
Area: Humanities, Social and Behavioral Sciences.

**AS.130.177. World Prehistory. 3 Credits.**
How and why did our nomadic hunting and gathering ancestors become farmers? What led agricultural societies to build cities, develop writing, religious institutions, wage war, and trade for exotic goods? This course surveys prehistory and ancient history from the origins of human culture to the emergence civilization. Although prehistory and ancient history yield evidence of tremendous cultural diversity this course emphasizes common elements of past human experience, culture, and culture change. These include the origins of modern humans and their adjustment to a variety of post-ice age environments, shifts from hunting and gathering to agricultural lifeways, and the initial development of the world’s earliest cities and civilizations.
Instructor(s): M. Harrower
Area: Humanities, Social and Behavioral Sciences.

**AS.130.351. The Emergence of Civilization: A Cross-Cultural Examination. 3 Credits.**
A comparative study of the origins of urban, literate civilizations in five culture areas: Mesopotamia, China, the Indus Valley, Egypt, and Mesoamerica. For each area, we will review the physical setting, the archaeological and textual evidence for the development of states and urban civilization, and theories advanced to explain the rise (and eventual collapse) of these complex societies.
Instructor(s): G. Schwartz
Area: Humanities, Social and Behavioral Sciences.

**AS.131.635. Seminar: Near East Archaeology.**
Topic varies but can include the archaeology of Mesopotamia, Syria, or Palestine, or thematic discussions (e.g., on ideology, state collapse, etc.).
Instructor(s): G. Schwartz; M. Feldman.
History of Science Technology

AS.140.425. Individualized Medicine from Antiquity to the Genome Age. 3 Credits.
A seminar for graduate students and advanced undergraduates. We will explore the notion of the individual in medicine over 25 centuries, from the Hippocratics to the invention of the case study during the Renaissance to the genetic, biochemical, and immunological individual in recent biomedicine. Recommended Course Background: AS.140.105, AS.140.106
Instructor(s): G. Pomata; N. Comfort
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

Political Science

Grad Students only
Area: Social and Behavioral Sciences.

German Romance Languages Literatures

AS.211.174. Media of Propaganda. 3 Credits.
Today, promoting a particular political or personal point of view is not viewed as "propaganda," but rather as building a community of equally minded people. But where do we draw the line, and when does the use of a medium in service of a certain message become intrusive and misleading? What role do democracy and cultural values play in this use or abuse of media? In this class the term "propaganda" will be evaluated carefully and applied to such historical media case studies as the informational use of the radio in World War One, Leni Riefenstahl's Nazi propaganda films, the legendary success of advertisement campaigns in the 1950s and 1960s, the AIDS movement and other mobilization strategies from the 1980s to the 1990s, and the new values of friendship and propaganda in our current facebook nation.
Instructor(s): B. Wegenstein
Area: Humanities.

AS.211.237. Literature and Medicine. 3 Credits.
Taught in English. The course will analyze literary representations of illness as well as explore interfaces between literary and medical knowledge in more general ways. Both literature and medicine can be considered semiotics as they deal with the study of signs; further, both are invested in interpretation. We will analyze the relation between literature and madness, explore "illness as metaphor" (Susan Sontag) and discuss case studies in relation to literary genres (for example, Freud is surprised to notice that his studies on hysteria read like novellas). As prominently depicted in Thomas Bernhard's "In the Cold" and theoretically analyzed by Michel Foucault, the course will further address the nexus between medical institutions and power. Readings will include: Antonin Artaud, Thomas Bernhard, Georg Büchner, Michel Foucault, Sigmund Freud, Henry James, Franz Kafka, Thomas Mann, Daniel Paul Schreber, Susan Sontag, etc. Films: "Philadelphia" (Jonathan Demme, 1993), "Melancholia" (Lars von Trier, 2011).
Instructor(s): E. Strowick
Area: Humanities.

This class examines the areas of aesthetics, technology, and society critically in regard to media theory and practice following the 2010 anthology Critical Terms in Media Studies. The class also thematically accompanies the international conference Technologies of Meaning, March 3-4, 2011 with such speakers as Avital Ronell, Tom Gunning, and Sam Weber. Cross-listed with English, Political Science, and Anthropology.
Instructor(s): B. Wegenstein.

AS.215.311. Radicalism, Film & Literature in Modern Latin America-Community Based Learning. 3 Credits.
This course will explore the cultural symbiosis of radical politics, film, and literature in modern Latin America. Beginning with Cuban revolutionary Jose Marti and the definitive end of the Spanish Empire and concluding with current socialist movements in South America, we will analyze key radical texts by the likes of Friedrich Engels and Ernesto "Che" Guevara, classic films like The Battle of Chile by Patricio Guzman, and important works of literature by authors such as Pablo Neruda and Rigoberta Menchu. Note: Class will be conducted in English and all assigned texts will also be in English in order to encourage interdisciplinary enrollment and participation.
Instructor(s): M. Strayer
Area: Humanities
Writing Intensive.

AS.215.777. The Invention of Fiction.
Rather than understand fiction as a constant in human history, this course will consider it a historically specific form of cultural expression. We will examine and compare theories of the fictional from an array of historical moments in order to better understand what fiction is, how it differs from premodern notions of history and poetry, and how it both informs and depends on modern notions of knowledge and subjective agency.
Instructor(s): W. Egginton
Area: Humanities
Writing Intensive.

AS.211.385. Documentary Production Practicum: Raqs Media Artists in Residence. 3 Credits.
This course accompanies the New Delhi based media art collective raqs, consisting of 3 artists, during their first residency in Baltimore during Spring 2013. Students will be helping prepare the media artists' solo exhibition opening at the BMA on February 20, and be involved in a production workshop offered through the JHU Digital Media Center.
Instructor(s): B. Wegenstein
Area: Humanities.
Sociology

AS.230.367. Islamic Finance. 3 Credits.
Today, Islamic finance is a global industry comprising nearly $2 trillion in assets, with hubs from Kuala Lumpur to Dubai to London. But half a century ago, nothing called “Islamic finance” existed. So where did Islamic finance come from? Why is it growing so fast? And what does it mean for finance to be Islamic? We discuss the ban on riba in the Quran and hadith, finance in early and medieval Islamic societies, petrodollars and the birth of Islamic banking in the 1970s, the rise of Islamic capital markets since 2000, contemporary shariah-compliant financial structures, and the constitution of piety through financial practice.
Instructor(s): R. Calder
Area: Social and Behavioral Sciences.

Humansities Center

AS.300.330. Trauma in Theory, Film, and Fiction. 3 Credits.
An examination of the representation of trauma in literary theory, psychiatry, survivor literature, films, novels, and comics. Works by Sebald (“The Emigrants”), Lanzmann (“Shoah”), Spiegelman (“In the Shadow of No Towers”), McCarthy (“Remainder”), and others.
Instructor(s): R. Leys
Area: Humanities, Social and Behavioral Sciences.

AS.300.381. The Moses Complex. 3 Credits.
Instructor(s): R. Leys
Area: Humanities.

AS.300.399. Cinema and Philosophy. 3 Credits.
Do movies have anything to say about philosophical problems? Why is contemporary philosophy so interested in cinema? What are the most productive ways of bringing films and philosophy into conversation? Why is contemporary philosophy so interested in cinema?
Instructor(s): P. Mannati
Area: Humanities.

East Asian Studies

AS.310.104. Pacific Crossings: East Asia and the US from the 19th Century to the Present. 3 Credits.
This course examines the connections between US and East Asian history from the 19th century to the present day. We will explore how cultural exchange and confrontation shaped humanitarian, nationalist, and socialist projects in the US, China, Korea, and Japan. Readings include memoirs, travelogues, essays, and novels that provide a window into transpacific history.
Instructor(s): A. Bronson
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.310.108. Introduction to Chinese Fiction and Drama. 3 Credits.
This course will introduce Chinese fiction and drama from the Tang dynasty (618-906) to the early Republican period (1911-1949), such as the romantic dramas of Tang Xianzu and the uncanny tales of Pu Songling. Students will draw connection between these vibrant literary genres and the cultural and socio-historical events that shaped imperial China. Key topics include story-telling, romance, urban culture, gender, reincarnation, and many more. Students will acquire skills in how to read, analyze and discuss the rich legacy of Chinese fiction and drama in translation and to think critically about these writings. Reading materials are all in English.
Instructor(s): F. Joo
Area: Humanities.

AS.310.115. Ghost Tales from China and Japan, 14th-19th Centuries. 3 Credits.
We cannot express our own experience of death – only imagine life after death. How did people in the past conceptualize the world of the dead? Ghost tales will teach us what we imagine as the experience of dead and life after death. This course aims to introduce students to a variety of ghost stories in Late Imperial China and Tokugawa Japan and connect their literary imagination of the dead to the cultural, socio-historical, and religious context of each society as well as to the broad East Asian tradition of supernatural narratives. While we also touch upon earlier traditions on narrating the dead, most of the stories in class readings are from the Ming (1368-1644) and Qing (1644-1911) dynasties of China, and the Tokugawa period (1600-1868) of Japan. Key issues include family, gender, sexuality, body, medicine and many more. Although we will also take a look at visual and theatrical representations of the dead, we will primarily focus on literary texts about ghostly phenomena. Film screenings required. All readings are in English.
Instructor(s): F. Joo
Area: Humanities.

AS.310.207. Mapping Migrations in East Asia. 3 Credits.
This seminar introduces students to the phenomenon of migration in Japan, South Korea, and Taiwan from theoretical, empirical, and comparative perspectives. The objectives of the course are to understand the 1) historical context behind present-day migrations in East Asia; 2) different patterns of migration flows and their consequences on receiving countries; 3) various theoretical frameworks for migration. The course is divided into three parts. In the first part, the course will examine theoretical approaches to migration, structured around the question of whether East Asia as a region represents a distinct model of migration. In the second, students will explore the empirical cases in greater detail by comparing and contrasting the different types of migrations. The third part addresses the responses to migration by host governments and societies and the implications of migration on citizenship and identity. Recommended Course Background: any class related to the history or politics of Japan, Korea, Taiwan, and/or China.
Instructor(s): D. Kim
Area: Humanities
Writing Intensive.

AS.310.221. Introduction to Eastern Religious Traditions. 3 Credits.
This course serves as an introduction to Hinduism, Jainism, Buddhism, Sikhism, Confucianism, and Daoism. Successful completion of this course will provide students with a critical understanding of these six traditions.
Instructor(s): J. Valentine
Area: Humanities, Social and Behavioral Sciences.

AS.310.303. A World Upturned: Cultures of Catastrophe in Japan. 3 Credits.
Focusing on earthquake science and earthquake lore, radioactive mutation and nuclear decimation, this course will consider the relationship between technological culture and large-scale cataclysm. In addition to treating a broad array of written, graphic, and filmic representations of Japan’s past and potential catastrophes, we will also be keeping a close and careful eye on present developments in Japan’s 2011 earthquake/tsunami/nuclear disaster.
Instructor(s): R. Sayre
Area: Humanities, Social and Behavioral Sciences.
**AS.310.304. The Architectonics of Tokyo: The Anthropology of City Life in Japan and Abroad. 3 Credits.**
In this advanced undergraduate seminar on urban life and the anthropology of aesthetics, we will develop tools with which to think and write about city life in Japan and abroad. ‘Architectonic’ is a philosophical term referring to the ability to pull otherwise autonomous ideas together into a single coherent whole. In this course we will employ methodologies culled from class readings, lectures, web-based resources, and class discussions to collectively construct a digital patchwork of writings and images that will serve as the classes’ own quasi-coherent whole, or ‘architectonic’ of city life in Tokyo.
Instructor(s): R. Sayre
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**AS.310.314. China’s Golden Age: Diversity of Language, Literature and Culture. 3 Credits.**
This is a basic introduction to the language and culture of the Golden Age of China (7th century to 13 century). The course aims at developing student’s awareness of linguistic, literary and cultural diversity during China’s Golden Age. It introduces not only the basic grammar of literary Chinese but also the linguistic features of early Modern Chinese. Through the reading and discussion of the original texts, students will learn to analyze, to comprehend and to appreciate the historical texts in different genres. Students will also become aware of the difference between literary Chinese and modern Chinese. In addition to language skills, students will learn to study the cultural background of the texts and to gain a good knowledge of the achievements of China’s Golden Age. Recommended Course Background: AS.373.111-AS.373.112, AS.373.115-AS.373.116, AS.373.211-AS.373.212, and AS.373.215-AS.373.216
Area: Humanities.

**AS.310.334. Southeast Asia: Contestations, Continuities, Changes. 3 Credits.**
‘Southeast Asia’ designates a geographical region comprised of countries such as Thailand, Indonesia, Malaysia, Vietnam, the Philippines, and Singapore. These countries are often more different than alike, and their cultural, ethnic, religious and political diversity resists easy reduction. As such, this is not a survey course of the area. Rather, we will examine elements of the Southeast Asian experience that speak to contemporary debates on cultural, political, and religious diversity in globalization’s second wave, and what it can teach us about assimilation, acculturation, and acceptance. We will try to get a feel of the variegated texture of Southeast Asian societies through historically and theoretically oriented texts drawn from different disciplines. Specifically, we will concentrate on responses to European colonialism, nationalist identity formations, and the impact of these histories upon contemporary contentious over the role of religion in public life, migratory practices, and second-wave globalization.
Instructor(s): D. Kwek

**Interdepartmental**

**AS.360.206. State and Family: Revisiting the Classical Perspective. 3 Credits.**
Area: Humanities, Social and Behavioral Sciences.

**AS.360.228. Religion, Sexuality, and the Question of Indian Modernity. 3 Credits.**
This course explores the relationship between religion, gender and sexuality within the context of Indian modernity. The course will rely on a mixture of historical and anthropological sources.
Area: Humanities, Social and Behavioral Sciences.

**AS.360.229. Heroines, Harlots, and Holy Vessels: Women, Sexuality, Violence, and the Hebrew Bible. 3 Credits.**
This class will survey the various ways in which women, sexuality, and violence are linked in the Hebrew Bible (often referred to as the Old Testament). We will employ a variety of perspectives, including philosophical, historical, and literary. No prior familiarity with the Hebrew Bible is presupposed.
Area: Humanities, Social and Behavioral Sciences.

**AS.360.233. Feminist & Queer Theory. 3 Credits.**
This course will encourage encounters with a number of concepts from a critical gendered perspective, including: sameness/difference, identity politics, race/gender, loyalty, security, queer ethics, and queerness in media.
Instructor(s): C. Phillips
Area: Humanities
Writing Intensive.

**Study of Women, Gender, Sexuality**

**AS.360.242. Opium for the Masses. Intoxication, Religion, Bodies, and Reform. 3 Credits.**
This course will investigate how questions of intoxication are approached as threats or possibilities from the perspective of different ethical traditions, such as religious or political reform movements. The course thus seeks to understand notions of proper human and social bodies by examining various understandings of intoxication, addiction, and sobriety.
Instructor(s): R. Begrich
Area: Humanities, Social and Behavioral Sciences

**Interdepartmental**

**AS.360.246. Islamic Literature, Beloved of Western Thinkers. 3 Credits.**
This course examines political, erotic, aesthetic, and religious aspects of attraction between Western thinkers in a Christian milieu (e.g. Gide, Emerson, Thoreau) and classical works of Islamic literature (Rumi, Hafiz, Abu Nuwas, Arabian Nights).
Instructor(s): J. Bush
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**AS.360.255. The Politics of Sexual Empowerment. 3 Credits.**
This course will survey a range of political problems regarding sexual empowerment and disempowerment, in particular concerning feminism(s), rights within the family, sexual orientation, sex work, pornography, sex trafficking, and related topics. No previous political theory experience required. Cross-listed with Humanities Center
Area: Humanities, Social and Behavioral Sciences.

**AS.360.258. Topics in Health, Gender and Sexuality. 3 Credits.**
Area: Social and Behavioral Sciences.

**Program in Latin American Studies**

**AS.361.130. Introduction to Latin American Studies. 3 Credits.**
Within a chronological frame that starts with early American-Indian civilizations and moves on to issues in contemporary culture and politics, the course introduces students to an interdisciplinary understanding of Latin American History and Culture. The course draws from historical geography, anthropology, history, politics, art, film, and literature.
Instructor(s): S. Castro-Klaren
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.
AS.361.271. Media Representation of Violence and Poverty in Latin America. 3 Credits.
This course focuses on the ways in which contemporary Latin American societies are depicted and represented in international media and films. Special attention will be given to the representation of the region under the lenses of violence and poverty as presented in media reports, documentary and fiction films made by Latin American and non-Latin American directors. Cross-listed with Film and Media Studies and Anthropology
Area: Humanities, Social and Behavioral Sciences.

AS.361.325. Cinema, Expression and Social Life in Contemporary Latin America. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.361.341. Peronismo and the Iconic Presence of Evita: Challenges of Representation. 3 Credits.
This course is designed to introduce students to the literary and artistic production originated by Peronismo and particularly by Evita. It explores the historical period that consolidated Peronismo and devotes great amount of time to the controversial figure of Evita. She has fed the popular imagination; her representations have reached far beyond the limits of Argentina. The materials will include different genres: biographical, historical, fictional, and documentary.

AS.361.350. Mestizaje and Race in Latin America. 3 Credits.
The course problematizes how race and mestizaje became socio-political realities and forms of lived experience in Latin America, shaping such things as governmental practices, spatial configurations, interpersonal relations, and political mobilizations. PLAS Teaching Fellowship.
Instructor(s): A. Reyes Kipp
Area: Humanities, Social and Behavioral Sciences

Center for Africana Studies

AS.362.220. Discourses in the African Diaspora. 3 Credits.
The African Diaspora has emerged as one of the “hot” topics of discussion in contemporary global race relations. The purpose of this course is to engage in a semester-long study into the meaning of the “African Diaspora.” Beginning with a brief reflection on some of the theoretical overlays on the topic, the course moves quickly into the heart of the subject matter. The course posts that beyond theoretical discussions, there is much to be learned from a close examination of the narrative accounts of individuals who have lived transnationally - who have themselves been actors and agents of the Diaspora.
Instructor(s): B. Vinson
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.303. Global Africa. 3 Credits.
This course will examine the literature surrounding cross-cultural exchange, through an interrogation of key concepts in African and transnational studies namely “diaspora” “globalization,” and “transnationalism.”
Instructor(s): J. Ahlman
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

Study of Women, Gender, Sexuality

AS.363.300. Thirty Years of AIDS: Fatigue, Failure and Fantasies. 3 Credits.
This course is designed to study the emergence of the concept of “AIDS Fatigue” that is being used to describe the current moment of this epidemic. Cross-listed with Anthropology
Instructor(s): V. Saria
Writing Intensive.

AS.363.350. Gender, Sexuality, and Religion: Muslim (In)Visibilities. 3 Credits.
“Muslim (In)Visibilities” focuses on gender and sexuality through Orientalism. It considers representations of Muslim bodies within popular Western discourses and what such (in)visibilities are productive of.
Instructor(s): M. Banahi
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

Program in Museums and Society

AS.389.201. Introduction to the Museum: Past and Present. 3 Credits.
This course surveys museums, from their origins to their most contemporary forms, in the context of broader historical, intellectual, and cultural trends. Anthropology, art, history, and science museums are considered. Cross-listed with Anthropology, History, and History of Art.
Instructor(s): E. Rodini
Area: Humanities, Social and Behavioral Sciences.

AS.389.340. Critical Issues in Art Conservation. 3 Credits.
The course examines recent controversies in the conservation of major global art works and sites, raising questions concerning the basic theoretical assumptions, practical methods and ethical implications of art conservation. Cross-Listed with History of Art and Anthropology
Instructor(s): S. Balachandran
Area: Humanities.

AS.389.345. Introduction to Museum Practice. 3 Credits.
Taking the JHU Archaeological Museum as a case study and working closely with its holdings, we discuss the principles and practice of managing and preserving museum collections. Earns M&S Practicum credit. Cross-listed with History of Art, Anthropology, Near Eastern Studies, and Classics.
Instructor(s): S. Balachandran
Area: Humanities.

AS.389.385. Global Perspectives on the Museum. 3 Credits.
Course examines practices of collecting, display and preservation beyond the western museum tradition, focusing on how these practices reflect and construct political, historical, ethnic and nationalist narratives. Counts towards the international studies major. Cross-listed with Anthropology.
Instructor(s): E. Rodini; S. Balachandran
Area: Humanities, Social and Behavioral Sciences.

AS.389.440. Who Owns Culture?. 3 Credits.
This seminar explores the complicated, often explosive concept of cultural property, including questions surrounding the ownership, preservation, and interpretation of artifacts, monuments, heritage sites, and living traditions. Cross-listed with Anthropology and History of Art.
Instructor(s): E. Rodini
Area: Humanities, Social and Behavioral Sciences.
Geography Environmental Engineering
EN.570.285. Understanding Aid: Anthropological Perspectives for Technology-Based Interventions. 3 Credits.
This course combines anthropological perspectives with the discussion and examination of technology-based interventions in the field of development and aid policies, with particular focus on activities related to water resources, sanitation, and hygiene. Readings and discussions analyze some of the theoretical, historically rooted, and practical issues that challenge those who hope to provide effective aid. A key aim of this course is to provide students with better understanding of cultural, social, environmental and economic issues relevant to technical intervention in developing countries.
Instructor(s): E. Cervone; W. Ball
Area: Humanities, Social and Behavioral Sciences.
EN.570.404. Political Ecology. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

Archaeology

The major in archaeology is an interdepartmental program that introduces students to archaeological theory, the analysis of archaeological materials, and the results of archaeological research in prehistoric and early historic periods in the Old and New Worlds. Archaeology studies human societies through examination of their material culture (physical remains), considering such issues as human subsistence, interaction with climate and physical environment, patterns of settlement, political and economic organization, and religious activity and thought. The field allows for the study of the entirety of human experience from its beginnings to the present day, in every region of the world and across all social strata.

Students in the major will have the opportunity to study and conduct research on materials stored in The Johns Hopkins Archaeological Museum, which consists of a diverse and extensive assemblage of artifacts from ancient Greece, Rome, Egypt, Mesopotamia, Palestine, and Mesoamerica. Opportunities may also be available to study materials in the Classical, Egyptian, and Near Eastern collections in the Walters Art Museum.

Requirements for the B.A. Degree

Requirements for the major include 13 courses (39 credits). These can be selected from a diversity of offerings available from different departments. In addition, students must take a core of three courses consisting of Introduction to Archaeology, World Prehistory, and Archaeological Method and Theory.

Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.130.110</td>
<td>Introduction To Archaeology</td>
<td>3</td>
</tr>
<tr>
<td>AS.130.177</td>
<td>World Prehistory</td>
<td>3</td>
</tr>
<tr>
<td>AS.130.354/</td>
<td>Archaeological Method and Theory</td>
<td>3</td>
</tr>
<tr>
<td>AS.131.654</td>
<td>Invitation to Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>AS.070.132</td>
<td>Six archaeology courses, both regionally specific and/or methodologically/theoretically advanced</td>
<td>18</td>
</tr>
</tbody>
</table>

Three courses, to be decided in conjunction with the student’s advisor, pertinent to the archaeological issues the student has focused on.

Honors Program

Students entering Fall 2014 and later must pass 6 credits (2 semesters) of honors thesis to earn honors in the Archaeology major. Students who entered before Fall 2014 are strongly encouraged to follow the new requirements, but may opt to earn honors by passing 3 credits (1 semester) of honors thesis.

For current course information and registration go to https://isis.jhu.edu/classes/

Anthropology

AS.070.132. Invitation to Anthropology. 3 Credits.
The screen that brings you last night’s Instagrams and celebrity gossip also flashes glimpses of melting icecaps and burning rubble. These are complex times for human beings, both exhilarating and deeply unsettling. This course introduces anthropology as a way of reflecting on the challenges of contemporary life around the globe, focusing on themes such as faith, war, technology, money and ecology.
Instructor(s): A. Pandian
Area: Humanities, Social and Behavioral Sciences.

Classics

AS.040.111. Ancient Greek Civilization: Society, Archaeology, Literature, Philosophy. 3 Credits.
The course will introduce students to major aspects of the ancient Greek civilization, with special emphasis placed upon culture, society, archaeology, literature, and philosophy.
Instructor(s): D. Yatromanolakis
Area: Humanities.

AS.040.112. Roman Civilization. 3 Credits.
Instructor(s): M. Sullivan
Area: Humanities.

AS.040.119. The World of Pompeii. 3 Credits.
This course will focus on the history and archaeology of Pompeii. Close attention will also be paid to the reception of Pompeian materials in European and American culture. Cross-listed with History of Art and the Program in Museums and Society.
Instructor(s): H. Valladares
Area: Humanities.

AS.040.218. Celebration and Performance in Early Greece. 3 Credits.
Surviving imagery suggests that early Aegean societies engaged in diverse celebratory performances, including funerals and palatial feasts, puberty rites and ecstatic dance. We investigate archaeological evidence of such celebrations, focusing on sociocultural roles, bodily experience, and interpretive challenges.
Instructor(s): E. Anderson
Area: Humanities
Writing Intensive.
AS.040.221. The Archaeology of Early Greece. 3 Credits.
This course explores the origins and rise of Greek civilization from the Early Bronze Age to the Persian Wars (ca. 3100-480 B.C.), focusing on major archaeological sites, sanctuaries, material culture, and artistic production.
Instructor(s): E. Anderson
Area: Humanities.

AS.040.320. Myth In Classical Art. 3 Credits.
Instructor(s): A. Shapiro
Area: Humanities.

AS.040.359. Making Identities: How Archaeology Constructs People in the Past and Present. 3 Credits.
Archaeology both examines the identities of people in the past and helps construct those in the present. In this course we will explore how aspects of our own lives (political, religious, cultural, etc.) are influenced by our notions of the past and the people who populated it, and how our modern identities in turn influence the way we understand past people.
Instructor(s): E. Anderson
Area: Humanities, Social and Behavioral Sciences

Geography and Environmental Engineering

EN.570.406. Environmental History. 3 Credits.
Environmental history explores the interactions between social change and environmental transformation, or the ways in which societies modify landscapes and are themselves affected by geological, climatological and changing ecological conditions. Topics include the relationship between climate change and human evolution, the environmental impacts of market-based commodity production and regional economic specialization; the relationship between urbanization and environmental change; how warfare affects and is affected by environmental conditions.
Instructor(s): E. Schoenberger
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

EN.570.423. Principles of Geomorphology. 4 Credits.
Analysis of the factors responsible for the form of the landscape. The concept of the cycle of erosion is discussed primarily in terms of the principles that govern the processes of erosion. Climate, conditions of soil formation, and the distribution of vegetation are considered as they relate to the development of landforms. Recommended Course Background: AS.270.220 or permission required.
Instructor(s): P. Wilcock
Area: Natural Sciences.

History

AS.100.470. Monuments and Memory In Asian History. 3 Credits.
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

History of Art

AS.010.105. Art of the Ancient Americas. 3 Credits.
Surveys the art of Olmec, West Mexico, Teotihuacan, Maya, and Aztec.
Instructor(s): L. Deleonardis
Area: Humanities.

AS.010.236. Palaces, Temples and Tombs in Mesopotamia. 3 Credits.
Mesopotamia, the “land between the rivers,” is considered the cradle of civilization. Its earliest urban centers appeared by 3500 BCE in the region of modern-day Iraq, Iran, and Syria. Along with urbanism came the emergence of temples and palaces as large-scale elite institutions (replete with written records). Their arts manifest some of the earliest complex representations. This course explores the art and architecture within the social, political and cultural context of ancient Sumer, Babylonia and Assyria. It provides an integrated picture of the arts of Mesopotamia from 3500 to 330 BCE with an emphasis on the development of visual narrative and the use of art in the expression of authority and legitimacy.
Instructor(s): M. Feldman
Area: Humanities.

AS.010.301. Art and Interactions in the Eastern Mediterranean from 2000-500 BCE. 3 Credits.
The Mediterranean Sea has always acted as a connector for the many great civilizations that flourished around its shores. From 2000 to 500 BCE, these interactions were particularly dynamic, resulting in a diversity of arts including painting wall frescoes, precious jewelry, and elaborate furnishings and weaponry. This course examines the arts of the interactions among the Egyptians, Near Easterners, and Greeks, considering the role of artistic products in intercultural relations.
Instructor(s): M. Feldman
Area: Humanities

AS.010.334. Problems in Ancient American Art. 3 Credits.
Selected topics which may include collecting the pre-Columbian past and connoisseurship, the formation of national museums, post-Columbian appropriations. Collections study in museums. May also be used toward credit for the Archaeology major. Cross-listed with PLAS and Program in Museum and Society
Instructor(s): L. Deleonardis
Area: Humanities
Writing Intensive.

AS.010.355. Art and Religion in the Roman World. 3 Credits.
This course explores the relationships between Roman art and religion through a survey of key topics and issues, from the archaic period to late antiquity, providing an introduction into how to use and analyze both textual and material evidence as sources for understanding Roman society. Temples, altars, public and private buildings, reliefs, statues, sarcophagi, paintings, mosaics, coins, metal-ware, glass and pottery, all get increasingly complex and interesting as the Roman world developed and are important forms of evidence for political, intellectual, social and economical life.
Instructor(s): P. Tucci
Area: Humanities

AS.010.364. Babylon: Myth and Reality. 3 Credits.
“Babylon - the name resonates, from the Biblical whore of Revelations to sci-fi. But what do we really know about the ancient city and its civilization?”
Instructor(s): M. Feldman
Area: Humanities.

AS.010.365. Art of the Ancient Andes. 3 Credits.
The visual arts of Andean South America and their respective cultural contexts form the basis of this seminar. Collections study in museums.
Instructor(s): L. Deleonardis
Area: Humanities.
AS.010.398. Tombs for the Living. 3 Credits.
Centering on the tomb as a unit of analysis, this course examines how death and funerary ritual reflect the cultural values of the living and are an active force in shaping them. Drawing on case studies from Mesoamerica and the Andes we consider various approaches to entombment and funerary ritual.
Instructor(s): L. Deleonardis
Area: Humanities
Writing Intensive.

AS.010.407. Ancient Americas Metallurgy. 3 Credits.
This course addresses the technology, iconography and social significance of metals and draws on case studies from Colombia, Peru, Hispaniola and Panama. Collections study in museums. May also be used as credit toward the Archaeology major. Cross-listed with PLAS
Instructor(s): L. Deleonardis
Area: Humanities

AS.010.470. Power and Politics in Assyrian Art. 3 Credits.
Assyria, centered in northern Iraq, created one of the world’s first great empires that dominated the Near Eastern world from around 900 to 612 BCE. In concert with imperial expansion came an explosion of artistic production ranging from palace wall reliefs to small-scale luxury objects. This seminar examines the close relationship between the arts and politics in the Assyrian empire. Some themes that will be explored are: historical narrative, text and image, portable luxury arts and gender, politics and religion. The course will engage in close visual analysis of the ancient materials and readings of critical scholarship.
Instructor(s): M. Feldman
Area: Humanities
Writing Intensive.

AS.010.611. Selected Topics in Near Eastern Art.
Topics will vary but will explore current art historical theories and approaches and their application and/or relevance to Near Eastern art.
Instructor(s): M. Feldman

AS.010.718. Art and Architecture in the Augustan Age.
This seminar investigates Roman art and architecture during the Augustan age (31 BC – AD 14), in Rome and in the provinces of the empire. Augustus’ cultural program influenced any aspects of the Roman way of life (religious ritual, clothing, state ceremony), leading to the creation of a new visual language that expressed and furthered the transformation of Roman society. Methodologically the focus will be on the integration of diverse sources (archaeological evidence, architecture, sculpture, mosaic, painting) to reconstruct and discuss the images that a contemporary would have experienced in Rome and elsewhere.
Instructor(s): P. Tucci.

Near Eastern Studies

AS.130.101. Ancient Near Eastern Civilizations. 3 Credits.
Review of important issues in ancient Near Eastern history and culture from the Neolithic era to the Persian period. Included will be an examination of the Neolithic agricultural revolution, the emergence of cities, states and writing, and formation of empires. Cultures such as Sumer and Akkad, Egypt, the Hittites, Israelites, Assyrians, Babylonians, and Persians will be discussed.
Instructor(s): G. Schwartz
Area: Humanities

AS.130.102. From the Neanderthals to the Neolithic. 3 Credits.
Emphasizing theories about human biological and cultural development, this course consists of an in-depth survey of Neanderthal morphology and culture, a brief discussion of evolutionary theory and our fossil ancestors, and concludes with an exploration of the mechanisms and results of the shift from hunting and gathering to farming. (Course formerly known as Introduction: Human Prehistory.) Cross-listed with Anthropology.
Instructor(s): S. McCarter
Area: Humanities

AS.130.110. Introduction To Archaeology. 3 Credits.
An introduction to archaeology and to archaeological method and theory, exploring how archaeologists excavate, analyze, and interpret ancient remains in order to reconstruct how ancient societies functioned. Specific examples from a variety of archaeological projects in different parts of the world will be used to illustrate techniques and principles discussed. Cross-listed with Anthropology.
Instructor(s): S. McCarter
Area: Humanities, Social and Behavioral Sciences

AS.130.135. Pyramids, Temples and Tombs. 3 Credits.
Introduction to the monuments and culture of Egypt from 3500 B.C. to 100 A.D. From the pyramids at Giza to Hellenistic Alexandria, this course surveys in slide illustrated lectures the remains of one of the world’s greatest early cultures.
Instructor(s): B. Bryan
Area: Humanities
Writing Intensive.

AS.130.177. World Prehistory. 3 Credits.
How and why did our nomadic hunting and gathering ancestors become farmers? What led agricultural societies to build cities, develop writing, religious institutions, wage war, and trade for exotic goods? This course surveys prehistory and ancient history from the origins of human culture to the emergence civilization. Although prehistory and ancient history yield evidence of tremendous cultural diversity this course emphasizes common elements of past human experience, culture, and culture change. These include the origins of modern humans and their adjustment to a variety of post-ice age environments, shifts from hunting and gathering to agricultural lifeways, and the initial development of the world’s earliest cities and civilizations.
Instructor(s): M. Harrower
Area: Humanities, Social and Behavioral Sciences.

AS.130.251. Made for the Gods: Votive Egyptian Objects in the Archaeological Museum. 3 Credits.
This course investigates Egyptian votive objects made as gifts to the Gods. Students will learn about Egyptian religious practices and study groups of objects in the Archaeological Museum to learn to identify how they were produced, when, and for what functions. Physical analyses of the objects will be part of the class and facilitated by museum staff.
Instructor(s): B. Bryan
Area: Humanities

AS.130.328. Ancient Egypt/Africa. 3 Credits.
Recent excavation and research have shed light on several ancient cultures of the Nile and its tributaries. We will look at the available archaeological and textual (all Egyptian) evidence for these societies and their interactions with Egypt between 3500 and 300 B.C. We will also discuss research aims and methods employed now and in the past in Egypt and the Sudan.
Instructor(s): B. Bryan
Area: Humanities
Writing Intensive.
AS.130.329. Ancient Egyptian Art and Archaeology. 3 Credits.
A survey of Egyptian art as seen in the temples, tombs, funerary, and minor arts of Egypt between 3000 and 100 B.C. Slide lectures will provide a survey of art from the Pyramids to Augustus Caesar and will focus on such topics as the principles of Egyptian art; can the term art apply to early Egypt? How were artisans trained and what techniques and materials were utilized in their work? Co-listed (meets with) AS.133.750.
Instructor(s): B. Bryan
Area: Humanities
Writing Intensive.

AS.130.334. Egyptian Funerary Arts in the Archaeological Museum. 3 Credits.
This class will aim to cover the production and choice of funerary objects for Egyptian elite tombs in several eras of antiquity: the Middle and New Kingdoms, the Third Intermediate Period, and the Late Periods. Students will work with specific objects after learning generally about them, and they will carry out analyses of materials, pigments, construction methods, and erosion and degradation effects. They will create a virtual exhibition for the Museum's website and present their results for inclusion in the museum cataloguing project.
Instructor(s): B. Bryan; S. Balachandran
Area: Humanities.

AS.130.350. Issues in Near Eastern Archaeology. 3 Credits.
Selected problems are reviewed within a time span ranging from the Neolithic to the Hellenistic period. The focus is on the reasons for societal change (and societal stasis), with particular reference to transformations in social organization, economy, and ideology.
Area: Humanities, Social and Behavioral Sciences.

AS.130.351. The Emergence of Civilization: A Cross-Cultural Examination. 3 Credits.
A comparative study of the origins of urban, literate civilizations in five culture areas: Mesopotamia, China, the Indus Valley, Egypt, and Mesoamerica. For each area, we will review the physical setting, the archaeological and textual evidence for the development of states and urban civilization, and theories advanced to explain the rise (and eventual collapse) of these complex societies.
Instructor(s): G. Schwartz
Area: Humanities, Social and Behavioral Sciences.

AS.130.353. Space Archaeology: An Introduction to Satellite Remote Sensing, GIS and GPS. 3 Credits.
This course introduces technologies archaeologists use to map ancient landscapes. These include Geographic Information Systems (GIS) mapping software, advanced Global Positioning System (GPS) receivers, and various types of satellite imagery. Taught together with AS.131.657.
Instructor(s): M. Harrower
Area: Humanities, Social and Behavioral Sciences.

AS.130.354. Archaeological Method and Theory. 3 Credits.
What questions do archaeologists ask about the ancient past, how do they collect relevant evidence, and how do they arrive at satisfying answers to their questions? This course will review approaches to method and theory including evolutionary archaeology, culture-historical archaeology, processualist and post-processualist archaeologies, and explores the future of archaeology as a scientific and humanistic discipline. Previous coursework in archaeology or Permission of instructor required. Meets with AS.130.354.
Instructor(s): M. Harrower
Area: Humanities, Social and Behavioral Sciences.

AS.130.357. Geographic Information Systems in Archaeology. 3 Credits.
Applications of GIS in archaeology have recently expanded dramatically and GIS has now become an indispensable tool for archaeological research worldwide. This course will introduce the major applications of Geographic Information Systems (GIS) in archaeology. These include the history of GIS in archaeology, air photography and satellite imagery, predictive modeling, hydrological modeling, viewsheds, and least-cost routes. It will grapple with theoretical issues manifest in archaeological GIS including conflicts between environment and social understandings of the ancient past, and will foster discussion of issues that affect outcomes of analyses including spatial scale and boundary delineation choices that can dramatically influence results. Students will learn the basics of ESRI's ArcGIS software. Taught with AS.131.657.
Instructor(s): M. Harrower
Area: Humanities, Natural Sciences.

AS.131.800. Readings & Research.
Instructor(s): Staff.

AS.389.205. Examining Archaeological Objects. 3 Credits.
This course considers the role of materials in the production, study and interpretation of objects by examining artifacts from the Johns Hopkins Archaeological Museum. Students will consider materials such as ceramics, stone, metal, glass, wood and textiles, and visit artists' studios to gain an understanding of historical manufacturing processes.
M&G practicum course. Cross-listed with Archaeology, Near Eastern Studies, Classics, and History of Art.
Instructor(s): S. Balachandran
Area: Humanities.

AS.389.340. Critical Issues in Art Conservation. 3 Credits.
The course examines recent controversies in the conservation of major global art works and sites, raising questions concerning the basic theoretical assumptions, practical methods and ethical implications of art conservation.
Cross-Listed with History of Art and Anthropology
Instructor(s): S. Balachandran
Area: Humanities.

Graduate Courses that may be taken with permission of the instructor:

Topic varies but can include the archaeology of Mesopotamia, Syria, or Palestine, or thematic discussions (e.g., on ideology, state collapse, etc.).
Instructor(s): G. Schwartz.

AS.131.635. Seminar: Near East Archaeology.
Topic varies but can include the archaeology of Mesopotamia, Syria, or Palestine, or thematic discussions (e.g., on ideology, state collapse, etc.).
Instructor(s): G. Schwartz; M. Feldman.

What questions do archaeologists ask about the ancient past, how do they collect relevant evidence, and how do they arrive at satisfying answers to their questions? This course will review approaches to method and theory including evolutionary archaeology, culture-historical archaeology, processualist and post-processualist archaeologies, and explores the future of archaeology as a scientific and humanistic discipline. Previous coursework in archaeology or Permission of instructor required. Meets with AS.130.354.
Instructor(s): M. Harrower
Area: Humanities, Social and Behavioral Sciences.
Applications of GIS in archaeology have recently expanded dramatically and GIS has now become an indispensible tool for archaeological research worldwide. This course will introduce the major applications of Geographic Information Systems (GIS) in archaeology. These include the history of GIS in archaeology, air photography and satellite imagery, predictive modeling, hydrological modeling, viewsheds, and least-cost routes. It will grapple with theoretical issues manifest in archaeological GIS including conflicts between environment and social understandings of the ancient past, and will foster discussion of issues that affect outcomes of analyses including spatial scale and boundary delineation choices that can dramatically influence results. Students will learn the basics of ESRI’s ArcGIS software. Taught with AS.130.357.
Instructor(s): M. Harrower
Area: Humanities, Natural Sciences.

AS.133.721. Egyptian Art of the Old thru Middle Kingdom.
Instructor(s): B. Bryan.

AS.133.750. Seminar in Egyptian Art and Archaeology.
The theme for this course will be archaeology of the Mut precinct in Luxor where Johns Hopkins is excavating. Study of the comparative materials from other sites will be central with the publication of the work approaching.
Instructor(s): B. Bryan.

Instructor(s): B. Bryan.

AS.389.205. Examining Archaeological Objects. 3 Credits.
This course considers the role of materials in the production, study and interpretation of objects by examining artifacts from the Johns Hopkins Archaeological Museum. Students will consider materials such as ceramics, stone, metal, glass, wood and textiles, and visit artists’ studios to gain an understanding of historical manufacturing processes. M&S practicum course. Cross-listed with Archaeology, Near Eastern Studies, Classics, and History of Art.
Instructor(s): S. Balachandran
Area: Humanities.

For current faculty and contact information go to http://krieger.jhu.edu/archaeology/faculty-directory/

Faculty
Co-Director
Glenn Schwartz
Whiting Professor of Archaeology (Near Eastern Studies): Near Eastern archaeology, archaeological method and theory.

H. Alan Shapiro
W. H. Collins Vickers Professor of Archaeology (Classics): Greek and Roman art and archaeology.

Professors
Betsy Bryan
Alexander Badawy Chair in Egyptian Art and Archaeology (Near Eastern Studies): Egyptian archaeology and art.

Marian Feldman
Director of Undergraduate Studies

Lisa de Leonards

Austen-Stokes Professor (History of Art): art and archaeology of the ancient Americas.

Matthew Roller
(Classics): Roman material culture and history.

Assistant Professors
Michael Harrower

Pier-Luigi Tucci
(History of Art): Roman art and archaeology.

Visual Arts

Visual Arts-Minor

Students may focus on one of two tracks: (1) traditional studio courses or (2) a digital curriculum. They have the option to combine the two tracks for a more diverse, if more general, experience.

A minimum range of 15 to18 credits, including:

| Core Course |
|-------------|-------------|
| AS.371.131  |
| Studio Drawing I  |
| 2           |

| or AS.371.152 |
| Introduction to Digital Photography |
| 2           |

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<tr>
<th>Art History Course</th>
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<tr>
<td>One course at any level in history of art</td>
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<tr>
<th>Visual Arts Electives</th>
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<tr>
<td>Four additional visual arts courses</td>
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Total Credits

15-18

Additional details:

• Students may count as many as two visual arts courses taken at MICA, but not offered at Hopkins, toward the minor. These courses must be approved in advance by the advisor.

• All courses must be taken for a letter grade and students must receive a grade of C- or better to apply the course towards the minor.

• One independent study course in the visual arts may be counted toward the minor.

• One visual arts course, not offered at Hopkins, taken in a JHU-affiliated study abroad program may be counted toward the minor.

• Each student’s complete program of study must be approved by the advisor.

• Advising will be done by the Director (Studio) and the Photography Coordinator (Digital).
For current faculty and contact information go to http://www.jhu.edu/artwork/faculty.htm

Faculty

Director
Craig Hankin
Instructor: painting, portraiture, life drawing.

Instructor
D. S. Bakker
Aesthetics, visual philosophy, Surrealism.

Phyllis Berger
Photography Supervisor: photography, artists’ books, documentary photography.

Thomas Chalkley
Sequential imagery, political and social satire, popular culture.

Howard Ehrenfeld
Digital photography and imaging, location photography.

Barbara Gruber
Figure painting, plein air landscape.

Cara Ober
Watercolor, mixed media, color theory.

Larcia Premo
Sculpture, printmaking.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

AS.371.131. Studio Drawing I. 2 Credits.
This course focuses on developing fundamental drawing skills for the student with little or no previous studio experience. Basic concepts of form and composition will be taught through exercises based on the book, Drawing On The Right Side Of The Brain, and with the aid of still-life setups and live models.
Instructor(s): C. Hankin.

AS.371.133. Painting Workshop I. 2 Credits.
This course offers the fundamentals of oil painting techniques for the serious student with minimal prior studio experience. Observational skills are taught through the extensive use of still-life setups, with particular attention paid to issues of light, color, and composition. Slide lectures and a museum trip give students an art historical context in which to place their own discoveries as beginning painters.
Prerequisites: (AS.371.131 or equivalent) or instructor’s permission.
Instructor(s): C. Hankin.

AS.371.134. Painting Workshop II. 2 Credits.
Students who have mastered basic painting skills undertake sustained projects, including portrait and plein air landscape work. Slide lectures and handouts deepen students’ appreciation of representational traditions. Advanced techniques, materials, and compositional issues are also investigated. Recommended Course Background: AS.371.133 or equivalent.
Instructor(s): B. Gruber.

AS.371.135. Studio Drawing II. 2 Credits.
Building on basic drawing skills, this course explores various media, techniques, and compositional elements with special emphasis on still life, portrait, and life drawing. A visit to the Baltimore Museum of Art’s Print & Drawing Library supplements lectures and enriches the student’s understanding of the history of artists’ drawings. Recommended Course Background: AS.371.131 or instructor’s permission.
Instructor(s): C. Hankin.

AS.371.136. Drawing: The Portrait. 2 Credits.
An intensive look at the traditions and techniques of portrait drawing. Students work from live models in a variety of media and study master portraits by Holbein, Rembrandt, Ingres, Degas, etc. Trips to the Baltimore Museum of Art Print & Drawing Room and JHU Archaeological Museum will enhance knowledge and appreciation of the history and traditions of portraiture. Recommended Course Background: AS.371.131 or permission required.
Prerequisites: AS.371.131 permission req’d
Instructor(s): C. Hankin.

AS.371.139. Still Life/Interior/Landscape. 2 Credits.
This intermediate drawing class will examine three grand traditions in representational art. We will explore problems in still life that have occupied artists from Chardin to Morandi; in interiors from Vermeer to Giacometti; in landscape from Corot to Diebenkorn. We will also look at where the boundaries between these genres blur and how they overlap.
Prerequisites: AS.371.131 or permission required.
Instructor(s): C. Hankin.

AS.371.140. Cartooning. 3 Credits.
Not open to Freshmen. A history-and-practice overview for students of the liberal arts. The conceptual basis and historical development of cartooning is examined in both artistic and social contexts. Class sessions consist of lecture (slides/handouts), exercises, and ongoing assignments. Topics include visual/narrative analysis, symbol & satire, editorial/political cartoons, character development, animation. Basic drawing skills are preferred but not required.
Instructor(s): T. Chalkley
Area: Humanities.

AS.371.146. Basic Black/White Photo. 3 Credits.
Students must have a 35mm camera with manual aperture and shutter speed ATTENDANCE AT 1ST CLASS IS MANDATORY An introduction to the technical and creative process of producing black & white photographs. Working in the darkroom, students learn the fundamentals of film processing and print development. In-class critiques, discussion, and analysis of historic images develop critical vision. With the instructor’s guidance, students work on a project of their choice and produce a portfolio of ten mounted prints.
Area: Humanities.
AS.371.147. Art of Architecture. 3 Credits.
In this course, students will learn to design, draw, and see like an architect. A series of progressive design exercises will teach the practical capacities and habits of mind that lead not merely to competence but success and advancement in the field. We will look at what architecture has been, discuss what it is becoming, and explore both formal and narrative methodologies for design. The class will use the built environment of the city - and the Homewood campus - as a classroom and a site for interpretive drawing and creative design work. Essential in the architect's education is the sketchbook, which functions not merely as a place to 'store' what has been witnessed, but a place to interpret and explore implications of design in the world, whether close to home or traveling in exotic locales.
Instructor(s): C. Phinney
Area: Humanities.

AS.371.149. Visual Reality. 3 Credits.
In art, "Realism" is a simulation of visual reality. But art can also simulate alternative realities, those realities or truths which exist only in daydreams or nightmares. In this class, we will learn to explore and create representations of these additional moments of existence. This will require thinking creatively or "outside the box," a useful skill in any field. Using a variety of media, students are asked to solve problems to which there is no one correct answer.
Instructor(s): D. Bakker
Area: Humanities.

AS.371.150. Life Drawing. 2 Credits.
An intermediate drawing course focusing on all aspects of the human form. Beginning with infrastructure (skeletal and muscular systems), we will work directly from the model using a variety of media and techniques to address problems in figurative art from the Renaissance to the present.
Prerequisites: 371.131 or Instructor's Permission Required
Instructor(s): C. Hankin.

AS.371.151. Photoshop/Digital Darkroom. 3 Credits.
Photoshop and the Digital Darkroom Photoshop is not only the digital darkroom for processing images created with digital cameras; it is also a creative application for making original artwork. In this course, students use Photoshop software as a tool to produce images from a fine art perspective, working on projects that demand creative thinking while gaining technical expertise. Students will make archival prints, have regular critiques, and attend lectures on the history of the manipulated image and its place in culture. We will look at art movements which inspire digital artists, including 19th century collage, dada, surrealism, and the zeitgeist of Hollywood films. Students must have a digital camera. Prior knowledge of Photoshop is not required. Attendance at first class is mandatory.
Instructor(s): H. Ehrenfeld
Area: Humanities.

AS.371.152. Introduction to Digital Photography. 3 Credits.
Introduction to Digital Photography Students learn to use their digital cameras through a variety of projects, which will help them develop technical and creative skills. Students explore documentary, landscape and portrait photography. Critiques and slide lectures of historic photographs, which range from postmortem daguerreotypes to postmodern digital imagery, help students develop a personal vision. Students gain camera proficiency with one-on-one instruction in the field. Basics for print adjustment and output will be covered. Attendance at first class is mandatory.
Instructor(s): H. Ehrenfeld
Area: Humanities.

AS.371.154. Introduction to Watercolor. 2 Credits.
Watercolor is simultaneously the most accessible of all painting media and the most misunderstood. This course provides experience and instruction in observational and expressive watercolor techniques, materials, concepts, and vocabulary. Topics to be reviewed include line, perspective, value, texture, composition, color, and pictorial space. There will be an introduction to contemporary practices in watercolor, as well as experimental and abstract exercises, collage, and conceptual work.
Instructor(s): C. Ober.

AS.371.155. Introduction to Sculpture. 2 Credits.
A studio course introducing students to sculptural concepts and methods. Emphasis is on the process of creating. Even the simplest materials can effectively activate space, convey meaning, and elicit emotion when used thoughtfully and imaginatively. Students will learn different methods including additive and reductive techniques, construction, modeling, and mold-making. No prerequisites except a willingness to experiment, make mistakes... and clean up when you are done. Seniors only or permission required.
Instructor(s): L. Premo.

AS.371.156. Pastel Painting Workshop. 2 Credits.
AS.371.157. Basic Black & White: Wet Darkroom. 3 Credits.
This film-based class guides students through the technical and creative process of producing black and white photographs. Working in the darkroom, students learn the fundamentals of film and print development. In-class critiques explore the elements which make this medium unique. Students develop critical vision through discussion and analysis of historic images as well as images they make themselves. With the instructor's guidance, students work on a project of their choice and produce a portfolio of ten mounted prints.
Instructor(s): P. Berger
Area: Humanities.

AS.371.161. Sculpture in Second Life: Online. 2 Credits.
Second Life (http://secondlife.com) is a virtual world with over 15 million residents. Meeting in the Second Life world, the class will learn to build and texture objects of your own design: from simple basic projects to more complex realistic or surrealistic ones. The class will also take field trips within the Second Life environment to view virtual art galleries such as the Dresden Museum and works by the artist AM Radio. Students must have a free Second Life account and a basic understanding of movement and communication within Second Life. This class will meet online on Tuesdays and Thursdays from 1-4 PM in the first session.

AS.371.162. Black and White: Digital Darkroom. 3 Credits.
In this digital course, students explore the black-and-white aesthetic. They develop camera skills on numerous field trips, including Cyburn Arboretum and the John Brown Liberty Ship. Students meet frequently for critiques and discussions based on historic and contemporary imagery. Techniques such as high dynamic range, panorama and infrared are covered. Emphasis is on composition and developing a photographic style via shooting and post-processing. Students are encouraged to make work that is meaningful to them and which communicates its intent to their audience. Digital SLR cameras are provided. Attendance at first class is mandatory.
Instructor(s): P. Berger
Area: Humanities.
**AS.371.163. Digital Photography II. 3 Credits.**

In this class, students will have the opportunity to expand the photographic skills learned in Introduction to Digital Photography. Through advanced photographic techniques and exploration of new aesthetic concepts students will produce a portfolio of high quality prints. Students will be introduced to creative techniques such as flash photography, light painting, professional studio lighting for portraiture and still life, night photography, time-exposure, macro and camereless photographic experiments.

**Prerequisites:** AS.371.152

Area: Humanities.

**AS.371.164. Introduction to Printmaking. 2 Credits.**

Working with non-toxic/water based inks and both an engraving press and hand tools, students will explore several types of printmaking. Methods will include intaglio, collograph and both simple and multi-plate relief. As they develop their prints, students can then observe and exploit the strengths that each method has to offer. Drawing and Photoshop skills are helpful but not required.

Instructor(s): L. Premo.

**AS.371.165. Location Photography. 3 Credits.**

Working in the studio and in various locations, students will learn the fundamentals of lighting interiors and strategies for working in almost any environment. Field trips will include the National Aquarium, Evergreen Museum & Library, a Howard County horse farm, a Tiffany-designed church and a Hampden photo studio. Students will also concentrate on the fine art of printing in our new digital lab. They will develop a final portfolio of 10 photographs which express a personal vision about a location of their choice. A basic knowledge of digital photography is helpful, but not required.

Instructor(s): H. Ehrenfeld

Area: Humanities.

**AS.371.166. Landscape Photography. 3 Credits.**

Course begins on July 7th. In this course students will experience the drama and beauty of the urban and rural landscape. The first 1 1/2 hours of each class are dedicated to working in the field where students will hone their camera technique as well as learn elements of composition and develop a personal style. In the lab, students will learn the fundamentals of Photoshop, HDR, panorama and they will also be introduced to the beauty of black and white in Silver Efex software. Digital SLRs are provided.

Instructor(s): P. Berger

Area: Humanities.

**AS.371.167. Lens to Page: The Photographer's Book. 3 Credits.**

In this unique course, a photographer, a museum curator, and a book artist mentor students as they create photography books on subjects of their choosing. The class will concentrate on elements of composition, narration, design, and aesthetics. Field trips to view both public and private book collections and libraries will provide historical context for the evolution of book production, while actual shared volumes visible their thoughts and feelings. Students will engage with novel creative processes and materials and will be challenged to broaden their perspectives on the essential nature of art. Personal narratives will be deepened through a class visit to the American Visionary Art Museum, as well as a short-term group residency with the artists of Make Studio.

Instructor(s): C. Goucher

Area: Humanities.

**AS.371.168. The Art of Architecture. 3 Credits.**

In this course, students will learn to design, draw, and see like an architect. A series of progressive design exercises will teach the practical capacities and habits of mind that lead not merely to competence but success and advancement in the field. We will look at what architecture has been, discuss what it is becoming, and explore both formal and narrative methodologies for design. The class will use the built environment of the city and the Homewood campus as a classroom and a site for interpretive drawing and creative design work. Essential in the architect’s education is the sketchbook, which functions not merely as a place to ‘store’ what has been witnessed, but a place to interpret and explore implications of design in the world, whether close to home or traveling in exotic locales.

Instructor(s): C. Hankin; C. Phinney

Area: Humanities.

**AS.371.169. Exploring Art in a Virtual World (Online Course). 1 Credit.**

In most virtual worlds all of the content of that world has been created by the game’s developers. But there are some exceptions. In Second Life all the content, the world you navigate, has been entirely produced by the players or users of that world. Interestingly, in this way it mirrors or Real Life, all the content of our society- our books, homes, shoes, art- has been *user* created as well. You’ve already seen the art of Real Life. Now explore, as well as learn how to begin building, art in Second Life.

Instructor(s): D. Bakker.

**AS.371.171. Color Explorations & Theory. 3 Credits.**

Course begins on June 30th. We will explore the physical characteristics, psychological effects and basic physics of color through exercises in various applications. Primary mediums include: Paint, Color-Aid Paper & Photoshop. Emphasis is placed on the investigation of color effects used in applied and fine arts.

Area: Humanities.

**AS.371.172. DIY Art: You Are the Medium. 3 Credits.**

Art is not confined to the maker’s labors with traditional art materials. Art is transactional and can be made of anything. It brings forth personal narrative - one's internal experience in a concrete form - and seeks resonance with the viewer. Art-making is a shared place of possibility and self-revelation, available to anyone with a desire to make visible their thoughts and feelings. Students will engage with novel creative processes and materials and will be challenged to broaden their perspectives on the essential nature of art. Personal narratives will be deepened through a class visit to the American Visionary Art Museum, as well as a short-term group residency with the artists of Make Studio.

Instructor(s): C. Goucher

Area: Humanities.

**AS.371.190. Painting & Drawing the Local Landscape. 2 Credits.**

Clear fall weather in Baltimore and the wide variety of landscape and architecture in and around the Homewood campus provide an ideal opportunity to paint and draw outside. Working from life, masterworks and slides, we will investigate the history and practice of landscape painting, beginning with tonal wash drawings and progressing to full-color paintings. Media will include charcoal, ink, watercolor and oil paint. Slide lectures, demonstrations and museum and library visits will be featured. Portable easels provided.

**Prerequisites:** AS.371.131 OR AS.371.133 OR Instructor’s Permission Required

Instructor(s): B. Gruber.
AS.371.191. Introduction to Video Art. 2 Credits.
Throughout the semester, students will screen video art and respond by shooting and editing their own video works. They will think critically about the personal and societal function that video artwork serves. We’ll look at the work of artists ranging from Martha Rosler and Hennessy Youngman, to Spike Jonze and music videos. We will discuss and explore the intersections between video, poetry, painting, and music. Students will be required to learn video editing software, write short video responses, and read and discuss relevant essays. Students can expect to shoot and edit four video production assignments.
Instructor(s): J. Roche.

AS.371.201. Drawing Outside the Box. 3 Credits.
We will explore essential principles, tools, terminology & media, while pushing the boundaries of “traditional drawing” by adopting alternatives such as drawing with wire, inking with grass, and animating gesture in Photoshop. Not only will we draw from observation, which builds the perceptual platform and skills for spatial understanding and rendering, we will draw from intuition, movement, and outdoor stimuli. Subject matter may include: still life, interiors, landscape, architecture, the human figure and personal narrative.
Instructor(s): C. Gregory
Area: Humanities.

AS.371.223. Smart Textiles Research Lab. 3 Credits.
Taught jointly by faculty from MICA’s Fibers and Interactive Media departments and the JHU Digital Media Center staff, this research-based lab/seminar course will teach students to analyze the nature and context of smart textile design. Students will explore wearable forms of interactive electronics, sensors, and active and passive techniques, as well as the introduction of textile methods. Basic electronics, fabrication, and programming techniques will be developed throughout the semester. Weekly meetings, visiting artists, historical lectures, and critical readings will enhance the students’ abilities to analyze their work and its relevance to contemporary culture and art. Faculty and graduate students from JHU’s Whiting School of Engineering will also present related research on new materials, methods, and techniques. Independent research, studio process, and teamwork required. Some knowledge of electronics, fabrication, and digital communications preferred. Instructor’s permission required.
Instructor(s): J. Freedman.

AS.371.301. Landscapes: Photographing the Burren. 3 Credits.
The Burren College of Art, located in a medieval castle on Ireland’s Atlantic coast, serves as the base for this digital photography course. Fundamentals of the Digital SLR are reviewed as well as image correction and manipulation in Photoshop. Students will work one-on-one with their instructor and will exhibit their work in a group show at the end of the semester. Weekly meetings, visiting artists, historical lectures, and critical readings will enhance the students’ abilities to analyze their work and its relevance to contemporary culture and art. Faculty and graduate students from JHU’s Whiting School of Engineering will also present related research on new materials, methods, and techniques. Independent research, studio process, and teamwork required. Some knowledge of electronics, fabrication, and digital communications preferred. Instructor’s permission required.
Instructor(s): J. Roche
Area: Humanities.

AS.371.303. Documentary Photography. 3 Credits.
In this upper-level course, we will explore different genres of documentary photography, including the fine art document, photojournalism, social documentary photography, the photo essay and photography of propaganda. Numerous field trips provide opportunities to explore the city and its neighborhoods. Students will work on a semester-long photo-documentary project on a subject of their choice. Digital SLR cameras are provided. Attendance at first class is mandatory.
Instructor(s): P. Berger
Area: Humanities.

AS.371.304. Photo Seminar: Wet Darkroom. 3 Credits.
In this film based course, students develop a project of their choice over the semester working independently in the darkroom and meeting for weekly critiques and discussions. Using the zone system (a method of pre-visualization developed by Ansel Adams) students will experiment with different film, paper and developer combinations specific to their projects. Writing in the form of a journal as well as critical analysis of images are integral parts of the seminar experience.
Prerequisites: AS.371.146 or Permission Required
Area: Humanities.

AS.371.306. Digital Photography: Photographing the Burren. 3 Credits.
The Burren College of Art, located in a medieval castle on Ireland’s Atlantic coast, serves as the base for this digital photography course. Fundamentals of the Digital SLR are reviewed as well as image correction and manipulation in Photoshop. Students will work one-on-one with their instructor and will exhibit their work in a group show at the end of the program. Students of all majors and levels are welcome. Course must be taken for a grade.
Instructor(s): P. Berger
Area: Humanities.

AS.371.501. Independent Study. 2 Credits.
Instructor(s): C. Hankin; P. Berger.

AS.371.502. Independent Study. 0 - 2 Credit.
Instructor(s): B. Gruber; C. Hankin; P. Berger.

AS.371.590. Independent Study. 3 Credits.
Instructor(s): C. Hankin.

Cross Listed Courses

Political Science
AS.190.328. Black Visual Politics. 3 Credits.
Prerequisites: AS.190.340 OR AS.190.384 OR AS.190.385
Instructor(s): L. Spence; P. Berger
Area: Social and Behavioral Sciences
Writing Intensive.
German Romance Languages Literatures
AS.213.348. Picturing Jews: Representing Jewish Identity in Modern Art, Film & Literature. 3 Credits.
This course will consider the different ways Jewish identity has been represented in the 19th and 20th centuries, focusing primarily on Central and Eastern Europe. Race, nationalism, religion, language, geography, politics—all helped shape different ways of understanding just what it meant to be a Jew, and all found expression in art and literature by both Jews and non-Jews. Looking at texts originally written in German, Yiddish, and Hebrew, including prose, poetry, journalism and drama, as well as painting, photography, graphic design, architecture, and film we will gain an understanding of the range of ways that Jewish identity could be understood and expressed as well as of the ideological stakes and historical contexts of such representations. Writers and artists examined will include Chagall, Kafka, Sholem Aleichem, and Bialik. All readings will be in translation.
Instructor(s): S. Spinner
Area: Humanities.

Program in Museums and Society
AS.389.370. Camera Arts: Photographing Evergreen Museum and Library. 3 Credits.
Area: Humanities.
AS.389.371. The Artist in the Museum: Making Books. 3 Credits.
Hopkins curatorial staff and photography instructor introduce the concept of books as art. Students create artist's books inspired by campus collections for inclusion in an Evergreen exhibition. FIRST CLASS IS MANDATORY. M&S practicum course. Cross-listed with Homewood Art Workshops.
Instructor(s): J. Abbott; P. Berger
Area: Humanities.

Behavioral Biology Program
The David S. Olton Behavioral Biology Program seeks to establish a greater understanding of the relations of brain and behavior through an interdisciplinary program of study. Students in the Behavioral Biology Program examine the complex interplay between environment and behavior, and the processes and mechanisms that underlie behavior. One goal of the program is for students to learn how to integrate scientific discoveries from the wide array of scientific fields of inquiry that contribute to the study of behavioral biology, from molecular biology to sociology.

The interdisciplinary characteristics of the Behavioral Biology Program provide an excellent preparation for post-graduate work. For those interested in the health professions, behavioral biology can be integrated into a premedical curriculum that will provide a broad, humanistic perspective. For those who wish to pursue scientific careers in psychopharmacology, behavioral neuroscience, and physiological psychology, the program provides excellent preparation. Students interested in the fields of organismal or integrative biology should also consider this major.

Many students ask about the similarities and differences between the behavioral biology major and the neuroscience major. Both of these programs are interdepartmental, and a majority of professors teach courses that are listed for both majors. Behavioral Biology majors can explore many aspects of the biology of behavior, including the neural mechanisms of behavior (which obviously overlaps with the neuroscience major), but also biomechanical, evolutionary, ecological, and social aspects of behavior. The behavioral biology major also has fairly liberal course requirements which provide students with an opportunity to explore more choices in their liberal arts education. Students majoring in neuroscience focus directly on the brain and on neural function/mechanisms. Generally speaking, the systems Neuroscience focus area in the neuroscience major has the most overlap with behavioral biology.

The core program of the behavioral biology major provides breadth and background in five fundamental areas:
1. physics, chemistry, mathematics
2. biology
3. psychology, anthropology, sociology
4. neuroscience
5. history of science

The exact courses to be taken are determined by the student in conjunction with the faculty advisor. A grade of C- or better is required for courses fulfilling major requirements and courses may not be taken satisfactory/unsatisfactory. Hopkins undergraduates may enter the Behavioral Biology Program at any time, provided all requirements can be completed before graduation. Additional information regarding the Behavioral Biology Program is available through Hope Stein at hope.stein@jhu.edu or 410-516-6196.

Please consult our website for the most recent updates: http://krieger.jhu.edu/behavioralbiology/courses/

Requirements for the B.A. Degree
Also see Requirements for a Bachelor's Degree. (p. 24) Requirements for the behavioral biology major are as follows:

Math and Science Core Courses

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<th>Course Code</th>
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<th>Credits</th>
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<td>Introductory Chemistry I</td>
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<td>AS.030.102</td>
<td>Introductory Chemistry II</td>
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<td>&amp; AS.030.106</td>
<td>and Introductory Chemistry Laboratory II</td>
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</tr>
<tr>
<td>or AS.030.103</td>
<td>Applied Chemical Equilibrium and Reactivity w/lab</td>
<td>4</td>
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<tr>
<td>AS.171.101</td>
<td>General Physics:Physical Science Major I</td>
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<td>General Physics I for Biological Science Majors</td>
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<td>General Physics/Biology Majors II</td>
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<td>AS.020.152</td>
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<td>General Biology Lab II</td>
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</table>
Johns Hopkins Center for Marital and Sexual Health, Sexual Behaviors Consulting Unit, Johns Hopkins Medical Institutions.

Farrah Madison
Behavioral Biology Program.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

AS.290.101. Human Origins. 3 Credits.
This course examines the origins of human structure, function and behavior from an evolutionary perspective. It includes study of the evolution, behavior and behavioral ecology of nonhuman primates, hominid evolution (including the paleontological and archaeological records), and the origins of human cognition, social behavior and culture. Cross-listed with Psychological and Brain Sciences
Instructor(s): P. Holland
Area: Natural Sciences, Social and Behavioral Sciences.

AS.290.301. Stress and the Brain. 3 Credits.
The purpose of this course is to explore the phenomenon of stress by investigating the neural, endocrine and molecular mechanisms involved. By reviewing both animal and human research, this course will consider disorders of the stress control system and the adverse impact of stress on human physical and mental health. Topics in this class will include, but are not limited to i) disorders such as PTSD, anxiety, major depression; ii) interactions between stress and neurodegenerative disorders; iii) stress-immune-inflammatory interactions; iv) the role of stress in obesity, hypertension, and other metabolic syndromes; v) stress effects on reproduction. Students will finish this course with a greater understanding for the fundamental neuroendocrine responses to stress and its consequent and/or associated adverse effects on human health.
Prerequisites: AS.020.306 OR (AS.050.203 OR 080.203) OR AS.200.141 OR (AS.080.305 AND AS.080.306)
Instructor(s): F. Madison
Area: Natural Sciences.

AS.290.303. Brain, Communication & Evolution. 3 Credits.
The study of animal communication involves the study of neural and hormonal mechanisms mediating the production of communication signals and the evolutionary function of the different signals animals produce to communicate with one another. In this course, information from both of these approaches to the study of behavior will be integrated to provide a comprehensive examination of the causes and functions of different animal communication systems. Topics will include both a consideration of the mechanisms of signal production and of signal perception. The course will review the basic features of communication and features of signaling systems. We will also discuss neural and endocrine functioning and the fundamentals of evolutionary theory relevant to the study of animal communication. Finally, this course will include a field component where students will quantify different aspects of communicative behaviors including song, mating, and parental behavior in several species.
Prerequisites: AS.200.141 OR AS.200.208 OR AS.080.305
Instructor(s): F. Madison.
**AS.290.420. Human Sexual Orientation. 3 Credits.**
This course will examine the historical and current theories of sexual orientation and sexual variation development by examining the biological, psychological and social contributing factors that influence the development of sexual orientations and variations along with treatment and modification of problematic sexual behaviors. Limited to Juniors and Seniors with PBS, Neuroscience, Public Health, Behavioral Biology, and Biology majors, or Juniors and Seniors with PBS or Women’s Studies minors.
Instructor(s): F. Madison; G. Ball; L. Gorman; P. Holland.
Area: Social and Behavioral Sciences
Writing Intensive.

**AS.290.490. Senior Seminar: Behavioral Biology. 1 Credit.**
Great ideas in Behavioral Biology. Discussion of classic and cutting edge articles in the original literature. Student presentations and reaction papers. Capstone course for senior Behavioral Biology majors.
Instructor(s): P. Holland
Area: Social and Behavioral Sciences

**AS.290.501. Research-Freshmen. 3 Credits.**
Instructor(s): F. Madison; G. Ball; L. Gorman; P. Holland.

**AS.290.502. Research-Freshmen. 0 - 3 Credit.**
Instructor(s): F. Madison; G. Ball; L. Gorman; P. Holland.

**AS.290.503. Research - Sophomores. 3 Credits.**
Instructor(s): F. Madison; G. Ball; L. Gorman; P. Holland.

**AS.290.504. Research-Sophomores. 0 - 3 Credit.**
Instructor(s): F. Madison; G. Ball; L. Gorman; P. Holland.

**AS.290.505. Research - Juniors. 3 Credits.**
Instructor(s): F. Madison; G. Ball; L. Gorman; P. Holland.

**AS.290.506. Research-Juniors. 0 - 3 Credit.**
Instructor(s): F. Madison; G. Ball; L. Gorman; P. Holland.

**AS.290.507. Research - Seniors. 3 Credits.**
Instructor(s): F. Madison; G. Ball; L. Gorman; P. Holland.

**AS.290.508. Research-Seniors. 0 - 3 Credit.**
Instructor(s): F. Madison; G. Ball; L. Gorman; P. Holland.

**AS.290.519. Independent Study. 3 Credits.**
Instructor(s): P. Holland.

**AS.290.520. Independent Study. 0 - 3 Credit.**
Instructor(s): F. Madison; G. Ball; P. Holland.

**AS.290.590. Behavioral Biology Internship. 1 - 3 Credit.**
Instructor(s): P. Holland.

**AS.290.594. Behavioral Biology Internship. 1 Credit.**
Instructor(s): P. Holland.

**AS.290.596. Behavioral Biology Internship. 1 - 3 Credit.**
Instructor(s): P. Holland.

**AS.290.597. Research-Summer. 3 Credits.**
Instructor(s): E. Fortune; F. Madison; G. Ball; L. Gorman; P. Holland.

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**Cross Listed Courses**

**Biology**

**AS.020.152. General Biology II. 4 Credits.**
This course builds on the concepts presented and discussed in General Biology I. The primary foci of this course will be on the diversity of life and on the anatomy, physiology, and evolution of plants and animals. There will be a special emphasis on human biology. The workshops that were introduced in AS.020.151 General Biology I will include the use of simulation software, a critique of the primary literature, and an exploration of current trends in medicine. Recommended Course Background: AS.020.151. Section 01: Not open to Freshmen. Section 02: Open to Freshmen only.
Instructor(s): C. Roberson; R. McCarty; R. Pearlman; R. Shingles
Area: Natural Sciences.

**AS.020.153. General Biology Laboratory I. 1 Credit.**
Student must have enrolled in AS.020.151 either this term or in past terms. Students who have credit for AP Biology but take General Biology Lab I will lose all eight credits of AP Biology credit. This course reinforces the topics covered in AS.020.151. Laboratory exercises explore subjects ranging from forest ecology to molecular biology to animal behavior. Students participate in a semester-long project, identifying bacteria using DNA sequencing. Cross-listed with Behavioral Biology.

**Prerequisites: AS.020.151**
Instructor(s): R. Pearlman
Area: Natural Sciences.

**Anthropology**

**AS.070.352. Evolution, Ecology, Becoming. 3 Credits.**
The concept of evolution is central to social theory. Originating in the question of the species, it has moved into questions of human ecology, cultural forms and modes of thought. While it remains a deeply contested, often criticized concept, particularly in its neo-Darwinian manifestation, it orients anthropological thinking in ways that are as yet to be examined. Reaching into the archives of anthropology and other cognate disciplines, this course will examine the writings of Lyell, Darwin, Marx, Morgan, Boas, Steward, Bateson, Ingold among others. Co-listed with AS.070.610
Instructor(s): A. Goodfellow; N. Khan
Area: Humanities, Social and Behavioral Sciences.

**AS.070.610. Evolution, Ecology, Becoming.**
The concept of evolution is central to social theory. Originating in the question of the species, it has moved into questions of human ecology, cultural forms and modes of thought. While it remains a deeply contested, often criticized concept, particularly in its neo-Darwinian manifestation, it orients anthropological thinking in ways that are as yet to be examined. Reaching into the archives of anthropology and other cognate disciplines, this course will examine the writings of Lyell, Darwin, Marx, Morgan, Boas, Steward, Bateson, Ingold among others. Co-listed with AS.070.352
Instructor(s): A. Goodfellow; N. Khan
Area: Humanities, Social and Behavioral Sciences.
Neuroscience

AS.080.330. Brain Injury & Recovery. 3 Credits.
This course investigates numerous types of brain injuries and explores the responses of the nervous system to these injuries. The course’s primary focus is the cellular and molecular mechanisms of brain injury and the recovery of function. Discussions of traumatic brain injury, stroke, spinal cord, and tumors, using historical and recent journal articles, will facilitate students’ understanding of the current state of the brain injury field. Cross-listed with Psychological and Brain Sciences and Behavioral Biology.
Prerequisites: (AS.080.305 AND AS.080.306) OR (AS.020.312 OR AS.020.306) OR (200.141 and 020.306) OR Permission of Instructor
Instructor(s): L. Gorman
Area: Natural Sciences
Writing Intensive.

Psychological Brain Sciences

AS.200.141. Foundations of Brain, Behavior and Cognition. 3 Credits.
Formerly listed as Introduction to Physiopsychology. A survey of neuropsychology relating the organization of behavior to the integrative action of the nervous system. Cross-listed with Behavioral Biology and Neuroscience.
Instructor(s): L. Gorman
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.208. Animal Behavior. 3 Credits.
Examines basic principles of animal behavior (orientation, migration, communication, reproduction, parent-offspring relations, ontogeny of behavior and social organization). Evolution and adaptive significance of behavior will be emphasized.
Instructor(s): F. Madison; G. Ball
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.328. Theory & Methods in Clinical Psychology. 3 Credits.
A critical examination of the methods of observation, description, reasoning, inference, measurement and intervention that underlie the clinical practice of psychology and psychiatry. Cross listed with Behavioral Biology. Junior and senior Psychology, Behavioral Biology and Cognitive Science majors only OR instructor approval.
Prerequisites: AS.200.212
Instructor(s): O. Iyilikci
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.344. Behavioral Endocrinology. 3 Credits.
An examination of the effects of hormones on behavior in non-human and human animals. Topics will include the effects of hormones on sexual differentiation, reproductive behavior, parental behavior, homeostasis and biological rhythms, regulation of body weight, learning and memory. Cross-listed with Behavioral Biology and Neuroscience.
Prerequisites: Prereqs: (AS.200.141 OR AS.080.305) OR (AS.020.151 AND AS.020.152) OR (AS.020.305 AND AS.020.306) OR instructor’s permission
Instructor(s): F. Madison; G. Ball
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.355. Psych of Decision Making. 3 Credits.
This course will apply insights from cognitive psychology decision-making research to the stock market. The course investigates whether investors can beat the market benchmarks by exploiting marketplace investor sentiment. Juniors and seniors only. Recommended Course Background: six credits of Psychology course work.
Area: Social and Behavioral Sciences.

AS.200.366. Neuroscience of Motivation: Sex, Drugs and the Brain. 3 Credits.
This course is designed to address the growing literature on the neurobiology of motivational behaviors, integrating studies from invertebrates to birds, rodents, primates and humans. The course will begin with a century old, yet ongoing, discussion on how researchers define ‘motivation’. Following this primary introduction, we will discuss the brain circuitry that underlies emotion, reward, and motivation, so that students attain the necessary foundations for understanding the neurobiology of motivated behavior. In particular, we will proceed with an in-depth exploration of an inherently motivated and naturally rewarding social interaction, sexual behavior, which will be discussed at multiple levels. Subsequent lectures will address literature on how humans activate the same brain reward systems artificially by using drugs of abuse. Drawing on these theoretical and empirical foundations, we will then explore the possible involvement of these motivational systems on distinctly human pleasures such as religious experience, visual arts, and music.
Prerequisites: AS.200.141 OR AS.080.105 OR (AS.080.305 AND AS.080.306) OR Permission required.
Instructor(s): O. Iyilikci
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.367. Episodic Memory in Human and Nonhuman Animals. 3 Credits.
Episodic memory, or autobiographical memory, has been said to be a capacity that is uniquely human. Consisting of the what, when, and where components of our experiences, episodic memory is what makes each of us who we are. This course will explore each of these components individually—the psychology and neural underpinnings of each component—before discussing them in combination as episodic memory. Finally, we will visit one of the greatest ongoing debates in the memory literature: whether or not this ability is truly "uniquely human" or if our nonhuman animal counterparts also have this capacity. Throughout the course, we will draw on evidence from empirical articles based on studies in a variety of species including rodents, primates, and birds.
Prerequisites: AS.200.101 OR AS.200.141 OR AS.080.105 OR (AS.080.305 AND AS.080.306) OR Permission required.
Instructor(s): J. Asem
Area: Natural Sciences, Social and Behavioral Sciences.
AS.200.370. Functional Human Neuroanatomy. 3 Credits.
Cross-listed with Behavioral Biology and Neuroscience.
Prerequisites: AS.080.205 OR AS.080.305
Instructor(s): S. Courtney-Faruqee
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.386. Animal Cognition. 3 Credits.
Examine relations between brain, mind, and behavior in nonhuman animals, focusing on topics such as learning, memory, attention, decision-making, navigation, communication, and awareness. We will take a variety of approaches, including behavioral, computational, evolutionary, neurobiological, and psychological perspectives.
Prerequisites: (AS.200.141 OR AS.200.208 OR AS.290.101) OR permission of instructor.
Instructor(s): P. Holland
Area: Social and Behavioral Sciences.

Bioethics Program
The practice of medicine, the development of public health policies, and advances in the biomedical sciences raise fundamental moral and philosophical issues. The bioethics program is designed to provide students with an understanding of these issues, and the background and the conceptual tools to think about them clearly. The program is a collaboration between the Johns Hopkins Berman Institute of Bioethics and the Department of Philosophy, and draws on the resources of both.

Requirements for the Minor

Eight Courses

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<tr>
<td>AS.150.220</td>
<td>Introduction to Moral Philosophy</td>
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<td>AS.020.151</td>
<td>General Biology I</td>
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<td>AS.020.152</td>
<td>General Biology II</td>
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<tr>
<td>AS.020.305</td>
<td>Biochemistry</td>
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<td>AS.020.306</td>
<td>Cell Biology</td>
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<tr>
<td>EN.580.421</td>
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<td>EN.580.422</td>
<td>Systems Bioengineering II</td>
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<tr>
<td>At least two upper-level (300- or 400-level) seminars offered by the bioethics program</td>
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<td>Two additional bioethics seminars not counted in fulfillment of the previous requirement approved by the program’s advisory committee.</td>
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Total Credits 26

All courses must be taken for letter grades and receive a grade of C- or higher.

For more information, please contact Professor Hilary Bok.

For current faculty and contact information go to http://www.bioethicsinstitute.org/people/faculty

Faculty

Director
Hilary Bok
Associate Professor (Director), Philosophy.

Associate Professor
Maria Merritt
(Bloomberg School of Public Health): bioethics.

Research Scientist
Andrew Siegel
(Berman Institute of Bioethics).

Biology
http://www.bio.jhu.edu

The Department of Biology offers a broad program of undergraduate, graduate, and postgraduate study in the biological sciences. Included among the areas in which instruction and research opportunities are available are biochemistry and biophysics, cell biology, molecular biology, microbiology, developmental biology, genetics, neuroscience, and immunology.

The Biology Department offers two degree options for undergraduate students, a Bachelor of Arts degree for biology majors and a Bachelor of Science degree for molecular and cellular biology majors.

Requirements for the B.A. Degree
(Also see Requirements for a Bachelor’s Degree. (p. 24))

The B.A. degree in biology is designed to provide students with a thorough grounding in modern biology, with special emphasis on the molecular aspects of the discipline.

All courses required for the biology major must be taken for a letter grade (not S/U) and be passed with a grade of C- or better with one exception. The department will accept one passing grade below C- in senior year provided that the average for all formal lecture and laboratory courses is at least 2.0.

Core Courses

Mathematics

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Physics

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Chemistry

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or AS.030.103  Applied Chemical Equilibrium and Reactivity w/lab  
AS.030.205  Organic Chemistry I  4  
AS.030.206  Organic Chemistry II  4  
or AS.030.212  Advanced Organic Chemistry  
AS.030.225  Introductory Organic Chemistry Lab  3  
or AS.030.227  Chemical Chirality: An Introduction in Organic Chem. Lab, Techniques  

Biology  
AS.020.151  General Biology I  4  
AS.020.152  General Biology II  4  
AS.020.305  Biochemistry  4  
AS.020.315  Biochemistry Laboratory  2  
AS.020.306  Cell Biology  4  
AS.020.316  Cell Biology Lab  2  
AS.020.330  Genetics  3  
AS.020.340  Genetics Laboratory  2  
or AS.020.373  Developmental Biology Lab  
AS.020.363  Developmental Biology  3  

Electives  
At least three courses totaling at least eight credits (see list below) from the courses approved by the Director of Undergraduate Studies. At least one must be a 3 credit course taught in the Biology Department (AS.020.xxx)  

Total Credits  73  

Electives  

Biology  
AS.020.307  Enzymes, Metabolism and Metabolic Disorders  3  
AS.020.312/.612  Introduction to the Human Brain  3  
AS.020.317/.614  Signaling in Development and Disease  3  
AS.020.329  Microbiology  3  
AS.020.331/.630  Human Genetics  2  
AS.020.332  Photosynthesis by Land and Aquatic Organisms  2  
AS.020.334  Planets, Life and the Universe  3  
AS.020.337  Stem Cells & the Biology of Aging & Disease  2  
AS.020.344  Virology  3  
AS.020.346  Immunobiology  3  
AS.020.347  AIDS  3  
AS.020.368  Mammalian Evolution  3  
AS.020.370/.670  Emerging Strategies and Applications in Biomedical Research  3  
AS.020.375  Human Gross Anatomy  3  
AS.020.376/.606  Molecular Evolution  2  
AS.020.379  Evolution  3  
AS.020.380  Molecular Biology  3  
AS.020.634  Chromatin/Gene Express  
AS.020.637  Genomes & Development  
AS.020.638  Regulation and Mechanism of the Cell Cycle  
AS.020.640  Epigenetics and Chromosome Dynamics  
AS.020.668  Advanced Molecular Biology  
AS.020.674  Graduate Biophysical Chemistry  
AS.020.686  Advanced Cell Biology  

Applied Mathematics and Statistics  

EN.550.310  Probability & Statistics for the Physical Sciences & Engineering  4  
EN.550.311  Probability and Statistics for the Biological Sciences and Engineering  4  
EN.550.413  Applied Statistics and Data Analysis  4  
EN.550.420  Introduction to Probability  4  
EN.550.430  Introduction to Statistics  4  

Behavioral Biology  
AS.290.301  Stress and the Brain  3  

Biomedical Engineering  
EN.580.321  Statistical Mechanics and Thermodynamics  4  
EN.580.421  Systems Bioengineering I  4  
EN.580.422  Systems Bioengineering II  4  
EN.580.425  Ion Channels in Excitable Membranes  3  
EN.580.440  Cell & Tissue Engineer  3  
EN.580.441  Cellular Engineering  3  
EN.580.442  Tissue Engineering  3  

Biophysics  
AS.250.304  Mathematical Approaches to Biological Problems  3  
AS.250.329  Statistics and Data Analysis for BioScience  3  
AS.250.345  Cellular and Molecular Physiology  3  
AS.250.351  Reproductive Physiology  2  
AS.250.353  Computational Biology  3  
AS.250.372  Biophysical Chemistry  3  
AS.250.391  Proteins and Nucleic Acids  3  
AS.250.401  Advanced Seminar in Structural and Physical Virology  3  
AS.250.411  Advanced Seminar in Structural Biology of Chromatin  3  

Chemistry  
AS.030.301  Physical Chemistry I  3  
AS.030.302  Physical Chemistry II  3  
AS.030.441  Spectroscopic Methods of Organic Structure Determination  3  
AS.030.451  Spectroscopy  3  
AS.030.601  Statistical Mechanics  3  
AS.030.610  Chemical Kinetics  3  
AS.030.620  Chemical Biology II  3  
AS.030.634  Topics in Bioorganic Chemistry II  3  

Chemical and Biomolecular Engineering  
EN.540.402  Metabolic Systems Biotechnology  3  
EN.540.409  Modeling Dynamic/Control  4  
EN.540.437  Application of Molecular Evolution to Biotechnology  3  
EN.540.459  Bioengineering in Regenerative Medicine  3  
EN.540.460  Computational and Experimental Design of Biomolecules  3  

Computer Science  
EN.600.439  Computational Genomics  3  

Earth and Planetary Sciences  
AS.270.308  Population/Community Ecology  3  
AS.270.311  Geobiology  3  
AS.270.320  The Environment and Your Health  3
B.S. Degree in Molecular and Cellular Biology

The Biology Department offers a B.S. degree in molecular and cellular biology. The B.S. program is designed to provide a more rigorous preparation for advanced study in the biomedical sciences. The program is tailored not only to students planning to enter Ph.D. programs or obtain employment in the biotechnology industry but also for premedical students.

All courses required for the molecular and cellular biology major must be taken for a letter grade (not S/U) and be passed with a grade of C- or better with one exception. The department will accept one passing grade below C- in senior year provided that the average for all formal lecture and laboratory courses is at least 2.0.

Requirements

The B.S. degree in molecular and cellular biology requires, in addition to the requirements for the B.A. degree in biology, at least two additional upper level elective courses totaling five additional credits or more (for a total of at least 13 credits) from the elective list, and two of those electives must be at least 3 credit hours and have an 020 number. The B.S. degree also requires six credits of research supervised or sponsored by a faculty member in Biology. The supervised research will include participation in group meetings and writing a summary of accomplished work at the end of the year. General Biology I and II are not required for the B.S. degree.

Honors in Biology

Students completing either a biology major or molecular and cellular biology major are eligible to receive their degree with honors.

The B.A. in biology with honors requires, in addition to the regular requirements for the B.A. in biology, a 3.5 GPA for natural sciences and quantitative studies courses, two semesters of research, a presentation of a poster describing the research, and a recommendation from the research sponsor.

The B.S. in molecular and cellular with honors requires, in addition to the regular requirements for the B.S. in molecular and cellular biology, a 3.5 GPA for natural sciences and quantitative studies courses, a presentation of a poster describing the research, and a recommendation from the research sponsor.

The research requirement must be completed under the direction of a faculty member in a department associated with the Johns Hopkins University or the Johns Hopkins Medical Institutions. If the student’s research director is not a member of the Department of Biology, a Biology faculty member must serve as a sponsor and approve the recommendation from the research director.

B.A./M.S. Degree in Molecular and Cellular Biology

The Biology Department offers a B.A./M.S. (or B.S./M.S.) if the student has completed the requirements for the B.S. degree in molecular and cellular biology. The B.A./M.S. (or B.S./M.S.) degree provides Hopkins biology majors with advanced training in preparation for careers in science and medicine.

Requirements

Students in the program must complete all requirements for the B.A. (or B.S.) degree. In addition, students enrolled in the combined bachelor’s/master’s program must complete the following requirements.

Four additional advanced or specialized courses, at least two of which are at the 600-level or above.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.020.401</td>
<td>Advanced Seminar: Molecular and Cellular Biology</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.402</td>
<td>Seminar: Molecular &amp; Cellular Biology</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.551</td>
<td>Mentored Research</td>
<td>9</td>
</tr>
<tr>
<td>AS.020.553</td>
<td>Mentored Research</td>
<td>9</td>
</tr>
<tr>
<td>or AS.020.554</td>
<td>Mentored Research Program in Cellular and Molecular Biology</td>
<td>9</td>
</tr>
</tbody>
</table>

Final report and presentation

Teaching
* Eligible courses are listed on the Biology Department website.

** The Mentored Research Program culminates in the preparation of a written report of the research project in the form of a thesis. The written report and an oral presentation of the work are evaluated by a Thesis Committee. Passing performance, as judged by the committee, is required for the M.S. degree.

*** Teaching is an integral component of the master’s degree. The teaching requirement is fulfilled as a teaching assistant for the General Biology and General Biology Laboratory courses (or other Biology lecture and lab courses) for two semesters.

Students admitted to the B.A./M.S. program will be awarded the M.S. degree if they complete the above-described requirements, receive a grade of B or better in all courses during the one year duration of the program, and achieve passing performance on the final written report and oral presentation of the research project completed during the research year as judged by the Thesis Committee.

**Admission**

Admission to the B.A./M.S. Molecular and Cellular Biology program is selective. Hopkins biology majors and MCB majors who have achieved a minimum overall grade point average of 3.2, as well as a minimum natural science grade-point average of 3.0, and have had at least two semesters of previous research experience may apply for admission during the junior or senior years. Students with a GPA below the minimum requirement will be considered under special circumstances if a strong commitment to research is demonstrated. Students interested in applying to the master's program should attend an information session prior to application. Admission decisions are made by the MCB Program Committee, on the basis of:

1. the student’s academic record,
2. a written proposal for a project to be completed in the Mentored Research Program,
3. letters of support and recommendation, and
4. an interview with the student if required. The committee reserves the right to require interviews for individual students for further clarification of application materials.

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### Requirements for the Ph.D. Degree in Cellular, Molecular, Developmental Biology and Biophysics (CMDB Program)

A program of study leading to the Ph.D. degree is open to students who are candidates for, or who already have, the bachelor’s or master’s degree in the biological or physical sciences. To be admitted, the applicant should have had either a thorough training in the fundamentals of biology and both organic chemistry and general physics, or a broad training in the physical sciences and mathematics. Special attention is given to the applicant’s quality of scholarship and his or her promise as an investigator.

In addition to the general university requirements for an advanced degree (see Academic Information for Graduate Students (p. 66)), doctoral candidates must meet the following departmental requirements:

- Four core courses and four 600- and 700-level electives.
- At least one year of laboratory teaching during the period of graduate residence.
- A high level of achievement in a comprehensive written proposal and oral examination covering proficiency in the field of the student’s research interest and various areas of biology and related fields.
- A dissertation based on a program of independent research, a public seminar followed by an oral examination by the thesis committee.

All graduate students are required to complete the four core courses during the first year. In addition, students are required to complete four elective courses before graduation chosen from the list below of 600-level electives and 700-level seminars offered each semester. At least two out of the four courses must be 600-level.

**Core Courses, Fall Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>AS.020.601</td>
<td>Current Research in Bioscience</td>
</tr>
<tr>
<td>AS.020.607</td>
<td>Quantitative Biology Bootcamp</td>
</tr>
<tr>
<td>AS.020.686</td>
<td>Advanced Cell Biology</td>
</tr>
<tr>
<td>AS.020.674</td>
<td>Graduate Biophysical Chemistry</td>
</tr>
<tr>
<td>AS.020.699</td>
<td>CMDB Responsible Conduct in Research</td>
</tr>
</tbody>
</table>

**Core Courses, Spring Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.020.668</td>
<td>Advanced Molecular Biology</td>
</tr>
<tr>
<td>AS.020.637</td>
<td>Genomes &amp; Development</td>
</tr>
</tbody>
</table>

**Teaching Opportunities**

Since most biology Ph.D.’s will teach at some time during their careers, experience in teaching is considered an essential part of the Ph.D. program. The minimum teaching requirement is three contact hours a week for one year in the laboratory sections of undergraduate courses. Further teaching experience is gained through the preparation and presentation of reports in seminars and journal clubs. The department stresses organization of material and clarity of presentation.

**Facilities**

The lecture rooms, teaching laboratories, and research facilities of the Biology Research Complex (consisting of Seeley G. Mudd Hall and Undergraduate Teaching Laboratories) offer a thoroughly modern research facility for molecular biology.

**Financial Aid**

The department has fellowship funds for the support of graduate students. Awards are granted for tuition and living expenses. Laboratory fees and research expenses are paid by the department.

**Carnegie Institution for Science, Department of Embryology**

The Carnegie Institution’s Department of Embryology is located on the Homewood campus, close to the Biology research complex. Members of this group hold part-time appointments in the Department of Biology and participate in the training of graduate students. With the approval of both the department and the Carnegie staff, a number of graduate students in biology conduct thesis research in the Carnegie laboratory. The interests of the Carnegie staff include developmental and molecular biology.
For current faculty and contact information go to http://www.bio.jhu.edu/Directory/TenuredPlusTenureTrack.aspx

Faculty

Chair
Vincent J. Hilser
Professor: thermodynamics, protein structure and dynamics, molecular recognition, protein folding.

Professors
Karen Beemon
retroviral RNA processing and transport; avian leukosis virus tumorigenesis.

Kyle W. Cunningham
calcium transport and signaling mechanisms in yeast.

Michael Edidin
membrane organization and dynamics, immunology.

Ernesto Freire

Edward M. Hedgecock
developmental genetics of the nervous system of Caenorhabditis elegans.

M. Andrew Hoyt
genetics of chromosome segregation and signal transduction in yeast.

Evangelos N. Moudrianakis
assembly and dynamics of nucleoproteins and chromosomes, bacterial, and chloroplast bioenergetics.

Joel F. Schildbach
Vice Dean for Undergraduate Studies: structural biology of bacterial conjugation.

Robert Schleif
protein-DNA interactions and regulation of gene activity.

Trina Schroer
microtubule-based motors, organelle transport.

Mark Van Doren
Director of Graduate Studies: gonad development and the formation of sexual dimorphism in the soma and germline.

Beverly R. Wendland
Interim Dean, Arts and Sciences: molecular mechanisms of endocytosis in yeast

Haiqing Zhao
cellular and molecular mechanisms underlying the development and function of olfactory sensory neurons.

Associate Professors
Samer Hattar
light reception for non-image detection: role of rods, cones, and the new photoreceptors (melanopsin-containing retinal ganglion cells).

Rejji Kuruvilla

Deputy Director of Graduate Studies: local retrograde signaling by target-derived neurotrophins in neuronal development.

James Taylor
genomics of gene regulation, chromatin structure and organization, computational genomics and bioinformatics.

Assistant Professors
Xin Chen
genetic and epigenetic mechanisms that regulate germ cell differentiation.

Robert Johnston
stochastic and long-range gene regulatory mechanisms that diversify neuronal subtypes.

Christian Kaiser
single-molecule biochemistry studies of the machines and processes in protein translation, translocation, and folding.

Young-Sam Lee
regulation by small metabolites: phosphate signaling pathways.

David Zappulla
telomerase RNA-protein enzyme complex and its involve-ment in chromosome stability, cancer and aging.

Professors Emeriti
Maurice J. Bessman
biochemistry and enzymology, synthesis of nucleic acid derivatives, biochemical basis of spontaneous mutations.

Douglas Fambrough
membrane proteins, targeting, structure, function, and regulation, Na, K-ATPase, Ca-ATPase.

Richard E. McCarty

Allen Shearn
developmental genetics, imaginal disk development in Drosophila studied in lethal and temperature-sensitive mutants.

Research Professor
Ru Chih Huang
William D. McElroy Research Professor: gene regulation and chromosomal structure and function, principles of cancer biology and control of cancer and viral growth.

Yuan Chuan Lee
glycoproteins, glycolipids, carbohydrate receptors, and cell-surface substances.

J. Michael McCaffery

Peter Privalov
physics of protein structure.

Academy Professor
Ludwig Brand
fluorescence studies of protein and membrane dynamics.
Yuan Chan Lee  
glycoproteins, glycolipids, carbohydrate receptors, and cell-surface substances.

**Associate Research Professor**  
Jocelyn DiRuggiero  
genomic diversity, DNA repair mechanisms and environmental stress responses in extremophiles.

**Visiting Professor**  
Thomas Cebula

**Senior Lecturer**  
Robert Horner  
Carolyn Norris  
Rebecca Pearlman

**Lecturers**  
Emily Fisher  
Director of Undergraduate Studies  
Kathryn Tift Oshinnaiye  
Christov Roberson  
Richard Shingles

**Joint Appointments**  
Douglas Barrick  
Professor (Biophysics).

Gregory Bowman  
Associate Professor (Biophysics).

Richard Cone  
Professor (Biophysics).

Patrick Cummings  
Program Director (Biotechnology).

Bertrand Garcia-Moreno E.  
Professor (Biophysics).

Karen Fleming  
Professor (Biophysics).

Carol Greider  
Bloomberg Professor (Cell Biology).

Margaret Johnson  
Assistant Professor (Biophysics).

Alfredo Kirkwood  
Professor (Neuroscience).

Lynn Johnson-Langer  
Program Director (Biotechnology).

Juliette Lecomte  
Professor (Biophysics).

Hey-Kyoung Lee  
Associate Professor (Neuroscience).

Kristina Obom  
Associate Program Chair (Biotechnology).

Paula Pitha-Rowe  
Professor (Medicine).

Elijah Roberts  
Assistant Professor (Biophysics).

Steven Rokita  
Professor (Chemistry).

Robert Siliciano  
Professor (Medicine).

Craig A. Townsend  
Professor (Chemistry).

Sarah Woodson  
Professor (Biophysics).

**Adjunct**  
Alex Bortvin  
Assistant Professor: genetic and epigenetic controls of germ cell development and function in vertebrates.

Donald D. Brown  
Professor Emeritus: gene expression in development.

Orna Cohen-Fix  
Adjunct Professor (NIH): nuclear structure and its effect on nuclear function.

Victor G. Corces  
Professor (Emory): control of gene expression, molecular mechanisms of mutagenesis by transposable elements.

Chen-Ming Fan  
Professor: molecular and cellular interactions that contribute to vertebrate embryogenesis.

Steven Farber  
Associate Professor: real-time imaging of lipid metabolism in live zebrafish; identification of genes which regulate cholesterol absorption using biochemical and genetic strategies.

Joseph G. Gall  
Professor: chromosome structure and functions, nucleic acids in development.

Marnie Halpern  
Professor: zebra fish development.

Audrey Huang  
Lecturer.

Nicholas Ingolia  
Assistant Professor: genome-wide analysis of translation in vivo.

Sharon Krag  
Professor.

Michael Lichten
Adjunct Professor (NIH): genetic recombination and chromosome structural changes that occur during meiosis and DNA damage repair, using budding yeast as a model system.

George Scangos
Professor.

Allan Spradling
Professor, and Director of Carnegie Institution for Science: molecular genetics of Drosophila.

Yixian Zheng
Professor: cell division, cell morphogenesis, and cell fate specification.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

**AS.020.103. Freshman Seminar: The Human Microbiome. 2 Credits.**

We live in a world full of bacteria. Within a healthy adult, the number of microbial cells is estimated to outnumber human cells by a factor of ten to one. While this number may seem daunting, almost all of our bacterial residents do no harm, and some are beneficial and necessary to our health and development. “The Human Microbiome” will take an in depth look at how these bacterial residents interact with the human body and how those interactions play a role in human health and disease. The course will provide a complete overview of the human microbiome in all its niches. By exploring recent primary literature, students will gain knowledge of current research on the human microbiome, and an understanding of the molecular relationship between a human host and their bacterial residents. Freshmen Only.

Instructor(s): T. Feehery
Area: Natural Sciences.

**AS.020.104. Freshman Seminar: From Genes to DNA and Back. 1 Credit.**

Students must obtain permission from Dr. Moudrianakis to register.

A course consisting of introductory lectures followed by student presentations in the form of seminars. The issues analyzed will be: How did we arrive at the concept of the “gene”? Early experiments that gave substance to this concept. How did we arrive at the “one gene, one enzyme” dogma? What is the chemical nature of the gene? Is DNA enough for regulated gene expression? Is it “all in our genes”? What is genetic plasticity and epigenetics? What about genomics and proteomics? Freshmen Only.

Instructor(s): E. Moudrianakis
Area: Natural Sciences.

**AS.020.105. Freshman Seminar: The RNA World: from the origins of life to modern genomes. 3 Credits.**

RNA was once considered by some to be a relatively boring messenger molecule that simply functioned to convey genetic information in DNA to protein. However, research over the last 30 years has shown that RNA is a special molecule that not only transmits genetic information (like DNA), but can also catalyze chemical reactions (like proteins). This course will cover the unique biochemical properties of RNA and delve into the many important roles that non-coding RNAs play within the central dogma of gene expression. Specific topics will include: the “RNA World” hypothesis, which proposes that self-replicating RNA molecules arose as the precursors to modern life; evolution of RNA; and roles of non-coding RNAs in genome maintenance, mRNA processing, and protein translation. We will also highlight how RNA is involved in human diseases and how RNA is being used in emerging therapeutic treatments.

Instructor(s): M. Mefford
Area: Natural Sciences.

**AS.020.106. Freshman Seminar: Tuberculosis. 1 Credit.**

*Mycobacterium tuberculosis* is an extremely successful intracellular bacterial pathogen able to manipulate phagocytic cells and its own metabolism to survive within a host. The molecular mechanisms of this survival and resistance to antibiotics will be studied. Freshmen only.

Instructor(s): R. Horner
Area: Natural Sciences.

**AS.020.111. Freshman Seminar: The ‘Nobels’ in Medicine and Chemistry. 2 Credits.**

Key events in our understanding of the life sciences will be traced with the aid of Nobel awards.

Instructor(s): L. Brand
Area: Natural Sciences.

**AS.020.113. Freshmen Seminar: Microbes in the Media. 2 Credits.**

This seminar discusses scientific issues that are in the news today. Possible topics might include: genomics; adaptation and evolution of bacterial pathogens; emergence of antibiotic resistance; pandemic flu; microbial communities and impact on public health; food safety; bioterrorism; synthetic biology; bioremediation; microbial fuel cells; or other biotechnology topics that could emerge during the semester. Freshmen Only. Instructor’s permission required for upperclassmen.

Instructor(s): T. Cebula
Area: Natural Sciences.

**AS.020.114. Freshman Seminar: Reading Science: Claims & Data. 1 Credit.**
AS.020.115. Bioenergetics. 1 Credit.
This course is a combination of lectures, student presentations and group discussions that address fundamental principles and also contemporary issues examining the way all forms of Life on Earth are ultimately dependent on sunlight to satisfy their food and energy requirements. We examine the steps from the capture of Physical energy (photons), to the development of electrochemical potentials and finally, to their utilization by cellular organelles towards the synthesis of the chemical "currency" that fuels all biological processes (biosynthesis, cell communication, movements, etc). Special emphasis will be on current developments in biotechnologies that utilize microbial populations to supply us with fuels and also to clean up environmental hazards. The course will also consider ways to extract lessons from Nature's successful designs and harmonious adaptations so that we, in the long run, can utilize them towards a minimization of our negative impact on the environment. Note: Freshmen and Sophonores only, with good foundations in two of the following: Physics, Chemistry, Biology, Biophysics.
Instructor(s): E. Moudrianakis
Area: Natural Sciences.

AS.020.117. Molecular Biology of Aging. 3 Credits.
In this course we will discuss molecular mechanisms and pathways involved in aging and lifespan regulation, as well as exploring the biology of aging-related diseases such as Alzheimer’s and Parkinson’s. Students will have the opportunity to share and consider current primary literature in the field. Textbook required. Freshmen Only
Instructor(s): S. Soper
Area: Natural Sciences.

AS.020.119. Freshman Seminar: The Body Bugged. 1 Credit.
The course will cover topics in the way our resident bacteria, the microbiome, affect nutrition and health. We will begin with an overview of the bacterial flora in and on our bodies, spend some time on the ways to define the bacterial population of a particular organ, and go on to considering the microbiomes of particular organs. A major emphasis will be on bacteria of the gut and the way in which they influence the immune system. Freshmen only.
Instructor(s): M. Edidin
Area: Natural Sciences.

AS.020.120. Discover Hopkins: Introduction to Laboratory Research. 1 Credit.
This is an exciting time to work in biotechnology research. The Human Genome Project is generating fundamental genetic information at a breathtaking rate. Basic research findings are being applied to medicine, agriculture, and the environment; and a variety of new biotechnology products are moving into production. Behind each of these accomplishments lies extensive laboratory research. In this class, students will explore a variety of experimental techniques and evaluate their roles in modern biotechnology research.
Instructor(s): K. Chew
Area: Natural Sciences.

AS.020.123. Genetics, Genomics and Evolution. 3 Credits.
An introduction of key principles of genetics, genomics, and evolution. Lectures will alternate lab exercises and discussion of primary literature. Freshmen only. Recommended Course Background: Score of 4 or 5 on AP Biology Exam.
Instructor(s): F. Spencer
Area: Natural Sciences.

AS.020.135. Project Lab: Phage Hunting. 2 Credits.
This is an introductory course open to all freshman regardless of intended major. No science background is required. This is the first semester of a year-long research-based project lab course in which students will participate in a nation-wide program in collaboration with undergraduates at other colleges. Students will isolate and characterize novel bacteriophages (viruses that infect bacteria) from the environment using modern molecular biological techniques. The course includes two lab meetings per week. Provides 2 credit hours of Natural Sciences (N) distribution credits and/or counts 2 hours toward the research requirement for the Molecular and Cellular Biology degree. No textbook is required. Freshmen only
Instructor(s): E. Fisher; J. Schildbach
Area: Natural Sciences.

AS.020.136. Phage Hunting II. 2 Credits.
This is an introductory course open to all freshman regardless of intended major. No science background is required. This is the second semester of a year-long research-based project lab course in which students will participate in a nation-wide program in collaboration with undergraduates at other colleges. In the spring semester, students will annotate the genome of a bacteriophage isolated and characterized by a student in AS.020.135, in preparation for submission to a database and eventual publication. The course includes two lab meetings per week. Provides 2 credit hours of Natural Sciences (N) distribution credits and/or counts 2 hours toward the research requirement for the Molecular and Cellular Biology degree. No textbook is required. Freshmen only. Enrollment by permission of the instructor only.
Instructor(s): E. Fisher; J. Schildbach
Area: Natural Sciences.

AS.020.151. General Biology I. 4 Credits.
This course begins with an overview of the biosphere, followed by analysis of ecosystem and exploration of animal behavior in the context of ecosystems and evolution. Next, the cellular and molecular basis of life and the energetics of organisms are presented as unifying themes. The biochemistry of organic molecules, factors controlling gene expression, cellular metabolism, and advances in biotechnology represent topics of concentration. Mechanisms of inheritance and evolution are introduced. This course will also include a series of workshops that will explore current trends in research, experimental design and analysis, and molecular modeling. Cross-listed with Behavioral Biology. Note: The Tuesday workshop is a required part of this course.
Instructor(s): C. Roberson; R. McCarty; R. Pearman; R. Shingles
Area: Natural Sciences.

AS.020.152. General Biology II. 4 Credits.
This course builds on the concepts presented and discussed in General Biology I. The primary foci of this course will be on the diversity of life and on the anatomy, physiology, and evolution of plants and animals. There will be a special emphasis on human biology. The workshops that were introduced in AS.020.151 General Biology I will include the use of simulation software, a critique of the primary literature, and an exploration of current trends in medicine. Recommended Course Background: AS.020.151. Section 01: Not open to Freshmen. Section 02: Open to Freshmen only.
Instructor(s): C. Roberson; R. McCarty; R. Pearman; R. Shingles
Area: Natural Sciences.
AS.020.153. General Biology Laboratory I. 1 Credit.
Student must have enrolled in AS.020.151 either this term or in past terms. Students who have credit for AP Biology but take General Biology Lab I will lose all eight credits of AP Biology credit. This course reinforces the topics covered in AS.020.151. Laboratory exercises explore subjects ranging from forest ecology to molecular biology to animal behavior. Students participate in a semester-long project, identifying bacteria using DNA sequencing. Cross-listed with Behavioral Biology.
Prerequisites: AS.020.151
Instructor(s): R. Pearlman
Area: Natural Sciences.

AS.020.154. General Biology Lab II. 1 Credit.
This course reinforces the topics covered in AS.020.152. Laboratory exercises explore subjects ranging from evolution to anatomy and physiology. Students participate in a project using molecular biology techniques to determine whether specific foods are made from genetically engineered plants. Cross-listed with Behavioral Biology.
Students who have credit for AP Biology but take General Biology Lab II will lose all four credits of their overall credit for AP Biology.
Instructor(s): R. Pearlman
Area: Natural Sciences.

AS.020.161. Biology Workshop I. 1 Credit.
Students will discuss current events and controversies in biology ranging from bioterrorism to influenza. Credit will be awarded for EITHER AS.020.151 or AS.020.161, but not both. Recommended Course Background: Score of 4 or 5 on AP Biology exam.
Instructor(s): R. Pearlman
Area: Natural Sciences.

AS.020.162. Biology Workshop II. 1 Credit.
Students will discuss current events and controversies in biology, ranging from genetic engineering to nanotechnology in medicine.
Instructor(s): R. Pearlman
Area: Natural Sciences.

AS.020.205. Introduction to Biological Molecules. 3 Credits.
Instructor(s): A. Ketchum; C. Roberson; E. Fisher; K. Tifft Oshinaiye; R. Shingles
Area: Natural Sciences.

AS.020.214. Self Organizing Patterns in Nature. 1 Credit.
The manifestations of all biological structures and related functions are the end effect of the formation and maintenance of complex molecular and cellular patterns. These patterns (macromolecules, cellular organelles, cells, and tissues) are assembled from their constituent parts under fundamental rules not too dissimiliar to those that govern the formation of snowflakes or the dewdrops on a spider web. This course (lectures and student presentations) attempts to describe these common rules and to explain the formation and function of significant biological assemblies. Recommended Course Background: AS.020.305 or instructor’s permission. Freshmen with signed permission from instructor.
Area: Natural Sciences.

AS.020.227. Human Physiology. 3 Credits.
This is an introduction to Human Physiology. It will cover an overview of the subject that is appropriate for undergraduates and will be of interest to those planning to pursue medical or health related careers. While there is no formal prerequisite, a basic understanding of chemistry and biology at the undergraduate level will be helpful.
Instructor(s): T. Woolf
Area: Natural Sciences.

AS.020.229. Introduction to Immunology. 2 Credits.
This course is designed to introduce students to the cells, major receptors and signals critical for understanding more advanced concepts in immunology. They should leave with a basic understanding of the players and events leading to an effective immune defense against pathogens. They should also begin to recognize disease consequences of certain immune malfunctions. Recommended Course Background: Biology
Instructor(s): A. Gels
Area: Natural Sciences.

AS.020.242. Bioinformatics, Microbes, & You. 2 Credits.
Bioinformatics brings together biology, computer science and information technology. Current biological research involves the use of bioinformatics tools important in identifying new pathogens and genes within organisms. Learn how to use bioinformatics databases and tools for genome analysis to identify unknowns, whether they are pathogens or other organisms. Each student will do a project using database searching and genomic analysis tools to uncover genes and/or identify an unknown pathogen from its DNA sequence.
Area: Natural Sciences.

AS.020.243. Proteins, Genetics and Human Diseases. 3 Credits.
This course will provide a theoretical and practical overview of the use of the genetic screening approaches as discovery tools relevant to human health and disease. Lecture topics will include cell biology and genetics of human diseases, gene mutation and inheritance, use of model organisms and discussion of different types of screening approaches. In addition, this course will give students hands-on exposure to scientific research in a laboratory setting. Students will undertake a research project that applies the concepts learned in lectures to aim new insights into the function of a gene involved in amyotrophic lateral sclerosis (aka Lou Gehrig’s Disease).
Instructor(s): D. Prosser
Area: Natural Sciences.

AS.020.244. The Biology of Cancer. 2 Credits.
This course runs from June 30 - July 11. This course provides an overview of cancer and its diagnosis and treatment. Lectures, demonstrations, and discussions will explore the roles that genetic errors, growth factors, oncogenes, tumor suppressors, genetic caretakers, cell survival and death, angiogenesis, and metastasis play in cancer development. Covered topics also include cancer diagnosis, cancer prevention, genetic testing, treatment and patient self-advocacy. Course will include several guest experts to discuss topics of interest.

AS.020.305. Biochemistry. 4 Credits.
The molecules responsible for the life processes of animals, plants, and microbes will be examined. The structures, biosynthesis, degradation, and interconversion of the major cellular constituents including carbohydrates, lipids, proteins, and nucleic acids will illustrate the similarity of the biomolecules and metabolic processes involved in diverse forms of life. Sophomores, Juniors, and Seniors Only.
Prerequisites: Prerequisite: (AS.030.206 OR AS.030.212) OR EN.540.202
Instructor(s): Staff
Area: Natural Sciences.
AS.020.306. Cell Biology. 4 Credits.
How the molecules of living systems are organized into organelles, cells, tissues, and organisms will be explored, as well as how the activities of all of these are orchestrated and regulated to produce “life”—a phenomenon greater than the sum of its parts. Considerable emphasis is placed on experimental approaches to answering these questions. Topics covered include biological membranes, cytoskeletal elements, cell locomotion, membrane and protein traffic, the nucleus, second messengers, signal transduction, cell growth, the cell cycle, the extracellular matrix, cell contacts and adhesion, intercellular communication, epithelial structure and function, and the cell biology of early development and organ function. Sophomores, juniors, and seniors only. Recommended Course Background: (AS.020.151 or AS.020.305) or equivalent knowledge of biomolecules.
Instructor(s): E. Fisher; K. Tifft Oshinaiye; M. Hoyt; R. Kuruvilla
Area: Natural Sciences.

AS.020.307. Enzymes, Metabolism and Metabolic Disorders. 3 Credits.
This course will cover basic and advanced concepts in enzymology and metabolic processes while focusing on how these processes contribute to human health and diseases. This course is composed of lectures, discussion sessions, and student presentations.
Prerequisites: AS.020.305 or with instructor's permission
Instructor(s): Y. Lee
Area: Natural Sciences.

AS.020.312. Introduction to the Human Brain. 3 Credits.
This course explores the outstanding problem of biology: how knowledge is represented in the brain. Relating insights from cognitive psychology and systems neuroscience with formal theories of learning and memory, topics include (1) anatomical and functional relations of cerebral cortex, basal ganglia, limbic system, thalamus, cerebellum, and spinal cord; (2) cortical anatomy and physiology including laminar/columnar organization, intrinsic cortical circuit, hierarchies of cortical areas; (3) activity-dependent synaptic mechanisms; (4) functional brain imaging; (5) logicist and connectist theories of cognition; and (6) relation of mental representations and natural language.
Instructor(s): E. Hedgecock
Area: Natural Sciences.

AS.020.315. Biochemistry Laboratory. 2 Credits.
This course will reinforce the topics presented in Biochemistry AS.020.305 or AS.250.307 through laboratory exercises which use quantitative measurement to study cellular components and processes. Topics include pH, proteins, carbohydrates, lipids, nucleic acids, and enzymes. Sections 6-10 are for BIOLOGY AND MOLECULAR & CELLULAR BIOLOGY MAJORS ONLY.
Prerequisites: Pre/Co-requisite AS.020.305 OR AS.250.307 OR AS.250.315
Instructor(s): J. Schildbach; R. Horner
Area: Natural Sciences.

AS.020.316. Cell Biology Lab. 2 Credits.
This course will reinforce the topics presented in AS.020.306 Cell Biology through laboratory exercises which use visible and fluorescence microscopy to study chromosomes, cell organelles, cell surface receptors, contractile proteins, and microfilaments.
Prerequisites: Prerequisite or Corequisite: AS.020.306
Instructor(s): R. Horner
Area: Natural Sciences.

AS.020.317. Signaling in Development and Disease. 3 Credits.
An advanced undergraduate level seminar on current topics on signal transduction mechanisms underlying neuronal morphology, development and function. The proper functioning of the nervous system relies on the establishment of precise neuronal circuits through a developmental program including proliferation, neuronal migration, axonal growth, and neuronal survival. This course pertains to the extracellular cues and downstream neuronal signaling pathways that coordinate these key events during neuronal development. The course will also cover the role of aberrant signaling mechanisms in neuronal degeneration and disease. Recommended Course Background: AS.020.305, AS.020.306, and AS.080.306
Instructor(s): R. Kuruvilla
Area: Natural Sciences.

AS.020.329. Microbiology. 3 Credits.
This course explores the physiology and genetics of microorganisms within an evolutionary and ecological framework. Concepts in microbiology will be supported by molecular studies of microbial evolution and microbial communities including that of the human microbiome. Recommended Course Background: AS.020.305
Instructor(s): E. Fisher; J. Diruggiero
Area: Natural Sciences.

AS.020.330. Genetics. 3 Credits.
Presentation of the principles of heredity and variation, and their application to evolution and development; physico-chemical nature of the gene; problems of recombination; gene action. Recommended Course Background: AS.020.305, AS.020.306, AS.020.340.
Instructor(s): E. Fisher; J. Schildbach; K. Cunningham; M. Hoyt
Area: Natural Sciences.

AS.020.331. Human Genetics. 2 Credits.
Will examine the growing impact of human genetics on the biological sciences, on law and medicine, and on our understanding of human origins. Topics include structure and evolution of human genome, genetic and physical mapping of human chromosomes, molecular genetics of inherited diseases and forensic genetics.
Instructor(s): E. Hedgecock
Area: Natural Sciences.

AS.020.332. Photosynthesis by Land and Aquatic Organisms. 2 Credits.
This course analyzes the fundamental process of photosynthesis, the process on which all life on Earth depends for its existence. We begin from the level of the structural organization of the photosynthetic machinery and progress to the essentials of the photophysics of light capture by the primary pigments. Next we follow the conversion of photon flow to electron flow through the electron transport chain, and finally we study the formation of chemical gradients that serve as temporary "energy stores" utilized in the synthesis of the essential chemicals that are consumed to drive carbon dioxide and nitrogen fixation and yield biomass. Finally, we compare the specializations of land and aquatic photosynthetic systems that serve the two different ecosystems. Recommended Course Background: AS.020.305 or AS.020.306 or special permission by the instructor.
Instructor(s): E. Moudrianakis; R. Horner
Area: Natural Sciences.
AS.020.334. Planets, Life and the Universe. 3 Credits.
This multidisciplinary course explores the origins of life, planet formation, Earth's evolution, extrasolar planets, habitable zones, life in extreme environments, the search for life in the Universe, space missions, and planetary protection. Recommended Course Background: Three upper level (300+) courses in sciences (Biophysics, Biology, Chemistry, Physics, Astronomy, Math, or Computer Science)
Prerequisites: Students may not register for this class if they have already received credit for AS.171.333 or AS.270.335.
Instructor(s): C. Norman; J. Diruggiero; N. Levin
Area: Natural Sciences.

AS.020.337. Stem Cells & the Biology of Aging & Disease. 2 Credits.
This will be a team-taught lecture course that focuses on the properties of stem cells, their possible role in cancer (breast and prostate), stem cell aging, and the potential utilization of stem cells for therapy. Topics will include: mechanisms of stem cell renewal, stem cell potency, the impact of the stem cell niche, stem cells and the hematopoietic system, stem cells and the neural system, stem cells in the male and female gonads, induced pluripotent stem cells and cellular reprogramming, stem cell changes with aging, and ethical and policy issues in stem cell research and use. Most lectures will be research-oriented. Students will be expected to read and critically analyze current literature, with an emphasis on the experimental bases from which our current understandings derive.
Prerequisites: AS.020.305 (Biochemistry) and AS.020.306 (Cell Biology) or permission of instructor
Instructor(s): B. Zirkin
Area: Natural Sciences.

AS.020.340. Genetics Laboratory. 2 Credits.
This laboratory explores the genetics of living organisms, and students in each section will therefore be required to return to lab on succeeding days to observe and record the results of their experiments. Recommended Course Background: AS.020.316
Instructor(s): C. Norris
Area: Natural Sciences.

AS.020.344. Virology. 3 Credits.
This course will cover basic principles of viral replication and pathogenesis, as well as the host response to viral infection. It will then focus on several viruses of interest, including HIV-1, Influenza, Human Papilloma Virus, Hepatitis C, and Ebola Virus.
Prerequisites: AS.020.305 Biochemistry
Instructor(s): K. Beemon; P. Pitha-Rowe
Area: Natural Sciences.

AS.020.346. Immunobiology. 3 Credits.
A course for upper-level undergraduates that will introduce them to immunochemistry, immunobiology, and clinical immunology. Emphasis is placed on the language, concepts, and experimental methodology of modern immunology and the application of this information to specific human diseases.
Prerequisites: Prereq: AS.020.330, AS.020.305, AS.020.306
Instructor(s): M. Edidin
Area: Natural Sciences.

AS.020.347. AIDS. 3 Credits.
AIDS is the world's deadliest infectious disease. This course will cover the biology of human immunodeficiency virus (HIV, the infectious agent that causes AIDS), the effects of HIV on the immune system, the pharmacology of the anti-viral agents that are used to suppress HIV infection, and the ongoing quest for an HIV vaccine. Because HIV drugs cannot cure HIV-infected individuals and no HIV vaccine yet exists, we will also study the long-term consequences of HIV infection including opportunistic infections, comorbid conditions, and the HIV-related cancers Kaposi's Sarcoma and AIDS-Related lymphoma. Recommended Course Background: AS.020.306
Instructor(s): T. Schroer
Area: Natural Sciences.

AS.020.350. Introduction to Clinical Medicine. 2 Credits.
Perm. Req'd. Post-Bac Students Only
Instructor(s): B. Winters; E. Ruiz; W. Merritt; W. Ziai
Area: Natural Sciences.

AS.020.354. Planets, Life, and the Universe Seminar. 1 Credit.
Based on the course Planets, Life and the Universe in the Fall, this seminar series is for students who would like to read and discuss interesting current papers in the field, including the latest developments that may lead to interesting ideas on interdisciplinary research. Papers will be assigned to read each week. Recommended Course Background: AS.171.333/AS.171.699 or AS.020.334/AS.020.616
Area: Natural Sciences.

AS.020.360. Biology of Aging. 2 Credits.
Our understanding of the biology of aging has been revolutionized with the isolation of mutations that can double lifespan. Why would natural selection have failed to produce such long-lived individuals? In this course we will investigate not only how we age, but also why we age. Each class will begin with a lecture introducing an age-related topic, followed by student presentation and discussion of research papers. Grades will be based upon class participation, quality of presentations, and a final exam. Strong command of cell biology and genetics is recommended. Recommended Course Background: AS.020.306 or equivalent
Area: Natural Sciences.

AS.020.363. Developmental Biology. 3 Credits.
Development of invertebrates, vertebrates, and plants. The course will emphasize the experimental bases for the fundamental concepts of development.
Prerequisites: AS.020.306 AND AS.020.330
Instructor(s): C. Norris; M. Van Doren; X. Chen
Area: Natural Sciences.

AS.020.367. Primate Adaptation and Evolution. 3 Credits.
A close look at our closest relatives, the primates. Topics include: evolutionary theory, primate evolution, primate behavior and ecology, human evolution, and modern human variation.
Prerequisites: (AS.020.151 AND AS.020.152) OR AS.020.207 OR AS.020.379 OR Permission of instructor.
Instructor(s): J. Perry
Area: Natural Sciences.
AS.020.368. Mammalian Evolution. 3 Credits.
An introduction to the evolutionary history and diversity of mammals, with emphasis on the first half of the Cenozoic - the beginning of the Age of Mammals. The course will focus primarily on the adaptive radiation of mammals (including our own order primates) that followed the extinction of the dinosaurs, exploring the origins and relationships of the major groups of mammals as well as the anatomical and ecological reasons for their success. Lectures will be supplemented with relevant fossils and recent specimens.
Instructor(s): K. Rose
Area: Natural Sciences.

AS.020.370. Emerging Strategies and Applications in Biomedical Research. 3 Credits.
Up-to-date primary literature manuscripts related to new discoveries and new strategies that are allowing scientists to make amazing progress in biomedical research will be presented. Examples include: labeling neurons with up to 90 different colors to trace their circuitry, evolution studies in glowing bacteria, detecting several viruses on a single chip and using fiber optics and channel rhodopsin to induce sleep. Students should be interested in reading primary literature research papers and discussing them in class. Recommended Course Background: AS.020.305 or AS.020.306 or AS.080.305 or AS.080.306. Juniors and Seniors only.
Instructor(s): S. Hattar
Area: Natural Sciences.

AS.020.371. Emerging Strategies in Understanding Innate Behaviors. 3 Credits.
The hypothalamus is the central regulator of a broad range of homeostatic behaviors essential to survival, and plays a key role in controlling emotional and appetitive behaviors. This course offers an overview of both historical and recent work on this vital brain region. Topics covered will include the evolution and development of the hypothalamus, control of circadian rhythms and sleep, regulation of hunger and body temperature, as well as hypothalamic regulation of sexual, defensive, and affiliative behavior.
Prerequisites: AS.020.305 OR AS.020.306 OR AS.080.301 OR AS.080.302
Instructor(s): S. Blackshaw; S. Hattar
Area: Natural Sciences
Writing Intensive.

AS.020.373. Developmental Biology Lab. 2 Credits.
This laboratory explores the development of live animals, and students in each section will sometimes be required to return to lab on succeeding days to observe and record the results of their experiments. Corequisite: AS.020.363
Instructor(s): C. Norris.

AS.020.375. Human Gross Anatomy. 3 Credits.
This course is meant to be an introduction to human gross anatomy. It will seek to give students enough background in anatomical knowledge and vocabulary to help them in their initial training in medical school, however, it will not be a substitute for anatomy courses in medical school. It will focus on normal adult anatomy, and it will cover each of the main regions of the body – i.e., thorax, abdomen and pelvis, back and limbs, and head-&-neck. Lectures will cover descriptive and functional anatomy, ultimately leaving students with a better understanding of anatomical terminology and 3D relationships of structures within the human body, and better problem-solving skills as they begin to relate symptoms to causes, again at the gross anatomical level.
Prerequisites: ( AS.020.151 AND AS.020.152 ) OR AS.020.305 OR AS.020.306 OR AS.080.305
Instructor(s): V. Deleon
Area: Natural Sciences.

AS.020.376. Molecular Evolution. 2 Credits.
A history of life on earth has been recorded in the DNA of organisms that live today. But what language is it and how can we read that history? This course introduces basic principles of molecular evolution plus a wide array of methodologies used to interpret molecular sequence data. Many interesting studies of gene and genome evolution will be covered as examples of this burgeoning area of research. This fun and popular course now includes computer labs that will enable students to obtain first-hand experience in this exciting field of research.
Prerequisites: AS.020.330 (Genetics) or with permission of instructor
Instructor(s): K. Cunningham
Area: Natural Sciences.

AS.020.379. Evolution. 3 Credits.
This course takes a broad look at the impact of natural selection and other evolutionary forces on evolution. Emphasis is placed on what we can learn from genome sequences about the history of life, as well as current evolutionary pressures. Recommended Course Background: AS.020.306, AS.020.330, or permission required
Instructor(s): C. Norris
Area: Natural Sciences.

AS.020.380. Molecular Biology. 3 Credits.
The field of molecular biology is fundamental for those interested in modern biological research and medicine. In this course students examine DNA, RNA and protein synthesis (i.e., the “central dogma” of molecular biology) in molecular detail, as well as how these processes are regulated and interrelated. There is significant examination of molecular structure-function relationships, with particular emphasis on RNA synthesis and processing and chromosomal organization, nucleosome regulation and epigenetics. Modern and fundamental experimental techniques and concepts are explored in detail. Students will learn how to use some genome databases and bioinformatics tools available online to improve their molecular biology research skills and knowledge. Readings are both from scientific journals as well as a textbook that includes interactive online content.
Instructor(s): D. Zappulla; E. Moudrianakis; K. Beemon
Area: Natural Sciences.
AS.020.390. Model Systems in Biology. 3 Credits.
This course will provide an in-depth overview of the influence of model systems on human health and their role in answering current research problems.

Prerequisites: AS.020.330
Instructor(s): C. Wall
Area: Natural Sciences
Writing Intensive.

AS.020.401. Advanced Seminar: Molecular and Cellular Biology. 3 Credits.
This is a weekly seminar designed for graduate students enrolled in the B.A./M.S. and Ph.D. programs. The seminar involves student presentations of research and discussion of topics of current interest in the field. BA/MS candidates only.
Instructor(s): K. Tifft Oshinnaiye
Area: Natural Sciences.

AS.020.402. Seminar: Molecular & Cellular Biology. 3 Credits.
This is a weekly seminar designed for students enrolled in the BA/MS program. The seminar involves student presentations of research and discussion of topics of current interest in the field. BA/MS students only.
Instructor(s): K. Tifft Oshinnaiye
Area: Natural Sciences.

AS.020.420. Build-a-Genome. 4 Credits.
In this combination lecture/laboratory "Synthetic Biology" course students will learn how to make DNA building blocks used in an international project to build the world’s first synthetic eukaryotic genome, Saccharomyces cerevisiae v. 2.0. Please study the wiki www.syntheticyeast.org for more details about the project. Following a biotechnology boot-camp, students will have 24/7 access to computational and wet-lab resources and will be expected to spend 15-20 hours per week on this course. Advanced students will be expected to contribute to the computational and biotech infrastructure. Co-listed with EN.580.420, AS.020.451 and EN.540.420. Successful completion of this course provides 3 credit hours toward the supervised research requirement for Molecular and Cellular Biology majors, or 2 credit hours toward the upper level elective requirement for Biology or Molecular and Cellular Biology majors. Must understand fundamentals of DNA structure, DNA electrophoresis, and analysis, Polymerase Chain Reaction (PCR), and must be either a) Experienced with molecular biology lab work or b) Adept at programming with a biological twist.
Instructor(s): J. Bader; K. Zeller
Area: Natural Sciences.

AS.020.431. JHU Oxford: Advanced Biochemistry & Molecular Biology. 4 Credits.
Open to JHU Oxford participants only.
Instructor(s): J. Schildbach; Staff
Area: Natural Sciences.

AS.020.441. Mentoring in Biology. 1 Credit.
To become a mentor, students must have successfully completed AS.020.151/152, must apply using the form on the Biology Dept. Website, and must be accepted by the instructors. The deadline to apply is April 1st. This course provides students who have taken General Biology I & II the opportunity to mentor new students in General Biology I & II. Mentors collaborate with faculty on how to lead effective sessions, help student teams complete team assignments, and generally help students understand difficult concepts and principles in biology. Mentors must have a firm command of the topics covered in biology and must meet with both faculty and students through the course of the semester. S/U only. Perm. Req’d
Instructor(s): C. Roberson; R. Pearlman; R. Shingles
Area: Natural Sciences.

AS.020.442. Mentoring In Biology. 1 Credit.
This course provides students who have taken General Biology I & II the opportunity to mentor new students in General Biology I & II. Mentors collaborate with faculty on how to lead effective sessions, help student teams complete team assignments, and generally help students understand difficult concepts and principles in biology. Mentors must have a firm command of the topics covered in biology and must meet with both faculty and students through the course of the semester. To become a mentor, students must have successfully completed AS.020.151/AS.020.152, must apply using the form on the Biology Department website, and must be accepted by the instructors. The deadline to apply is April 8th. Recommended Course Background: AS.020.151/AS.020.152
Instructor(s): R. Pearlman; R. Shingles
Area: Natural Sciences.

AS.020.451. Build-a-Genome Mentor. 4 Credits.
In this combination lecture/laboratory, "Synthetic Biology" course students will learn how to make DNA building blocks used in an international project to build the world’s first synthetic eukaryotic genome, Saccharomyces cerevisiae v. 2.0. Please study the wiki www.syntheticyeast.org for more details about the project. Following a biotechnology boot-camp, students will have 24/7 access to computational and wet-lab resources and will be expected to spend 15-20 hours per week on this course. Advanced students will be expected to contribute to the computational and biotech infrastructure. Must understand fundamentals of DNA structure, DNA electrophoresis, and analysis, Polymerase Chain Reaction (PCR), and must be either a) Experienced with molecular biology lab work or b) Adept at programming with a biological twist.
Instructor(s): J. Bader; K. Zeller
Area: Natural Sciences.

AS.020.501. Introduction Independent Study. 3 Credits.
An independent course of study may be pursued under the direction of an adviser on those topics not specifically listed in the form of regular courses. Freshmen and Sophomores only. Perm. Req’d.
Instructor(s): Staff.

AS.020.502. Introduction Independent Study. 0 - 3 Credit.
Instructor(s): K. Cunningham; R. Horner.

AS.020.503. Introduction To Research. 3 Credits.
Perm. Req’d. Freshmen and Sophomores only
Instructor(s): Staff.

AS.020.504. Introduction to Research. 0 - 3 Credit.
Perm. Req’d. Freshmen or Sophomores only
Instructor(s): Staff.
AS.020.505. Internship - Biology. 1 Credit.
An independent course of study may be pursued under the direction of an adviser on those topics not specifically listed in the form of regular courses. Consent of adviser required.
Instructor(s): H. Zhao; L. Brand; R. McCarty; Staff.

AS.020.506. Internship - Biology. 1 Credit.
Instructor(s): Staff.

AS.020.511. Independent Study. 3 Credits.
An independent course of study may be pursued under the direction of an adviser on those topics not specifically listed in the form of regular courses. Perm. Req’d.
Instructor(s): Staff.

AS.020.512. Independent Study. 0 - 3 Credit.
Instructor(s): Staff.

AS.020.513. Research Problems. 3 Credits.
Planning and conducting original laboratory investigations on biological problems, collection and analysis of data, reporting of results. Juniors and Seniors Only. Recommended Course Background: Permission of full-time acuity member in Biology dept.
Instructor(s): Staff.

AS.020.514. Research Problems. 0 - 3 Credit.
Perm. Req’d. Juniors and Seniors only
Instructor(s): Staff.

AS.020.551. Mentored Research. 9 Credits.
This courses provide BA/MS students with intensive research experience for a full academic year. Students in the program work under the direction of a research mentor on an original research project, produce a written report in the form of a thesis, and make a presentation of the work to the Biology Department. BA/MS or BS/MS candidates only.
Instructor(s): R. Horner.

AS.020.552. Mentored Research. 9 Credits.
BA/MS candidates only.
Instructor(s): R. Horner.

AS.020.554. Mentored Research Program in Cellular and Molecular Biology. 3 Credits.
BA/MS Candidates Only
Instructor(s): R. Horner.

AS.020.594. Internship-Summer. 1 Credit.
Instructor(s): Staff.

AS.020.597. Research. 3 Credits.
Instructor(s): R. Johnston.

First year Biology Graduate students only
Instructor(s): Staff.

AS.020.606. Molecular Evolution.
A history of life on earth has been recorded in the DNA of modern organisms. But what information is contained in this record and how can we understand it? This course introduces basic principles of molecular evolution and a wide array of methodologies used to infer and interpret molecular sequence data. Many interesting studies of gene and genomic evolution will be covered as examples of this burgeoning area of research. Recommended Course Background: AS.020.330
Instructor(s): K. Cunningham.

AS.020.607. Quantitative Biology Bootcamp.
Quantitative and computational methods have become essential to modern biological research. The goal of this course is to provide an introduction to basic skills that will enable students to employ these methods. Students will learn how to work in a command line shell and use software to perform analyses of large biological datasets. Students will learn basic programming using the Python language. Throughout the course students will apply the skills learned to practical analysis problems emphasizing parsing and working with biological data formats, exploratory data analysis and visualization, and numerical and statistical methods. This course is only open to first-year students in the CMDB program and will be held from September 2nd through September 5th, 2014.
Instructor(s): E. Roberts; J. Taylor; V. Hilser.

AS.020.612. Introduction to the Human Brain.
This course explores the outstanding problem of biology: how knowledge is represented in the brain. Relating insights from cognitive psychology and systems neuroscience with formal theories of learning and memory, topics include (1) anatomical and functional relations of cerebral cortex, basal ganglia, limbic system, thalamus, cerebellum, and spinal cord; (2) cortical anatomy and physiology including laminar/columnar organization, intrinsic cortical circuit, hierarchies of cortical areas; (3) activity-dependent synaptic mechanism; (4) functional brain imaging; (5) logicist and connectivist theories of cognition; and (6) relation of mental representations and natural language. Co-listed with AS.020.312.
Instructor(s): E. Hedgecock.

AS.020.613. Biology Science Writing.
Students will learn how to write abstracts and grant proposals, organize scientific manuscripts and thesis dissertations by writing and rewriting about their own research and editing other students’ work. Focus will be on structure, substance, accessibility, and clarity of writing. Biology Graduate students only. Permission Req’d.
Instructor(s): A. Huang.

AS.020.614. Signaling in Development and Disease.
Perm. Req’d. A graduate level class covering current topics on signal transduction mechanisms underlying neuronal morphology, development and function. The proper functioning of the nervous system relies on the establishment of precise neuronal circuits through a developmental program including proliferation, neuronal migration, axonal growth and neuronal survival. This course pertains to the extracellular cues and downstream neuronal signaling pathways that coordinate these key events during neuronal development. The course will also cover the role of aberrant signaling mechanisms in neuronal degeneration and disease.
Instructor(s): R. Kuruvilla
Area: Natural Sciences.

AS.020.616. Planets, Life and the Universe.
This multidisciplinary course explores the origins of life, planets’ formation, Earth’s evolution, extrasolar planets, habitable zones, life in extreme environments, the search for life in the Universe, space missions and planetary protection. Grad Students Only.
Instructor(s): J. Diruggiero; N. Levin
Area: Natural Sciences.
AS.020.620. Stem Cells.
This course consists of introductory lectures given by faculty members, followed by student presentations in the form of seminars. The introductory part will cover the basic knowledge about stem cells, such as: What features make cells qualified as stem cells? What are the unique cellular and molecular properties of stem cells? How do stem cells maintain their identities? What are the mechanisms underlying stem cell differentiation and reprogramming? What are the therapeutic applications of stem cells? The student seminar will be based on selected literatures by the faculty. A summary mini-review paper is required for a chosen topic at the end of the semester.
Instructor(s): X. Chen.

AS.020.630. Human Genetics.
Will examine the growing impact of human genetics on the biological sciences, on law and medicine, and on our understanding of human origins. Topics include structure and evolution of human genome, genetic and physical mapping of human chromosomes, molecular genetics of inherited diseases and forensic genetics.
Instructor(s): E. Hedgecock
Area: Natural Sciences.

This course covers heredity and human genetics, including the basic principles of human genetics, Mendelian genetics, linkage and genetic mapping, and human genetic disorders. The course will also cover topics such as chromosomal subsets and even the whole nucleus. This graduate seminar will explore human genetics topics in detail.
Instructor(s): K. Fleming; V. Hilser.

AS.020.634. Chromatin/Gene Express.
This course covers gametogenesis, embryogenesis, post-embryonic development, genetic analysis, developmental genetics, model developmental systems, and cell determination. Biology graduate students only except with written permission from the instructor.
Instructor(s): A. Bortvin; A. Spradling; M. Halpern; M. Van Doren; X. Chen.

AS.020.638. Regulation and Mechanism of the Cell Cycle.
Prerequisites: AS.020.686.
It has become finally recognized that the primary structure of the DNA is not the sole and absolute determinant of the phenotype of an organism. Much depends on the modulations of the primary information by time and tissue specific enzymatic modifications of this information and the result is the epigenetic information potential within the nucleus. This potential is dynamic; it can be "written and re-written" in the life-trajectory of a cell. We will examine the various process and states of genome epigenetics, from simple genes to whole chromosomes, chromosomal subsets and even the whole nucleus. This graduate level course will consist of few special overview lectures given by the instructors and the rest will be student presentations. The topics will be selected by the faculty but we will also consider the inclusion of special and timely topics suggested by the students. The duration of each session will be 90 minutes. Upper level undergraduates may register with signature of the instructors. The evaluation of the students for grade assignment will depend on a) the quality of the student's oral presentation; b) the students extent and depth of participation in the discussions of each and every seminar; c) the completion of papers given as homework assignments. Attention is mandatory for all sessions. No specific textbook will be assigned but the students will be sent to special Journals and books and are expected to search relevant literature and visit references beyond those provided by the instructors and share their findings with all in the class.
Instructor(s): B. Migeon; E. Moudrianakis
Area: Natural Sciences.

The hypothalamus is the central regulator of a broad range of homeostatic behaviors essential to survival, and plays a key role in controlling emotional and appetitive behaviors. This course offers an overview of both historical and recent work on this vital brain region. Topics covered will include the evolution and development of the hypothalamus, control of circadian rhythms and sleep, regulation of hunger and body temperature, as well as hypothalamic regulation of sexual, defensive, and affiliative behavior.
Instructor(s): S. Blackshaw; S. Hattar.

Instructor permission required for undergraduate students
Instructor(s): K. Beemon; P. Pitha-Rowe
Area: Natural Sciences.

AS.020.644. RNA.
A graduate seminar course that will explore RNA from its beginning in the primordial RNA world to its present-day roles in gene regulation in bacteria, mammals, and viruses. Topics will include: The early RNA world, Riboswitches, Ribozymes, evolution of protein synthesis, splicing, telomerase, RNA interference, microRNAs, long non-coding RNAs, Viral non-coding RNAs, and RNA therapeutics. Biology PhD students only. MCB MS students with instructor’s permission during ADD/DROP Period.
Instructor(s): K. Beemon
Area: Natural Sciences.

AS.020.650. Molecular Biology.
The field of molecular biology is fundamental for those interested in modern biological research and medicine. In this course students examine DNA, RNA and protein synthesis (i.e., the "central dogma" of molecular biology) in molecular detail, as well as how these processes are regulated and interrelated. There is significant examination of molecular structure-function relationships, with particular emphasis on RNA synthesis and processing and chromosomal organization, nucleosome regulation and epigenetics. Modern and fundamental experimental techniques and concepts are explored in detail. Students will learn how to use some genome databases and bioinformatics tools available online to improve their molecular biology research skills and knowledge. Readings are both from scientific journals as well as a textbook that includes interactive online content. Students enrolled in AS.020.650 will have additional assignments compared to those enrolled in AS.020.380.
Instructor(s): D. Zappulla; E. Moudrianakis; K. Beemon
Area: Natural Sciences.

AS.020.664. Advance Graduate Biophysical Chemistry.
This is a computer-assisted course that requires each student to bring a laptop to class AND lab each day they meet. The class will be taught in the Mathematica programming language and/or UNIX, but familiarity with the programs are NOT a requirement. The course is divided into two parts. In the Class portion (Tuesdays and Thursdays) students will be given instruction in the concepts of physical and quantitative biology. Students will learn to simulate biological processes, identify the relationship between data and models, and will learn to fit biological data. In the Lab portion (Mondays) students will learn to operate in the UNIX environment using standard UNIX commands and shell scripting. Database searches applicable to research questions of interest will be performed. The data will be processed and analyzed with UNIX and Mathematica. Must be taken in the same semester as 020.607. Biology graduate students only.
Instructor(s): K. Fleming; V. Hilser.
**AS.020.668. Advanced Molecular Biology.**
The course introduces students from a wide variety of backgrounds to the rigorous and elegant methods that have been used in modern molecular biology research, with an emphasis on analysis and reasoning. Recommended Course Background: AS.020.665
Instructor(s): R. Schleif.

**AS.020.670. Emerging Strategies and Applications in Biomedical Research.**
Up-to-date primary literature manuscripts related to new discoveries and new strategies that are allowing scientists to make amazing progress in biomedical research will be presented. Examples include: labeling neurons with up to 90 different colors to trace their circuitry, evolution studies in glowing bacteria, detecting several viruses on a single chip and using fiber optics and channel rhodopsin to induce sleep. Students should be interested in reading primary literature research papers and discussing them in class.
Instructor(s): S. Hattar
Area: Natural Sciences.

**AS.020.674. Graduate Biophysical Chemistry.**
This course will provide an overview of protein and nucleic acid structure, fundamentals of thermodynamics and kinetics, ligand binding, folding and stability of macromolecules, and the principles of biophysical methods such as fluorescence spectroscopy, NMR, and X-ray crystallography. Monday Discussion Session is optional. Recommended Course Background: AS.020.305, AS.020.306
Instructor(s): E. Roberts; V. Hilser.

**AS.020.679. Advanced Biological Microscopy.**
This course is intended to build upon the basic skills students acquired in the previous course. Students will be required to work on actual ongoing research projects. The course will emphasize the integration and use of various light and electron microscopic techniques and their application to various research related questions. The course will have primarily a practical "hands-on" component; but will also include theoretical considerations as students will read, analyze, and discuss current journal articles.
Prerequisites: AS.020.395 and AS.020.397 or permission of instructor
Instructor(s): J. McCaffery.

**AS.020.684. Fundamentals of Drug Discovery and Development.**
The creation and implementation of new approaches to the drug discovery and development process is a very active area of research. Currently, only one compound out of 5,000 that enter preclinical studies becomes a drug. Moreover, the development process is time consuming, lasting more than ten years on average. The rate of failure is extremely high. It has become evident that this field is in urgent need of revolutionary changes. This course will cover drug discovery issues ranging from the identification of hits to their optimization as drug candidates. Current as well as novel and proposed approaches aimed at accelerating discovery, potency optimization, selectivity, pharmacokinetics and other drug properties will be discussed. Grad students only.
Instructor(s): E. Freire
Area: Natural Sciences.

**AS.020.686. Advanced Cell Biology.**
All aspects of cell biology are reviewed and updated in this intensive course through critical evaluation and discussion of the current scientific literature. Topics include protein trafficking, membrane dynamics, cytoskeleton, signal transduction, cell cycle control, cell physiology, and the integration of these processes in neurons. Recommended Course Background: AS.020.306
Instructor(s): K. Cunningham.

**AS.020.699. CMDB Responsible Conduct in Research.**
This course involves discussions of ethical conduct and the responsible practice of scientific research. Department signature only; restricted to graduate students in Biology PhD students only.
Instructor(s): Staff.

**AS.020.716. Planets, Life, and the Universe Seminar.**
Based on the course Planets, Life and the Universe in the Fall, this seminar series is for students who would like to read and discuss interesting current papers in the field, including the latest developments that may lead to interesting ideas on interdisciplinary research.
Recommended Course Background: AS.171.333/AS.171.699 or AS.020.334/AS.020.616 Reading Material Papers will be assigned to read each week.

**AS.020.731. Critical Thinking in Biology.**
In this course, students will critically analyze modern and seminal primary research papers in molecular, cellular and developmental biology. This analysis will emphasize the logic and experimental design of a selected set of outstanding research publications from diverse fields. Graduate students enrolled will develop the skills needed to efficiently understand and critique the rapidly expanding literature and growing diversity of biological research methods. In preparation for each class, all course participants will be expected to read and thoroughly critique the assigned paper(s). All students will submit a short, critical analysis of each paper in advance of the class session in which the paper(s) will be covered. A student will lead each discussion (once per semester, dependent upon enrollment). Recommended Course Background: AS.020.637, AS.020.668, AS.020.674, and AS.020.686
Instructor(s): D. Zappulla; R. Johnston.

**AS.020.735. Seminar: Membrane Trafficking.**
The Membrane Trafficking seminar course consists of several weeks of lectures and discussions led by the professors discussing key background concepts in the field of membrane trafficking. Class meetings during the final weeks of the course are seminars on current topics in membrane trafficking, led by the students. Over the course of the semester, students will learn about the methods and logic of experiment design, model building and hypothesis testing, gain exposure to and skills in reading and summarizing scientific literature, and get experience with preparing and delivering an effective oral presentation. Fall/odd years.
Instructor(s): B. Wendland; J. McCaffery
Area: Natural Sciences.

**AS.020.738. Biological Spectroscopy.**
Instructor(s): L. Brand.
AS.020.739. Topics in Biochemistry.
The course is open to graduate students and advanced undergraduates - Undergraduates with instructor’s permission - “Topics in Biochemistry” deals with minireviews taken from the Journal of Biological Chemistry. Students select a topic of their choice from the “Compendium of Minireviews” for the current year, and present it before the class for discussion.
Instructor(s): M. Bessman.

AS.020.753. Logic and Methods in Modern Biology.
The purpose of this course is to gain experience in critical thinking about the logic and methods used in modern biological research. The main approach will be the critical reading, presentation, and discussion of primary research papers, and the preparation and presentation of a research proposal. It is held once a week on the NIH Bethesda campus. Grad students only.
Prerequisites: AS.020.637 AND AS.020.668 AND AS.020.674
Instructor(s): M. Lichten; O. Cohen-Fix
Area: Natural Sciences.

AS.020.801. Research - Biological Problems.
Independent research for the Ph.D. dissertation. Biology Ph.D. students only
Instructor(s): B. Wendland; Staff.

AS.020.802. Research-Biological Problems.
Biology Graduate students only.
Instructor(s): R. Kuruvilla; Staff.

AS.020.823. Introduction to Biology Research.
First year Biology Graduate Students only
Instructor(s): Staff.

AS.020.824. Introduction to Biology Research.
First year Biology Graduate Students only
Instructor(s): Staff.

AS.020.825. Introduction to Research.
Open to first year Biology graduate students only.
Instructor(s): Staff.

AS.020.826. Introduction to Biology Research.
Open to first year Biology graduate students only.
Instructor(s): Staff.

Cross Listed Courses

Neuroscience
AS.080.305. The Nervous System I. 3 Credits.
The Nervous System is a fully integrated, two-semester course that surveys the cellular and molecular biology of neurons as well as the structure and function of the nervous system. Cross-listed with Biology. No Freshmen.
Prerequisites: AS.080.203 OR AS.050.203 OR AS.200.141 or 080.105 or Permission
Instructor(s): H. Zhao; S. Hendry
Area: Natural Sciences.

Biophysics
AS.250.351. Reproductive Physiology. 2 Credits.
Focuses on reproductive physiology and biochemical and molecular regulation of the female and male reproductive tracts. Topics include the hypothalamus and pituitary, peptide and steroid hormone action, epididymis and male accessory sex organs, female reproductive tract, menstrual cycle, ovulation and gamete transport, fertilization and fertility enhancement, sexually transmitted diseases, and male and female contraceptive methods. Introductory lectures on each topic followed by research-oriented lectures and readings from current literature.
Instructor(s): B. Zirkin; R. Cone
Area: Natural Sciences.

Biophysics

Research Activities of Primary Faculty

Mucosal Protection and Reproductive Health (Dr. Cone)
The Mucosal Protection Laboratory is developing methods women can use for protection against both pregnancy and sexually transmitted diseases, including AIDS. Basic research projects include investigating the ability of mucosal antibodies and vaginal acidity (lactic acid) to inactivate viral and bacterial pathogens, and how normal vaginal lactobacilli suppress the array of anaerobic bacteria that causes BV (bacterial vaginosis). BV is the most common vaginal infection (one in three women at any given time) and women with this little-recognized infection are at markedly increased risk of sexually transmitted infections, miscarriage, and premature birth. Research and development of microbicides for preventing BV and sexually transmitted diseases is being sponsored by NIH in collaboration with ReProtect, Inc., through a research agreement with Johns Hopkins University. Research on nanoparticles for enhanced delivery of drugs to mucosal surfaces is being done in collaboration with Dr. Justin Hanes, Director of Nanomedicine at the Johns Hopkins School of Medicine.

Protein Engineering and pH Sensing (Dr. Garcia-Moreno)
To understand how biological macromolecules work, or to design and engineer new ones, it is necessary to understand in detail the relationship between structure and energetics. We study this problem in our lab by analysis of the connection between structure, thermodynamic stability, and dynamics of proteins with a combination of computational and experimental methods. The approach depends heavily on the
application of NMR spectroscopy, X-ray crystallography, and equilibrium thermodynamics. The experiments contribute the physical insight needed to guide the development of computational methods for structure-based energy calculations, as well as the data required to benchmark these methods. We are focused on problems of protein electrostatics because electrostatic energy is the most useful metric for correlating structure with function in all the most important energy transduction processes in biological systems. We focus on the engineering of proteins with pH sensing.

**Protein Folding (Dr. Rose)**

A globular protein will spontaneously self-assemble its components into a highly organized three-dimensional structure under appropriate physiological conditions in a process called protein folding. Our principal goal is to understand protein folding, using an approach involving simulation, modeling, and analysis. In the classical model of folding, an unfolded protein visits an astronomical number of possible conformations. In contrast, we recently reevaluated this popular model and found that the unfolded state is far less heterogeneous than previously thought. This realization has prompted us to pursue a novel strategy to predict folding.

**Biophysics of RNA (Dr. Woodson)**

The control of cell growth and type depends on the ability of RNA to fold into complex three-dimensional structures. RNA catalysts are good models for studying the physical principles of RNA folding, and the assembly of protein-RNA complexes such as the ribosome. Changes in RNA three-dimensional structure are monitored by fluorescence spectroscopy, "X-ray footprinting," and neutron scattering. Bacterial and yeast expression systems are used to study intracellular folding of RNA.

**Protein Folding, Notch Signaling (Dr. Barrick)**

The folding of proteins into their complex native structures is critical for proper function in biological systems. This spontaneous process of self-assembly is directed by physical chemistry, although the rules are not understood. We are using repeat-proteins, linear proteins with simple architectures, to dissect the energy distribution, sequence-structure-function relationships that can ultimately be used to describe membrane protein populations in both normal and disease states, to design novel membrane proteins, and to develop therapeutics that modulate membrane protein functions in desirable ways.

**Chromatin Remodeling (Dr. Bowman)**

Chromatin, the physical packaging of eukaryotic chromosomes, plays a major role in determining the patterns of gene silencing and expression across the genome. Chromatin remodelers are multicomponent protein machines that establish and maintain various chromatin environments through the assembly, movement, and eviction of nucleosomes. At present, the molecular mechanisms by which chromatin remodelers alter chromatin structure are not understood. Our long-term goal is to gain a molecular understanding of the remodeling process and in particular how remodeling is coupled to the transcriptional machinery. Our strategy is to couple structure determination with functional studies to determine how different components of a chromatin remodeler cooperate and interact with the nucleosome substrate.

**Physical Systems Biology (Dr. Roberts)**

The laboratory is devoted to understanding and modeling the behavior of cells as complex systems. We are using tools from the general area of biological physics: potential- and probability-based computational modeling along with limited applications of single-cell, single-molecule experimental techniques (split roughly 80% theoretical/computational and 20% experimental). We term this approach “Physical Systems Biology” and it lies at the interface of biology, computer science, and physics. While this approach absolutely requires in-depth characterization of particular components, an equally critical step is then stepping back to consolidate the knowledge gained into a model of the entire cellular system. Incorporating many varied types of biological data into a genuine in silico model for the cell is the long-range goal of the laboratory.

**Theoretical Biophysics (Dr. Johnson)**

Protein interaction networks capture the cooperation required by proteins to carry out complex functions in the cell. The ability of proteins to assemble to form transient or permanent complexes and transmit signals or nutrients depends on their concentrations, their binding partners, and their spatial and temporal dynamics in the cell. Using computation and theory, we are building models to accurately simulate these multi-protein assembly processes, such as those occurring in endocytosis, that are critical to cell survival. We complement these detailed simulations with coarse-grained models to...
Facilities

The department shares state-of-the-art equipment for X-ray diffraction analysis, NMR spectroscopy, solution biophysical studies, and numerically intensive computer simulations with other biophysics units and Departments within the University. In addition, the Department houses a full complement of equipment for molecular biological and biochemical work, and for various kinds of spectroscopy.

Bachelor of Arts in Biophysics

The undergraduate major in biophysics is intended for the student interested in advanced study of biophysics or the related fields of biochemistry, quantitative or computational biology, molecular biology, physiology, pharmacology, and neurobiology. The biophysics major fulfills all typical science premedical requirements with the exception of Organic Chemistry. The student majoring in biophysics, with the advice of a member of the department, chooses a program of study that will include foundation courses in biology, chemistry, and physics followed by advanced studies in modern biophysics and research. The biophysics major requires that students earn a grade of “C-” or below must repeat the course and earn a better grade. A student who earns a grade of “C” or greater for all courses required in the major. A student who earns a grade of “C-” or below must repeat the course and earn a better grade.

For additional information on academic requirements and department events for majors, check the undergraduate website (http://biophysics.jhu.edu/undergraduate_program.html).

Requirements for the B.A. Degree

(See also Requirements for a Bachelor’s Degree (p. 24).)

Major requirements are:

<table>
<thead>
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<th>Chemistry</th>
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<tbody>
<tr>
<td>AS.030.101</td>
<td>Introductory Chemistry I</td>
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<tr>
<td>AS.030.105</td>
<td>Introductory Chemistry Lab I</td>
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<tr>
<td>AS.030.102</td>
<td>Introductory Chemistry II &amp; Introductory Chemistry Laboratory II</td>
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<tr>
<td>or AS.030.103</td>
<td>Applied Chemical Equilibrium and Reactivity w/lab</td>
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<tr>
<td>AS.030.205</td>
<td>Organic Chemistry I</td>
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<td>AS.030.206</td>
<td>Organic Chemistry II</td>
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<tr>
<td>or AS.030.212</td>
<td>Advanced Organic Chemistry</td>
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<thead>
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<th>Physics</th>
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<tbody>
<tr>
<td>AS.171.101</td>
<td>General Physics/Physical Science Major I</td>
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</tr>
<tr>
<td>or AS.171.103</td>
<td>General Physics I for Biological Science Majors</td>
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<tr>
<td>or AS.171.105</td>
<td>Classical Mechanics I</td>
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<tr>
<td>or AS.171.107</td>
<td>General Physics for Physical Sciences Majors (AL)</td>
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<tr>
<td>AS.173.111</td>
<td>General Physics Laboratory I</td>
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<tr>
<td>or AS.173.115</td>
<td>Classical Mechanics Laboratory</td>
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<tr>
<td>AS.171.102</td>
<td>General Physics: Physical Science Majors II</td>
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</tr>
<tr>
<td>or AS.171.104</td>
<td>General Physics/Biology Majors II</td>
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<tr>
<td>or AS.171.106</td>
<td>Electricity and Magnetism I</td>
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<th>Mathematics</th>
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<td>AS.110.108</td>
<td>Calculus I</td>
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<tr>
<td>AS.110.109</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.113</td>
<td>Honors Single Variable Calculus</td>
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</tr>
<tr>
<td>AS.110.202</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.211</td>
<td>Honors Multivariable Calculus</td>
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</tr>
<tr>
<td>AS.110.201</td>
<td>Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.212</td>
<td>Honors Linear Algebra</td>
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</tr>
<tr>
<td>or EN.550.291</td>
<td>Linear Algebra and Differential Equations</td>
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<tr>
<th>Biophysics</th>
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<tr>
<td>AS.250.205</td>
<td>Introduction to Computing</td>
<td>3</td>
</tr>
<tr>
<td>AS.250.253</td>
<td>Protein Engineering and Biochemistry Lab</td>
<td>3</td>
</tr>
<tr>
<td>AS.250.315</td>
<td>Biochemistry I</td>
<td>4</td>
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<tr>
<td>AS.250.316</td>
<td>Biochemistry II</td>
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</tr>
<tr>
<td>AS.250.345</td>
<td>Cellular and Molecular Physiology</td>
<td>3</td>
</tr>
<tr>
<td>AS.250.372</td>
<td>Biophysical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>AS.250.381</td>
<td>Spectroscopy and Its Application in Biophysical Reactions</td>
<td>3</td>
</tr>
<tr>
<td>AS.250.383</td>
<td>Molecular Biophysics Laboratory</td>
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<tr>
<th>Research (Two semesters or 6 credits required)</th>
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<tbody>
<tr>
<td>AS.250.521</td>
<td>Research Problems</td>
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</tr>
<tr>
<td>AS.250.522</td>
<td>Research Problems</td>
<td>0 - 3</td>
</tr>
<tr>
<td>or AS.250.574</td>
<td>Research Problems</td>
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<tr>
<th>Major Electives (Four required)</th>
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<tbody>
<tr>
<td>Two courses from List #1 (see below)</td>
<td>5-8</td>
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</tr>
<tr>
<td>Two courses from List #1 or #2 (see below)</td>
<td>6-8</td>
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<table>
<thead>
<tr>
<th>List #1</th>
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<tbody>
<tr>
<td>AS.250.265</td>
<td>Introduction to Bioinformatics</td>
<td>3</td>
</tr>
<tr>
<td>AS.250.301</td>
<td>Laboratory in Molecular Evolution: Using ancestral (Lab in Molecular Evolution)</td>
<td>3</td>
</tr>
<tr>
<td>AS.250.313</td>
<td>Molecular and Cellular System Biology (Molecular and Cellular Systems Biology)</td>
<td>3</td>
</tr>
<tr>
<td>AS.250.353</td>
<td>Computational Biology</td>
<td>3</td>
</tr>
<tr>
<td>AS.250.401</td>
<td>Advanced Seminar in Structural and Physical Virology</td>
<td>3</td>
</tr>
<tr>
<td>AS.250.403</td>
<td>Bioenergetics: Origins, Evolution and Logic of Living Systems (Bioenergetics)</td>
<td>3</td>
</tr>
<tr>
<td>AS.250.411</td>
<td>Advanced Seminar in Structural Biology of Chromatin</td>
<td>3</td>
</tr>
<tr>
<td>AS.250.421</td>
<td>Advanced Seminar in Membrane Protein Structure, Function &amp; Pharmacology</td>
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</tr>
<tr>
<td>AS.171.202</td>
<td>Modern Physics</td>
<td>4</td>
</tr>
<tr>
<td>AS.171.309</td>
<td>Wave Phenomena with Biophysical Application</td>
<td>4</td>
</tr>
<tr>
<td>or AS.171.201</td>
<td>Special Relativity/Waves</td>
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<tr>
<th>List #2</th>
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<tbody>
<tr>
<td>AS.020.306</td>
<td>Cell Biology</td>
<td>4</td>
</tr>
<tr>
<td>AS.020.330</td>
<td>Genetics</td>
<td>3</td>
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</table>

extend to larger protein interaction networks and characterize the role of network topology on protein binding specificity and dynamics.
AS.020.344  Virology  3  
AS.020.346  Immunobiology  3  
AS.020.363  Developmental Biology  3  
AS.020.380  Molecular Biology  3  
EN.550.211  Probability and Statistics for the Life Sciences  4  
or EN.550.311  Probability and Statistics for the Biological Sciences and Engineering  3  
Any course 300-level or higher in Biology, Biophysics, Chemistry, Mathematics, and Physics that is 3 credits or greater.  3  

Scheduling conflicts occasionally arise due to schedule changes in the departments of Physics, Biology, and Chemistry. Prospective biophysics majors should consult with the departmental undergraduate advisor to determine how the conflicts can be resolved.

Sample Program for the B.A. in Biophysics

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Fall</td>
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<tr>
<td>AS.030.101 Introductory Chemistry I</td>
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<tr>
<td>AS.030.105 Introductory Chemistry Lab I</td>
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<tr>
<td>AS.110.108 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>AS.171.101 General Physics: Physical Science Major I</td>
<td>4</td>
</tr>
<tr>
<td>AS.173.111 General Physics Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>Elective Humanities/ Social Sciences/ Writing Intensive</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>AS.030.102 Introductory Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>AS.030.106 Introductory Chemistry Laboratory II</td>
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</tr>
<tr>
<td>AS.110.109 Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>AS.250.131 Topics - Biophysics Research</td>
<td>1</td>
</tr>
<tr>
<td>AS.171.102 General Physics: Physical Science Majors II</td>
<td>4</td>
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<tr>
<td>AS.173.112 General Physics Laboratory II</td>
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<td>Elective Humanities/ Social Sciences/ Writing Intensive</td>
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<tr>
<th>Second Year</th>
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<td>AS.030.205 Organic Chemistry I</td>
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<tr>
<td>AS.110.202 Calculus III</td>
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<tr>
<td>AS.250.253 Protein Engineering and Biochemistry Lab</td>
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<tr>
<td>AS.250.345 Cellular and Molecular Physiology</td>
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<td>Spring</td>
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<td>AS.250.206 Organic Chemistry II</td>
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<tr>
<td>AS.110.201 Linear Algebra</td>
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<tr>
<td>AS.250.205 Introduction to Computing</td>
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<tr>
<td>AS.250.265 Introduction to Bioinformatics</td>
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<tr>
<th>Third Year</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Fall</td>
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<tr>
<td>AS.250.315 Biochemistry I</td>
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<tr>
<td>AS.250.353 Computational Biology</td>
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</tr>
<tr>
<td>AS.250.372 Biophysical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>AS.250.521 Research Problems</td>
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<td>Open Elective</td>
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<th>Fourth Year</th>
<th>Credits</th>
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<td>Fall</td>
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<tr>
<td>AS.171.310 Biological Physics</td>
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<tr>
<td>AS.250.381 Spectroscopy and Its Application in Biophysical Reactions</td>
<td>3</td>
</tr>
<tr>
<td>List #1 or List #2 Elective</td>
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</tr>
<tr>
<td>Elective Humanities/ Social Sciences/ Writing Intensive</td>
<td>3</td>
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<tr>
<td>Open Elective</td>
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<tr>
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<th>Credits</th>
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<tbody>
<tr>
<td>Open Elective</td>
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</table>

Total Credits: 120

* AS.250.265 Introduction to Bioinformatics and AS.250.353 Computational Biology are List #1 electives.

A Note on Writing Courses

The Krieger School of Arts & Sciences requires 12 credits total of courses with a “Writing” (or “W”) designation. Although many humanities and social science courses have a writing designation, biophysics majors are also able to fulfill writing credits by taking the courses within the major, which will give them exposure to scientific writing. Current examples include:

- AS.250.383 Molecular Biophysics Laboratory
- AS.250.401 Advanced Seminar in Structural and Physical Virology
- AS.250.403 Bioenergetics: Origins, Evolution, and Logic of Living Systems (expected new course)
- AS.250.411 Advanced Seminar in Structural Biology of Chromatin
Students in this program will be required to take courses such as:

<table>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>AS.250.685</td>
<td>Proteins &amp; Nucleic Acids</td>
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</tr>
<tr>
<td>AS.250.689</td>
<td>Physical Chemistry of Biological Macromolecules</td>
<td>3</td>
</tr>
<tr>
<td>AS.250.690</td>
<td>Methods in Molecular Biophysics</td>
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Total Credits: 9

Fulfilling the writing credits solely with these biophysics courses requires advanced planning because not all of these courses are offered every year.

**Honors in Biophysics**

The Jenkins Biophysics department offers outstanding students the opportunity to earn departmental honors in Biophysics. This honors distinction appears on the student’s transcript upon graduation. If the honors requirements are approved prior to early April, an “Honors” distinction will additionally appear in the commencement program.

The requirements for departmental honors in biophysics are two-fold:

The student must maintain an overall GPA of 3.5 or greater

The student must write and receive approval of an Honors paper that is based on their 6 credits of required research.

Generally, the Honors paper must be submitted no later than March 1 of the senior year to meet the commencement deadline. Details on the format of the Honors paper can be found on the departmental website. Schedule a meeting with your Jenkins faculty adviser if you are interested in seeking departmental honors.

**Ete Z. Szüts Undergraduate Research Travel Award**

This award, named in honor of a Ph.D. graduate student from this department, will provide funds for up to 80 percent of the transportation costs of undergraduate research students in biophysics to attend a scholarly meeting. Recipients must be sponsored by a member of the departmental faculty who will be at the same meeting. Schedule a meeting with your Jenkins faculty adviser if you are interested in the Szüts Travel Award.

**H. Keffer Hartline Award for Excellence in Undergraduate Research in Biophysics**

This award honors a senior Biophysics Major for excellence in undergraduate research in Biophysics.

**Detlev W. Bronk Award for Outstanding Scholarship in Biophysics**

This award honors a senior Biophysics major for outstanding achievements in academics and research in Biophysics.

**Master’s Program**

**Fifth-Year Master’s Degree**

The T. C. Jenkins Department of Biophysics offers outstanding undergraduate biophysics majors the opportunity to advance their education through a combined, 5-year B.A., M.A. program. Candidates for this program must be current biophysics undergraduates with a departmental GPA of 3.5 or greater and a strong research history. All bachelor’s requirements must be completed before matriculating into the Master’s program.

Students in this program will be required to take courses such as:

- **AS.250.421 Advanced Seminar in Membrane Protein Structure, Function & Pharmacology**

Doctoral Programs

The Thomas C. Jenkins Department of Biophysics offers two Ph.D. programs. The annual application deadline is January 15.

**Program in Molecular Biophysics**

The Program in Molecular and Biophysics (PMB), which began in 1990, brings together Johns Hopkins faculty at the Homewood and Medical School campuses. Its goal is to prepare students to deal with interdisciplinary problems in molecular biophysics and structural biology. For more information, see PMB Web page at pmb.jhu.edu.

**Admission**

All applicants must have a B.S. or a B.A. degree. Applications from students in any branch of science are welcome; however, we are particularly eager to attract applicants with undergraduate majors in physics, chemistry, mathematics, or relevant areas of engineering. There are no required undergraduate courses. Instead, applications are examined for general strength of scientific background. The Graduate Record Examination, including a subject test, is required.

Please use the Johns Hopkins University online application, selecting biophysics under the School of Arts & Sciences. Supplementary materials (letters of recommendation, GRE scores, statement, etc.) should be sent directly to:

**Program in Molecular Biophysics**

Johns Hopkins University
101 Jenkins Hall
3400 N. Charles Street
Baltimore, MD 21218

**Requirements for the Ph.D.**

Programs are developed individually for each student, and due account is taken of previous training.

**The following courses are required:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.500.401</td>
<td>Research Laboratory Safety</td>
<td>1</td>
</tr>
<tr>
<td>AS.250.649</td>
<td>Introduction to Computing in Biology</td>
<td></td>
</tr>
<tr>
<td>AS.250.685</td>
<td>Proteins &amp; Nucleic Acids</td>
<td></td>
</tr>
<tr>
<td>AS.250.689</td>
<td>Physical Chemistry of Biological Macromolecules</td>
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<tr>
<td>AS.250.690</td>
<td>Methods in Molecular Biophysics</td>
<td></td>
</tr>
<tr>
<td>AS.250.750</td>
<td>Medical Physics of Biological Macromolecules</td>
<td></td>
</tr>
<tr>
<td>AS.250.760</td>
<td>Methods in Molecular Biophysics</td>
<td></td>
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</tbody>
</table>

At the School of Medicine: ME.100.705 Computer Modeling of Biological Macromolecules and ME.330.709 Organic Mechanisms in Biology

Students have to demonstrate strength in the following four areas: biological sciences, chemistry, mathematics, and physics. Typically, incoming students already have strength in at least two of these areas from undergraduate training. Deficiencies will be remedied.
through additional course work or self-study. Students must pass a proficiency exam in biological sciences at the end of their first year. In the mathematics and physics areas, students will be required to have calculus through the study of several variables, and one year of calculus-based physics, respectively. In the chemistry area, students are required to have basic chemistry, organic chemistry, and physical chemistry. In biological sciences, students are required to have knowledge of biochemistry and cell and molecular biology.

Additional academic requirements include completion of three 12-week laboratory rotations, a one-hour seminar on a current topic of biophysical research, and passing the Graduate Board Oral Preliminary Examination, to be given near the end of the second year.

Completion of an original investigation and presentation of a dissertation are required. The dissertation must be accepted by the program and be considered worthy of publication by the referees. Students must then pass an oral examination on their dissertation and related topics.

The Program in Cell, Molecular Developmental Biology and Biophysics

The Program in Cell, Molecular Developmental Biology and Biophysics (CMDB) gives students a strong background in modern biology and physical biochemistry. This combination prepares students to study complex biological phenomena using quantitative physical methods. The training faculty reside in the T. C. Jenkins Department of Biophysics, the Biology Department, and the Carnegie Institutions Department of Embryology, all located on the Johns Hopkins Homewood campus. Students take core graduate courses in cell, molecular, and developmental biology, and in biophysics, and complete four eight-week rotations their first year. Other requirements include the Graduate Board Oral Preliminary Examination, given before the end of the second year, and successful defense of the dissertation.

For more information about CMDB, please check its website (cmdb.jhu.edu). Interested applicants can apply online via the program website or by U. S. mail to:

Ms. Joan Miller (joan@jhu.edu)
Graduate Admissions Coordinator
CMDB Program
Department of Biology
Johns Hopkins University
3400 N. Charles Street
Baltimore, MD 21218
410-516-5502

Financial Aid

Two National Institutes of Health training grants currently provide stipend and tuition support: one is for students who enroll in PMB and the other is for those who enter CMDB. Students supported by these training grants must be U.S. citizens or permanent residents. In addition, several research assistantships funded by grants and contracts awarded to faculty by outside agencies may be available to qualified students. University fellowships providing remission of tuition are also available. Graduate students in biophysics are eligible for and encouraged to apply for various nationally administered fellowships, such as National Science Foundation fellowships. Information on these and other support mechanisms can be obtained through the fellowship advisor at the applicant’s college or from the National Research Council:

Attn: Fellowships
1000 Thomas Jefferson St.
Washington, D.C., 20007.

It is anticipated that financial support covering normal living costs and tuition will be made available to accepted students. Support for foreign students is extremely limited.

For current faculty and contact information go to http://biophysics.jhu.edu/faculty_and_research.html

Faculty

Doug Barrick
Professor: energetic and structural basis of Notch signal transduction, protein energetics, repeat protein folding.

Gregory Bowman
Assistant Professor: biophysical and biochemical characterization of chromatin-remodeling proteins; X-ray crystallography.

Richard Cone
Professor: mucosal protective mechanisms, contraception and prevention of sexually transmitted diseases, cellular and molecular mechanics.

Bertrand Garcia-Moreno E.
Professor (Chair): experimental and computational studies of protein energetics and electrostatics.

Karen G. Fleming
Associate Professor: energetics and folding of membrane proteins.

Margaret Johnson
Assistant Professor: computational and theoretical studies of protein-protein interactions; protein assembly and dynamics.

Juliette T. J. Lecomte
Professor: structure and dynamics of proteins in solution; NMR spectroscopy.

Elijah Roberts
Assistant Professor: development and application of in-silico cell models.

George Rose
Krieger-Eisenhower Professor: modeling and simulation of protein folding and protein structure.

Sarah A. Woodson
Thomas C. Jenkins Professor: folding and assembly of RNA and RNA-protein complexes.

Research/Teaching Faculty

Ana Damjanovic
Associate Research Scientist (part-time): computational studies of protein structure, dynamics and function.

Carolyn Fitch
Senior Lecturer: computational and experimental studies on protein structure, function, and energetics.

Patrick Fleming
Senior Lecturer: computational studies of protein folding, structure and solvation.

**Secondary Appointments, Biology**

Ernesto Freire  
Professor: biophysical chemistry, thermodynamics of macromolecular assemblies in membranes protein-lipid interactions, microcalorimetry.

Vincent J. Hilser  
Professor: conformational fluctuations in function, disease, and evolution.

Evangelos Moudrianakis  
Professor: mechanisms of enzyme action, especially of chloroplast and mitochondrial coupling factors. Human chromosome structure and function, self-assembly of chromosomal components.

Robert Schleif  
Professor: protein-DNA interactions and regulation of gene activity.

Beverly Wendland  
Professor (Chair): molecular mechanisms of endocytosis in yeast and mammalian cells.

**Secondary Appointments, Chemistry**

David E. Draper  
Professor: physical biochemistry protein-RNA recognition, structure and function of ribosomal RNAs, translational control of gene expression, RNA structural motifs.

Christopher Falzone  
Teaching Professor: NMR spectroscopy of proteins.

Craig A. Townsend  
Professor: organic and bioorganic chemistry, biosynthesis of natural products, stereochemical and mechanistic studies of enzyme action, application of spectroscopic techniques to the solutions of biological problems.

**Joint Appointments**

P. C. Huang  
Professor (Biochemistry and Molecular Biology): organization and regulation of stress inducible genes and their gene products.

**Affiliations with the School of Medicine**

L. Mario Amzel  
Professor: X-ray diffraction studies of biological macromolecules; enzymes involved in oxidate reductions and phosphorylation; experimental and modeling studies of binding proteins.

James M. Berger  
Professor: structural and mechanistic biochemistry of protein/nucleic acid machines and assemblies.

Dominique Frueh  
Assistant Professor: NMR studies of protein dynamic modulations and conformations in active enzymatic systems.

Albert Lau  
Assistant Professor: characterization of receptor-ligand interactions and macromolecular conformational transitions using computational and crystallographic approaches.

Daniel J. Leahy  
Professor: X-ray diffraction studies of cell-surface receptors and extracellular matrix components.

Jungsan Sohn  
Assistant Professor: structure and function of biological stress sensors.

Herschel Wade  
Assistant Professor: structural, functional, and energetic treatments of ligand-activated molecular switches.

Cynthia Wolberger  
Professor: three-dimensional structure of protein-DNA complexes, X-ray crystallography.

Jie Xiao  
Assistant Professor: dynamics of molecular process at single molecule and single cell level.

For current course information and registration go to https://isis.jhu.edu/classes/

**Courses**

**AS.250.106. Introduction to Biomedical Research and Careers I. 1 Credit.**

Lecture Series designed for those curious about a career in life sciences, medicine and public health. A novel format combining presentation with didactic interviews gives a broad view of a range of research topics, experimental approaches and logistics, and practical applications as well as career paths. Emphasis is on the excitement of scientific explorations not an abundance of the technical facts and figures. Freshmen and non-science majors Co-listed with AS50.300 and AS.250.306  
Instructor(s): P. Huang  
Area: Natural Sciences.

**AS.250.131. Topics - Biophysics Research. 1 Credit.**

Introduction of contemporary biophysics research topics through presentations, discussion and hands-on exercise. Freshmen and sophomores only. S/U grading only.  
Instructor(s): K. Fleming; R. Cone  
Area: Natural Sciences.

**AS.250.200. Networks and Systems. 3 Credits.**

The science of complex systems and their behavior as networks has emerged as a field with many connections to Biology and Biophysics. This course is aimed to provide an overview of the emerging concepts and methods for understanding complex networks. While the main focus will be on Biological connections, students will be introduced to both the concepts and the analysis methods that have been applied to the study of networked complex systems in a general context. The main goal of the class is to provide a starting point for thinking about a field that has connections in math, computer science, biology and engineering.  
Area: Natural Sciences.
AS.250.205. Introduction to Computing. 3 Credits.
Course introduces students to the use of computers for applications in many areas (natural and social sciences, humanities, and engineering). Students will obtain basic computing skills and tools, including familiarity with UNIX, with the use of complex UNIX commands (e.g. grep, awk, sed) and shell scripts, with the Python programming language, with graphing software and with a package for numerical and statistical computing, such as Mathematica or Matlab. Brief weekly lectures followed by extensive hands-on computer laboratories with examples from many disciplines. No prerequisites.
Instructor(s): A. Robinson; C. Fitch
Area: Natural Sciences.

AS.250.253. Protein Engineering and Biochemistry Lab. 3 Credits.
Entry-level project laboratory. Protein engineering and biotechnology techniques used to modify proteins to give them new structural or physical properties. Students introduced to standard biochemistry laboratory practice and protein science; perform experiments in site-directed mutagenesis, protein purification and structural and physical characterization of biological macromolecules.
Instructor(s): C. Fitch
Area: Natural Sciences.

AS.250.265. Introduction to Bioinformatics. 3 Credits.
Lectures and computer labs introduce bioinformatics concepts, algorithms and databases. Computer based exercises cover sequence comparisons, database searching, gene expression analysis, and phylogenetic relationships. Emphasis on algorithms and a critical interpretation of information obtained. Instructor permission required.
Instructor(s): P. Fleming
Area: Natural Sciences.

AS.250.300. Introduction to Biomedical Research and Careers II. 1 Credit.
Lecture Series designed for those curious about a career in life sciences, medicine and public health. A novel format combining presentation with didactic interviews gives a broad view of a range of research topics, experimental approaches and logistics, and practical applications as well as career paths. Emphasis is on the excitement of scientific explorations not an abundance of the technical facts and figures. For those who have already taken AS.250.106 or AS.250.300. Co-listed with AS.250.106 & AS.250.300.
Instructor(s): P. Huang
Area: Natural Sciences.

AS.250.304. Mathematical Approaches to Biological Problems. 3 Credits.
Mathematical methods to solve real-world or equivalent biological problems. Methods including differential equations, matrix algebra, partial differentiation, and probability used to address related biological and biophysical questions. URL:http://roselab.jhu.edu/~lperskie/biological_math_online.html.
Prerequisites: (AS.110.106 AND AS.110.107) OR (AS.110.108 AND AS.110.109) OR EQUIVALENT
Area: Natural Sciences.

AS.250.306. Introduction to Biomedical Research and Careers III. 1 Credit.
Lecture Series designed for those curious about a career in life sciences, medicine and public health. A novel format combining presentation with didactic interviews gives a broad view of a range of research topics, experimental approaches and logistics, and practical applications as well as career paths. Emphasis is on the excitement of scientific explorations not an abundance of the technical facts and figures. For those who have already taken AS.250.106 or AS.250.300. Co-listed with AS.250.106 & AS.250.300.
Instructor(s): P. Huang
Area: Natural Sciences.

AS.250.313. Molecular and Cellular System Biology. 4 Credits.
This course covers the principles of biological networks, with an emphasis on computational analysis. Networks ranging from simple biochemical pathways to genome-scale metabolic, regulatory, and signaling networks will be studied. Topics include dynamic modeling of biochemical pathways, steady-state analysis of cellular metabolic networks, inference of gene regulatory networks using -omics data, and systems biology approaches to studying signal transduction. Recommended Course Background: Calculus (AS.110.106 and AS.110.107), Biochemistry (AS.250.315 or AS.020.305 or equivalent), Computational Biology (AS.250.353) or Introduction to Bioinformatics (AS.250.265) or prior exposure to programming.
Instructor(s): E. Roberts.

AS.250.315. Biochemistry I. 4 Credits.
Foundation for advanced classes in Biophysics and other quantitative biological disciplines. Lecture and computer laboratory. This class is the first semester of a two semester course in biochemistry. Topics in Biochemistry I include chemical and physical properties of biomolecules and energetic principles of catalytic pathways. Computer labs include extensive use of molecular graphics and modelling of reaction kinetics and pathway flux. Co-listed with AS.030.315
Prerequisites: If you have completed AS.250.307 you may not register for AS.250.315.
Instructor(s): P. Fleming
Area: Natural Sciences.

AS.250.316. Biochemistry II. 3 Credits.
Molecular basis of gene regulation, signal transduction and control of cell metabolism, with an emphasis on physical concepts and mechanisms. Format will include lectures and class discussion of readings from the literature.
Prerequisites: (AS.030.305 AND AS.030.306) AND (AS.250.315 OR AS.020.305 OR AS.030.315) or instructor permission.
Instructor(s): S. Rokita; S. Woodson.
AS.250.329. **Statistics and Data Analysis for BioScience. 3 Credits.**
This course covers topics in probability theory and statistics frequently used in analysis and interpretation of biomedical data. Applications of these theories in biosciences are extensively discussed using primary literature to enable students to apply covered materials in their own field of research.
**Prerequisites: AS.110.106**
Instructor(s): R. Behrouzi  
Area: Natural Sciences.

AS.250.345. **Cellular and Molecular Physiology. 3 Credits.**
How cells and molecules function as parts of whole organisms. Topics include speeds of diffusion, motor proteins, and animal motility; bacterial size, shape, and chemotaxis; sensory and neuronal mechanisms; osmosis; mucosal protective mechanisms; cellular and organismic circulation and respiration.
**Instructor(s):** R. Cone  
Area: Natural Sciences.

AS.250.351. **Reproductive Physiology. 2 Credits.**
Focuses on reproductive physiology and biochemical and molecular regulation of the female and male reproductive tracts. Topics include the hypothalamus and pituitary, peptide and steroid hormone action, epididymis and male accessory sex organs, female reproductive tract, menstrual cycle, ovulation and gamete transport, fertilization and fertility enhancement, sexually transmitted diseases, and male and female contraceptive methods. Introductory lectures on each topic followed by research-oriented lectures and readings from current literature.
**Instructor(s):** B. Zirkin; R. Cone  
**Area:** Natural Sciences.

AS.250.353. **Computational Biology. 3 Credits.**
This course introduces several computational approaches to the study of biological macromolecules. Students will learn to use computational tools to carry out and analyze molecular simulations and how to work in a UNIX networked environment. A major goal is to understand molecular systems as ensembles. No programming experience is required. A previous biochemistry course is strongly recommended.
**Prerequisites: (AS.030.101 AND AS.030.102). AS.250.345 is strongly recommended.**
Instructor(s): P. Fleming  
Area: Natural Sciences.

AS.250.372. **Biophysical Chemistry. 4 Credits.**
Course provides working understanding of physical chemistry of the cell, emphasizing problem solving. Topics include classical and statistical thermodynamics, thermodynamics of proteins and nucleic acids, protein folding, calorimetry, ligand binding thermodynamics, linkage, cooperativity and anticooperativity, allosteric models, lattice statistics, helix-coil transition, and polymer theory. When appropriate, students visit the laboratory to set up data collection and learn to analyze the resulting data computationally, using nonlinear least-squares methods. Recommended Course Background: Calculus, Organic Chemistry, and Introductory Physics.
**Instructor(s):** D. Barrick  
Area: Natural Sciences.

AS.250.381. **Spectroscopy and Its Application in Biophysical Reactions. 3 Credits.**
Continues Biophysical Chemistry (AS.250.372). Fundamentals of quantum mechanics underlying various spectroscopies (absorbance, circular dichroism, fluorescence, NMR); application to characterization of enzymes and nucleic acids.
**Instructor(s):** J. Lecomte; J. Schildbach; Staff  
**Area:** Natural Sciences.

AS.250.383. **Molecular Biophysics Laboratory. 3 Credits.**
An advanced inquiry based laboratory course covering experimental biophysical techniques to introduce fundamental physical principles governing the structure/function relationship of biological macromolecules. Students will investigate a “model protein”, staphylococcal nuclease, the “hydrogen atom” of biophysics. Using a vast library of variants, the effect of small changes in protein sequence will be explored. A variety of techniques will be used to probe the equilibrium thermodynamics and kinetics of this system; chromatography, spectroscopy (UV-Vis, fluorescence, circular dichroism, nuclear magnetic resonance), calorimetry, analytical centrifugation, X-ray crystallography and computational methods as needed for analysis. These methods coupled with perturbations to the molecular environment (ligands, co-solvents, and temperature) will help to elucidate protein function.
**Instructor(s):** C. Fitch  
**Writing Intensive.**

AS.250.391. **Proteins and Nucleic Acids. 3 Credits.**
Basic computing for biological applications. First two weeks of class are an introduction to programming through Python. The rest of the course is on the structure of proteins, DNA and RNA, and their functions in living systems. Advanced lecture and discussion course, with discussions based on readings from the scientific literature.
**Prerequisites: AS.020.305 AND AS.250.372**
Instructor(s): G. Bowman; S. Woodson  
**Area:** Natural Sciences.

AS.250.401. **Advanced Seminar in Structural and Physical Virology. 3 Credits.**
Illustrated fundamental contributions from biophysics and quantitative and physico-chemical approaches to study of complex biological systems. Focus on the physical and structural basis of viral infectivity, emphasizing replication cycles and evolution and structural biology of human pathogens such as HIV and influenza. AS.250.372 - Introduction to Biophysical Chemistry useful.
**Prerequisites: AS.030.205 AND (AS.020.305 OR AS.250.307)**
Instructor(s): B. Garcia-Moreno  
**Area:** Natural Sciences  
**Writing Intensive.**
AS.250.403. Bioenergetics: Origins, Evolution and Logic of Living Systems. 3 Credits.
The trait shared by all living systems is the capacity to perform energy transduction. This biophysics/biochemistry course examines the physico-chemical and structural basis of biological energy transduction. Emphasis is on understanding the molecular and cellular logic of the flow of energy in living systems. The course explores the connection between fundamental physical requirements for energy transduction and the organization, evolution and possibly even the origins of biological molecules, cells, and organisms. Implications for planet earth’s energy balance and for the design of synthetic organisms and of artificial energy transducing machines will be discussed, time permitting. Recommended Course Background: One semester of Biochemistry
Instructor(s): B. Garcia-Moreno
Writing Intensive.

AS.250.411. Advanced Seminar in Structural Biology of Chromatin. 3 Credits.
Focus is on structural and physical aspects of DNA processes in cells, such as nucleosomal packaging, DNA helicases, RNA polymerase, and RNA inhibition machinery. Topics are meant to illustrate how the structural and chemical aspects of how proteins and nucleic acids are studied to understand current biological questions. Biochemistry (AS.250.307) or Biochemistry (AS.020.305) and Intro to Biophys Chem (AS.250.372) helpful.
Instructor(s): G. Bowman
Area: Natural Sciences
Writing Intensive.

AS.250.421. Advanced Seminar in Membrane Protein Structure, Function & Pharmacology. 3 Credits.
Topics are meant to illustrate the physical basis of membranes and membrane proteins towards understanding their functions and pharmacological importance including aspects of drug design as it relates to membranes. Contemporary issues in the field will be covered using primary literature articles, structural manipulations in pymol, and computational binding simulations. Recommended Course Background: AS.030.205, AS.250.307, and AS.250.372
Instructor(s): K. Fleming
Writing Intensive.

AS.250.519. Independent Study. 3 Credits.
Instructor(s): B. Garcia-Moreno; D. Barrick; J. Lecomte; R. Cone
Writing Intensive.

AS.250.520. Independent Study, 0 - 3 Credit.
Instructor(s): B. Garcia-Moreno; D. Barrick; R. Cone
Writing Intensive.

AS.250.521. Research Problems. 3 Credits.
Instructor(s): Staff.

AS.250.522. Research Problems. 0 - 3 Credit.
Instructor(s): Staff.

AS.250.531. Laboratory - Biophysics. 3 Credits.
Introduction to Independent research in Biophysics emphasizing basic laboratory techniques. Individual study arranged with faculty mentor.
Instructor(s): Staff.

AS.250.574. Research Problems. 2 Credits.
Instructor(s): K. Fleming; S. Woodson.

AS.250.595. Internship. 1 Credit.
Instructor(s): R. Huang.

AS.250.596. Laboratory-Biophysics. 3 Credits.
Instructor(s): D. Barrick; R. Cone; S. Woodson.

AS.250.597. Research. 3 Credits.
Instructor(s): Staff.

AS.250.599. Independent Study. 3 Credits.
Instructor(s): Staff.

Graduate students only. Students and invited speakers present current topics in the field.
Instructor(s): R. Cone.

Student and invited speakers present current biophysics topics. Permission required. Graduate student only.
Instructor(s): R. Cone.

AS.250.631. Lab Research/Biophysics.
Biophysics research training.
Instructor(s): R. Cone.

AS.250.632. Lab Rsch in Biophysics.
Instructor(s): B. Garcia-Moreno.

Graduate level seminar on physiology, immunology, and epidemiology of mucosal protection. Permission required.
Instructor(s): R. Cone.

AS.250.644. Graduate Biophysical Chemistry.
Review of classical & statistical thermodynamics, protein and nucleic acid structure, ligand binding, and enzyme kinetics. Biophysical methods such as fluorescence, NMR spectroscopy, and X-ray crystallography are also discussed. Recommended Course Background: AS.020.305, AS.020.306, AS.020.668, or equivalent.
Instructor(s): S. Woodson.

AS.250.649. Introduction to Computing in Biology.
Four week, intensive introductory course on the use of computers for applications in biology. The course will cover fundamentals of UNIX, PYTHON and Mathematica. Brief daily lectures followed by extensive hands-on experience in the computer laboratory. Examples from the world of biology are used to teach a large variety of concepts and computational techniques useful to examine a broad range of topics in biology.
Instructor(s): C. Fitch.

Advanced graduate students make a 10- minute presentation of their thesis work to the departmental faculty. The presentation is followed by a half-hour discussion.
Instructor(s): G. Bowman.

Departmental Majors Only.
Instructor(s): B. Garcia-Moreno.
Course introduces students to the use of computers for applications in many areas (natural and social sciences, humanities, and engineering). Students will obtain basic computing skills and tools, including familiarity with UNIX, with the use of complex UNIX commands (e.g. grep, awk, sed) and shell scripts, with the Python programming language, with graphing software and with a package for numerical and statistical computing, such as Mathematica or Matlab. Brief weekly lectures followed by extensive hands-on computer laboratories with examples from many disciplines.
Instructor(s): C. Fitch
Area: Natural Sciences.

The structure of proteins, DNA and RNA, and their functions in living systems. Students are required to participate in class discussions based on readings from the primary scientific literature. Co-requisite: AS.250.649 Introduction to Computing in Biology, or knowledge of Python programming. Instructor permission for undergraduates.
Instructor(s): G. Bowman; S. Woodson.

AS.250.689. Physical Chemistry of Biological Macromolecules.
Introduction to the principles of thermodynamics and kinetics as applied to the study of the relationship between structure, energy dynamics, and biological function of proteins and nucleic acids. Topics include classical, chemical, and statistical thermodynamics, kinetics, theory of ligand binding, and conformational equilibria.
Instructor(s): B. Garcia-Moreno.

AS.250.690. Methods in Molecular Biophysics.
Introduction to methods employed in study of energetics, structure and function of biological macromolecules. Topics include optical spectroscopy, transport methods, NMR, X-ray crystallography. Theoretical understanding and knowledge through problem solving and literature discussion emphasized.
Prerequisites: AS.250.685 AND AS.250.689
Instructor(s): G. Bowman; J. Lecomte.

AS.250.801. Dissertation Research.
Instructor(s): Staff.

Instructor(s): B. Garcia-Moreno.

Cross Listed Courses

Biology
AS.020.674. Graduate Biophysical Chemistry.
This course will provide an overview of protein and nucleic acid structure, fundamentals of thermodynamics and kinetics, ligand binding, folding and stability of macromolecules, and the principles of biophysical methods such as fluorescence spectroscopy, NMR, and X-ray crystallography. Monday Discussion Session is optional. Recommended Course Background: AS.020.305, AS.020.306
Instructor(s): E. Roberts; V. Hilser.

Interdepartmental
AS.360.701. Research Laboratory Safety.
An introduction to laboratory safety including chemical, biological, radiation, and physical hazards. Includes information on hazard assessment techniques, laboratory emergencies, and general lab standards for Whiting School of Engineering. The class will feature hands-on exercises with real-life experiments. Intended for students who have not yet begun working in a research laboratory.
Instructor(s): D. Kuespert.

Chemistry
The Department of Chemistry, in conjunction with other departments of the university, offers a broad education and the opportunity to do research in chemistry and related fields. The great diversity of the field of chemistry, ranging between physics and biology, is reflected in the research interests of the faculty. Undergraduate chemistry majors usually go on to graduate study in chemistry, chemical engineering, biology, oceanography, geochemistry, biophysics, environmental sciences, or medicine, while others enter the chemical industry. The Ph.D. in chemistry leads to professional careers in colleges and universities, research institutes, industry, and government laboratories.

Facilities
The department is well-equipped with instrumentation, both shared and in individual faculty research laboratories, to perform modern chemical research. The Departmental Instrumentation Facility houses the following pieces of major instrumentation:
- Bruker Avance 400 MHz FT-NMR spectrometers (2), one located in the Instrumentation Facility in Remsen Hall and the other on the first floor of the new chemistry building.
- Bruker Avance 300 MHz FT-NMR spectrometer.
- VG70S magnetic sector mass spectrometer, with EI, and CI ionization.
- VG70SE magnetic sector mass spectrometer, with FAB ionization.
- Finnigan LCQ ion trap mass spectrometer with electrospray ionization (APCI available as an option).
- Finnigan LCQ Duo ion trap mass spectrometer with electrospray ionization (for inorganic and organometallic use).
- Finnigan LCQ Fleet ion trap Mass Spectrometer with ESI ionization and HPLC inlet.
- Bruker Autoflex III Maldi-ToF-Tof Mass spectrometer with Maldi ionization and collision cell.
- Shimadzu GC17A/QP5050A GC-MS with EI ionization.
- Waters Acquity / Xevo G2 UPLC-Q-ToF MS with ESI and APCI ionisation.
- Bruker EMX EPR spectrometer equipped with a liquid helium cryostat and variable temperature controller.
- Bruker Vector 22 FT-IR spectrophotometer.
- Jasco P-1010 polarimeter.
- Xcalibur3 X-ray diffractometer with CCD area detector (located on the second floor of the new chemistry building).
- Protein Technologies Symphony Quartet Peptide Synthesizer.
- SuperNova X-ray diffractometer (dual hi-flux micro-focus Mo and Cu sources ) with Atlas CCD area detector.

NMR spectrometers suitable for studies of biological macromolecules are located in the Biomolecular NMR Center, located in an underground facility in front of the new chemistry building. The instruments include 500, 600, and 800 MHz FT-NMR spectrometers. A variety of different mass spectral techniques are available in the expanding Mass Spectrometry Facility. High-resolution mass spectra of submitted samples are obtained on a service basis by a staff member using two magnetic sector instruments equipped with EI, CI, and FAB ionization methods. MALDI-TOF, GC/MS, and electrospray instruments are also available and operated by students and researchers following training by the facility staff.
The X-ray Diffractometer Facility is operated by a staff member. The instruments are suitable for detailed molecular-level structural characterization of new organic or inorganic compounds.

The department has an established in-house peptide synthesis facility. This facility is equipped with a four-channel peptide synthesizer from Protein Technologies, an Agilent HPLC equipped with both a diode array and a fluorescence detector, and a lyophilizer.

The department shares with the Physics and Astronomy Department the use of the Physical Sciences Machine Shop, located in the Bloomberg Center. Electronics construction and repair is handled by a staff member in the Departmental Instrumentation Facility.

Programs for undergraduate majors can be tailored to individual interests so that a major in chemistry is excellent preparation not only for further work in chemistry, but also for any field that rests on a chemical foundation. It is a good choice for a premedical student interested in medical research.

Requirements for the B.A. Degree
(Also see Requirements for a Bachelor’s Degree. (p. 24))

Majors must complete all courses required for the major for a letter grade and receive a grade of C- or higher. Requirements of the Majors must complete all courses required for the major for a letter

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AS.030.101</td>
<td>Introductory Chemistry I</td>
</tr>
<tr>
<td>AS.030.105</td>
<td>Introductory Chemistry Lab I</td>
</tr>
<tr>
<td>AS.030.102</td>
<td>Introductory Chemistry II and Introductory Chemistry Laboratory II</td>
</tr>
<tr>
<td>AS.030.103</td>
<td>Applied Chemical Equilibrium and Reactivity w/lab</td>
</tr>
<tr>
<td>AS.030.205</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>AS.030.206</td>
<td>Organic Chemistry II</td>
</tr>
<tr>
<td>or AS.030.212</td>
<td>Advanced Organic Chemistry</td>
</tr>
<tr>
<td>AS.030.227</td>
<td>Chemical Chirality: An Introduction in Organic Chem. Lab, Techniques</td>
</tr>
<tr>
<td>or AS.030.225</td>
<td>Introductory Organic Chemistry Lab</td>
</tr>
<tr>
<td>AS.030.228</td>
<td>Intermediate Organic Chemistry Laboratory</td>
</tr>
<tr>
<td>AS.030.301</td>
<td>Physical Chemistry I</td>
</tr>
<tr>
<td>AS.030.305</td>
<td>Physical Chemistry Instrumentation Laboratory I</td>
</tr>
<tr>
<td>AS.030.302</td>
<td>Physical Chemistry II</td>
</tr>
<tr>
<td>AS.030.306</td>
<td>Physical Chemistry Instrumentation Laboratory II</td>
</tr>
<tr>
<td>AS.030.356</td>
<td>Advanced Inorganic Lab</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outside Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.171.101</td>
<td>General Physics:Physical Science Major I</td>
</tr>
<tr>
<td>or AS.171.103</td>
<td>General Physics I for Biological Science Majors</td>
</tr>
<tr>
<td>or AS.171.105</td>
<td>Classical Mechanics I</td>
</tr>
<tr>
<td>or AS.171.107</td>
<td>General Physics for Physical Sciences Majors (AL)</td>
</tr>
<tr>
<td>AS.173.111</td>
<td>General Physics Laboratory I</td>
</tr>
<tr>
<td>or AS.173.115</td>
<td>Classical Mechanics Laboratory</td>
</tr>
<tr>
<td>AS.171.102</td>
<td>General Physics: Physical Science Majors II</td>
</tr>
<tr>
<td>or AS.171.104</td>
<td>General Physics/Biology Majors II</td>
</tr>
<tr>
<td>or AS.171.106</td>
<td>Electricity and Magnetism I</td>
</tr>
<tr>
<td>or AS.171.108</td>
<td>General Physics for Physical Science Majors (AL)</td>
</tr>
<tr>
<td>AS.173.112</td>
<td>General Physics Laboratory II</td>
</tr>
<tr>
<td>or AS.173.116</td>
<td>Electricity and Magnetism Laboratory</td>
</tr>
<tr>
<td>AS.110.108</td>
<td>Calculus I</td>
</tr>
<tr>
<td>or AS.110.106</td>
<td>Calculus I</td>
</tr>
<tr>
<td>AS.110.109</td>
<td>Calculus II</td>
</tr>
<tr>
<td>or AS.110.107</td>
<td>Calculus II</td>
</tr>
<tr>
<td>or AS.110.113</td>
<td>Honors Single Variable Calculus</td>
</tr>
</tbody>
</table>

Advanced Elective Courses
Six credits of advanced chemistry courses beyond AS.030.305-AS.030.306 **
Nine credits of advanced chemistry courses, or science electives at the 300-level or higher approved by a Department of Chemistry advisor, and/or mathematics beyond Calculus II **

Total Credits 70

* Fall semester of AS.030.227 restricted to Chemistry majors.
** None of the advanced course requirements may be fulfilled with research.

Lecture and laboratory courses should be taken in sequence. In particular, AS.030.228 Intermediate Organic Chemistry Laboratory must be taken before AS.030.356 Advanced Inorganic Lab.

To allow maximum flexibility in choosing electives, students should complete both physics and organic chemistry by the end of the sophomore year. AS.030.449 Chemistry of Inorganic Compounds and AS.020.305 Biochemistry or AS.030.315 Biochemistry I are required for an American Chemical Society accredited degree.

Sample Program
A typical program might include the following sequence of courses:

<table>
<thead>
<tr>
<th>Freshman Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.030.101</td>
<td>Introductory Chemistry I</td>
</tr>
<tr>
<td>or AS.030.102</td>
<td>Introductory Chemistry II</td>
</tr>
<tr>
<td>or AS.030.106</td>
<td>Introductory Chemistry Lab I</td>
</tr>
<tr>
<td>AS.110.106</td>
<td>Calculus I</td>
</tr>
<tr>
<td>or AS.110.107</td>
<td>Calculus II</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.030.205</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>or AS.030.225</td>
<td>Organic Chemistry Lab</td>
</tr>
<tr>
<td>or AS.030.227</td>
<td>Intermediate Organic Chemistry Laboratory</td>
</tr>
<tr>
<td>or AS.171.101</td>
<td>General Physics:Physical Science Major I</td>
</tr>
<tr>
<td>or AS.171.103</td>
<td>General Physics I for Biological Science Majors</td>
</tr>
<tr>
<td>or AS.171.105</td>
<td>Classical Mechanics I</td>
</tr>
<tr>
<td>or AS.171.107</td>
<td>General Physics for Physical Sciences Majors (AL)</td>
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<tr>
<td>AS.173.111</td>
<td>General Physics Laboratory I</td>
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<tr>
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<td>General Physics for Physical Science Majors (AL)</td>
</tr>
<tr>
<td>AS.173.112</td>
<td>General Physics Laboratory II</td>
</tr>
<tr>
<td>or AS.173.116</td>
<td>Electricity and Magnetism Laboratory</td>
</tr>
</tbody>
</table>
Financial Aid and Admissions

Fellowships, research appointments, and teaching assistantships are available for graduate students. There are no fixed admission requirements. Undergraduate majors in chemistry, biology, earth sciences, mathematics, or physics may apply, as well as well-qualified individuals who will have received a B.A. degree.

For further information about graduate study in chemistry visit the Chemistry Department website at www.chemistry.jhu.edu.

For current faculty and contact information go to http://www.chemistry.jhu.edu/faculty.html

Faculty

Chair

John P. Toscano

Professor: organic chemistry, fundamental chemistry and biochemistry of nitroxyl (HNO) including the design of new precursors to HNO, new analytical tools for its detection, and the characterization of HNO-induced protein modifications-time-resolved IR spectroscopy of organic reactive intermediates.

Professors

Kit H. Bowen
E. Emmet Reid Professor: experimental chemical physics—photoelectron spectroscopy of negative ions, structure and dynamics of gas phase, weakly bound molecular clusters.

Paul J. Dagdigian
Arthur D. Chambers Professor: experimental chemical physics—dynamics of gas-phase chemical reactions, collisional energy transfer, molecular electronic spectroscopy, laser-induced fluorescence and ionization.

D. Howard Fairbrother
Physical chemistry—the structure of chemically protective surfaces, chemistry of adhesives, environmental surface chemistry.

David Goldberg
Inorganic and bioinorganic chemistry—structure/function relationships in heme proteins, artificial enzyme design, biomimetic molybdenum and tungsten coordination compounds, redox active ligands, synthesis of tetrapyrrolic macrocycles (phthalo-cyanine and porphyrin-based systems) for small-molecule activation and materials applications.

Marc M. Greenberg
Organic and bioorganic chemistry—application of chemical, biochemical, and biological techniques to studies on DNA damage and repair, independent generation and study of reactive intermediates, development and application of methods for modified oligonucleotide synthesis, design of mechanistically inspired enzyme inhibitors radiosensitizing agents, and sensors.

Kenneth D. Karlin
Ira Remsen Professor: inorganic and bioinorganic chemistry—synthetically derived structural, spectroscopic and functional models for copper and iron proteins, copper-dioxynge reversiblbe binding and metal-mediated substrate oxidation, O2-reduction with copper cluster compounds, porphyrin-iron and copper chemistry relevant to heme-copper oxidases, metal-catalyzed ester and amide hydrolysis, metal complex protein and DNA interactions.

Thomas Lectka
Organic chemistry—the design and synthesis of theoretically interesting nonnatural products with applications in bioorganic and physical organic
chemistry, materials science and supramolecular chemistry, novel approaches to asymmetric catalysis, theoretical organic chemistry.

Steven Rokita
Organic and bioorganic chemistry, sequence and conformation specific reactions of nucleic acids; enzyme-mediated activation of substrates and coenzymes; aromatic substitution and quinone methide generation in bioorganic chemistry, biological dehalogenation.

Harris J. Silverstone
Theoretical chemistry—development of mathematical techniques for applying quantum mechanics to chemical problems, high-order perturbation theory, semiclassical methods, divergent expansions, photolization, LoSurdo-Stark effect, magnetic resonance spectral simulation, hyperasymptotics.

Craig A. Townsend
Alsoph H. Corwin Professor:—organic and bioorganic chemistry—biosynthesis and chemistry of natural products, stereo-chemical and mechanistic studies of enzyme action, small molecule/DNA interactions, application of spectroscopic techniques to the solution of biological problems.

David R. Yarkony
D. Mead Johnson Professor: theoretical chemistry—electronic structure theory, multi-configuration self-consistent-field methods, excited state chemistry, electronic energy transfer in chemical reactions, spin-forbidden processes, and electronically nonadiabatic processes.

**Associate Professors**

Justine P. Roth
Inorganic chemistry and enzymology—rational design of redox catalysts, selective bond activation/oxidation by enzymes and transition metal complexes, synthetic systems for light to chemical energy transduction.

Joel R. Tolman
Biophysical chemistry—protein-protein interactions, protein dynamics and structure, NMR methodology.

John D. Tovar
Organic chemistry —organic electronics, conjugated and conducting polymers, electrochemistry, nanostructured materials, polymer chemistry bioinspired self— assembly, and supramolecular chemistry.

**Assistant Professors**

Arthur Bragg
Experimental physical chemistry—chemical dynamics and charge/energy transfer in condensed-phase systems, ultrafast spectroscopy.

Rebekka S. Klausen
Organic and materials chemistry - the design and synthesis of well-defined organosilicon and organic materials, electronic characterization of novel materials.

Tyrel McQueen
Solid state inorganic chemistry—electronically and magnetically active materials—condensed matter physics.

**Research and Teaching Professors**

Christopher Falzone
Teaching Professor.

Jane Greco

**Adjunct, Emeritus, and Joint Appointments**

David E. Draper
Professor Emeritus.

David Gracias
Assistant Professor (Chemical and Biomolecular Engineering).

John W. Gryder
Professor Emeritus.

Howard E. Katz
Professor (Materials Science and Engineering).

Brown L. Murr
Professor Emeritus.

Alex Nickon
Vernon Krieble Professor Emeritus.

Lawrence M. Principe
Professor (joint appointment in History of Science and Technology).

John W. Robinson
Professor Emeritus.

**Lecturers**

Larissa D’Souza
Senior Lecturer.

David Klein
Senior Lecturer (Summer Programs)

For current course information and registration go to https://isis.jhu.edu/
classes/

**Courses**

**AS.030.101. Introductory Chemistry I. 3 Credits.**
An introduction to the fundamental principles of chemistry. The main topics to be covered are atomic and molecular structure at the level of dot structures and VSEPR geometries, the periodic table, stoichiometry and the balancing of chemical equations, the gas laws, the law of mass action and chemical equilibrium, acids and bases, and elementary chemical thermodynamics. Switching sections requires instructor’s approval. Corequisite: AS.030.105

Instructor(s): D. Goldberg; S. Thyagarajan

Area: Natural Sciences.
AS.030.102. Introductory Chemistry II. 3 Credits.
Continuation of AS.030.101 emphasizing chemical kinetics, chemical bonding. Topics: energy levels and wavefunctions for particle-in-a-box and hydrogen atom and approximate wavefunctions for molecules including introduction to hybrid orbitals. Note: Appropriate adjusting caps should be used – to ensure both sections are approximately the same size
Instructor(s): P. Donohoo-Vallett
Area: Natural Sciences.

AS.030.103. Applied Chemical Equilibrium and Reactivity w/lab. 4 Credits.
This course is designed for freshmen who have previously taken AP chemistry or have similar advanced chemistry experience. This course will review an advanced introductory chemistry sequence in a single semester. Chemical equilibrium, reactivity and bonding will be covered. These topics will be explored through the use of laboratory experiments and problem solving, and the use of these principles in current research areas will be discussed. Students may receive credit for AS.030.103 or EN.510.101, but not both.
Prerequisites: Students may receive credit for AS.030.103 or EN.510.101, but not both.
Instructor(s): J. Greco
Area: Natural Sciences.

AS.030.105. Introductory Chemistry Lab I. 1 Credit.
Laboratory in the fundamental methods of chemistry with related calculations.
Prerequisites: AS.030.101 OR EN.510.101
Instructor(s): L. Pasternack
Area: Natural Sciences.

AS.030.106. Introductory Chemistry Laboratory II. 1 Credit.
Laboratory work includes some quantitative analysis and the measurement of physical properties. Open only to those who are registered for or have completed Introductory Chemistry. Permission required for pre-college students.
Prerequisites: AS.030.105 or equivalent
Instructor(s): P. Donohoo-Vallett
Area: Natural Sciences.

AS.030.110. Mini-term: Introduction to Bioorganic Chemistry. 1 Credit.
Meets M-F June 23rd - July 3rd. This interdisciplinary course is an introductory-level class to relate biological phenomena with basic principles of chemistry. Organic chemistry or biochemistry in college is one of the most stressful classes to some students and sometimes they are pushed by assignments and tests during the entire semester without giving them the chance to enjoy fun side of chemistry. This course will introduce some basic concepts of chemistry and organic chemistry and applications of those concepts into biological systems, in more enjoyable way with a smaller group of students than regular courses. The course aims biology-majors to get a molecular view and chemistry-majors to have fun to find how their chemical knowledge can be used to explain biological process. Also other students will learn about both and have an idea what interdisciplinary science is.
Instructor(s): H. Chung
Area: Engineering, Natural Sciences.

AS.030.112. Chemistry with Problem Solving I.
This course is for students who have had moderate or limited exposure to the subject. Special emphasis is placed on scientific problem-solving skills. There are two discussion sections per week, including one devoted exclusively to interactive quantitative problem solving. A typical student may have taken a year of descriptive chemistry as a high school sophomore, but has not been exposed to the problem-solving mathematical approach used in university-level science courses.
Taken concurrently with AS.030.101 and AS.030.102.
Prerequisites: AS.030.101 or AS.030.102
Instructor(s): E. Hill.

AS.030.113. Chemistry with Problem Solving II.
This course is for students who have had moderate or limited exposure to the subject. Special emphasis is placed on scientific problem-solving skills. There are two discussion sections per week, including one devoted exclusively to interactive quantitative problem solving. A typical student may have taken a year of descriptive chemistry as a high school sophomore, but has not been exposed to the problem-solving mathematical approach used in university-level science courses.
Taken concurrently with AS.030.101 and AS.030.102.
Instructor(s): J. Greco.

AS.030.173. Powering Tomorrow: The Chemistry Behind Alternative Energy. 3 Credits.
One of the most important scientific challenges society faces today is supply of green and sustainable energy. This course will highlight the contributions of chemists in current and emerging technologies of alternative energy. A general overview of solar energy, biomass conversion, nuclear power and other approaches will be presented. The underlying chemical principles of these areas, such as water oxidation, carbon dioxide reduction and generation of liquid fuels will be examined. The current sources of energy used in today’s world and their impact on the environment will also be discussed. In class sessions, students will be expected to be actively involved in the discussion of lectures and assigned readings.
Prerequisites: Corequisite: AS.030.101 or AP 4 or 5.
Instructor(s): C. Rolle
Area: Natural Sciences.

AS.030.204. Chemical Structure and Bonding w/Lab. 4 Credits.
An introduction to the synthesis, structure, and reactivity of inorganic compounds. Modern approaches to chemical bonding, including molecular orbital, ligand field, and crystal field theories, will be applied to understanding the physical and chemical properties of inorganic materials. Other topics to be discussed include magnetic properties, electronic spectra, magnetic resonance spectra, and reaction kinetics. The integrated laboratory will cover basic synthetic, measurement, and calculation methods of inorganic chemistry.
Instructor(s): T. Mcqueen
Area: Natural Sciences.

AS.030.205. Organic Chemistry I. 4 Credits.
The fundamental chemistry of the compounds of carbon. Methods of structure determination and synthesis. The mechanisms of typical organic reactions and the relations between physical and chemical properties and structures.
Prerequisites: AS.030.102 OR AS.030.103 OR EN.510.101
Instructor(s): C. Falzone; C. Townsend; M. Greenberg
Area: Natural Sciences.
AS.030.206. Organic Chemistry II. 4 Credits.
Continuation of AS.030.205 Organic Chemistry II with biochemistry topics. This course is a continuation of Organic Chemistry I starting with carbonyl chemistry and organometallic reactions. Synthetic strategies and retro-synthetic analysis are emphasized. The second half of the course focuses on biochemical topics including biological pericyclic reactions, carbohydrates, amino acids, proteins, nucleic acids, RNA, DNA, catalysis, and lipids. The organic chemistry of key metabolic steps will also be covered. Students may not simultaneously enroll for AS.030.212 and AS.030.206.
Instructor(s): D. Klein
Area: Natural Sciences.

AS.030.207. Problem Solving Methodology in Organic Chemistry I. 2 Credits.
This course will focus on the skills and strategies often utilized for solving problems in organic chemistry. In a seminar-style format, we will focus on a variety of strategies and techniques that students are otherwise expected to discover independently. This optional course is designed to help students succeed in Organic Chemistry I. The course is graded on a pass/fail basis, and is designed to be fun (believe it or not). Students work together in groups to solve challenging problems, focusing on the strategies necessary to solve each problem. This course is not required in order to succeed in Organic Chemistry I, but students in the past have found it to be helpful in guiding their study efforts for Organic Chemistry I.
Instructor(s): D. Klein
Area: Natural Sciences.

AS.030.208. Problem Solving Methodology in Organic Chemistry II. 2 Credits.
This course will focus on the skills and strategies often utilized for solving problems in organic chemistry. In a seminar-style format, we will focus on a variety of strategies and techniques that students are otherwise expected to discover independently. This optional course is designed to help students succeed in Organic Chemistry II. The course is graded on a pass/fail basis, and is designed to be fun (believe it or not). Students work together in groups to solve challenging problems, focusing on the strategies necessary to solve each problem. This course is not required in order to succeed in Organic Chemistry II, but students in the past have found it to be helpful in guiding their study efforts for Organic Chemistry II.
Instructor(s): D. Klein
Area: Natural Sciences.

AS.030.212. Advanced Organic Chemistry. 4 Credits.
Second semester undergraduate organic chemistry from an advanced and rigorous prospective. Enrollment limited to, and highly recommended for, students who have done well in the first semester (AS.030.205.01). Topics include synthesis with a stress on modern methods, chiral molecules, and mechanistic analysis. Students will be required to access the primary literature and to use molecular modeling programs such as Spartan. Students may not simultaneously enroll for AS.030.212 and AS.030.206.
Prerequisites: Must receive a B+ or better in the first semester (AS.030.205)
Corequisites: Students may not simultaneously enroll for AS.030.212 and AS.030.206.
Instructor(s): T. Lectka
Area: Natural Sciences.

AS.030.225. Introductory Organic Chemistry Lab. 3 Credits.
Techniques for the organic chemistry laboratory including methods of purification, isolation, synthesis, and analysis. Chemistry majors should take this course in the fall semester. Course lecture meets at 9:00 am. Freshmen are not eligible to register. Students may not simultaneously enroll in AS.030.225 and AS.030.227.
Prerequisites: Co-requisite: AS.030.205
Instructor(s): L. D’Souza
Area: Natural Sciences.

Techniques for the organic chemistry laboratory including methods of purification, isolation, synthesis, and analysis will be explored through a project focused on chemical chirality. Freshmen only. Students may not simultaneously enroll for AS.030.225 and AS.030.227
Prerequisites: Corequisite: AS.030.205
Corequisites: Students may not simultaneously enroll for AS.030.225 and AS.030.227.
Instructor(s): E. Hill
Area: Natural Sciences.

AS.030.228. Intermediate Organic Chemistry Laboratory. 3 Credits.
Lab skills already acquired in AS.030.225 will be further developed for synthesis, isolation, purification, and identification of organic compounds. Spectroscopic techniques, applications will be emphasized. Recommended Course Background: AS.030.225
Instructor(s): J. Greco.

AS.030.270. Metals & Their Impact on Industry, Drug Development & Society. 3 Credits.
This is a seminar-based course that is broken up into three modules. The beginning of the course will focus on a basic introduction to the periodic table, in particular the transition metals. After a basic knowledge is formed the first theme will focus on the use of metals in the medical field, for example as MRI imaging agents or heavy metal poisoning. The second portion of the course will move away from the body and focus on how metals have impacted society. For example, we will look at the influence of metals in cars, the production of plastics and household chemicals. The final section will focus on how metals have influenced world power such as the invention of the atomic bomb. This course is designed to provide an overall understand of how chemistry and metals influence our lives every day.
Instructor(s): E. Joslin
Area: Natural Sciences.

AS.030.301. Physical Chemistry I. 3 Credits.
The laws of thermodynamics, their statistical foundation, and their application to chemical phenomena. Students should have knowledge of general physics, general chemistry, and calculus (two semesters recommended). Freshmen by permission only.
Prerequisites: AS.030.305
Instructor(s): D. Draper
Area: Natural Sciences.

AS.030.302. Physical Chemistry II. 3 Credits.
Introduction to quantum mechanics, its application to simple problems for which classical mechanics fails. Topics: Harmonic oscillator, hydrogen atom, very approximate treatments of atoms and molecules, and theoretical basis for spectroscopy. Recommended Course Background: AS.030.301
Instructor(s): H. Silverstone
Area: Natural Sciences.
AS.030.303. Mini-Term: Magic Bullets: How Drugs Really Work. 1 Credit.
This course will be an overview of the basic science behind frequently administered drugs. Medicines such as antibiotics, antivirals, cancer drugs, painkillers, and cardiovascular drugs will be covered. The course will focus on how these molecules cause a desirable effect in the body. Those with minimal background in chemistry/biology are encouraged to enroll.
Instructor(s): D. Marous
Area: Natural Sciences.

AS.030.305. Physical Chemistry Instrumentation Laboratory I. 3 Credits.
This course is designed to illustrate the principles of physical chemistry and to introduce the student to techniques and instruments used in modern chemical research. Chemistry majors are expected to take this sequence of courses, rather than AS.030.307. Chemistry majors only.
Prerequisites: Prerequisite or Corequisite: AS.030.301 OR AS.030.370
Instructor(s): A. Bragg
Area: Natural Sciences
Writing Intensive.

AS.030.306. Physical Chemistry Instrumentation Laboratory II. 3 Credits.
Designed to illustrate the principles of physical chemistry, introduce the student to spectroscopic techniques and instruments used in modern chemical research. Chemistry majors are expected to take this course rather than 030.307.
Prerequisites: Pre or Co requisite: AS.030.301 OR AS.030.302
Instructor(s): J. Tolman
Area: Natural Sciences.

AS.030.307. Physical Chemistry Instrumentation Laboratory III. 3 Credits.
This is a one-semester course which selects experiments that are most relevant to chemical engineering. Chemical Engineering majors only. Recommended Course Background: AS.030.301-AS.030.302 or equivalent.
Instructor(s): D. Fairbrother
Area: Natural Sciences.

AS.030.308. Elementary Computational Chemistry. 3 Credits.
This course introduces the student to the use of computers to address questions in chemistry. Basic notions of self consistent field and density functional theory will be introduced. Molecular wave functions (orbitals) for molecules of increasing complexity, starting from simple diatomic molecules and increasing to molecules of biological relevance, will be determined. Visualization tools will be used to understand the nature of chemical bonding and molecular interactions. Ligand field interactions will be quantified. Chemical reactions, for example SN2 reactions, will be described using rigorously computed reaction paths. Equilibrium and transition state structures will be determined and analyzed. Molecular vibrations will be computed, analyzed and visualized. Infrared spectra will be simulated. The effects of solvents will be considered. NMR chemical shifts will be studied.
Prerequisites: AS.030.205 AND AS.030.206
Instructor(s): D. Yarkony.

AS.030.315. Biochemistry I. 4 Credits.
Foundation for advanced classes in Biophysics and other quantitative biological disciplines. Lecture and computer laboratory. This class is the first semester of a two semester course in biochemistry. Topics in Biochemistry I include chemical and physical properties of biomolecules and energetic principles of catabolic pathways. Computer labs include extensive use of molecular graphics and modelling of reaction kinetics and pathway flux. Co-listed with AS.250.315
Prerequisites: AS.030.206 OR AS.030.212
Instructor(s): P. Fleming
Area: Natural Sciences.

AS.030.316. Biochemistry II. 3 Credits.
Biochemical anabolism, nucleic acid structure, molecular basis of transcription, translation and regulation, signal transduction with an emphasis on physical concepts and chemical mechanisms. Format will include lectures and class discussion of readings from the literature.
Prerequisites: AS.030.315
Instructor(s): S. Rokita.

Students gain a critical understanding of societal energy sources in scientific, economic, and political contexts. Past, present, and future energy sources are discussed in terms of their scope and limitations. Emphasis on the fundamental details of each energy technology and incisive evaluation of policy regarding energy consumption and its environmental consequences. Topics include global warming and climate change, fossil fuels, alternative energies, and energy security and productivity.
Instructor(s): E. Brigham
Area: Natural Sciences.

AS.030.345. Chemical Applications of Group Theory. 3 Credits.
The theory of the representations of finite and continuous groups will be applied to problems in chemistry.
Instructor(s): D. Yarkony
Area: Natural Sciences.

AS.030.356. Advanced Inorganic Lab. 3 Credits.
Laboratory designed to illustrate the principles and practice of inorganic chemistry through the synthesis and characterization of transition metal and organometallic compounds. Methods used include vacuum and inert atmosphere techniques. Instrumental approaches and modern spectroscopic techniques are applied to the characterization of compounds generated.
Prerequisites: AS.030.228 required - AS.030.449 is strongly suggested as a prerequisite or corequisite.
Instructor(s): J. Roth
Area: Natural Sciences.
AS.030.370. Physical Chemistry I with Biophysical Applications. 4 Credits.
Course provides working understanding of physical chemistry of the cell, emphasizing problem solving. Topics include classical and statistical thermodynamics, thermodynamics of proteins and nucleic acids, protein folding, calorimetry, ligand binding thermodynamics, linkage, cooperativity and anticooperativity, allosteric models, lattice statistics, helix-coil transition, and polymer theory. When appropriate, students visit the laboratory to set up data collection and learn to analyze the resulting data computationally, using nonlinear least-squares methods.
Prerequisites: AS.171.101 OR AS.171.103 AND AS.171.102 OR AS.171.104 AND AS.030.103 AND AS.110.106 OR AS.110.108 AND AS.110.107 OR AS.110.109
Instructor(s): D. Barrick
Area: Natural Sciences.

AS.030.402. Experimental Methods in Physical Chemistry. 3 Credits.
This course introduces the student to experimental methodologies used in gas phase physical chemistry. Topics to be covered include vacuum technology, charged particle optics, lasers, mass spectrometry, data acquisition, detectors, measurement of temperature and pressure, and design and fabrication of scientific apparatus. These topics will be tied together with examples of specific experimental studies.
Instructor(s): K. Bowen.

AS.030.421. Uses of Coordination Chemistry in Medicine. 3 Credits.
This course will introduce basic concepts of Medicinal Inorganic Chemistry and the variety of roles that metals play in contemporary medicine and their applications to both diagnosis and therapy. Students with potential future interests in chemistry, biochemistry, cell biology, pharmacology, and/or toxicology will find this course of great value. This interdisciplinary course is an excellent choice for undergraduates who aim to learn both sides of the coin, chemistry as an academic subject and medicine as an application; study of the combination, in addition to providing knowledge in new subject matter, may also equip students with insights which can aid the evaluation of their future professional career directions. This course begins with an introduction to coordination chemistry as a primary basis for the subsequent topics on diagnosis and therapy including the roles of metal-based drugs in modern medicine and the future development of clinically efficacious metal-complexes. Deans Teaching Fellowship Course.
Prerequisites: AS.030.101 AND AS.030.102 OR equivalent
Instructor(s): S. Hematian
Area: Natural Sciences.

AS.030.441. Spectroscopic Methods of Organic Structure Determination. 3 Credits.
The course provides fundamental theoretical background for and emphasizes practical application of ultraviolet/visible and infrared spectroscopy, proton and carbon-13 nuclear magnetic resonance and mass spectrometry to the structure proof of organic compounds.
Instructor(s): C. Falzone
Area: Natural Sciences.

AS.030.442. Organometallic Chemistry. 3 Credits.
An introduction to organometallic chemistry beginning with structure, bonding, and reactivity and continuing into applications to fine chemical synthesis and catalysis. Recommended Course Background: AS.030.449 or equivalent.
Instructor(s): J. Roth
Area: Natural Sciences.

AS.030.443. Bioinorganic Chemistry. 3 Credits.
This course covers the chemistry of metal ions in biological systems. The structure and function of metalloproteins and metalloenzymes will be addressed. The principles of synthesis (organic and inorganic) for the design and characterization of small-molecule analogs of these systems will be discussed. Physical/spectroscopic methods (e.g., EPR, RR, Mossbauer, XAS) will be introduced as appropriate for understanding both the biological and synthetic inorganic systems.

AS.030.446. Mathematica as a Tool for Chemists. 3 Credits.
A systematic, hands-on introduction to Mathematica. Covers Mathematica’s basic “language,” analytic and numerical calculations, data manipulation, graphical representation, interactivity, programming, and document production. Prerequisite: Calculus (including power series)
Instructor(s): H. Silverstone
Area: Natural Sciences.

AS.030.449. Chemistry of Inorganic Compounds. 3 Credits.
Physical and chemical properties of inorganic, coordination and organometallic compounds are discussed in terms of molecular orbital, ligand field and crystal field theories. Emphasis on structure and reactivity of these inorganic compounds. Other topics: magnetic properties, electronic spectra, magnetic resonance spectra, reaction kinetics.
Instructor(s): J. Roth
Area: Natural Sciences.

AS.030.451. Spectroscopy. 3 Credits.
Spectroscopy and structure of molecules starting from rotational, vibrational and electronic spectra of diatomic molecules and extending to polyatomic molecules as time permits.
Instructor(s): P. Dagdigian
Area: Natural Sciences.

AS.030.452. Materials & Surface. 3 Credits.
The chemistry associated with surfaces and interfaces as well as a molecular level understanding of their essential roles in many technological fields. The first half of this course addresses various analytical techniques used to study surfaces including X-ray, photoelectron spectroscopy, and scanning tunneling microscopy. The second half of this course uses a number of case studies to illustrate the application of surface analytical techniques in contemporary research.
Instructor(s): D. Fairbrother
Area: Natural Sciences.

AS.030.453. Intermediate Quantum Chemistry. 3 Credits.
The principles of quantum mechanics are developed and applied to chemical problems.
Prerequisites: AS.030.301-302
Instructor(s): H. Silverstone
Area: Natural Sciences.
**AS.030.472. Advanced Inorganic & Organometallic Reactions Mechanisms. 3 Credits.**
The beginning of the course will focus on the basics of organometallic chemistry such as molecular orbital theory, agostic bonding, electronic structure and coordination geometries. These topics would then be followed with common reactions in organometallic chemistry such as ligand substitution, oxidation addition, and reductive elimination. The final set of topics will cover the basic “tools of the trade” which will encompass kinetics, dynamic NMR spectroscopy, kinetic isotope effects and mechanistic studies.

**Prerequisites: Prerequisite: AS.030.206 OR AS.030.212**
Instructor(s): E. Joslin
Area: Natural Sciences.

**AS.030.501. Independent Research in Physical Chemistry I. 3 Credits.**
Research under the direction of members of the physical chemistry faculty.
Instructor(s): D. Fairbrother; D. Yarkony; Staff.

**AS.030.502. Independent Research in Physical Chemistry. 0 - 3 Credit.**
Research under the direction of members of the physical chemistry faculty.
Instructor(s): D. Draper; D. Fairbrother; G. Meyer; K. Bowen.

**AS.030.503. Independent Research in Inorganic Chemistry I. 3 Credits.**
Research under the direction of members of the inorganic chemistry faculty.
Instructor(s): D. Goldberg; J. Roth; K. Karlin; Staff; T. Lectka.

**AS.030.504. Independent Research in Inorganic Chemistry. 0 - 3 Credit.**
Research under the direction of members of the inorganic chemistry faculty.
Instructor(s): D. Goldberg; G. Meyer; J. Roth; K. Karlin.

**AS.030.505. Independent Research in Organic Chemistry I. 3 Credits.**
Research under the direction of members of the organic chemistry faculty.
Instructor(s): Staff.

**AS.030.506. Independent Research in Organic Chemistry I. 0 - 3 Credit.**
Research under the direction of members of the organic chemistry faculty.
Instructor(s): Staff.

**AS.030.507. Independent Research in Biochemistry. 3 Credits.**
Research under the direction of members of the biochemistry faculty.
Instructor(s): Staff.

**AS.030.508. Indep Rsch-Biochemistry. 0 - 3 Credit.**
Instructor(s): C. Falzone; G. Meyer; J. Tolman; K. Bowen; T. Hendrickson.

**AS.030.509. Independent Research in Biochemistry II. 3 Credits.**
Research under the direction of members of the biochemistry faculty.
Recommended Course Background: AS.030.507-AS.030.508 and permission of instructor.
Instructor(s): C. Townsend; J. Tolman.

**AS.030.510. Independent Research in Biochemistry II. 0 - 3 Credit.**
Research under the direction of members of the biochemistry faculty.
Recommended Course Background: AS.030.507-AS.030.508 and permission of instructor.
Instructor(s): C. Falzone; C. Townsend; J. Tolman.

**AS.030.511. Independent Research in Materials Chemistry. 0 - 3 Credit.**
Instructor(s): T. Mcqueen.

**AS.030.512. Independent Research in Materials Chemistry. 0 - 3 Credit.**
Research under the direction of the materials chemistry faculty.
Instructor(s): T. Mcqueen.

**AS.030.521. Independent Research in Inorganic Chemistry II. 3 Credits.**
Research under the direction of the inorganic chemistry faculty.
Recommended Course Background: AS.030.503-AS.030.504 and permission of instructor.
Instructor(s): D. Goldberg; D. Yarkony; J. Roth; K. Karlin; Staff.

**AS.030.522. Independent Research in Inorganic Chemistry II. 0 - 3 Credit.**
Research under the direction of the inorganic chemistry faculty.
Recommended Course Background: AS.030.503-AS.030.504 and permission of instructor.
Instructor(s): D. Goldberg; G. Meyer; J. Roth; Staff.

**AS.030.523. Independent Research in Physical Chemistry II. 3 Credits.**
Research under the direction of the physical chemistry faculty.
Recommended Course Background: AS.030.501-AS.030.502 and permission of instructor.
Instructor(s): D. Fairbrother; K. Bowen; Staff.

**AS.030.524. Independent Research in Physical Chemistry II. 0 - 3 Credit.**
Research under the direction of the physical chemistry faculty.
Recommended Course Background: AS.030.501-AS.030.502 and permission of instructor.
Instructor(s): D. Fairbrother.

**AS.030.525. Independent Research in Organic Chemistry II. 3 Credits.**
Research under the direction of the organic chemistry faculty.
Recommended Course Background: AS.030.505-AS.030.506 and permission of instructor.
Instructor(s): J. Toscano; M. Greenberg; T. Lectka.

**AS.030.526. Independent Research in Organic Chemistry II. 0 - 3 Credit.**
Research under the direction of the organic chemistry faculty.
Recommended Course Background: AS.030.505-AS.030.506 and permission of instructor.
Instructor(s): J. Toscano; M. Greenberg; T. Lectka.

**AS.030.527. Independent Study. 3 Credits.**
Instructor(s): D. Fairbrother.

**AS.030.528. Independent Study. 0 - 3 Credit.**
Instructor(s): D. Goldberg.

**AS.030.551. Internship-Chemistry. 1 Credit.**
Instructor(s): Staff.

**AS.030.552. Internship - Chemistry. 1 Credit.**
Instructor(s): Staff.

**AS.030.592. Research-Inorganic Chemistry I. 3 Credits.**
Instructor(s): G. Meyer; M. Greenberg.
AS.030.593. Research-Organic Chemistry I. 3 Credits.
Instructor(s): M. Greenberg; T. Lectka.

AS.030.597. Research-Summer. 3 Credits.
Instructor(s): Staff.

An introduction to statistical mechanics of cooperative phenomena using lattice gases and polymers as the main models. Covered topics: phase transitions and critical phenomena, scaling laws, and the use of statistical mechanics to describe time dependent phenomena.
Instructor(s): D. Yarkony.

AS.030.610. Chemical Kinetics.
The molecular mechanism of elementary physical and chemical rate processes will be studied. Topics such as elastic scattering, collisional vibrational and rotational energy transfer, chemically reactive collisions, and the theory of unimolecular decay will be covered.
Instructor(s): K. Bowen.

AS.030.611. Electron Transfer Processes.
Electron transfer processes are distinguished by their ubiquity and essential roles in many physical, chemical, and biological processes. Rates of electron transfer in cytochromes and semiconductors span over 20 orders of magnitude. Therefore, it is important to understand the factors that underlie this large rate variation. This course is concerned primarily with this issue. Electron transfer theories will be developed from historic point of view. Basic concepts and terminology will be discussed as well as the spectroscopic and electrochemical techniques useful for quantitating electron transfer processes. Recent electron transfer studies in biology, the solid state, and solution will also be highlighted. Recommended Course Background: AS.030.356 or permission required.
Instructor(s): G. Meyer.

AS.030.612. Nucleic Acids Chemistry.
A survey of physical properties of DNA and RNA. Areas explored: conformations of secondary and tertiary structures, polyelectrolyte properties, folding and unfolding reactions, and recognition by small molecules and proteins.
Instructor(s): D. Draper.

AS.030.613. Chemistry-Biology Interface Program Forum I.
Chemistry-Biology Interface (CBI) program students and faculty will meet weekly in a forum that will host presentations from CBI faculty and students as well as invited guest speakers. These meetings will serve as a valuable opportunity for students to develop presentation skills and interact with CBI students and faculty. Enrollment is required for first- and second-year CBI students, and is recommended for advanced-year graduate students.
Instructor(s): S. Rokita.

AS.030.614. Chemical-Biology Program Interface Forum II.
Chemistry-Biology Interface (CBI) program students and faculty will meet weekly in a forum that will host presentations from CBI faculty and students as well as invited guest speakers. These meetings will serve as a valuable opportunity for students to develop presentation skills and interact with CBI students and faculty. Enrollment is required for first and second year CBI students, and is recommended for advanced year graduate students.
Instructor(s): S. Rokita.

AS.030.615. Special Topics in Bioinorganic Chemistry.
Instructor(s): D. Goldberg.

AS.030.617. Special Topics in Inorganic Chemistry.
Topics from the recent primary literature in inorganic chemistry will be discussed, via instructor lectures and presentations by the graduate-undergraduate students enrolled in the course. Topics covered may range from bioinorganic to organometallic to environmental inorganic chemistry.
Instructor(s): K. Karlin.

AS.030.619. Chemical Biology I.
Parts I and II constitute the core course of the Chemistry-Biology Interface (CBI) Program. An introduction to the structure, synthesis, reactivity, and function of biological macromolecules (proteins, nucleic acids, carbohydrates, and lipids) will be provided using the principles of organic and inorganic chemistry. Discussion will incorporate a broad survey of molecular recognition and mechanistic considerations, and introduce the tools of molecular and cellular biology that are utilized in research at the interface of chemistry with biology and medicine. Recommended Course Background: AS.030.206 or equivalent.
Instructor(s): S. Rokita.

AS.030.620. Chemical Biology II.
Selected topics of current importance in chemical biology are covered. They include protein engineering and proteomics, cell signaling, protein-nucleic acid interactions (e.g. replication, transcription, DNA repair), catalytic RNA and the ribosome, biosynthesis of natural products, mechanisms of drug action, combinatorial chemistry and chemical genetics, and in vitro selection. Recommended Course Background: AS.030.619 or permission required.
Instructor(s): S. Rokita.

AS.030.621. Literature-Organic Chemistry.
Instructor(s): J. Tovar.

AS.030.622. Seminar: Literature of Chemistry.
Seminars are presented by advanced graduate students on topics from current chemical journals. Most first-year graduate students are expected to attend for credit. Undergraduates may take the course on a satisfactory/unsatisfactory basis.
Instructor(s): J. Tovar.

AS.030.625. Advanced Mechanistic Organic Chemistry I.
The course covers the application of techniques in physical chemistry to the study of organic reaction mechanisms. Topics include chemical bonding and structure, stereochemistry, conformational effects, molecular orbital theory, methods to determine reaction mechanisms, reactive intermediates, and photochemistry. Recommended Course Background: AS.030.205-AS.030.206
Instructor(s): J. Tovar.

AS.030.626. Advanced Mechanistic Organic Chemistry II.
This course covers advanced organic reactions and their mechanisms. Emphasis is given both to methods of postulating mechanisms for rationalizing reaction results and to the use of mechanistic thinking for designing reactions and reagents. This course is intended to be taken in sequence with AS.030.425. Recommended Course Background: AS.030.205-AS.030.206
Instructor(s): J. Tovar.
AS.030.634. Topics in Bioorganic Chemistry II.
Selected topics in modern bioorganic chemistry will be treated in greater depth emphasizing natural products chemistry, biosynthetic reaction mechanisms and drug design. Carbohydrates, lipids, polyketides, polypeptides, terpenes and alkaloids will be discussed. Specific examples of drug design will be introduced throughout and methods of synthesis, combinatorial synthesis and genetics will be described.
Instructor(s): C. Townsend.

AS.030.635. Mthds Nuc Mag/Resonance.
Instructor(s): J. Tolman.

AS.030.638. Spectroscopy of Diatomic Molecules.
A detailed study of diatomic molecules will be undertaken by rotational, vibrational, and electronic spectroscopy. The Born-Oppenheimer approximation, Hund’s coupling cases, angular momentum coupling techniques, Wigner-Eckart theorem, selection rules, intensity factors, external fields and other related topics will be discussed.

AS.030.677. Advanced Organic Synthesis I.
The reactions and principles involved in the synthesis of simple and complex organic compounds. Discussion of famous natural product syntheses and practice in developing rational designs for organic syntheses. Problems in the design of syntheses and in the use of chemical literature.
Instructor(s): R. Klausen.

AS.030.678. Advanced Organic Synthesis II.
Advanced discussion of organic stereochemistry & its application to problems in asymmetric reactions and catalysis will be presented. Emphasis will be placed on the latest reports in the literature, especially with respect to the development of new catalytic, asymmetric processes.
Instructor(s): T. Lectka.

Instructor(s): M. Greenberg.


AS.030.690. Intermediate Computational Chemistry.
Instructor(s): D. Yarkony.

AS.030.691. Solid State Chemistry.
The course is designed to provide the essential principles and concepts underlying the modern study of the structure and properties of solids in bulk crystals, thin films, and nanoscale objects. Topics include basic crystallography, structure determination by x-ray, neutron, and electron diffraction, fundamental concepts of bonding in solids, lattice dynamics, electronic band structure, magnetism, and strongly correlated electron behavior. Particular emphasis is placed on the impact of the structure, dimensionality, and electron count on electrical and magnetic properties (electric conduction, superconductivity, thermoelectricity, etc.). More course info available at <a href="http://occamy.chemistry.jhu.edu/">http://occamy.chemistry.jhu.edu/</a>. Cross-listed with Physics and Astronomy
Instructor(s): T. Mcqueen.

In this course we will survey common time-resolved spectroscopic methods used to interrogate the dynamic and static properties of chemical systems. We will explore theoretical treatments both of key molecular processes (e.g. radiative and non-radiative transitions, solvation, coherence dephasing) and the spectroscopic tools used to interrogate them. Furthermore, we will survey the technical developments that are now allowing us to capture events that occur on ever faster timescales (currently down to the attosecond regime) and across the electromagnetic spectrum (from X-rays to Terahertz). Previous or concurrent concentrated study of Quantum Mechanics (graduate level or from a physics course) would be helpful, but not strictly required. Recommended Course Background: AS.030.301-AS.030.302
Instructor(s): A. Bragg.

The concept of this course is to provide sufficient theoretical and practical materials on the topic of single crystal X-ray diffraction & chemical crystallography. The X-ray class will focus on the following materials: (i) to understand the fundamentals of X-ray crystallography, (ii) to be familiar with the concepts of data collection strategy, structure solution and structure refinement, (iii) to use the acquired knowledge in view of preparing manuscripts. The Mass Spectrometry class will include the following: (i) What is mass spectrometry? And why do we use it?, (ii) How it works - types of instrumentation including vacuum systems, sample inlets, ionization sources, analyzers, detection systems, etc., (iii) Ionization mechanisms, (iv) Applications - chemical analysis to proteomics. Previous or concurrent concentrated study of Quantum Mechanics (graduate level or from a physics course) would be helpful, but not strictly required. Recommended Course Background: AS.030.301-AS.030.302.

AS.030.801. Independent Study.
Instructor(s): Staff.

Open to AS Chemistry Graduate Students only.
Instructor(s): Staff.

Classics
http://classics.jhu.edu

The discipline of Classics has played a central role in the teaching and research missions of Johns Hopkins University from the time of its foundation. Basil Lanneau Gildersleeve, a professor of Greek, was the first professor appointed by the board of trustees, and thus became the very first faculty member (aside from the founding president, Daniel Coit Gilman) in the University. Gildersleeve and his colleagues organized the first modern departments of Greek and Latin—departments with an innovative structure based on the German seminar system, which encouraged a fusion of teaching and research. This “seminar” was in time widely adopted by other North American universities, and to this day remains at the core of the research university.

Today, the Classics Department seeks to maintain and enhance its tradition of leadership and innovation. Members of the current faculty are highly interdisciplinary, combining philological, historical, iconographical, and comparative methods in the study of the cultures, broadly conceived, of ancient Greece and Rome. The undergraduate and the graduate programs, leading to B.A., M.A., and Ph.D. degrees, reflect these emphases. Requiring rigorous study of the ancient
languages and literatures, ancient history, and Greek and Roman art and archaeology, these programs aim to produce broad, versatile scholars who have a holistic view of the ancient cultures and of the evidence by which those cultures are comprehended.

Facilities

The department’s main scholarly resource is the Milton S. Eisenhower Library, which has broad and deep holdings in the various fields of classical antiquity. The department also has a significant collection of Greek, Roman, and Etruscan antiquities, housed in the Johns Hopkins Archaeological Museum (shared with Near Eastern Studies). Additionally, the department enjoys close ties with several local and regional institutions whose missions include the study of the ancient world: the Walters Art Museum, with its world-class collection of antiquities and manuscripts; the Baltimore Museum of Art, with its Roman mosaics; and the Center for Hellenic Studies in Washington, D.C. Finally, the department is a member of the American School of Classical Studies at Athens, the American Academy in Rome, and the Intercollegiate Center for Classical Studies at Rome.

The department offers undergraduate courses in Greek and Latin languages and literature, ancient history, classical art and archaeology, Greek and Roman civilizations, history of sexuality and gender, ancient philosophy, mythology, and anthropological approaches to the classics. These courses are open to all students in the university, regardless of their academic year or major field of interest.

Requirements for the B.A. Degree

(See also Requirements for a Bachelor’s Degree (p. 24).)

The B.A. program in classics is highly flexible, accommodating a variety of interests in and approaches to the ancient world. Possible areas of emphasis include language and literature, ancient philosophy, art and archaeology, and ancient history.

Classics Major

Certain courses taken in other departments may count toward the major, with the approval of the director of undergraduate studies (DUS). Advanced undergraduates may participate in graduate seminars, with the approval of the DUS and the professor. With assistance from their faculty advisors, students are required to build an intellectually substantial and coherent curriculum and must take all courses for a letter grade and earn a C or better in major requirements. Students are strongly encouraged to complete a course in ancient Greek civilization (usually AS.040.111 (https://e-nextcatalog.jhu.edu/departments-program-requirements-and-courses/arts-sciences/classics)) and a course in Roman civilization (usually AS.040.112 (https://e-nextcatalog.jhu.edu/departments-program-requirements-and-courses/arts-sciences/classics) or AS.040.104 (https://e-nextcatalog.jhu.edu/departments-program-requirements-and-courses/arts-sciences/classics)).

The requirements for the minor in classics are extremely flexible. Courses are selected, in consultation with the DUS, to meet the needs and interests of the student. Minors may wish to pursue the study of one ancient language, or create a curriculum that meshes with their other academic pursuits. All courses must be taken for letter grades and receive a grade of C or higher.

Honors Program in Classics

Under this program, senior classics majors have the opportunity to write an honors thesis in close consultation with a faculty member. This work of guided research and writing counts for three credits and is outside the requirements of the major. This program awards a B.A. with honors.

Study Abroad

The Department of Classics is a member of the Intercollegiate Center for Classical Studies in Rome and can provide information on other year-long, semester-long, or summer programs in Greece and Italy (e.g., the College Year in Athens and the summer session of the American School of Classical Studies at Athens). Interested students, especially classics majors and minors, are encouraged to consider these options for studying overseas.

Classics Minor

The requirements for the minor in classics are extremely flexible. Courses are selected, in consultation with the DUS, to meet the needs and interests of the student. Minors may wish to pursue the study of one ancient language, or create a curriculum that meshes with their other academic pursuits. All courses must be taken for letter grades and receive a grade of C or higher.

Minor Requirements

Classics Courses

6 courses offered through the Classics Department or cross-listed in Classics

B.A./M.A. Degree

Admission to the B.A./M.A. program is based on outstanding performance in previous Classics courses.

Students considering a five-year program are expected to declare their interest during the spring semester of their junior year. Prior to application, students must consult with the Director of Undergraduate Studies, their faculty advisor, and the department administrator. A formal graduate application must be submitted no later than November 15 of the fall semester of the senior year in order to be admitted to the program in the spring of the senior year, thus meeting the requirement for concurrent status. In the students’ senior (fourth) year, they are to devise a program that would best prepare them to do advanced work in their final (fifth) year, in particular addressing any weakness in one or the other classical language.
The student is to complete the requirements for the B.A. in their fourth year. For the M.A. the following additional work is required:

Two graduate seminars in the Classics Department.
A thesis of 20,000 to 25,000 words representing original research. The thesis will be supervised by a member of the Classics Department faculty and graded by the supervisor and a second reader from Classics or an outside department.

Exceptionally well-prepared students may apply for the B.A./M.A. program, with prior approval from the DUS and the Department Chair, in the spring of their junior year. In this case it is possible to complete the bachelor’s/master’s degree in four years. These students are expected to express their interest to the department by the fall term of their junior year; the application deadline is March 15 of the spring semester of the junior year.

The B.A. and M.A. degrees are conferred concurrently at the end of the M.A. year. Please note that the department does not award degrees during the summer; students are expected to complete the degree requirements in conformance with the university Graduate Board spring deadlines. Specific departmental and Graduate Board deadlines are communicated to the student in due course.

Requirements for the M.A. Degree

Note: Students are not admitted for the M.A. as a terminal degree, but only for the Ph.D.

Six seminars and translation examinations in Greek and Latin.
A reading knowledge of German, French, or Italian. Student will demonstrate this knowledge by passing the departmental examination in one of the three languages.

Requirements for the Ph.D. Degree

To receive a Ph.D. in classics from Johns Hopkins University, students must complete successfully a range of seminar work and examinations, and then write a substantial dissertation. The Graduate Program in Classics is designed to be completed in five years, of which the first three are dedicated to seminar work and examinations, and the last two to the dissertation. Assuming satisfactory progress toward the Ph.D., all students admitted to the program receive five years of living expenses and tuition remission, in order to make it possible to complete the program in a timely manner. This support takes the form of a fellowship for the first two years, and teaching for at least two of the remaining years. The department is also able to offer teaching opportunities in the summer, as well as funded summer travel for program-related purposes. All students, upon reaching dissertation level, are encouraged to apply for outside funding to spend a year abroad. If outside funding is obtained, the Johns Hopkins fellowship may be held in reserve for an additional year. A detailed outline of the Ph.D. program, including a prospectus of all seminars and exams, can be found on the Classics Department website (http://classics.jhu.edu).

Application information may be obtained from the chair, Department of Classics, The Johns Hopkins University, 113 Gilman Hall, 3400 North Charles Street, Baltimore, MD 21218. Telephone: 410-516-7556; Fax: 410-516-4848; email: classics@jhu.edu. The application deadline is on or about January 15. For the precise date, please refer to the Graduate Admissions website (http://grad.jhu.edu).

For current faculty and contact information go to http://classics.jhu.edu/people/

Faculty

Chair
Christopher Celenza
Charles Homer Haskins Professor (Classics and German and Romance Languages and Literatures) (Director of Undergraduate Studies, Classics): Renaissance Latin, paleography, history of classical tradition.

Professors
Silvia Montiglio
Basil L. Gildersleeve Professor of Classics (Director of Graduate Studies): Greek literature and culture; the ancient novel and narrative; philosophy.

Matthew Roller
Professor: Latin literature, Roman social and cultural history, Roman material culture, Graeco-Roman philosophy.

H. Alan Shapiro
W. H. Collins Vickers Professor of Archaeology (History of Art): Greek and Roman art and archaeology, Greek mythology and religion.

Associate Professor
Dimitrios Yatromanolakis
Associate Professor (Anthropology, Humanities Center): Greek literature, Greek social and cultural history, theory and anthropology of Greek music, papyrology, epigraphy, performance cultures of Greece and Rome.

Senior Lecturer
Emily Anderson
Senior Lecturer (Classics and History of Art): Aegean Bronze Age art and archaeology, material culture, sociocultural interaction, identity, glyptic.

Emeritus
Marcel Detienne
Basil L. Gildersleeve Professor Emeritus: Greek, social history, cultural history, mythology, anthropology and classics.

Joint Appointments
Richard Bett
Professor (Philosophy): ancient philosophy, ethics.

Pier Luigi Tucci
Assistant Professor (History of Art): Roman art and architecture.

For current course information and registration go to https://isis.jhu.edu/classes/
Courses

**AS.040.103. The Roman Empire. 3 Credits.**
This introductory course examines the history, society, and culture of the Roman state in the Imperial age (ca. 31 BCE-ca. 500 CE), during which it underwent a traumatic transition from an oligarchic to a monarchical form of government, attained its greatest territorial expanse, produced its most famous art, architecture, and literature, experienced vast cultural and religious changes, and finally was transformed into an entirely different (“late antique”) form of society. All readings in English.
Instructor(s): M. Roller
Area: Humanities.

**AS.040.104. The Roman Republic: History, Culture, and Afterlife. 3 Credits.**
This introductory level course examines the history, society, and culture of the Roman state in the Republican period (509-31 BCE), during which it expanded from small city-state to a Mediterranean empire. We also consider the Republic’s importance for the later phase of Western society, notably the American and French revolutions. All readings in English.
Instructor(s): M. Roller
Area: Humanities.

**AS.040.105. Elementary Ancient Greek. 4 Credits.**
This course provides a comprehensive, intensive introduction to the study of ancient Greek. During the first semester, the focus will be on morphology and vocabulary. Credit is given only upon completion of a year’s work. Cannot be taken Satisfactory/Unsatisfactory.
Instructor(s): G. Gessert.

**AS.040.106. Elementary Ancient Greek. 4 Credits.**
Course provides comprehensive, intensive introduction to the study of ancient Greek. The first semester’s focus is morphology and vocabulary; the second semester’s emphasis is syntax and reading. Credit is given only upon completion of a year’s work. Course may not be taken Satisfactory/Unsatisfactory.
Instructor(s): N. Kauffman.

**AS.040.107. Elementary Latin. 3 Credits.**
This course provides a comprehensive, intensive introduction to the study of Latin for new students, as well as a systematic review for those students with a background in Latin. Emphasis during the first semester will be on morphology and vocabulary. Credit is given only upon completion of a year’s work. Course may not be taken Satisfactory/Unsatisfactory.
Instructor(s): A. Tabeling; M. Asuni.

**AS.040.108. Elementary Latin. 3 Credits.**
Course provides comprehensive, intensive introduction to the study of Latin for new students as well as systematic review for students with background in Latin. The first semester’s emphasis is morphology and vocabulary; the second semester’s focus is syntax and reading. Credit is given only upon completion of a year’s work. Course may not be taken Satisfactory/Unsatisfactory.
Instructor(s): J. Lamont; M. Mueller.

**AS.040.111. Ancient Greek Civilization: Society, Archaeology, Literature, Philosophy. 3 Credits.**
The course will introduce students to major aspects of the ancient Greek civilization, with special emphasis placed upon culture, society, archaeology, literature, and philosophy.
Instructor(s): D. Yatromanolakis
Area: Humanities.

**AS.040.112. Roman Civilization. 3 Credits.**
Instructor(s): M. Sullivan
Area: Humanities.

**AS.040.117. Intro To Roman Culture. 3 Credits.**
Instructor(s): T. Phin
Area: Humanities.

**AS.040.119. The World of Pompeii. 3 Credits.**
This course will focus on the history and archaeology of Pompeii. Close attention will also be paid to the reception of Pompeian materials in European and American culture. Cross-listed with History of Art and the Program in Museums and Society.
Instructor(s): H. Valladares
Area: Humanities.

**AS.040.121. Ancient Greek Mythology: Art, Literature, and Mythmaking. 3 Credits.**
Instructor(s): D. Yatromanolakis
Area: Humanities.

**AS.040.133. Heroes: the Ancient Greek Way. 3 Credits.**
The purpose of this course is to introduce students to Ancient Greek literature by reading and discussing its most important and famous texts, from the Iliad and the Odyssey to tragedy to philosophy. Knowledge of Greek is not required.
Instructor(s): S. Montiglio
Area: Humanities.

**AS.040.134. Love, War, and Glory: The Gods and Heroes of Greek Mythology. 3 Credits.**
Greek myths fascinate us as adventurous narratives, yet they always sound enigmatic and require interpretation. This course will combine the pleasure of reading stories and the concern for their understanding. Readings in ancient and modern texts. The course may not be taken S/U. This course meets Hopkins’ requirements for a major in classics.
Instructor(s): D. Piana
Area: Humanities.

**AS.040.135. The Grandeur That Was Rome. 3 Credits.**
At the peak of its power, the Roman empire extended from Scotland to Syria, incorporating numerous cultures, attitudes, and lifestyles. This course examines Roman social practices, political institutions, and religion from the empire’s humble beginnings through its final period, using a wide variety of materials including drama, poetry, history, and oratory. This course may not be taken S/U and meets the Hopkins requirements for a major in classics.
Instructor(s): M. Mueller
Area: Humanities.

**AS.040.137. Freshman Seminar: Archaeology at the Crossroads: The Ancient Eastern Mediterranean through Objects in the JHU Archaeological Museum. 3 Credits.**
This seminar investigates the Eastern Mediterranean as a space of intense cultural interaction in the Late Bronze Age, exploring how people, ideas, and things not only came into contact but deeply influenced one another through maritime trade, art, politics, etc. In addition to class discussion, we will work hands-on with artifacts from the JHU Archaeological Museum, focusing on material from Cyprus.
Instructor(s): E. Anderson
Area: Humanities
Writing Intensive.
AS.040.140. Gender and Sexuality in Early Greece and the Eastern Mediterranean. 3 Credits.
In this course we will explore evidence and interpretations of gender and sexuality in the region of the Aegean and eastern Mediterranean during the third and second millennia BCE. Material investigated will include the "snake goddess" figures from Minoan Crete, anthropomorphic figurines from the Cyclades and Cyprus, wall paintings, etc. In each case we will consider the history of interpretation as well as investigate the objects' archaeological and sociocultural contexts. Discussion topics will include representational ambiguity, the specific materialities of objects, and their possible roles in activities construing gender. The course will incorporate material from the JHU Archaeological Museum. Cross-listed with Women, Gender, and Sexuality Program.
Instructor(s): E. Anderson
Area: Humanities.

AS.040.142. Spartacus, Caesar, and Cleopatra: Notorious Characters from Roman History and Hollywood Cinema. 3 Credits.
Since the invention of cinema, the ancient world has been an important vehicle for both lavish visual spectacles and the exploration of contemporary social issues. This course analyzes the depiction of the infamous figures of the late republic in both ancient sources and modern media, to examine how ancient Rome and contemporary America have used these characters to contemplate race, class, gender, and imperialism.
Instructor(s): G. Gessert
Area: Humanities.

AS.040.201. Digging Up the Gods: The Archaeology of Roman Sanctuaries. 3 Credits.
This course will explore the major sites of Ancient Italy, such as Rome, Ostia, and Pompeii, from temples to dedications, and their role in religion and society. Cross-listed with History of Art.
Instructor(s): G. Gessert
Area: Humanities.

AS.040.205. Intermediate Ancient Greek. 3 Credits.
Reading ability in classical Greek is developed through a study of various authors.
Prerequisites: AS.040.105 AND AS.040.106 OR Equivalent
Instructor(s): D. Yatromanolakis
Area: Humanities.

AS.040.206. Intermediate Ancient Greek. 3 Credits.
Reading ability in classical Greek is developed through a study of various authors, primarily Plato (fall) and Homer (spring). Recommended Course Background: AS.040.105-AS.040.106 or equivalent.
Instructor(s): D. Dooley
Area: Humanities.

AS.040.207. Intermediate Latin. 3 Credits.
Although emphasis is still placed on development of rapid comprehension, readings and discussions introduce student to study of Latin literature, principally through texts of various authors.
Prerequisites: AS.040.107 AND AS.040.108 OR Equivalent
Instructor(s): N. Kauffman
Area: Humanities.

AS.040.208. Intermediate Latin. 3 Credits.
Reading ability in Latin is developed through the study of various authors, primarily Cicero (fall) and Vergil (spring). Recommended Course Background: AS.040.107-AS.040.108 or equivalent.
Instructor(s): T. Smith
Area: Humanities.

AS.040.219. Children and Childhood in the Ancient Mediterranean. 3 Credits.
Area: Humanities
Writing Intensive.

AS.040.220. Representing Ancient Greece and Rome in Film and Television. 3 Credits.
This course examines modern representations of ancient Greece and Rome in film. Students will analyze films in both ancient and modern contexts, distinguishing historical fact from artistic choice. Screenings on Monday evenings. Cross-listed with Film and Media Studies.
Instructor(s): A. Ibarra
Area: Humanities.

AS.040.221. The Archaeology of Early Greece. 3 Credits.
This course explores the origins and rise of Greek civilization from the Early Bronze Age to the Persian Wars (ca. 3100-480 B.C.), focusing on major archaeological sites, sanctuaries, material culture, and artistic production.
Instructor(s): E. Anderson
Area: Humanities.

AS.040.227. Warfare in Ancient Rome: From Republic to Empire. 3 Credits.
This course surveys Roman military history from the Iron Age through the fall of the Roman Empire. Topics include major military campaigns and the material production of the Roman army.
Instructor(s): A. Ibarra
Area: Humanities.

AS.040.229. Victory and Defeat in Ancient Rome. 3 Credits.
The Romans are known for their success at war which made it possible to build an empire. This course will explore two aspects of this success story: victory and defeat. Dean’s Teaching Fellowship course.
Instructor(s): E. Campbell
Area: Humanities.

AS.040.231. Word and Image in Ancient Greece: Art, Literature, Inscriptions. 3 Credits.
Focusing on art (mainly vase-paintings and sculpture), texts, and inscriptions, this course examines major aspects of archaic, classical, and Hellenistic Greek culture. Emphasis placed on the interplay of word and image.
Area: Humanities.
AS.040.232. Island Archaeology: The Social Worlds of Crete, Cyprus and the Cyclades. 3 Credits.
Islands present highly distinctive contexts for social life. We examine three island worlds of the third and second millennia BCE through their archaeological remains, each with its particularities. These are places where water had a unique and powerful meaning, where boat travel was part of daily life, where palaces flourished and where contact with other societies implied voyages of great distance across the sea. Class combines close study of material culture and consideration of island-specific interpretive paradigms; students work with artifacts in the JHU Archaeological Museum.
Instructor(s): E. Anderson
Area: Humanities.

AS.040.233. The Ancient Greek and Roman Novels. 3 Credits.
The ancient Greeks are credited with inventing democracy, philosophy, drama, and science. They also invented the novel. In this class, we will read a large sample of Greek and Roman novels: stories of love, adventures, and magic.
Instructor(s): S. Montiglio
Area: Humanities.

AS.040.235. Past is Present: Cultural Heritage and Global Interactions. 3 Credits.
The uncovering, collection and valuation of the archaeological past is deeply embroiled in global interactions - diplomatic, economic, cultural. We examine the complex role of cultural heritage through consideration of case studies and analytic approaches. Frequent visits to area museums.
Instructor(s): E. Anderson
Area: Humanities.

AS.040.305. Advanced Ancient Greek. 3 Credits.
Reading of prose or verse authors, depending on the needs of students. (Same as AS.040.705) Recommended Course Background: AS.040.205-AS.040.206 or equivalent.
Instructor(s): S. Montiglio
Area: Humanities.

AS.040.306. Advanced Ancient Greek. 3 Credits.
Reading of prose or verse authors, depending on the needs of students. This semester’s focus will be on poetry: Theocritus’ Idyls. Recommended Course Background: AS.040.205-AS.040.206 or equivalent. Co-listed with AS.040.702.
Instructor(s): S. Montiglio
Area: Humanities.

AS.040.307. Advanced Latin Prose. 3 Credits.
This course aims to increase proficiency and improve comprehension of the Latin language. Intensive reading of Latin texts, with attention to grammar, idiom, translation, etc. Specific offerings vary. This semester’s focus is on Cicero’s letters. (Same course as AS.040.707) Recommended Course Background: AS.040.207-AS.040.208 or equivalent.
Instructor(s): D. Planas
Area: Humanities.

AS.040.308. Advanced Latin Poetry. 3 Credits.
The aim of this course is to increase proficiency and improve comprehension of the Latin language. Intensive reading of Latin texts, with close attention to matters of grammar, idiom, and translation. (Same as AS.040.710)
Prerequisites: AS.040.207 AND AS.040.208 OR Equivalent
Instructor(s): M. Mueller
Area: Humanities.

AS.040.320. Myth In Classical Art. 3 Credits.
Instructor(s): A. Shapiro
Area: Humanities.

AS.040.330. The Age of Perikles. 3 Credits.
A survey of Athens in the High Classical period, focusing on primary sources read in translation (Thucydides, Plutarch) and archaeological evidence.
Instructor(s): A. Shapiro
Area: Humanities.

AS.040.354. Slander, Abuse, & Mockery: Examining the World of Roman Invective. 3 Credits.
Slander, Abuse, and Mockery: Examining the World of Roman Invective This course will examine the pervasive practice of verbal abuse in the Roman world and how such abuse shaped social and political realities. Dean’s Teaching Fellowship course.
Area: Humanities
Writing Intensive.

AS.040.355. Roman Landscapes in Context. 3 Credits.
This course will explore Roman representations of landscape from the 1st century BCE to the 2nd century CE. We will also consider early modern fantasies of ancient landscapes. Cross-listed with History of Art and Interdepartmental.
Instructor(s): H. Valladares
Area: Humanities.

AS.040.357. The Art of Classical Greece. 3 Credits.
Area: Humanities.

AS.040.359. Making Identities: How Archaeology Constructs People in the Past and Present. 3 Credits.
Archaeology both examines the identities of people in the past and helps construct those in the present. In this course we will explore how aspects of our own lives (political, religious, cultural, etc.) are influenced by our notions of the past and the people who populated it, and how our modern identities in turn influence the way we understand past people.
Instructor(s): E. Anderson
Area: Humanities, Social and Behavioral Sciences.

AS.040.360. The Archaeology of Daily Life. 3 Credits.
Limited to juniors and seniors from Classics, History of Art, Archaeology, and Museum and Society. Others with permission of instructor only. This course will examine objects of daily life from the Greco-Roman world in the Johns Hopkins University Archaeological Museum. Students will collaborate on an online catalogue, featuring their research. Cross-listed with History of Art, Near Eastern Studies, and Museums and Society.
Instructor(s): H. Valladares
Area: Humanities.

AS.040.361. EMPIRE: A Case of Rome. 3 Credits.
In this course, students will consider varying concepts of empire in ancient and modern history. Rome will serve as the case study for determining the characteristics of an ancient empire, paying particular attention to socio-cultural, political, and martial developments in the history of Roman civilization.
Area: Humanities.
AS.040.363. Craft and Craftpersons of the Ancient World: Status, Creativity and Tradition. 3 Credits.
This course explores the dynamic work and social roles of craftpersons in early Greece, the eastern Mediterranean and Near East. Readings and discussion will query the identities and contributions of these people—travelers, captives, lauded masters, and even children—through topics including gender, class, and ethnicity. Special focus on late third-early first millennia BCE; local field trips. Cross-listed with Near Eastern Studies.
Instructor(s): E. Anderson
Area: Humanities
Writing Intensive.

AS.040.366. The Archaeology of Ancient Cyprus: Investigating a Mediterranean Island World in the JHU Museum. 3 Credits.
This course explores the visual and materials worlds of ancient Cyprus from the earliest human evidence through the Iron Age. Class involves regular analysis of artifacts based in the Archaeological Museum.
Instructor(s): E. Anderson
Area: Humanities
Writing Intensive.

AS.040.367. Memory and Oblivion: Rewriting the Past in Ancient Rome. 3 Credits.
This course examines concepts of memory and forgetting through Roman memory sanctions, which aimed to revise or even erase the past. Textual, archaeological, and iconographical sources will be considered. Dean’s Teaching Fellowship course.
Instructor(s): E. Anderson
Area: Humanities
Writing Intensive.

AS.040.368. The Authority of Ruins: Antiquarianism in Italy, 1690-1890. 3 Credits.
(Same as 040.668) This seminar will focus on the transformation of antiquarianism in Italy after the discovery of Herculaneum and Pompeii. Students will work primarily with rare books from the collections at JHU. Cross-listed with History of Art and Museums and Society and Interdepartmental.
Area: Humanities.

AS.040.369. The Battle for the 5th Century BC: Athens, Persia, Sparta. 3 Credits.
This course explores the achievements and conflicting interactions of Athens, Persia, and Sparta during the 5th century BC, a period whose cultural richness lies at the roots of Western Civilization.
Instructor(s): J. Lamont
Area: Humanities
Writing Intensive.

AS.040.501. Independent Study. 3 Credits.
Instructor(s): C. Celenza; D. Yatromanolakis; M. Roller; S. Montiglio
Area: Humanities.

AS.040.502. Independent Study. 0 - 3 Credit.
Instructor(s): A. Shapiro; D. Yatromanolakis; S. Montiglio.

AS.040.519. Honors Research. 3 Credits.
Instructor(s): D. Yatromanolakis; M. Roller; S. Montiglio.

AS.040.520. Honors Research. 0 - 3 Credit.
Instructor(s): A. Shapiro; D. Yatromanolakis.

AS.040.579. Master’s Research. 3 Credits.
Instructor(s): D. Yatromanolakis
Area: Humanities.

AS.040.580. Master’s Research. 0 - 3 Credit.
Instructor(s): D. Yatromanolakis.

AS.040.599. Independent Study. 3 Credits.
Instructor(s): M. Roller.

AS.040.612. Ancient Greek Prose Composition.
Translationg modern English prose into ancient Greek. Emphasis on the Attic dialect.
Instructor(s): D. Yatromanolakis.

AS.040.618. The Gracchi: Culture, Politics, and Economics in Late Republican Rome.
This seminar examines the Gracchi both as a cultural phenomenon in the Late Republic and as historical agents pursuing particular political and economic aims.

AS.040.621. Proseminar to Classical Archaeology.
An introduction to research methods and current topics of discussion in the scholarship on Greek and Roman art and archaeology.
Instructor(s): P. Tucci.

AS.040.624. Hero or Villian? Odysseus in Greek Literature & Culture.
We shall read Greek literary and philosophical texts dealing with the figure of Odysseus, to see how he was regarded as a moral type.
Area: Humanities.

AS.040.626. Athenian Festivals.

This seminar examines the “distinctively Roman” genre of verse satire and associated problems of form, content, and occasion. Substantial readings in Latin from the genre’s major authors: Lucilius, Horace, Persius, and Juvenal.
Area: Humanities.


AS.040.638. Ancient Greek Seafaring.
The seminar will survey literary, archaeological, and iconographical evidence for Greek ships and seafaring, and lay the groundwork for an exhibition in 2012. Cross-listed with History of Art.

AS.040.639. Propertius.

AS.040.640. The Ancient Greek Novel.
Graduate students only. Knowledge of ancient Greek is required. The Ancient Greek Novels are romantic love stories, with a beautiful heroine and a handsome hero. We shall read excerpts from a sample of novels in Greek and the entire corpus in English.
Instructor(s): S. Montiglio.

AS.040.642. Greek Vases in the Johns Hopkins Archaeological Collection.
The seminar will update the scholarship on selected vases in the collection published since the 1984 catalog and generate detailed labels to accompany the new installation.
Instructor(s): A. Shapiro.

AS.040.643. How to Persuade a Roman Emperor.
This seminar examines texts addressed directly to emperors, texts that seek to form, guide, persuade, or provide models for them. The principal readings are Seneca’s De Clementia and Pliny the younger’s Panegyricus.
Instructor(s): M. Roller.
AS.040.644. The Crisis of the Late Republic: Ancient and Modern Approaches.
This seminar focuses on the fall of the Roman Republic. We trace modern scholars' rapidly changing understandings of the issues involved, along with influential ancient understandings, above all those of Sallust. Weekly assignments will include modern scholarship as well as substantial Latin reading: in the course of the term we will read the entire corpus of Sallust (the Bellum Iugurthinum, the Coniuratio Catilinae, and the longer fragments of the Historiae).
Instructor(s): M. Roller.

AS.040.646. Greek Palaeography.
The seminar focuses on both early and later Greek manuscripts. Special emphasis placed on technical aspects of the discipline of Greek Palaeography (dating of manuscripts, transmission of literature and of specialized treatises related to ancient Greek sciences, etc.).
Instructor(s): D. Yatromanolakis
Area: Humanities.

AS.040.648. Homeric Archaeology.
This seminar surveys the archaeology of the Late Bronze Age in the Aegean, then explores the creation, diffusion, and reception of Homeric epic from the Iron Age to the end of the Archaic Period.
Instructor(s): A. Shapiro, E. Anderson.

AS.040.650. Curating the Roman House.
In this seminar, students will be asked to develop an exhibition on the theme of the Roman House based on the holdings of the JHU Archaeological Museum and the Walters Art Museum. Guest lectures by Dr. Marden Nichols, Curator of Ancient Art at the Walters Art Museum.
Instructor(s): H. Valladares.

AS.040.651. Greek Art: Archaic into Classical.
An intensive exploration, based on current scholarship, of Greek sculpture and painting ca. 500-460 BCE and the origins of the Classical style. Cross-list with History of Art.
Instructor(s): A. Shapiro
Area: Humanities.

AS.040.653. Ovid, Maker of Images.
In this seminar, we will read excerpts from Ovid's "Metamorphoses" and consider the reception of these episodes in the visual arts from antiquity to the 21st century.
Instructor(s): H. Valladares.

In this seminar the main fields of art, namely architecture, sculpture and painting (frescoes and mosaics), in the Near East will be examined as reflecting the impact Greek and Roman culture had in the region. One of the main topics is the meeting between regional traditions (Jewish, Phoenician, Syrian, Nabatean) and the imported Greek and Roman trends. These aspects will be studied both at official and popular levels. Examination of official art and architecture will focus on religious and civic domains, taking into account also the use of marble, which had to be imported to this region. As to the popular art, domestic milieu will be taken into consideration. After introductory presentations by the instructor, students will be invited to bring their own contributions.
Instructor(s): M. Fischer.

AS.040.655. Attic Hero Cults.
This seminar will combine the evidence of literary and epigraphical sources with archaeological material (votive reliefs, vase iconography) to explore the central role of hero cult in the religious life of ancient Athens. Cross-listed with History of Art
Instructor(s): A. Shapiro.

AS.040.657. Apollonius of Rhodes.
We shall read and discuss significant portions of Apollonius of Rhodes' Argonautica in the original Greek.
Instructor(s): S. Montiglio.

AS.040.663. Heroes and Hero Cult in Greece.
AS.040.665. Survey of Greek Literature.
An intensive survey of Greek poetic and prose texts, which emphasizes reading for comprehension and speed. Texts range from Homer to Lucian.
Area: Humanities.

AS.040.668. The Authority of Ruins: Antiquarianism in Italy, 1690-1890.
(Same as 040.368) This seminar will focus on the transformation of antiquarianism in Italy after the discovery of Herculaneum and Pompeii. Students will work primarily with rare books from the collections at JHU. Cross-listed with History of Art and Near Eastern Studies.
Area: Humanities.

This seminar focuses on early Greek hexameter poetry, especially Hesiod, in the context of ancient Greek performance culture and ancient reception. Students will be introduced to current research on comparative mythology and religion.
Instructor(s): D. Yatromanolakis.

AS.040.671. Greek Portraiture and Society.
This seminar will explore the development of Greek portrait sculpture from the Early Classical through the Hellenistic periods and the contexts of its display in Greek cities.
Instructor(s): A. Shapiro.

AS.040.673. The Iliad.
Readings will consist of large portions of The Iliad, focusing especially on literary aspects of the epic.
Instructor(s): S. Montiglio.

AS.040.674. Aeschylus and Sophocles.
This Graduate Seminar will explore major social and cultural aspects of some of the most influential fifth-century Athenian plays, including important archaeological material related to ancient Greek theatre.
Instructor(s): D. Yatromanolakis.

AS.040.675. The Roman House: Image, Text, Archaeology.
Instructor(s): H. Valladares.

Instructor(s): D. Yatromanolakis
Area: Humanities.

AS.040.686. The Odyssey.
Instructor(s): S. Montiglio.

AS.040.687. Proseminar in Classical Philology.
An overview of research areas in Classics, with a focus on such disciplines as epigraphy, papyrology, palaeography, as well as various forms of critical theory.
Instructor(s): D. Yatromanolakis.

AS.040.691. Roman Reciprocities.
This seminar investigates Roman reciprocity and social exchange with a focus on the early empire, in light of both classical anthropological theory and recent work on reciprocity by Classicists and others. Substantial Latin readings from Seneca's De Beneficiis and such poetic praise texts as the Laus Pisonis and Panegyricus Messalae.
Instructor(s): M. Roller.
Overview of sources, collections, bibliography. Examination of important political, literary, social inscriptions. Reading primary evidence, Pompeian graffiti, new material from Vindolanda, and hands-on work with classical coins.
Area: Humanities.
AS.040.693. The Pre-Socratics and Early Plato.
This seminar will focus on the earliest phases of European philosophy. Topics that will be examined include: scholarly approaches to the fragments of major thinkers such as Herakleitos and Empedokles; the concept of "fragment;" the transition from the pre-Socratics to early Plato; the later reception of Herakleitos and Pythagoras in European thought.
Instructor(s): D. Yatromanolakis
Area: Humanities.
AS.040.696. Apuleius, "The Golden Ass".
We shall read and discuss significant portions of Apuleius' The Golden Ass in the original Greek.
Instructor(s): S. Montiglio.
AS.040.702. Reading Ancient Greek Poetry.
This reading seminar is intended to train graduate students in direct and critical work on primary sources. This semester the course will focus on Theocritus' Idylls. Co-listed with AS.040.306.
Instructor(s): S. Montiglio.
AS.040.704. Reading Ancient Greek.
This reading seminar is intended to train graduate students in direct and critical work on primary sources. (Same as 040.305) Recommended Course Background: AS.040.105
Instructor(s): M. Sullivan.
AS.040.705. Reading Ancient Greek Prose.
This reading seminar is intended to train graduate students in direct and critical work on primary sources. (Same as AS.040.305) Recommended Course Background: AS.040.105-AS.040.106
Instructor(s): S. Montiglio
Area: Humanities.
AS.040.706. Reading Ancient Greek.
(Same course as 040.306) This reading seminar is intended to train graduate students in direct and critical work on primary sources. This semester's focus will be on the Homeric epics and Aristophanes.
Instructor(s): S. Montiglio.
(Same course as AS.040.307) This reading seminar is intended to train graduate students in direct and critical work on primary sources. This semester's focus is on Cicero's letters.
Instructor(s): D. Piana.
AS.040.710. Reading Latin Poetry.
This reading seminar is intended to train graduate students in direct and critical work on primary sources. (Same as AS.040.308) Recommended Course Background: AS.040.107-AS.040.108
Instructor(s): M. Mueller.
AS.040.714. Survey of Latin Literature.
This seminar surveys Latin authors and texts represented on the Ph.D. reading list. Intensive, accelerated reading aims to familiarize students with the different authors and their styles, to improve reading speed and accuracy, and prepare students to tackle the remaining works on the reading list by themselves.
Instructor(s): M. Roller.
AS.040.717. Plato.
Open only to graduate students. The goal of this course is twofold: to improve fluency in reading Greek and to acquaint students with Plato’s philosophy. We will read at a sustained speed but also discuss literary and philosophical issues.
Instructor(s): S. Montiglio.
AS.040.719. Ovid's Heroides.
Intensive reading course for graduate students, focusing on Ovid's Heroides.
Instructor(s): H. Valladares.
AS.040.721. Tibullus.
In this seminar, students will engage in close readings of Tibullus' works. We will also consider the poems attributed to Sulpicia and other aspects of the Corpus Tibullianum.
Instructor(s): H. Valladares.
AS.040.801. Independent Study.
Instructor(s): C. Celenza; D. Yatromanolakis; M. Roller; S. Montiglio.
AS.040.802. Independent Study.
Instructor(s): A. Shapiro; D. Yatromanolakis; S. Montiglio.
AS.040.804. Independent Study.
Instructor(s): D. Yatromanolakis.
No Audits.
Instructor(s): S. Montiglio.
AS.040.815. Dissertation Research.
No Audits.
Instructor(s): S. Montiglio.
Cross Listed Courses
History of Art
AS.010.208. The Disappearing Wall: Roman Frescoes in Context. 3 Credits.
The course introduces ancient Roman wall painting from Pompeii and Rome as images painted on “disappearing walls.” We will analyze these and other murals in historical, archaeological and museum contexts.
Instructor(s): S. O'Connell
Area: Humanities
Writing Intensive.
AS.010.303. Flavian Art, AD 69-96. 3 Credits.
This course investigates Roman art and architecture during the Flavian age, in Rome and in the provinces of the empire. With the Flavians, the capital of the empire enjoyed a period of intense building activity: the great projects of Vespasian and Domitian radically transformed its image. Methodologically the focus will be on the integration of diverse sources (archaeological evidence, architecture, sculpture, mosaic, painting, epigraphy and literary sources) to reconstruct the built environment of Rome and other towns (Pompeii, Herculaneum, etc).
Instructor(s): P. Tucci
Area: Humanities.
AS.010.324. Art and Architecture in the Augustan Age. 3 Credits.
Investigates Roman art and architecture during the Augustan age (31 BC – AD 14). Augustus’ cultural program influenced many aspects of Roman life, leading to the creation of a new visual language that transformed Roman society. Methodologically, the focus will be on the integration of diverse sources to reconstruct and discuss the images and the built environment of the Augustan age.
Instructor(s): P. Tucci
Area: Humanities.

AS.010.355. Art and Religion in the Roman World. 3 Credits.
This course explores the relationships between Roman art and religion through a survey of key topics and issues, from the archaic period to late antiquity, providing an introduction into how to use and analyze both textual and material evidence as sources for understanding Roman society. Temples, altars, public and private buildings, reliefs, statues, sarcophagi, paintings, mosaics, coins, metal-ware, glass and pottery, all get increasingly complex and interesting as the Roman world developed and are important forms of evidence for political, intellectual, social and economical life.
Instructor(s): P. Tucci
Area: Humanities.

AS.010.357. Monumentality in Classical Art and Architecture: From Greece to Rome. 3 Credits.
This course investigates the Romans’ reception of Greek and Hellenistic art and architecture, as well as Rome’s original contribution during the republican and imperial age. Its goal is to examine the effects of Hellenization on Roman society and the creation of a completely new visual language.
Instructor(s): P. Tucci
Area: Humanities.

AS.010.385. Byzantine Art. 3 Credits.
This course will cover the arts of Byzantium in the medieval period, from the seventh to the fifteenth centuries.
Area: Humanities.

AS.010.423. Roman Sculpture. 3 Credits.
The course examines all the major public and private monuments, in Rome and in the provinces, from the Republican age to the end of the Roman empire. It considers their cultural, political, and social contexts, and of course the original architectural setting. New light is shed on the reception of statuary and reliefs by the Roman viewer, using primary texts as well as the sculptures themselves. The course illustrates the different types of sculpture that an ancient Roman would have encountered, explaining the nuances of meaning in the different words used by Roman and Greek authors in their descriptions. Sculpture was an integral part of Roman life: indeed the Romans placed statues and reliefs in their houses, villas, gardens, and tombs, as well as in their temples and public buildings. While Rome remains a focus for the course, western and eastern provincial examples are also offered to help further understand the role of Roman sculpture. May also be used as credit toward the Archaeology major. Cross-listed with Classics.
Instructor(s): P. Tucci
Area: Humanities.

AS.010.424. Collecting Roman Art: From Antiquity to Present. 3 Credits.
A survey of the most important collections of Greek and Roman sculpture, from the late-Republican age through the Middle Ages and the Renaissance, until the creation of the main museums in Europe and in the United States.
Instructor(s): P. Tucci
Area: Humanities.

AS.010.430. History of Roman Art and Architecture. 3 Credits.
This course explores the principal forms and contexts in which art and architecture developed in the Roman world. It surveys Roman art and architecture from the foundation of the city of Rome - against the background of the Etruscan tradition - to the divergent trends of late antiquity, including the interaction between Rome and the provinces of the empire. Overall the course encourages critical thinking about the purpose of studying art and architecture as a tool for understanding the Roman world, and provides an introduction into how to use visual and material evidence as a historical source. On completion of this course students will be able to describe and evaluate the architectural style and decorative of key Roman monuments, as well as their function in ancient society. Cross-list with Classics
Instructor(s): P. Tucci
Area: Humanities.

The course explores the significance of the Severan marble plan of Rome and its potential to shed new light on the building program of Septimius Severus and Caracalla.
Instructor(s): P. Tucci.

AS.010.655. Religion in Roman Art.
This course explores the relationships between Roman art and religion through a survey of key topics and issues, from the archaic period to late antiquity, providing an introduction into how to use both textual and material evidence as sources for understanding Roman art and society.
Instructor(s): P. Tucci.

The course investigates the earliest influence from Greece on Roman artists, architects and patrons during the Late Republic. Even before the conquest of mainland Greece, Roman society was transformed by a dramatic process of acculturation. Hellenistic art, quickly adapted by the Romans, played an important part in the development of late-republican Rome: the contrast between the old mos maiorum and what would soon be condemned as luxuria was striking. Archaeological material and literary sources prove that the new taste pervaded not only the Roman way of life but also art and architecture. The course examines in detail the inspiring struggle between Etrusco-Italic traditions and the overwhelming riches from the Hellenistic world. Cross-listed with Classics
Instructor(s): P. Tucci.
AS.010.717. Alternative Histories Through Art and Archaeology: from Arcaic to Late Antique Rome.
This seminar investigates important areas and buildings of ancient Rome in relation to the culture and events of their time, and explores the role of art and architecture in Roman society. Methodologically the focus is on the integration of diverse sources (archaeological evidence, architecture, sculpture, mosaic, painting) to reconstruct and understand different aspects of Rome’s development, from its foundation to the late antique period. This course provides a framework for critical discussion of historical and socio-cultural themes through the analysis and interpretation of material and visual culture as well as other forms of archaeological evidence. It addresses key debates on the construction and transformation of ancient Rome, exploring notions of identity, cult, language, economy as well as forms of political organization. Overall the course aims to give graduate students the tools to access those histories and ideologies which appear unattainable through the literary sources alone, allowing for the expansion of existing narratives and challenging the underlying models which inform our understanding of key historical and cultural processes. To be taught by incoming faculty member Pier Luigi Tucci.
Instructor(s): P. Tucci.

AS.010.718. Art and Architecture in the Augustan Age.
This seminar investigates Roman art and architecture during the Augustan age (31 BC – AD 14), in Rome and in the provinces of the empire. Augustus’ cultural program influenced any aspects of the Roman way of life (religious ritual, clothing, state ceremony), leading to the creation of a new visual language that expressed and furthered the transformation of Roman society. Methodologically the focus will be on the integration of diverse sources (archaeological evidence, architecture, sculpture, mosaic, painting) to reconstruct and discuss the images that a contemporary would have experienced in Rome and elsewhere.
Instructor(s): P. Tucci.

AS.010.719. Art and Architecture under the Flavian Dynasty.
This seminar investigates Roman art and architecture during the Flavian age (AD 69-96) in Rome and in the provinces. With the Flavian dynasty the empire enjoyed a period of renewed political and economic stability: and this was the result of the principate of Vespasian. The 2009 celebration of the bimillenary of Vespasian’s birth gave the opportunity to reassess the figure of this emperor and the role of his dynasty in the development of Rome. With the Flavians, the capital of the empire enjoyed a period of intense building activity (e.g. the Colosseum). The great projects of Vespasian and Domitian radically transformed its image. The embellishment of the city and the global re-planning of the urban spaces were the visible signs of the political revival of the empire. Methodologically the focus will be on the integration of diverse sources (archaeological evidence, architecture, sculpture, mosaic, painting, epigraphy and literary sources) to reconstruct the built environment of Rome during the last three decades of the 1st century AD. Cross-list with Classics
Instructor(s): P. Tucci.

Near Eastern Studies
AS.130.258. Ceramic Analysis in Archaeology. 3 Credits.
At archaeological sites following the invention of pottery roughly 10,000 BCE, ceramics are the single most frequent and ubiquitous class of artefact that archaeologists uncover. This class, which will be conducted in the Hopkins Archaeological Museum as a combination of lectures, discussions, and hands-on interactions with ancient and modern ceramics, surveys the methods and interpretive techniques that archaeologists use when studying this important category of material culture. Specific topics include manufacturing techniques, craft specialization, typology and chronology, production and exchange, scientific analyses, stylistic and functional analysis, and socio-political organization.
Instructor(s): J. Osborne
Area: Humanities.

AS.130.308. Creation: Man, the Gods, and the Cosmos in Ancient Myth. 3 Credits.
Area: Humanities.

AS.130.311. Gilgamesh. 3 Credits.
An examination of the development of both the character of Gilgamesh and the composition of epic narrative in ancient Mesopotamia, beginning with the earliest Sumerian Gilgamesh stories of the third millennium B.C. The bulk of the course will consist of a close reading in English of the Akkadian Gilgamesh epic, focusing on its concerns with homosocial bonding, human sexuality, and mortality. Some attention will be paid to the influence of Gilgamesh on Greek epic, and the reception of Gilgamesh in the modern world since its recovery in the late 19th century.
Area: Humanities
Writing Intensive.

Introduces students to the methods of analysis involved in the study of archaeological ceramics. In addition to the history of ceramic analysis and its place in archaeology, students will be introduced to the basic skills needed for processing ceramics in an archaeological setting, and introduce them to the basic corpus of ancient Eastern Mediterranean ceramics, from the Neolithic until the Hellenistic period, with an emphasis on assemblages from the region of Near East, Egypt, Aegean, Greece, and Rome. They will learn more technical forms of analysis aimed at identifying methods of production, and the function and use of ceramic vessels. The aim is to prepare students who intend to participate in archaeological field projects with the appropriate knowledge of the ceramics of the Eastern Mediterranean Region. Emphasis will be placed on linking analytical methods with the appropriate research questions they can address. Students will have the opportunity to work directly with existing collections at the university, and in the Walters Art Gallery.
Area: Humanities.

Philosophy
AS.150.134. Freshman Seminar: Socrates in Context. 3 Credits.
A study of Socrates as portrayed by his contemporaries, and of intellectual and political trends to which he may have been reacting. Authors will include Plato, Xenophon and Aristophanes. Freshmen Only.
Instructor(s): R. Bett
Area: Humanities.
AS.150.201. Introduction to Greek Philosophy. 3 Credits.
A survey of the earlier phase of Greek philosophy. Socrates, Plato, and Aristotle will be discussed, as well as two groups of thinkers who preceded them, usually known as the pre-Socratics and the Sophists. Instructor(s): R. Bett
Area: Humanities.

AS.150.401. Greek Philosophy: Plato and His Predecessors. 3 Credits.
A study of pre-Socratic philosophers, especially those to whom Plato reacted; also an examination of major dialogues of Plato with emphasis upon his principal theses and characteristic methods. Cross-listed with Classics.
Instructor(s): R. Bett
Area: Humanities
Writing Intensive.

German Romance Languages Literatures

AS.211.414. Body as Vehicle: The French 20th Century Approach to Theatrical Performance. 3 Credits.
From Greek tragedy to postmodern stage productions: 20th century theater practitioners revisited performance through the ritual and emotional experience of physical action on the stage. Hence, the actor's body operates as a bridge relating traditional forms of expression to theatrical performance, as well as a creative — and sensitive — source of emotions. This vehicle becomes in the hands of some 20th century practitioners an object of experimentation, initiating the concepts and practices of an Anthropology of the Theater. A thorough study of theoretical texts, music, as well as videos showing contemporary performances in France, will explore the variety of this theatrical approach and the way some revolutionary theories influenced theater practice in France and worldwide.
Area: Humanities.

AS.214.352. Writing and Wonder: Books, Libraries, and Discovery 1250-1550. 3 Credits.
The invention of printing occurred amid two centuries of intense development in the conduct and material means of European scholarship. The transition from writing by hand to movable type was accompanied by a revolution in scholarship that involved a new attitude to Classical and Biblical antiquity, the recovery of neglected and "lost" works, the formation of secular libraries, and the development of tools for the study of ancient handwriting, writing materials, and the history of language and of history itself. The revolution in attitudes to and uses of the book eventually transformed every discipline related to reading, writing, and the organization of knowledge. Topics to be covered include writing as an object of wonder, the transformation of a mythology of writing into a true history of books, writing, and libraries, the scientific study of writing and of language, and the representation of writing and books in the art and literature of the Middle Ages and Renaissance. Extensive use will be made of Johns Hopkins' large collection of books published before 1600, and student projects will be oriented toward reliving the experiences of scholars in this period, including via computer-assisted means. Open to all undergraduates. Knowledge of a foreign language helpful but not required.
Area: Humanities.

AS.214.377. Gendered Voices. 3 Credits.
The course will explore the notion of ‘voice’ in order to show how poetry, literature, philosophy, and music have been dealing with it throughout the ages. In particular, by focusing on classical figures such as the Sirens, Circe and Echo, as well as by considering the seminal discussions of the ‘voice’ in Plato and Aristotle, the course will address the gendered nature of the voice as a tool to seduce and manipulate the human mind. More specifically, the course will discuss the ways in which male and female voices embody different functions. Examples to be analyzed include texts by Dante, Petrarch, Ariosto, and Tasso. The course will also consider later rewritings of myths concerned with the voice such as Giuseppe Tomasi di Lampedusa’s The Siren and Italo Calvino’s A King Listens.
Instructor(s): Staff
Area: Humanities
Writing Intensive.

AS.214.437. The Intellectual World of the Italian Renaissance. 3 Credits.
This course is intended to familiarize students with the intellectual world of Renaissance Italy, or more specifically, the "lost" Italian Renaissance of the long fifteenth century, from the time when Petrarch (1304-74) was in full maturity to the 1520s. During this period, most Italian intellectuals wrote the majority of their work in Latin - not the Medieval Latin of the Church and the universities but in what they saw as a more authentic Latin, like that used in ancient Rome, in the time of Cicero, Virgil, Quintilian, and others. These Renaissance "humanists," inspired by the example of Roman, and eventually Greek, antiquity, believed that they were carrying out a cultural renewal. Who were these humanists? Why then did they choose Latin (and a reformed Latin at that) instead of their "native" tongue as the language in which to effect this renewal? What did this choice afford them in terms of literature and philosophy? Why was this phase of literary and philosophical history undervalued in the evolution of modern scholarship? By the end of this course, you should be able to formulate answers to those questions. Some of the works of these authors still await editions, lying in manuscript libraries or difficult-to-access early printed editions. Many have now had their Latin texts edited, and a number have recently been translated into English. Students therefore have the chance to explore work in a field that is new and growing. A separate Renaissance Latin reading group will accompany the course for those who have studied Latin.
Instructor(s): C. Celenza
Area: Humanities
Writing Intensive.

AS.214.612. The dichotomy ‘prodesse’-‘delectare’ from Horace to the Twentieth-Century.
Rooted in antiquity, a crucial notion in theory of literature is that a literary work must provide both entertainment and instruction to its readers. In the history of human reflection on artistic production this notion’s importance can be compared to that of imitation. This course will examine instances of this notion’s appearance across the centuries, from Horace to Boccaccio, and all the way to our times. Special attention will be given to the connection between aesthetics and ethics and to the pleasure of reading.
Area: Humanities
Writing Intensive.
AS.214.637. The Intellectual World of the Italian Renaissance.
This course is intended to familiarize students with the intellectual world of Renaissance Italy, or more specifically, the “lost” Italian Renaissance of the long fifteenth century, from the time when Petrarch (1304-74) was in full maturity to the 1520s. During this period, most Italian intellectuals wrote the majority of their work in Latin – not the Medieval Latin of the Church and the universities but in what they saw as a more authentic Latin, like that used in ancient Rome, in the time of Cicero, Virgil, Quintilian, and others. These Renaissance “humanists,” inspired by the example of Roman, and eventually Greek, antiquity, believed that they were carrying out a cultural revival. Who were these humanists? Why then did they choose Latin (and a reformed Latin at that) instead of their “native” tongue as the language in which to effect this renewal? What did this choice afford them in terms of literature and philosophy? Why was this phase of literary and philosophical history undervalued in the evolution of modern scholarship? By the end of this course, you should be able to formulate answers to those questions. Some of the works of these authors still await editions, lying in manuscript libraries or difficult-to-access early printed editions. Many have now had their Latin texts edited, and a number have recently been translated into English. Students therefore have the chance to explore work in a field that is new and growing. A separate Renaissance Latin reading group will accompany the course for those who have studied Latin.
Instructor(s): C. Celenza
Area: Humanities
Writing Intensive.

AS.214.761. Reading & Writing in Pre-Modern Europe.
This course has a fourfold aim: First, it is designed to familiarize participants with the basics of Latin paleography from Roman antiquity through the age of printing with moveable type; throughout, we will practice deciphering literary and documentary sources of various types, even as we concentrate on the evolution of different writing styles. Second, we will think about paleography’s status as a “discipline.” That is, the term “paleography” dates back to 1708 and Montfaucon’s classic work, Palaeographia Graeca. However, it was only in the late nineteenth century in the world of the German research university that paleography came into the orbit of the Geisteswissenschaften as a “Hilfswissenschaft.” Both implicitly and explicitly throughout the seminar we shall be asking what consequences that move entailed. Third, we will study the manner in which printing with moveable type changed western graphic culture: was printing “revolutionary” or “evolutionary”? Did printing and its radical graphic changes introduce new forms of consciousness in readers? Fourth, we will become familiar with certain aspects of “the history of the book,” discovering as we do what sorts of questions scholars in this broad field of scholarly endeavor have been asking recently.


Interdepartmental
AS.360.133. Great Books at Hopkins. 3 Credits.
Students attend lectures by an interdepartmental group of Hopkins faculty and meet for discussion in smaller seminar groups; each of these seminars is led by one of the course faculty. In lectures, panels, multimedia presentations, and curatorial sessions among the University’s rare book holdings, we will explore some of the greatest works of the literary and philosophical traditions in Europe and the Americas. Close reading and intensive writing instruction are hallmarks of this course; authors for Fall 2014 include Homer, Plato, Boccaccio, Shakespeare, Madame de Lafayette, Flaubert, Dostoevsky, Chekhov, and Joyce.
Instructor(s): A. Eakin Moss; E. Patton; J. McGarry; J. Neefs; W. Stephens
Area: Humanities
Writing Intensive.

Study of Women, Gender, Sexuality
AS.363.410. Worshiped Goddesses, Worshiping Women: Femininity, Religion, and Mythology in Ancient Greece. 3 Credits.
This course examines the Greek goddesses and heroines and the ways in which women worshipped them in antiquity, using an interdisciplinary approach, incorporating literary, iconographical, and archaeological evidence.
Instructor(s): S. Stern.

Center for Language Education
AS.383.112. Beginning Sanskrit II. 3 Credits.
This course is a continuation of 381.111. Additional emphasis will be placed on listening, reading, and writing of the language. Basic sentences will be drawn from the Sanskrit Literature. Simple Vedic Mantras from the Vedas and Isshopanishad, verses from the Gagavad Gita, and the sootras from the Yoga Sookas will be read.
Prerequisites: AS.383.111.

Program in Museums and Society
AS.389.205. Examining Archaeological Objects. 3 Credits.
This course considers the role of materials in the production, study and interpretation of objects by examining artifacts from the Johns Hopkins Archaeological Museum. Students will consider materials such as ceramics, stone, metal, glass, wood and textiles, and visit artists’ studios to gain an understanding of historical manufacturing processes. M&S practicum course. Cross-listed with Archaeology, Near Eastern Studies, Classics, and History of Art.
Instructor(s): S. Balachandran
Area: Humanities.

AS.389.345. Introduction to Museum Practice. 3 Credits.
Taking the JHU Archaeological Museum as a case study and working closely with its holdings, we discuss the principles and practice of managing and preserving museum collections. Earns M&S Practicum credit. Cross-listed with History of Art, Anthropology, Near Eastern Studies, and Classics.
Instructor(s): S. Balachandran
Area: Humanities.

Cognitive Science
Cognitive science is the study of the human mind and brain, focusing on how the mind represents and manipulates knowledge and how mental representations and processes are realized in the brain. Conceiving of the mind as an abstract computing device instantiated in the brain,
cognitive scientists endeavor to understand the mental computations underlying cognitive functioning and how these computations are implemented by neural tissue. Cognitive science has emerged at the interface of several disciplines. Central among these are cognitive psychology, linguistics, and portions of computer science and artificial intelligence; other important components derive from work in the neurosciences, philosophy, and anthropology. This diverse ancestry has brought into cognitive science several different perspectives and methodologies. Cognitive scientists endeavor to unite such varieties of perspectives around the central goal of characterizing the structure of human intellectual functioning. It is this common object of inquiry that integrates traditionally separate disciplines into the unified field of cognitive science.

Programs in cognitive science at Johns Hopkins University reflect the interdisciplinary nature of the subject, requiring the student to approach the study of the mind/brain from several different investigative perspectives. Programs in cognitive science draw on courses offered by several other departments as well.

Facilities

The department is located in Krieger Hall. Laboratory and office space is provided for graduate students. The department’s research facilities are provided by the following laboratories:

- Language and Cognition Lab (Landau)
- Language Acquisition Lab (Legendre)
- Cognitive Neuroscience Lab (McCloskey)
- Language Processing and Development Lab (Omaki)
- Visual Cognitive Neuroscience Lab (Park)
- CogNeuro Lab (Rapp)
- Semantics Lab (Rawlins)
- Computational Linguistics Lab (Smolensky)
- Phonetics/Phonology Lab (Wilson)
- Integrated Experimental/Theoretical Grammar Research (IGERT) Lab and Library

Department members also conduct research in the F.M. Kirby Center for Functional Brain Imaging at the Kennedy Krieger Institute and in other laboratories at Johns Hopkins School of Medicine.

Undergraduate Program

Our cognitive science undergraduate program reflects the interdisciplinary nature of the field, allowing students to approach the study of the mind and brain from multiple perspectives. Students gain broad knowledge of the field as a whole, plus a greater depth of the understanding in two of the sub-disciplines within the field. Training emphasizes not only learning about the principal theories and evidence, but also development of the conceptual and practical skills needed for understanding and conducting theoretical and empirical work in the field.

Our department offers a B.A. in Cognitive Science as well as a Linguistics Minor (p. ).

B.A. in Cognitive Science

Also see Requirements for a Bachelor’s Degree (p. 24).

Cognitive Science Major Requirements

The required courses for cognitive science majors are divided into five general areas, as described below. The program is structured so as to ensure some exposure to each of the five areas. In addition, it provides in-depth training in two of the areas, deemed focal areas, chosen by the student. Majors in cognitive science thus acquire a broad perspective which will enable them to situate particular research disciplines within the overall study of the mind/brain.

Areas of Concentration: Students must take courses in all five areas of concentration; however, two must be chosen as focal areas in which a greater selection of courses is required. Courses offered by our department and other affiliated departments (e.g., Departments of Psychological and Brain Sciences, Philosophy, Computer Science, Neuroscience, etc.) may be used to satisfy the requirements for these areas of concentration. Examples of courses that satisfy the requirements for each area can be found on our website. (http://cogsci.jhu.edu/undergraduate/focal-areas.html) However, please note that courses change over time, and some courses are not offered every year. The Director of Undergraduate Studies (http://www.advising.jhu.edu/directors.php) can answer questions about which courses qualify for each focal area.

- Cognitive Psychology/Neuropsychology
- Linguistics
- Computational Approaches to Cognition
- Neuroscience
- Philosophy of Mind

B.A. Coursework

Introductory Course

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>AS.050.101</td>
<td>Cognition</td>
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</table>

Two Focal Areas, see areas above

Three courses in each of the two selected focal areas.

At least one course in each area must be at the 300 - 600 level, not including research, readings, or practica.

Three Non-Focal Areas

One course at any level from each of the three non-focal areas.

Additional Upper-Level Courses

Three courses at the 300 - 600 level, chosen from any focal areas or other cognitive science offerings.

Math Requirement (Option A or B)

Math Option A- Any two of the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>AS.110.106</td>
<td>Calculus I</td>
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<tr>
<td>or AS.110.108</td>
<td>Calculus I</td>
</tr>
<tr>
<td>AS.110.107</td>
<td>Calculus II</td>
</tr>
<tr>
<td>or AS.110.109</td>
<td>Calculus II</td>
</tr>
<tr>
<td>or AS.110.113</td>
<td>Honors Single Variable Calculus</td>
</tr>
<tr>
<td>AS.150.118</td>
<td>Introduction to Formal Logic</td>
</tr>
<tr>
<td>EN.550.171</td>
<td>Discrete Mathematics</td>
</tr>
<tr>
<td>AS.110.201</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>or EN.550.291</td>
<td>Linear Algebra and Differential Equations</td>
</tr>
<tr>
<td>or AS.110.212</td>
<td>Honors Linear Algebra</td>
</tr>
<tr>
<td>AS.050.370</td>
<td>Formal Methods in Cognitive Science: Language</td>
</tr>
<tr>
<td>AS.050.371</td>
<td>Bayesian Inference</td>
</tr>
</tbody>
</table>
AS.050.372  Formal Methods in Cognitive Science: Neural Networks

Math Option B- Statistics Sequence (required for cognitive psychology/neuropsychology focal area) **
EN.550.111  Statistical Analysis I
& EN.550.112  and Statistical Analysis II
& AS.200.207  and Research Methods in Experimental Psychology ***

** If cognitive psychology/neuropsychology is a focal area, the statistics sequence is required and should be completed by the end of the sophomore year, if possible.

*** If a grade of C- or better is earned in all major requirements.

Foreign Language Requirement
One foreign language through the intermediate level OR two foreign languages at the elementary level.

* Three credits of research may count as one of these electives
EN.550.111  Statistics through Case Study (if offered) are interchangeable as the first course in the statistic sequence.
** If cognitive psychology/neuropsychology is a focal area, the statistics sequence is required and should be completed by the end of the sophomore year, if possible.

Additional Cognitive Science Major Information
- Departmental requirements may not be taken Satisfactory/Unsatisfactory, with the exception of research.
- A grade of C- or better must be earned in all major requirements.

Practicum in Language Disorders
In addition to having numerous research opportunities year-round, our department also offers AS.050.318 Practicum in Language Disorders (also listed as AS.080.400 Research Practicum: Language Disorders in the Department of Neuroscience) to its majors. Each fall and spring semester two qualified upperclassmen may enroll in this practicum and have the unique opportunity to learn about adult aphasias, be trained in supportive communication techniques, and work as a communication partner with an individual with aphasia throughout the semester at SCALE (http://www.scalebaltimore.org), a local aphasia support nonprofit organization.

Departmental Honors
To receive Honors in Cognitive Science, graduating seniors must have a major GPA of 3.5 or higher and complete an Honors Clearance (http://www.advising.jhu.edu/honors.php) with the department's Director of Undergraduate Studies (http://www.advising.jhu.edu/directors.php)'s approval. This honor will appear on students' transcripts and will also be indicated in that year's Commencement program.

Excellence in Cognitive Science Award
Each year at Commencement, a cognitive science graduating senior with a stellar academic and research record. The department's faculty make nominations and the Director of Undergraduate Studies announces the winner. This honor is accompanied by a $500 award.

Minimal in Linguistics
A minor in linguistics is available to undergraduates majoring in any department, except for cognitive science majors who choose linguistics as a focal area. Students intending to minor in linguistics should declare their intention, preferably by the beginning of junior year.

Graduate Programs
(For precise and up-to-date information on these M.A. and Ph.D. graduate programs, visit www.cogsci.jhu.edu/graduate.)

Masters of Art Program
MA Requirements for Admission
This intensive, one-year M.A. program is intended to appeal to students who have undergraduate degrees in linguistics, psychology, computer science, neuroscience, and other sub-disciplines of cognitive science. Prominent in this program is the emphasis of faculty mentorship of the students during the application period and throughout the duration of the program. There are two distinct tracks in the M.A. program: Course Track and Research Track. Besides traditional required admissions materials, the Research Track is the only track that has a coursework prerequisite: three credits of undergraduate research or equivalent. Please visit the link at the beginning of this section to find more detailed information on the program and specific admissions requirements.

MA Degree Requirements
Completion of this M.A. program strengthens the qualifications of students who will be applying for Ph.D. programs and also provides career opportunities in areas including science writing, research coordinator, human factors IT, and community college teaching, among others.

Course Track: Students in this track must complete 12 courses with a grade of B- or better. Seven of the courses must be at the 600-level or above and two of the courses must be lab-based or research seminars (800-level). As the capstone event for a student's completion of the program, he/she must produce a portfolio of accomplishments from the program (e.g., course assignments, seminar papers) overseen by the faculty adviser, prepare a reading list and set of discussion questions, and present what has been learned from the year of study at an Oral Presentation supervised by two faculty members.

MA Course Track Coursework
Courses: seven courses, 600 or above
Lab or Research Seminars: two courses, 800-level
Directed Reading or Research: three total courses, one during Intersession
AS.360.625  Responsible Conduct of Research
Capstone: Portfolio and Oral Exam

Research Track: Students in this track must complete 12 courses with a B- or better. Students must work on full-time research overseen by their faculty adviser and maintain a B- or better in all coursework. Students in the research track will be required to take one course in either formal methods or statistics, three additional courses at the 600-
level or above, and 2 semesters of lab or research seminar (800-level). At the end of the program, a student in the research track must produce a research paper that is approved by the faculty adviser.

**MA Research Track Coursework**

Formal Methods or Statistics course (one of the following):
- AS.050.671  Bayesian Inference
- AS.050.672  Formal Methods in Cognitive Science: Neural Networks
- AS.200.314  Advanced Statistical Methods (or equivalent)

Lab or Research Seminar: two courses, 800-level
Additional Courses: three courses, 600-level or above
Directed Research: six courses, one during Intersession
AS.360.625  Responsible Conduct of Research
Capstone: Research Paper and Oral Defense

**Financial Support**

No regular funding is provided to students in the M.A. Research and Course Tracks, though a 50% reduction in tuition is offered to students with JHU undergraduate degrees. Students will be encouraged to seek funding from both internal and external sources.

**Doctoral Program**

**PhD Requirements for Admission**

A program of study leading to the Ph.D. degree is open to students with a bachelor’s or master’s degree in cognitive science or one of the several areas that contribute to it. Prospective doctoral students would be well advised to take courses in cognitive psychology, linguistics, and computer science. Some preparation in the foundations of contemporary neuroscience is also an asset, as is training in the philosophical issues surrounding the study of mind and consciousness. However, there are no fixed prerequisites (in the form of specific required courses) for admission to the doctoral program. The Department of Cognitive Science invites inquiries from students who are prepared in any of the related fields and who are interested in extending their work to the broader study of the mind/brain.

**PhD Degree Requirements**

The Department of Cognitive Science’s Ph.D. requirements consist of coursework, foreign language competence, teaching experience, and research papers. The requirements are designed to meet the following goals:

- **Depth**: Students become expert in their primary area of research interest and also are prepared so that they will be competitive for academic positions in one of the traditional disciplines. Students take 8 - 10 advanced courses that the student, in conjunction with his/her advisory committee, determines to be important for achieving expertise in a chosen research area and marketplace competitiveness in one of the traditional areas: cognitive psychology/neuropsychology, computer science or linguistics.
- **Breadth**: Students develop the ability to understand, appreciate and critically evaluate work in the various sub-disciplines of cognitive science by taking a selection of courses, two each in the areas of cognitive psychology/neuropsychology, computation and linguistics and one each in philosophy and cognitive neuroscience. Students may place out of breadth courses based on undergraduate coursework and (for certain courses) based on examination. It is not uncommon for a student to place out of two breadth requirements.

  - **Integration**: Students learn to integrate theory and method across sub-disciplines through specially-designed integrative courses and regular seminars involving the entire department.

**Breadth**

**Cognitive Neuroscience**

One course

**Philosophy**

One course in philosophy of mind/language/science

**Cognitive Psychology/Neuropsychology**

AS.200.314  Advanced Statistical Methods (To be completed early in the program, preferably the first semester)

AS.050.639  Cognitive Development (or an approved course or seminar on a topic outside the area of language)

or AS.050.315  Cognitive Neuropsychology of Visual Perception: The Malfunctioning Visual Brain

**Computation**

AS.050.672  Formal Methods in Cognitive Science: Neural Networks

AS.050.671  Bayesian Inference (OR the equivalent, e.g., computational linguistics, OR a Programming course such as C++, Java, etc.)

**Language**

AS.050.670  Formal Methods in Cognitive Science: Language

AS.050.625  Phonology I

or AS.050.620  Syntax I

**Integration**

AS.050.626  Foundations in Cog Sci

AS.050.850  Department Seminar (Course topics change each time this is offered. All students and faculty in the program attend these class meetings. Only during one semester do students write a paper and direct a topic for credit.)

**Depth: Area of Focus**

Approximately 8 to 10 courses, selected in conjunction with the student’s advisory committee, to achieve depth in a chosen research area and marketplace competitiveness: computer science, psychology/neuropsychology, or linguistics.

**General**

AS.360.625  Responsible Conduct of Research (encouraged to complete in the first year)

**TA Assignments**

AS.050.849  Teaching Practicum (7 semesters. Students register for each term they are assigned to an instructor as a TA. Each instructor has a distinct Teaching Practicum section. Students are not expected to TA in their first semester or in the last two semesters of residency (5th year).)

**Research Papers & Dissertation**

Emphasis is placed on producing two research papers prior to writing a dissertation. These two research papers are typically presented at conferences and often lead to separate journal publications. Students are encouraged to incorporate the two research papers into their dissertation.
Nov. 1 (2nd year) First Research Paper*, completion of which marks achievement of an M.A. within the Ph.D. program

May 1 (3rd year) Second Research Paper*, completion of which signals readiness to discuss a career path with an adviser

May 1 (4th year) Dissertation Proposal detaileding a significant research project and the methods to be used

Aug. 1 (5th year) Graduate Board Oral Exam defending a Ph.D. Dissertation that presents an original contribution to some area(s) of cognitive science in a format approaching publication standards

* The two research papers must each employ a different research methodology within cognitive science, e.g., theoretical linguistics and psychology, supervised by two appropriate faculty members.

Financial Support
The department provides competitive levels of funding for Ph.D. students covering tuition and living expenses. Research expenses, including some support for travel to present papers at scholarly meetings, are also provided. If a student maintains an academic good standing, funding is extended up to five years of total support. Students are encouraged to apply for external graduate fellowship opportunities (NSF, NIH, DoD, etc.). As funded entities, our graduate students are expected to engage in full-time research during the summer months and the January intersession in addition to their regular coursework, TA responsibilities, and participation in academic departmental talks and events.

For current faculty and contact information go to http://cogsci.jhu.edu/people

Faculty
Chair
Géraldine Legendre
Interim Chair

Professors
Barbara Landau
Dick and Lydia Todd Faculty Development Professor: language acquisition, cognitive development, spatial representation, and acquisition of the lexicon.

Michael McCloskey
cognitive neuropsychology, vision, spatial and lexical representation, foundations of cognitive science

Brenda Rapp
cognitive neuropsychology, spelling, spoken language production, spatial frames of reference, reading and neural bases of recovery of function

Paul Smolensky

Associate Professor
Colin Wilson
theoretical phonology (constraint interaction, targeted constraints, learnability), experimental phonology (artificial grammar learning, substantive bias), computational cognitive science (finite state, maximum entropy, and Bayesian methods).

Assistant Professors
Akira Omaki
psycholinguistics, first language acquisition, second language acquisition, syntax.

Soojin Park
cognitive neuroscience, vision, scene perception and memory, spatial navigation, functional neuroimaging.

Kyle Rawlins
formal semantics, pragmatics, syntax and interfaces, lexical representation, mathematical linguistics, computational models of meaning and communication.

Professor Emeritus
Luigi Burzio
theoretical phonology, morphology, and syntax, Romance linguistics.

Joint, Secondary & Other Faculty
Marina Bedny
Assistant Professor (Psychological and Brain Sciences): brain development and plasticity, cognitive neuroscience, concepts

Dana Boatman
Associate Professor (Neurology and Otolaryngology, School of Medicine): speech perception, auditory processing disorders, auditory neurophysiology.

Mark Chevillet

Jennifer Culbertson
Adjunct Assistant Professor: language acquisition; language change; linguistic typology and universals; theoretical syntax and morphology; computational models of language learning and change; artificial language learning and grammaticality judgments

John Desmond
Associate Professor (Neurology, School of Medicine): neuroimaging, transcranial magnetic stimulation methods to investigate neural correlates of behavior.

Howard Egeth
Professor (Psychological and Brain Sciences): perception, attention, cognition, psycholinguistic, and voice

Jason Eisner
Associate Professor (Computer Science): computational linguistics (syntax and phonology), natural language processing, statistical machine learning, programming language design.

Lisa Feigenson
Professor (Psychological and Brain Sciences): cognitive development, numerical cognition.

Barry Gordon
Therapeutic Cognitive Neuroscience Professor (Neurology, School of Medicine): cognitive neurology, cognitive neuroscience, language,
aphasia, memory, amnesia and memory disorders, autism, computational models of cognition, and cognitive disorders.

Steven Gross
Associate Professor (Department of Philosophy): philosophy of language, philosophy of mind, metaphysics.

Justin Halberda
Professor (Psychological and Brain Sciences): cognitive development, reasoning, language acquisition.

Argye Hillis-Trupe
Professor (Neurology, School of Medicine): language impairments in acute stroke, hemi-spatial neglect after stroke, relationship between cognitive impairments and regions of hypoperfused brain.

Guy McKhann
Professor (Neurology, School of Medicine): neurological and cognitive changes after cardiac surgery.

Michele Miozzo
Assistant Research Professor: cognitive neuropsychology, psycholinguistics, spoken language production

Maureen Stone
Adjunct Professor: phonetics, physiology, speech science, speech production, speech acoustics, vocal tract modelling, tongue modelling, speech motor control, ultrasound, electropalatography

Anne Vainikka
Visiting Scholar: theoretical syntax, Finnish syntax, first and second language acquisition of syntax

Benjamin Van Durme
Assistant Research Professor (Computer Science): natural language processing, specifically semantics; streaming/randomized algorithms

Steven Yantis
Professor (Psychological and Brain Sciences): visual perception, attention, long-term memory, aging, dementia.

Julia Yarmolinskaya
Lecturer (English as a Second Language): perception and acquisition of second language phonology

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

**AS.050.101. Cognition. 3 Credits.**
Introductory course exploring the study of human mental processes within the field of cognitive science. Drawing upon cognitive psychology, cognitive neuropsychology, cognitive neuroscience, linguistics, and artificial intelligence, the course examines theory, methods, and major findings in work on vision, reasoning, and language.

Instructor(s): P. Smolensky
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.050.102. Language and Mind. 3 Credits.**
Introductory course dealing with theory, methods, and current research topics in the study of language as a component of the mind. What it is to “know” a language: components of linguistic knowledge (phonetics, phonology, morphology, syntax, semantics) and the course of language acquisition. How linguistic knowledge is put to use: language and the brain and linguistic processing in various domains. This course is restricted to freshmen and sophomores. Juniors and seniors must seek instructor approval to enroll. Cross-listed with Neuroscience and Psychology.

Instructor(s): A. Omaki
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.050.105. Intro to Cognitive Neuropsychology. 3 Credits.**
When the brain is damaged or fails to develop normally, even the most basic cognitive abilities (such as the ability to understand words, or perceive objects) may be disrupted, often in remarkable ways. This course explores a wide range of cognitive deficits, focusing on what these deficits can tell us about how the normal brain works. Topics include brain anatomy and causes of brain damage, reading and spelling deficits, unilateral spatial neglect, hemispheric disconnection, cortical plasticity, and visual perception of location and orientation. Students read primary sources: journal articles that report deficits and discuss their implications. Cross-listed with Neuroscience.

Instructor(s): M. McClokey
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.050.107. Language and Advertising. 3 Credits.**
Advertising pervades our culture; interactions with advertising are an unavoidable fact of modern life. This class uses tools from linguistics and cognitive science to analyze these interactions, and understand the impact of advertising on its viewers. A central theme is to treat ads as communicative acts, and explore the consequences -- what can theories of communication (from linguistics, psychology, and philosophy) tell us about ads? How do ads use central features of human cognition to accomplish their aims? Do ads manipulate, and if so, how successfully? The theories of communication we explore include Gricean pragmatics, theories of speech acts, linguistic theories of presuppositions, and more. Students will collect, analyze, and discuss advertisements in all mediums.

Instructor(s): K. Rawlins
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.050.109. Minds, Brains and Computers. 3 Credits.**
Mental processes such as language comprehension and visual perception involve complex computations carried out by the brain. But how do brains compute? What exactly does it mean to "compute" anyway? How do the brain and mind relate? Topics include cognition viewed as abstract computation, the brain viewed as a physical computer, and "neural network" computers viewed as models of how both the mind and the brain compute.

Instructor(s): J. Chen-Main
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.050.112. Nature, Nurture and Cognition. 2 Credits.**
Using both seminal and contemporary readings as a foundation, this seminar explores how genetics and experience interact to influence thinking, understanding the underlying cognitive processes (both human and otherwise). In so doing, we will discuss how innate determination of various components of cognition ultimately influence human nature. Open to freshmen only.

Area: Natural Sciences, Social and Behavioral Sciences Writing Intensive.
AS.050.128. Born to Talk: Language in the Human Mind. 3 Credits.
Human infants learn their native language in less than 5 years with no direct teaching from adults. This mysterious fact is the basis of the modern study of language as a cognitive and computational system. In this seminar we will review major findings about how children learn the sound system, words, and grammar of their first language, focusing on how the evidence reveals the role of biological structures and environmental influences on language development. Weekly readings will include summary texts, original research articles, and coverage of language science in the popular media. Although language development is a topic of real importance to parents, educators, and policy-makers, it is often difficult to disseminate findings in a way that the public can understand. In weekly writing assignments, students will practice “translating” scientific reasoning for a general audience. Freshman Seminar
Instructor(s): S. Lewis
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.203. Cognitive Neuroscience: Exploring the Living Brain. 3 Credits.
This course surveys theory and research concerning how mental processes are carried out by the human brain. Currently a wide range of methods of probing the functioning brain are yielding insights into the nature of the relation between mental and neural events. Emphasis will be placed on developing an understanding of both the physiological bases of the techniques and the issues involved in relating measures of brain activity to cognitive functioning. Methods surveyed include electrophysiological recording techniques such as EEG, VEP, ERP, single/multiple unit recording and MEG; functional imaging techniques such as PET and fMRI; and methods that involve lesioning or disrupting neural activity such as WADA, cortical stimulation, animal lesion studies, and the study of brain-damaged individuals. (Co-listed as AS.080.203 in Neuroscience.)
Instructor(s): B. Rapp; S. Park
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.204. Visual Cognition. 3 Credits.
Vision is central to our daily interactions with the world: we can effortlessly navigate through a city, comprehend fast movie trailers, and find a friend in a crowd. While we take the visual experience for granted, visual perception involves a series of complicated cognitive processes beyond just opening our eyes. The goal of this course is to provide an introduction to visual cognition, including existing theoretical frameworks and recent research findings. We will explore questions such as: How do we see the stable world when our eyes are constantly moving? What is the relationship between seeing and knowing? Do infants see the world the same way as adults do? What are the neural mechanisms underlying visual perception?
Instructor(s): S. Park
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.206. Bilingualism. 3 Credits.
Do children get confused when they grow up exposed to more than one language? Is it possible to forget one’s native language? Are the first and second language processed in different areas of the brain? How does brain damage impact the different languages of a polyglot? Does knowing a second language affect non-linguistic cognitive processing?
This course will address questions such as these through an exploration of mental and neural processes underlying bilingual and multilingual language processing.
Instructor(s): J. Yarmolinskaya
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.231. Lab-based Survey of Cognitive Science. 3 Credits.
How can we study human behavior to understand how the mind works? In this class we will examine several classic human cognitive science experimental paradigms such as the Stroop, lexical decision, and n-back tasks. We will discuss the reasoning and motivation underlying each experimental approach and learn how they provide us with an understanding of the major domains of cognitive science, such as executive function, language, and working memory. This is a computer lab based course during which students will carry out cognitive science experiments during class.
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.240. World of Language. 3 Credits.
This hands-on course exposes students to the fascinating variety – and uniformity – to be found among the world’s 6000 languages through group lectures on a variety of topics as well as actual linguistic fieldwork conducted in small groups with a native speaker of a language unknown to the participants. This course is a good preparation for upper-division linguistics courses.
Instructor(s): G. Legendre
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.301. Stress and the Brain. 3 Credits.
The purpose of this course is to explore the phenomenon of stress by investigating the neural, endocrine and molecular mechanisms involved. By reviewing both animal and human research, this course will consider disorders of the stress control system and the adverse impact of stress on human physical and mental health. Topics in this class will include, but are not limited to I) disorders such as PTSD, anxiety, major depression; II) interactions between stress and neurodegenerative disorders; III) stress-immune-inflammatory interactions; IV) the role of stress in obesity, hypertension, and other metabolic syndromes; V) stress effects on reproduction. Students will finish this course with a greater understanding for the fundamental neuroendocrine responses to stress and its consequent and/or associated adverse effects on human health.
Area: Natural Sciences.

AS.050.303. Mind, Brain and Beauty. 3 Credits.
What underlies our aesthetic response to art, music, and other facets of human experience? Do identifiable properties of objects and events evoke consistent aesthetic responses, or is beauty mostly in the eye of the beholder? Examining such questions from cognitive science, neuroscience, and philosophical perspectives, this course explores relevant research and theory in the visual, auditory, and tactile domains. Several researchers will discuss their ongoing studies with the class, and students will also have the opportunity to participate in demonstration experiments that illustrate phenomena under discussion. (Same as AS.050.603) Recommended Course Background: One or more courses in one of these: Cognitive Science, Neuroscience, Philosophy, or Psychology or permission of instructor.
Area: Natural Sciences, Social and Behavioral Sciences.
**AS.050.311. The Literate Mind and Brain. 3 Credits.**
This course surveys both the historical development of written language as well as current cognitive theories that account for the manner in which the written language is represented and processed by “readers/writers” of a language. Issues regarding the relationship between the written and spoken language, the acquisition of written language skills, as well as developmental and acquired disorders of reading and writing will be examined.

**Prerequisites:** AS.050.101 or AS.050.102 or AS.050.105 or Instructor’s Permission

Instructor(s): B. Rapp

Area: Natural Sciences, Social and Behavioral Sciences

**Writing Intensive.**

**AS.050.312. Cognitive Neuroimaging Methods in High-Level Vision. 3 Credits.**

This course is an advanced seminar and research practicum course. It will provide the opportunity to learn about fMRI methods used in the field of vision science and for students to have hands-on experience to develop, design and analyze a research study on topics in the cognitive neuroscience field of high-level vision. In the first part of the course students will read recent fMRI journal papers and learn about common fMRI designs and analysis methods; in the second part of the course students will conduct a research study as a group to address a research question developed from readings. Students are expected to write a paper in a journal article format at the end of the course and to present their results in front of the class. Research topics will vary but with special focus on topics in object, scene and space recognition. Cross-listed with Neuroscience and Psychology. Instructor’s permission required.

**Prerequisites:** AS.050.204 OR AS.050.319 OR AS.050.315 OR AS.200.312 OR AS.050.203 OR AS.080.203 or equivalent; Instructor’s permission required.

Instructor(s): S. Park

Area: Natural Sciences, Social and Behavioral Sciences.

**Writing Intensive.**

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**AS.050.317. Semantics I. 3 Credits.**

This is an introduction to the study of meaning in natural language. We address the conceptual and empirical issues in semantic theory and introduce some formal machinery that has been developed to deal with such problems. After discussing foundational questions, we turn to formal semantics and pragmatics, as well as their interfaces with syntax and the lexicon. Specific topics include presupposition, type-driven composition, quantification, lexical aspect, argument structure, and lexical representations of meaning.

Instructor(s): K. Rawlins

Area: Natural Sciences, Social and Behavioral Sciences.

**AS.050.318. Practicum in Language Disorders. 2 Credits.**

This course provides the opportunity to learn about adult aphasias, language disorders which are one of the most common consequences of stroke. You will receive training in supportive communication techniques and work as a communication partner with an individual with aphasia for two hours per week. Three class meetings for orientation and reading assignments will be held on campus; training and practicum will be conducted at a local aphasia support center. Transportation required. Junior or Senior status. Co-listed with Neuroscience (AS.080.400). Please see additional instructions on the Neuroscience Department website at: http://krieger.jhu.edu/neuroscience/courses/index.html>the Neuroscience Department Website</a>

**Prerequisites:** AS.050.105 OR AS.050.203 OR AS.080.203 OR AS.050.311 OR instructor’s permission. Must be a junior or senior. Must have major GPA of 3.5 or better. In-person registration only.

Instructor(s): M. McCloskey

Area: Natural Sciences, Social and Behavioral Sciences.

**AS.050.319. Visual Cognition. 3 Credits.**

Vision is central to our daily interactions with the world: we can effortlessly navigate through a city, comprehend fast movie trailers, and find a friend in a crowd. While we take the visual experience for granted, visual perception involves a series of complicated cognitive processes beyond just opening our eyes. The goal of this course is to introduce students to the field of visual cognition, including existing theoretical frameworks and recent research findings. We will explore questions such as: How do we see the visual world? Do we see and remember correctly what’s in the physical world? How many items can we keep track of and remember at a time? How is the visual system structured and what are the neural mechanisms underlying visual perception? Meets with AS.050.619.

**Prerequisites:** AS.200.101 OR AS.050.101 OR AS.080.203 OR AS.050.203

Instructor(s): S. Park

Area: Natural Sciences, Social and Behavioral Sciences.

**AS.050.320. Syntax I. 3 Credits.**

Introduces the basic methods and means of analysis used in contemporary syntax investigations, practicing with data from different languages. Also offered as AS.050.620.

**Prerequisites:** Prereqs: AS.050.102 OR AS.050.240

Instructor(s): G. Legendre

Area: Natural Sciences, Social and Behavioral Sciences.
AS.050.321. Syntax II. 3 Credits.
Building on AS.050.320, this course addresses and compares conceptions of syntactic theory that have emerged in the 1980s and 1990s. Discussion focuses on both the substantive and formal properties of the fundamental principles of syntactic theory, as well as the cross-linguistic evidence that has motivated them. When possible, connections will be made to other areas of linguistic inquiry such as processing, acquisition, and computation. The particular choice of topics and conceptions will vary from year to year but may include (1) the contrast between the Principles and Parameters view where syntactic theory is composed of a set of inviolable principles whose form admits a certain amount of cross-linguistic variation, and the Optimality Theory view where the principles are invariant though violable, and cross-linguistic variation is determined by the relative importance of satisfying the various principles; (2) the role of structure building operations in grammar, and the differences between characterizations of well-formedness in terms of sequences of derivational steps and representational well-formedness requirements. Meets with AS.050.621
Prerequisites: AS.050.320[C] or instructor’s permission.
Instructor(s): G. Legendre
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.322. Semantics II. 3 Credits.
This course extends the material in AS.050.317 to cover advanced but central topics in semantic and pragmatic theory, focusing on intensional semantics (especially possible world semantics and situation semantics). Empirical domains of interest in this class include modality, tense, grammatical aspect, conditionals, attitude and speech reports, questions, and free choice phenomena. Three core theoretical issues addressed in this class are the nature of a compositional account of the above intensional phenomena, the representations of possibilities involved, and the role of the syntax/semantics/pragmatics interface in such an account. Meets with AS.050.622
Prerequisites: AS.050.317[C] or instructor’s permission.
Instructor(s): K. Rawlins
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.325. Phonology I. 3 Credits.
An introduction to the basic principles underlying the mental representation and manipulation of language sounds and their relation to human perception and vocal articulation: how units of sound are both decomposable into elementary features and combined to form larger structures like syllables and words. The role of rules and constraints in a formal theory of phonological competence and in accounting for the range of variation among the world’s languages. (Same as AS.050.625) Previous experience with one other language-related course is desirable but not obligatory.
Instructor(s): C. Kirov
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.326. Foundations In Cognitive Science. 3 Credits.
This course explores general issues and methodologies in cognitive science through the reading of classic works (from Plato and Kant through Skinner and Turing) and recent research articles to begin construction of a coherent picture of many seemingly divergent perspectives on the mind/brain. Recent brain-based computational models serve to focus discussion. Recommended Course Background: at least one course at the 300-level or higher in cognitive science, computer science, neuroscience, philosophy, or psychology. Co-listed with AS.050.626.
Instructor(s): P. Smolensky
Area: Natural Sciences, Social and Behavioral Sciences Writing Intensive.

AS.050.332. Development Cog Neurosci. 3 Credits.
Prerequisites: AS.050.101 (Cognition) or AS.050.339/639 (Intro to Cog. Development) or AS.200.132 (Introductory Developmental Psychology) or instructors permission required. In-depth examination of the current literature on cognitive development in the context of development cognitive neuroscience. Same as 050.632.
Instructor(s): B. Landau
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.333. Psycholinguistics. 3 Credits.
This course provides a broad survey of current research on language processing in adult native speakers and language learners. Topics include speech perception, word recognition, and sentence production and comprehension. We will discuss the nature of representations that are being constructed in real-time language use, as well as how the mental procedures for constructing linguistic representations could be studied by various behavioral and physiological measures. Meets with AS.050.633
Prerequisites: AS.050.102 or AS.050.240 or instructor’s permission.
Instructor(s): A. Omaki
Area: Natural Sciences, Social and Behavioral Sciences Writing Intensive.

AS.050.335. Introduction to Connectionist Modeling of Cognition. 3 Credits.
This course explores general issues and methodologies in cognitive science through the reading of classic works (from Plato and Kant through Skinner and Turing) and recent research articles to begin construction of a coherent picture of many seemingly divergent perspectives on the mind/brain. Recent brain-based computational models serve to focus discussion. (Same as AS.050.626) Recommended Course Background: at least one course at the 300-level or higher in cognitive science, computer science, neuroscience, philosophy, or psychology.
Instructor(s): D. Mathis
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.339. Cognitive Development. 3 Credits.
This is a survey course in developmental psychology, designed for individuals with some basic background in psychology or cognitive science, but little or none in development. The course is strongly theoretically oriented, with emphasis on issues of nature, nurture, and development. We will consider theoretical issues in developmental psychology as well as relevant empirical evidence. The principle focus will be early development, i.e., from conception through middle childhood. The course is organized topically, covering biological and prenatal development, perceptual and cognitive development, the nature and development of intelligence, and language learning. Also listed as AS.050.639. Cross-listed with Neuroscience. Instructor’s approval required.
Instructor(s): J. Yarmolinskaya
Area: Natural Sciences, Social and Behavioral Sciences.
AS.050.370. Formal Methods in Cognitive Science: Language. 3 Credits.
This course will be devoted to the study of formal systems that have proven useful in the cognitive science of language. We will discuss a wide range of mathematical structures and techniques and demonstrate their applications in theories of grammatical competence and performance. A major goal of this course is bringing students to a point where they can evaluate the strengths and weaknesses of existing formal theories of cognitive capacities, as well as profitably engage in such formalization, constructing precise and coherent definitions and rigorous proofs. Also offered as AS.050.670.
Instructor(s): K. Rawlins
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.371. Bayesian Inference. 2 Credits.
This course introduces techniques for computational modeling of aspects of human cognition, including perception, categorization, and induction. Possible topics include maximum likelihood and Bayesian inference, structured statistical models (including hierarchical and graphical models), nonparametric models. The course emphasizes the close connections among data analysis, theory development, and modeling, with examples drawn from language and vision.
Instructor(s): C. Wilson
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.372. Formal Methods in Cognitive Science: Neural Networks. 4 Credits.
Introduction to continuous mathematics for cognitive science, with applications to biological and cognitive network models: real and complex numbers, differential and integral multi-variable calculus, linear algebra, dynamical systems, numerical optimization. Meets with AS.050.672
Prerequisites: Calculus I AS.110.106 OR AS.110.108
Instructor(s): P. Smolensky
Area: Natural Sciences, Quantitative and Mathematical Sciences.

AS.050.446. Integrative Research Methods in Cognitive Science. 3 Credits.
Through a series of case studies, we will examine contemporary approaches to integrating the perspectives and research methods of multiple sub-disciplines of cognitive science. Also offered as AS.050.646.
Prerequisites: AS.050.326, or instructor's permission required.
Instructor(s): P. Smolensky
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.480. Learning Theory. 3 Credits.
Recently, statistical learning has played a leading role in informing the empiricist/nativist and connectionist/symbolic debates. But just what is "statistical learning" and what's new about it? This course presents theories of statistical learning, such as Bayesian models, causal networks, information-theoretic models (e.g., Minimum Description Length and Maximum Entropy formalisms). These methods have caused revolutions in machine vision and natural language processing. During the course, these methods will be compared with other numerical learning methods such as connectionist networks, and with non-numerical learning theories such as Gold's classic learnability theory and its probabilistic extension to PAC (probably approximately correct) learning theory. This recent work has fundamental implications for the ancient problem of induction. Prerequisites: With instructor permission, this course is open to upperclass undergraduates concentrating in computation. This course is open to upperclass undergraduates concentrating in computation.
Instructor(s): P. Smolensky
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.501. Readings in Cognitive Science/Freshmen. 3 Credits.
Research current topics in cognitive science.
Instructor(s): Staff.

AS.050.502. Readings in Cognitive Science-Freshmen. 0 - 3 Credit.
Permission Required.
Instructor(s): Staff.

AS.050.503. Research in Cognitive Science/Freshmen. 1 - 3 Credit.
Research current topics in cognitive science.
Instructor(s): Staff.

AS.050.504. Research Cognitive Science-Freshmen. 0 - 3 Credit.
Permission Required.
Instructor(s): Staff.

AS.050.505. Readings in Cognitive Science/Sophomores. 3 Credits.
Research current topics in cognitive science.
Instructor(s): Staff.

AS.050.507. Research in Cognitive Science/Sophomores. 1 - 3 Credit.
Research current topics in cognitive science.
Instructor(s): Staff.

AS.050.508. Research Cognitive Science - Sophomores. 0 - 3 Credit.
Permission Required.
Instructor(s): Staff.

Research current topics in cognitive science.
Instructor(s): Staff.

AS.050.510. Cognitive Science Internship. 0 - 3 Credit.
Permission Required.
Instructor(s): Staff.

AS.050.511. Readings in Cognitive Science/Juniors. 3 Credits.
Research current topics in cognitive science.
Instructor(s): Staff.

AS.050.512. Readings Cognitive Science-Juniors. 0 - 3 Credit.
Permission Required.
Instructor(s): Staff.

AS.050.513. Research in Cognitive Science/Juniors. 1 - 3 Credit.
Research current topics in cognitive science.
Instructor(s): Staff.

Permission Required.
Instructor(s): Staff.

AS.050.515. Readings in Cognitive Science/Seniors. 3 Credits.
Research current topics in cognitive science.
Instructor(s): Staff.

AS.050.516. Readings Cognitive Science - Senior. 0 - 3 Credit.
Permission Required.
Instructor(s): Staff.
AS.050.517. Research in Cognitive Science/Seniors. 1 - 3 Credit.
Research current topics in cognitive science.
Instructor(s): Staff.

AS.050.518. Research Cognitive Science - Seniors. 0 - 3 Credit.
Permission Required.
Instructor(s): Staff.

AS.050.599. Research-Cognitive Science. 0 - 3 Credit.
Instructor(s): Staff.

AS.050.603. Mind, Brain and Beauty.
Area: Natural Sciences, Social and Behavioral Sciences.

Instructor’s permission required. (Also offered as AS.050.312.)
Instructor(s): S. Park
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.617. Semantics I.
This course is an introduction to the study of meaning in natural language. We address both the conceptual and empirical issues that a semantic theory must grapple with, as well as some of the formal machinery that has been developed to deal with such problems. After discussing foundational questions, we turn to formal semantics and pragmatics, as well as their interfaces with syntax and the lexicon. Specific topics covered include conversational implicature; presupposition, type-driven composition, quantification and scope, lexical aspect, argument structure, and the nature of lexical representations of meaning.
Instructor(s): K. Rawlins
Area: Natural Sciences, Social and Behavioral Sciences.

Vision is central to our daily interactions with the world: we can effortlessly navigate through a city, comprehend fast movie trailers, and find a friend in a crowd. While we take the visual experience for granted, visual perception involves a series of complicated cognitive processes beyond just opening our eyes. The goal of this course is to introduce students to the field of visual cognition, including existing theoretical frameworks and recent research findings. We will explore questions such as: How do we see the visual world? Do we see and remember correctly what’s in the physical world? How many items can we keep track of and remember at a time? How is the visual system structured and what are the neural mechanisms underlying visual perception? Meets with AS.050.319. Recommended Course Background: AS.200.101, AS.050.101, or AS.080.203/AS.050.203
Instructor(s): S. Park.

AS.050.620. Syntax I.
Also offered as AS.050.320.
Instructor(s): G. Legendre
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.621. Syntax II.
Co-taught with AS.050.321. See description.
Instructor(s): G. Legendre
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.622. Semantics II.
Co-taught with AS.050.322. See description.
Instructor(s): K. Rawlins
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.625. Phonology I.
An introduction to the basic principles underlying the mental representation and manipulation of language sounds and their relation to human perception and vocal articulation: how units of sound are both decomposable into elementary features and combined to form larger structures like syllables and words. The role of rules and constraints in a formal theory of phonological competence and in accounting for the range of variation among the world’s languages. (Same as AS.050.325) Previous experience with one other language-related course is desirable but not obligatory.
Instructor(s): C. Kirov
Area: Natural Sciences, Social and Behavioral Sciences.

This course explores general issues and methodologies in cognitive science through the reading of classic works (from Plato and Kant through Skinner and Turing) and recent research articles to begin construction of a coherent picture of many seemingly divergent perspectives on the mind/brain. Recent brain-based computational models serve to focus discussion. (Same as AS.050.326) Recommended Course Background: at least one course at the 300-level or higher in cognitive science, computer science, neuroscience, philosophy, or psychology.
Instructor(s): P. Smolensky
Writing Intensive.

Recommended Course Background: AS.050.101, AS.050.339/AS.050.639, AS.200.132, or instructor’s permission required.
Instructor(s): B. Landau.

Co-taught with AS.050.333. See description.
Instructor(s): A. Omaki
Writing Intensive.

AS.050.635. Introduction to Connectionist Modeling of Cognition.
Connectionism is an approach to studying cognition in which cognitive processes are modeled by the behavior of interconnected networks of simple processing units. Connectionist models have shown the ability to provide a precise match to experimental data with human subjects, and have provided examples of how complex processes such as position-invariant face recognition could conceivably be implemented by networks of simple processing units. This course provides a hands-on introduction to connectionist modeling. In addition to readings, students will construct and run computer simulations of connectionist networks and study their properties, utilizing a public-domain neural network simulation package. We’ll study classic network architectures, as well as more recent developments. (Same as AS.050.335) Programming experience is helpful, but not required. Recommended Course Background: 100-level course in Cognitive Science or permission of instructor.
Instructor(s): D. Mathis.

Also offered as AS.050.339. Instructor approval required.
Instructor(s): J. Yarmolinskaya
Area: Natural Sciences, Social and Behavioral Sciences.

It is recommended to have taken AS.050.626, but not required. Also offered as AS.050.446.
Instructor(s): P. Smolensky
Area: Natural Sciences, Social and Behavioral Sciences.
Also offered as AS.050.370.
Instructor(s): K. Rawlins
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.671. Bayesian Inference.
Also offered as AS.050.371.
Instructor(s): C. Wilson
Area: Natural Sciences, Social and Behavioral Sciences.

Introduction to continuous mathematics for cognitive science, with applications to biological and cognitive network models: real and complex numbers, differential and integral multi-variable calculus, linear algebra, dynamical systems, numerical optimization. Meets with AS.050.372
Instructor(s): P. Smolensky
Area: Natural Sciences, Social and Behavioral Sciences.

Permission from instructor. Recently, statistical learning has played a leading role in informing the empiricist/nativist and connectionist/symbolic debates. But just what is “statistical learning” and what’s new about it? This course presents theories of statistical learning, such as Bayesian models, causal networks, information-theoretic models (e.g., Minimum Description Length and Maximum Entropy formalisms). These methods have caused revolutions in machine vision and natural language processing. During the course, these methods will be compared with other numerical learning methods such as connectionist networks, and with non-numerical learning theories such as Gold’s classic learnability theory and its probabilistic extension to PAC (probably approximately correct) learning theory. This recent work has fundamental implications for the ancient problem of induction. Same as 050.480
Instructor(s): P. Smolensky
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.800. Directed Readings.
Guided independent readings in special fields of cognitive science.
Instructor(s): P. Smolensky.

Participants in this graduate seminar will read and discuss current research articles in cognitive neuropsychology of vision or language, and present their own research.
Instructor(s): M. McCloskey.

Permission required. Current issues and ongoing research on human cognition are discussed.
Instructor(s): M. McCloskey.

A specialized research seminar for individuals researching language acquisition, cognitive development and the interface between language and cognition. Students must actively carry out empirical or theoretical research in these areas. Permission required.
Instructor(s): B. Landau.

Instructor(s): K. Rawlins.

Participants in this graduate seminar will read and discuss current research articles in language development and present their own research. Permission required.
Instructor(s): G. Legendre.

Topics in phonological, morphological, syntactic, and/or semantic theory. Discussion of the current literature and specifically of the relevance of linguistic results for the study of the mind. Permission required.
Instructor(s): A. Omaki; G. Legendre; K. Rawlins.

A critical analysis of current issues and debates in theoretical syntax. Discussion of on-going research.
Instructor(s): G. Legendre.

AS.050.823. Research Seminar in Phonology.
Permission required.
Instructor(s): C. Wilson.

AS.050.825. Research Seminar in Optimality Theory.
A specialized research seminar on constraint based theories of human language, including Optimality Theory, Harmonic Grammar, and Maximum Entropy models.
Instructor(s): G. Legendre; P. Smolensky.

Readings and research presentations on varying topics in mathematics, computation, and formal linguistics with bearing on cognitive science.
Instructor(s): C. Wilson.

AS.050.827. Research Seminar in Language Acquisition.
Focus is on current research in acquisition of syntax.
Instructor(s): A. Omaki; G. Legendre.

This seminar will read on-going and recent papers on the cognitive neuroscience research of vision. Permission required.
Instructor(s): S. Park.

Topics range from mathematical analysis of neural networks to computational studies of linguistic structure. Focus is ongoing research and current literature.
Instructor(s): P. Smolensky.

AS.050.832. Research Seminar in Language Processes.
Current Topics in Human Language Processing, with discussion of recent developments in theory and experimental study. Permission required.
Instructor(s): A. Omaki.

Current topics in any area of cognitive science, including language and vision, with discussion of recent developments in theory, experimental study, and computational modeling.
Instructor(s): Staff.

AS.050.849. Teaching Practicum.
Permission required. Essential for Teaching Assistants.
Instructor(s): Staff.

AS.050.850. Department Seminar.
Instructor(s): P. Smolensky.
AS.050.860. Professional Seminar in Cognitive Science. 3 Credits.
Instructor permission required. Addresses professional issues such as research ethics, success on the job market and in an academic career, teaching and mentoring and differing professional standards in the sub-disciplines of cognitive science.
Instructor(s): P. Smolensky.

AS.050.870. Dissertation Research. 9 Credits.
Independent study. Intended for graduate students who have completed all degree requirements except for their dissertation but must remain or return to residency status in order to fulfill other obligations. Advisor or department approval required
Instructor(s): Staff.

Cross Listed Courses

Neuroscience
AS.080.203. Cognitive Neuroscience. 3 Credits.
This course surveys theory and research concerning how the human brain carries out mental processes. Co-listed as AS.050.203 in Cognitive Science.
Instructor(s): B. Rapp; S. Park
Area: Natural Sciences, Social and Behavioral Sciences.

AS.080.320. The Auditory System. 3 Credits.
This course will cover the neuroanatomy and neurophysiology of the human auditory system from the ear to the brain. Behavioral, electrophysiological, and neuroimaging methods for assessing peripheral and central auditory function will be discussed. Acquired and developmental disorders of auditory function will be reviewed using clinical case studies.
Prerequisites: AS.080.305 OR AS.020.312 or Instructor approval.
Instructor(s): D. Boatman
Area: Natural Sciences.

Psychological Brain Sciences
AS.200.206. Foundations of Mind. 4 Credits.
An interdisciplinary investigation into the innateness of concepts: perception, number, language, and morality, physics discussed. Evidence from animals, infants, patients, brains. Students collect data in sections investigating claims from the readings. Cross-listed with Cognitive Science and Philosophy.
Area: Social and Behavioral Sciences.

AS.200.336. Foundations of Mind. 4 Credits.
An interdisciplinary investigation into the innateness of concepts: perception, number, language, and morality, physics discussed. Evidence from animals, infants, patients, brains. Students collect data in sections investigating claims from the readings. Cross-listed with Cognitive Science and Philosophy.
Instructor(s): J. Halberda; L. Feigenson
Area: Social and Behavioral Sciences.

AS.200.367. Episodic Memory in Human and Nonhuman Animals. 3 Credits.
Episodic memory, or autobiographical memory, has been said to be a capacity that is uniquely human. Consisting of the what, when, and where components of our experiences, episodic memory is what makes each of us who we are. This course will explore each of these components individually—the psychology and neural underpinnings of each component—before discussing them in combination as episodic memory. Finally, we will visit one of the greatest ongoing debates in the memory literature: whether or not this ability is truly "uniquely human" or if our nonhuman animal counterparts also have this capacity. Throughout the course, we will draw on evidence from empirical articles based on studies in a variety of species including rodents, primates, and birds.
Prerequisites: AS.200.101 OR AS.200.141 OR AS.080.105 OR (AS.080.305 AND AS.080.306) OR Permission required.
Instructor(s): J. Asem
Area: Natural Sciences, Social and Behavioral Sciences.

Music
AS.376.371. Topics in Music Cognition I. 3 Credits.
What underlies our aesthetic response to music? How and why are we able to identify certain sounds as music? To what extent are music and natural language similar? What is it about music that evokes such powerful emotions such as happiness and sadness? What is unique to musical creativity? Examining such questions from cognitive science, neuroscience, psychology, and philosophical perspectives, this course explores relevant research and theory in the emerging domain of music perception and cognition. Students will complete a final research paper on the topic of their choice that integrates the course material.
Instructor(s): M. Lopez-Gonzalez
Area: Natural Sciences, Social and Behavioral Sciences.

AS.376.372. Introduction to Music Cognition II. 3 Credits.
Continuing from Topics in Music Cognition I, this course explores further the similarities and differences between music and language, the effects of musical training on cognitive development, and the expressive power of music, with an introduction to music and its role in film. We will read relevant research and theory on these topics from cognitive science, neuroscience, psychology, musicology, and philosophical perspectives.
Instructor(s): M. Lopez-Gonzalez
Area: Natural Sciences, Social and Behavioral Sciences.

Computer Science
EN.600.625. Events Semantics in Theory and Practice.
This course explores selected topics in the nature of event representations from the perspective of cognitive science, computer science, linguistics, and philosophy. These fields have developed a rich array of scientific theories about the representation of events, and how humans make inferences about them -- we investigate how (and if) such theories could be applied to current research topics and tasks in computational semantics such as inference from text, automated summarization, veridicality assessment, and so on. In addition to classic articles dealing with formal semantic theories, the course considers available machine-readable corpora, ontologies, and related resources that bear on event structure, such as WordNet, PropBank, FrameNet, etc.. The course is aimed to marry theory with practice: students with either a computational or linguistic background are encouraged to participate. [Applications]
Instructor(s): B. Van Durme; K. Rawlins.
Morton K. Blaustein Department of Earth and Planetary Sciences

The Department of Earth and Planetary Sciences offers programs of study and research in a wide range of disciplines including the atmosphere, biosphere, oceans, geochemistry, geology and geophysics, and planets. The undergraduate program in Earth and Planetary Sciences is flexible and lets the student, in consultation with a faculty advisor, devise a program that is challenging, individual, and rigorous. The graduate program develops skills in research through independent investigation under the general guidance of one or more members of the faculty, backed up by relevant course work. The department gives particular emphasis to the integration of experimental investigation, theoretical calculation, and quantitative field observations.

The Department also offers an interdepartmental undergraduate program in Global Environmental Change and Sustainability. This program introduces students to the science of the Earth and its living and nonliving systems as well as how humans interact with Earth and its natural systems and how humans can use a variety of tools, such as policy, communication, individual and societal behavior change, and law to harm or help those systems. Students are exposed to theory, research, and the practical applications of both throughout their course work.

Facilities

The Department of Earth and Planetary Sciences is housed in Olin Hall, a modern building dedicated to the Earth sciences, nestled on a wooded knoll on the western edge of campus. Its facilities include state-of-the-art instrumentation, a departmental library, and modern computer equipment. There are laboratories for crystallography, evolutionary biology/ecology, stable isotope geochemistry, materials science, and fluid and solid mechanics. Olin Hall also contains equipment for modern petrographic work (including a computer-controlled image analysis system), darkroom facilities, and a laboratory for sectioning rocks. There is also a substantial collection of rocks, minerals, and fossils. Facilities are available for a wide spectrum of fluid mechanical experiments, including thermal convection and solidification.

A JEOL 8600 electron microprobe in Olin Hall is available to all members of the department. Crystallographic facilities include a modern specimen preparation laboratory for transmission electron microscopy and single-crystal X-ray diffraction studies. The transmission electron microscopy laboratory houses state-of-the-art instruments capable of both high-resolution imaging at the atomic scale and microanalysis at the nanometer scale.

The department contains several computer laboratories containing clusters of workstations and personal computers, together with printers and scanners. These computers are used for numerical simulations, graphics applications, data manipulation, and word processing.

Field studies and excursions form an integral part of the program of instruction and research in geology and are closely integrated with the laboratory and course work. Situated at the fall line between the Coastal Plain and the Piedmont and only an hour’s ride from the Blue Ridge and Appalachians, Baltimore is an excellent location for a department with a field-oriented program in geology. The department has a permanent field station for geological research, Camp Singewald, in the Bear Pond Mountains of Washington County, Maryland, and a vehicle for field use.

Supporting facilities on campus include the Milton S. Eisenhower Library, the Space Telescope Science Institute, and the Homewood High-Performance Computing Center. In addition, the JHU Applied Physics Laboratory, the facilities of the Smithsonian Institution and the Geophysical Laboratory and the Department of Terrestrial Magnetism of the Carnegie Institution of Washington are available by special arrangement for students qualified to use them. For students whose research requires substantial computation, special arrangements can be made to use the supercomputers at the NASA Goddard Space Flight Center and the National Center for Atmospheric Research.

The Department of Earth and Planetary Sciences offers programs of study for majors, joint majors, and minors in Earth and Planetary sciences (EPS) and in Global Environmental Change and Sustainability (GECS). The EPS major focuses on the study of the physical, chemical, and biological processes that shape the Earth and the other planets. It is designed primarily for students who wish to have careers researching the science of the Earth and planets, although it is also suitable for students planning careers in the health professions. The GECS major is an interdepartmental program introducing students to the science of the Earth and its living and nonliving systems, as well as how humans interact with Earth and its natural systems, and how humans can use a variety of tools, such as policy, communication, individual and societal behavior change, and law to harm or help those systems.

In addition to major requirements, students are required to complete the university requirements for the B.A. degree. See Requirements for a Bachelor’s Degree (p. 24).

Earth and Planetary Sciences (EPS) Major

The EPS major is for undergraduates interested in the study of the physical, chemical, and biological processes that shape the Earth and the other planets, drawing on the disciplines of geology, geochemistry, hydrology, ecology, geobiology, oceanography, and atmospheric science.

The student can design a specific plan of appropriate courses in consultation with the coordinator for undergraduate programs in the department. Depending on the student’s background, it may be appropriate initially to take a freshman seminar or 100-level course designed for the non-major. Those who wish to be majors may proceed directly to courses at the 200- and, in many cases, the 300-level. Our courses provide a broad educational base in the Earth and planetary, and the environmental earth sciences, and enable exploration of a set of electives at the 300-level, depending on the area of interest.

The department required a total of 9 credits at the 100- or 200-levels and a total of 12 credits at the 300-level within the department. All courses must be taken for a letter grade and students must receive a grade of C- or better to apply the course towards the major. Courses should be selected to reflect an Earth and Planetary Sciences emphasis and require the following:

Core EPS Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.270.224</td>
<td>Oceans &amp; Atmospheres</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.220</td>
<td>The Dynamic Earth: An Introduction to Geology</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.221</td>
<td>The Dynamic Earth Laboratory</td>
<td>2</td>
</tr>
</tbody>
</table>

Required Math & Science Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.030.101</td>
<td>Introductory Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>AS.110.106</td>
<td>Calculus I</td>
<td>4</td>
</tr>
</tbody>
</table>
Minor in EPS

The Earth and Planetary Sciences minor is for science undergraduates interested in applying their major discipline to Earth's environment through geology, geochemistry, ecology, geobiology, oceanography, and atmospheric science. Students are expected to have at least 16 credits in Natural Sciences, Quantitative Studies, or Engineering courses. Students will take 12 credits in the department, at least six of which are at the 300-level. All courses must be taken for a letter grade and students must receive a grade of C- or better to apply the course towards the minor.

Minor requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.270.220</td>
<td>The Dynamic Earth: An Introduction to Geology</td>
<td>3</td>
</tr>
<tr>
<td>or AS.270.224</td>
<td>Oceans &amp; Atmospheres</td>
<td>3</td>
</tr>
</tbody>
</table>

Honors in EPS Major

To receive honors in Earth and Planetary Sciences, students must meet the following criteria:

- Have taken a challenging set of courses during the four years of study
- Have a GPA in your major requirements of 3.5 or higher.
- Complete a senior thesis (AS.270.495 Senior Thesis and AS.270.496 Senior Thesis) at a level judged to be sufficiently high by the faculty of the Department of Earth and Planetary Sciences.
- Present the results of the thesis orally in the Department of Earth and Planetary Sciences.

Global Environmental Change and Sustainability (GECS) Major

The major in GECS is an interdepartmental program designed to provide students with a solid knowledge base of the science of the Earth and its living and nonliving systems, as well as how humans interact with Earth and its natural systems, including social science tools of change, such as policy, communication, individual and societal behavior change, and law. Students will be exposed to theory, research, and the practical applications of both throughout their course work. Requirements for the major will include a total of 23 courses if the Science Concentration is chosen and 24 courses for the Social Science Concentration.

All GECS majors must complete 12 “core” courses listed in Table 1 below. Additionally, students will choose either the “Science Concentration” or the “Social Science Concentration” to determine their additional course requirements. For the Science Concentration, majors complete the additional science core courses and requirements as listed in Table 2a. For the Social Science Concentration, majors complete the additional requirements as listed in Table 2b. All courses must be taken for a letter grade and students must receive a grade of C- or better to apply the course towards the major.

All GECS majors must also complete a capstone experience in conjunction with the program director and relevant faculty. The capstone could consist of a research or internship-type project and will be a demonstration of integration and synthesis of knowledge and skills obtained during the 4-year program. Majors are encouraged to begin planning their capstone project during their junior year and must submit a proposal by the end of spring semester of their junior year. Subsequent milestones will be designated throughout the senior year to ensure that all majors are making satisfactory progress on their projects. All majors will make an oral presentation about their project to interested faculty and advisors during spring semester of their senior year and create a poster presentation prior to graduation.

Table 1: Required Courses for all GECS Majors

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.270.103</td>
<td>Introduction to Global Environmental Change</td>
<td>3</td>
</tr>
<tr>
<td>AS.271.107</td>
<td>Introduction to Sustainability</td>
<td>3</td>
</tr>
<tr>
<td>AS.271.505</td>
<td>GECS Senior Capstone Seminar</td>
<td>3</td>
</tr>
<tr>
<td>AS.110.106</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.108</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>AS.030.101</td>
<td>Introductory Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>AS.030.105</td>
<td>Introductory Chemistry Lab I</td>
<td>1</td>
</tr>
<tr>
<td>AS.180.102</td>
<td>Elements of Microeconomics</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.550.111</td>
<td>Statistical Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>EN.550.113</td>
<td>Statistics Through Case Study</td>
<td>3</td>
</tr>
</tbody>
</table>
AS.280.345 Public Health Biostatistics
AS.230.205 Introduction to Social Statistics
Select two of the following:
AS.190.102 Introduction To Comparative Politics
AS.190.209 Contemporary International Politics
AS.190.211 Intro Political Econ I
AS.190.213 International Politics
Select two of the following:
AS.270.305 Energy Resources in the Modern World
AS.270.308 Population/Community Ecology
AS.271.360 Climate Change: Science & Policy
AS.280.335 The Environment and Your Health
Select one of the following:
AS.200.101 Introduction to Psychology
AS.200.133 Introduction to Social Psychology
AS.230.101 Introduction Sociology
AS.230.150 Issues in International Development
Science (see Table 2a) or Social Science (see Table 2b)
Concentration Requirements

Table 2a: Science Concentration Requirements
(Students complete Table 2a or 2b; pick one)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.107</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.109</td>
<td>Calculus II</td>
<td></td>
</tr>
<tr>
<td>AS.030.102</td>
<td>Introductory Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; AS.030.106</td>
<td>and Introductory Chemistry Laboratory II</td>
<td></td>
</tr>
<tr>
<td>or AS.030.103</td>
<td>Applied Chemical Equilibrium and Reactivity w/lab</td>
<td></td>
</tr>
<tr>
<td>AS.250.205</td>
<td>Introduction to Computing</td>
<td>3</td>
</tr>
<tr>
<td>or AS.270.205</td>
<td>Introduction to Geographic Information Systems and Geospatial Analysis</td>
<td></td>
</tr>
<tr>
<td>or AS.270.307</td>
<td>Geoscience Modelling</td>
<td></td>
</tr>
<tr>
<td>or AS.270.318</td>
<td>Remote Sensing of the Environment</td>
<td></td>
</tr>
</tbody>
</table>

Select one year of either Physics or Biology:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.171.101</td>
<td>General Physics: Physical Science Major I</td>
<td></td>
</tr>
<tr>
<td>&amp; AS.171.102</td>
<td>and General Physics: Physical Science Majors II</td>
<td></td>
</tr>
<tr>
<td>&amp; AS.173.111</td>
<td>and General Physics Laboratory I</td>
<td></td>
</tr>
<tr>
<td>&amp; AS.173.112</td>
<td>and General Physics Laboratory II *</td>
<td></td>
</tr>
<tr>
<td>AS.020.151</td>
<td>General Biology I</td>
<td></td>
</tr>
<tr>
<td>&amp; AS.020.153</td>
<td>and General Biology Laboratory I</td>
<td></td>
</tr>
<tr>
<td>&amp; AS.020.152</td>
<td>and General Biology II</td>
<td></td>
</tr>
<tr>
<td>&amp; AS.020.154</td>
<td>and General Biology Lab II</td>
<td></td>
</tr>
</tbody>
</table>

Two 300-level or above courses in Earth and environment sciences as listed in Table 3
Two courses at any level in social sciences as listed in Table 4
Two 300-level or higher course in social sciences as listed in Table 4

* Students may substitute alternative, but equivalent, Physics courses. AS.171.101, 103, 105, or 107 may be used as Physics I and AS.171.102, 104, 106, or 108 may be used as Physics II.

Table 2b: Social Science Concentration Requirements
(Students complete Table 2a or 2b; pick one)

One course at any level in Earth and environmental sciences as listed in Table 3
One 300-level or higher course in Earth and environmental sciences as listed in Table 3
Four courses at any level in the social sciences as listed in Table 4
Six courses at the 300-level or higher in the social sciences as listed in Table 4

Table 3: GECS Electives in Earth and Environmental Science

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.250.205</td>
<td>Introduction to Computing</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.104</td>
<td>History of the Earth and its Biota</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.108</td>
<td>Oceans + Atmospheres</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.205</td>
<td>Introduction to Geographic Information Systems and Geospatial Analysis</td>
<td></td>
</tr>
<tr>
<td>AS.270.210</td>
<td>Environmental Field Methods</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.220</td>
<td>The Dynamic Earth: An Introduction to Geology</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.221</td>
<td>The Dynamic Earth Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>AS.270.305</td>
<td>Energy Resources in the Modern World</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.307</td>
<td>Geoscience Modelling</td>
<td>4</td>
</tr>
<tr>
<td>AS.270.308</td>
<td>Population/Community Ecology</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.311</td>
<td>Geobiology</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.315</td>
<td>Natural Catastrophes</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.318</td>
<td>Remote Sensing of the Environment</td>
<td>4</td>
</tr>
<tr>
<td>AS.270.322</td>
<td>GECS Fieldwork in Ecuador</td>
<td>4</td>
</tr>
<tr>
<td>AS.270.332</td>
<td>Soil Ecology</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.369</td>
<td>Geochem Earth/Environmen</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.377</td>
<td>Climates Of The Past</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.378</td>
<td>Present &amp; Future Climate</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.405</td>
<td>Modeling the Hydrological Cycle</td>
<td>3</td>
</tr>
<tr>
<td>AS.271.360</td>
<td>Climate Change: Science &amp; Policy</td>
<td>3</td>
</tr>
<tr>
<td>AS.280.335</td>
<td>The Environment and Your Health</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.108</td>
<td>Introduction Environmental Engineering</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.239</td>
<td>Emerging Environmental Issues</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.328</td>
<td>Geography &amp; Ecology of Plants</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.353</td>
<td>Hydrology</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.395</td>
<td>Principles of Estuarine Environment: Chesapeake Bay</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.403</td>
<td>Ecology</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.411</td>
<td>Engineering Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>EN.570.423</td>
<td>Principles of Geomorphology</td>
<td>4</td>
</tr>
<tr>
<td>EN.570.443</td>
<td>Aquatic Chemistry</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 4: GECS Electives in Social Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.070.132</td>
<td>Invitation to Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>AS.070.219</td>
<td>Anthropology &amp; Public Action</td>
<td>3</td>
</tr>
<tr>
<td>AS.070.265</td>
<td>Anthropology of Media</td>
<td>3</td>
</tr>
<tr>
<td>AS.070.285</td>
<td>Understanding Aid: Anthropological Perspectives for Technology-Based Interventions</td>
<td>3</td>
</tr>
</tbody>
</table>
The lists of acceptable Earth and Environmental Science and Social Science Electives will be reviewed and updated annually by the Director, with guidance from the Advisory Committee. Courses no longer taught will be removed, although credit earned for courses that are removed will still count toward GECS major requirements as long as the course was on the list when it was taken, and new courses will be added. Relevant courses not included in the elective list may be able to be substituted for an elective with approval of the Director. Students wishing to make such a substitution should follow the procedure outlined on the major’s website.

Honors in GECS Major

To receive honors in GECS, you must have met the following criteria:

- Have a GPA of at least 3.5 in GECS courses.
- Receive an A on your capstone project.

Minor in GECS

The GECS minor consists of seven courses. All minors are required to take two core courses: Intro to Global Environmental Change provides the necessary content about the science of the Earth and its environments and Intro to Sustainability covers a thorough overview of the interactions between humans and the Earth’s systems and how those interactions could become sustainable. Students then have a choice of one of four other science courses that further explore a subset of interactions of humans with Earth’s living and nonliving systems, depending on the student’s area of interest. Students must choose two more courses from the list of Earth and Environmental Science Electives (Table 3) and two more courses from the list of Social Science Electives (Table 4). At least one course from each elective list must be upper level. A total of five Earth and Environmental Science courses provide the science basis of the minor, which is then rounded out with two relevant Social Science courses. Because students will be acquiring the methodological tools of their major discipline, this curriculum removes the science methodology required in the GECS major, while keeping the most important core content. All courses must be taken for a letter grade and students must receive a grade of C- or better to apply the course towards the minor.

Check the GECS major/minor web pages for latest information.

**Introductory Courses**

- AS.270.103 Introduction to Global Environmental Change 3
- AS.271.107 Introduction to Sustainability 3

**Select one of the following:**

- AS.270.305 Energy Resources in the Modern World 3
- AS.270.308 Population/Community Ecology 3
- AS.271.360 Climate Change: Science & Policy 3
- AS.280.335 The Environment and Your Health 3

**Earth and Environment Science Electives**

One course at any level in Earth and environmental sciences as listed in Table 3 3

One course at the 300-level or higher in the social sciences as listed in Table 3 3

**Social Science Electives**

One course at any level in the social sciences as listed in Table 4 3
B.A./M.S. Option for Johns Hopkins GECS Majors

Undergraduates majoring in Global Environmental Change and Sustainability (GECS) may apply for accelerated status toward an M.S. in Environmental Science and Policy (ESP). These students should declare their intention to pursue the M.S. during their junior year or early in their senior year of undergraduate study by contacting either the undergraduate GECS Director, Cindy Parker (ciparker@jhsph.edu) or the Associate Director of the ESP Program, David Elbert (elbert@jhu.edu). GECS students may apply up to three courses taken as undergraduates toward the M.S. in Environmental Science and Policy thereby leaving only seven more courses to complete the M.S. following receipt of their B.A.

Application

GECS students may apply for the B.A./M.S. anytime during the senior year or up to one year following the conferral of their B.A. The application procedure is the same as that of other AAP applicants and details are found online at: http://advanced.jhu.edu/admissions/index.html. Students admitted to the B.A./M.S. program will be assigned a graduate advisor, but will continue to be advised by their GECS advisor for all matters concerning the B.A. degree.

Course Requirements For B.A./M.S.

GECS students will receive two separate degrees and so the requirements of both degrees must be fulfilled. Students may not earn the M.S. degree without completion of the B.A., however, students who do not complete the M.S. retain their B.A. GECS B.A./M.S. students must complete all the requirements of the M.S. in ESP and may opt for either the general ESP degree or a concentration. Up to three courses completed while an undergraduate can count toward the ten courses required for the M.S. Specifically, up to two of the following courses can be used to satisfy the corresponding core course requirements for the M.S. in Environmental Science and Policy.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.270.224</td>
<td>Oceans &amp; Atmospheres</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.308</td>
<td>Population/Community Ecology</td>
<td>3</td>
</tr>
<tr>
<td>AS.271.403</td>
<td>Environmental Policymaking and Policy Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

(Note that the Environmental Policymaking and Policy Analysis course will be a combined GECS undergraduate and ESP masters class.)

If a student wishes to apply a third course to both their GECS B.A. and their ESP M.S., the course must be approved by the graduate advisor and must be at the 300- to 600- level with content germane to environmental science and policy.

Requirements for Admission

Applicants must submit transcripts, Graduate Record Examination scores (aptitude exam only), and supporting letters to show their ability to do advanced study. The applicant should have his/her GRE scores, verbal and quantitative aptitude, sent to the department before the January 15 deadline for filing applications for admission.

The department expects applicants for advanced degrees to have completed undergraduate training in the basic sciences and mathematics. Normally this includes mathematics through at least integral calculus and a year’s course each in physics, chemistry, and biology. Further undergraduate study in one or more of these subjects or in mathematics is highly desirable for all programs in the Earth sciences; additional mathematics is essential for geophysics, atmospheric sciences, and dynamical oceanography. Extensive undergraduate work in Earth sciences is not a requirement for admission. If students lack formal training in this area or have deficiencies in the other related sciences, they may be admitted but will have to allow additional time in the graduate program to make up for deficiencies in their preparation.

Requirements for Advanced Degrees

Candidates for the Ph.D. must take courses and meet requirements specified by their advisory committee; must pass a comprehensive examination before a departmental committee and an oral examination administered by the Graduate Board of the university; and must submit an acceptable dissertation involving significant original research. A minimum of two consecutive terms registered as a full-time student is required.

The department rarely accepts candidates for the M.A. degree alone, but Ph.D. students can, with the consent of their advisors, complete a program that will qualify them for the M.A. degree at the end of the second year. Candidates for this degree must pass a comprehensive examination before a departmental committee, and must satisfy the residency requirement specified above for the Ph.D. degree. A student’s advisor may require an essay demonstrating research capability.

For further information about graduate study in the Earth and planetary sciences contact the Chair, Department of Earth and Planetary Sciences.

Fields of Graduate Study and Research

The department offers numerous graduate fields: sedimentology, geochemistry and petrology, mineralogy and crystallography, paleobiology, solid Earth geophysics, oceanography, atmospheric sciences, and planetary astrophysics. Descriptions of these fields and their various programs are given below.

Petrology

Modern research in petrology requires a flexible approach combining thermodynamics, solution chemistry, experimental petrology, and careful field observation. The department offers a broad range of courses that provide a thorough background in these areas and a detailed review of research to date. In addition to the facilities available on campus, those at the Geophysical Laboratory and the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, the Smithsonian Institution, the University of Maryland, and the U.S. Geological Survey in Reston are available to students and faculty through a cooperative arrangement.

The program in mineral igneous-petrology is concerned with the chemistry and physics of the origin and evolution of magma. All aspects of the generation, extraction, ascension, cooling, kinetics of crystallization, convection, differentiation, eruption, and flow are considered in detail. The results of high temperature melting experiments as well as detailed chemical analysis are applied to these problems. A nontraditional approach to petrological problems is emphasized through an analytical treatment of volcanological
field work. Students are encouraged to take thermodynamics, fluid mechanics, and heat transfer, in addition to AS.270.690 Igneous Petrology, AS.270.395 Planetary Physics & Chem, AS.270.652 Physics Of Magma, and AS.270.604 Sem:Geophysical Petrology.

The program in metamorphic petrology emphasizes studies of petrogenesis involving field work, chemical, and stable isotope analysis of rocks and minerals, fluid inclusion studies, interpretation of textures and structures, laboratory phase equilibrium studies, and computer modeling of metamorphic processes. Analytical data from mineral assemblages are rigorously interpreted within the framework of chemical thermodynamics and transport theory. All chemical aspects of metamorphism are of concern, including mineral-fluid reactions and reaction mechanisms; the role of heat-rock vs. fluid-rock interaction in driving metamorphism; the scale and mechanism of fluid-rock interaction; major and minor element mobility; pressure-temperature paths followed by rocks during metamorphism; and the interplay between metamorphism and deformation.

Mineralogy and Crystallography

An understanding of crystal structure and the subsolidus behavior of minerals is fundamental to the interpretation of many geological phenomena. The program in mineralogy and crystallography stresses the application of crystallographic theory and experimental approaches to petrologically, environmentally, and geophysically relevant mineral systems.

Research in crystal chemistry utilizes X-ray techniques but more strongly emphasizes the application of high-resolution transmission electron microscopy, electron diffraction, and analytical transmission electron microscopy. The electron microscopy laboratory in the Department of Earth and Planetary Sciences is used to investigate the defects and mechanisms of solid-state reactions in minerals, mechanisms of crystal growth, the structures of fine-grained and disordered geological materials, the chemical and structural variations in synthetic run products and the structures of grain boundaries in rocks.

Geochemistry

The program in molecular surface geochemistry emphasizes fundamental research in how the Earth’s environment changes because of interactions between natural waters, minerals and rocks, and living organisms. It emphasizes understanding of the chemical reactions at water-electrolyte-mineral-biomolecule interfaces. Students are encouraged to undertake quantitative studies integrating field, laboratory, and theoretical methods that permit a predictive approach to a wide variety of geochemical and biogeochemical processes including weathering and soil formation, life in the oceans, the migration of toxic species in the environment, the binding of medical implants in the human body, and the role of mineral surface reactions in the origin of life. Collaborative research possibilities are available through joint projects with the geobiology program in the department, and at the Geophysical Laboratory of the Carnegie Institution of Washington.

The program in stable isotope geochemistry focuses on development and application of geochemical tools that allow for reconstruction and understanding of phenomena such as climate, ecology, biogeochemical cycling, tectonics, sedimentation, and metamorphism. Group members work on questions ranging from paleoenvironments of human evolution, history of the Tibetan Plateau and East Asian monsoons, global expansion of savanna grasslands, niche partitioning among fossil mammals, and temperatures of dolomite formation. Students may pursue their own research interests, and are encouraged to become proficient in all aspects of the science, including instrumentation and laboratory methods, fieldwork, theory, and modeling.

Sedimentology Systems

The teaching and research program in sedimentary systems is dedicated to understanding interactions between sediments, organisms, climate and tectonics in the Earth’s past. This program combines sedimentology, paleontology, geochronology, and geochemistry to study Earth history from sedimentary archives. Field and laboratory observations are equally essential to this kind of research, and students are expected to become proficient in both. Through course work and research students should develop literacy in a combination of disciplines, which may include but are not limited to stratigraphy, geochemistry, paleontology, ecology, geomorphology, geochronology, soil science, and meteorology. Interdisciplinary interactions are encouraged within the Earth and Planetary Science department and with members of other departments at Hopkins, such as the Department of Geography and Environmental Engineering in the School of Engineering and the Center for Functional Anatomy and Evolution in the Medical School.

Geobiology and Paleoclimatology

Research emphases within this discipline include soil ecology, soil formation, biophysics, plant-soil-animal interactions, biogeochemical cycling, paleoecology, and paleoclimatology. Methods of stable isotope geochemistry are used to investigate changes in the cycling of C, H, N, and O through Earth history. Students are invited to participate in ongoing collaborations with the Baltimore Ecosystem Study (Long-Term Ecological Research Site), Smithsonian Environmental Research Center, or to design an original research project under the advisement of our faculty. Instrumentation in the Department of Earth and Planetary Sciences includes stable isotope mass spectrometry, scanning electron microscopy, microprobe and transmission electron microscopy; fieldwork is ongoing at several international sites.

All Ph.D. students are expected to have a background of physics, chemistry, calculus, general biology, and sedimentary geology. Deficiencies can be made up in the first semesters at Hopkins. Students take a core program of statistics, Earth history, stable isotope geochemistry, and ecology. In conjunction with the Department of Geography and Environmental Engineering, Earth and Planetary Sciences offers course work opportunities in Aquatic Chemistry, Plant and Animal Ecology, Geobiology, Analytical Environmental Chemistry, and Sedimentary Geochemistry.

Oceans, Atmospheres, and Climate Dynamics

The oceans, atmospheres, and climate dynamics program focuses on the study of physical processes in the oceans and atmosphere, the interaction between the ocean, atmosphere and land surface, and their role in climate. The philosophy underlying the department’s program is a rigorous and thorough background in the physics of fluids and radiation, and their applications to climate and environmental problems, applied mathematics, laboratory experiments, and observations. Problems in radiative transfer and the dynamics of atmospheres and oceans are attacked by theory, laboratory or numerical experiments, and field observations. Johns Hopkins is a member of the University Corporation for Atmospheric Research.

The best preparation for graduate study in this program is an undergraduate degree in physics, applied mathematics, mechanical
Solid Earth Geophysics

Solid Earth geophysics is the study of our planet’s interior. Our overarching goals are to understand the formation, structure, composition, and dynamics of the Earth as a whole, and their relationship to geological and surface environmental processes today, in the past, and in the future.

Modern geophysics requires an integrated approach that combines geology, solid and fluid mechanics, seismology, gravity, magnetism, and planetology. Students following the geophysics program are therefore encouraged to take advanced mathematics (including numerical modeling), classical physics, solid and fluid mechanics, as well as a broad range of EPS course work that includes geology, geochemistry, geophysics, and planetary science.

Some examples of broad-based geophysics research topics in EPS include study of Earth’s magnetic field, the surface expression of Earth’s “geodynamo,” which is powered by fluid flow in the Earth’s metallic core. Similarly, earthquakes arise from tectonic forces that are ultimately produced by large-scale motions of the Earth’s rocky interior, which moves at rates of a few cm per year. Much of earth’s surface topography, the presence of Earth’s ocean basins, and several physical and geochemical aspects of Earth’s surface environment, are a direct consequence of plate tectonics, which governs the internal dynamics of our planet. Volcanism and magma dynamics are other examples of fundamental processes that shape the Earth and its environment, a study that integrates geology, solid and fluid mechanics, and geochemistry.

Professors Olson and Marsh specialize in study of Earth’s interior and its influence on the surface environment, and Professor Strobel specializes in the study of the other planets, with emphasis on their atmospheres and magnetospheres.

Planetary Atmospheres/Astrophysics

The program in planetary atmospheres emphasizes the study of planetary atmospheres and magnetospheres. A broad range of fundamental problems in atmospheric chemistry, dynamics, physics, and radiation pertinent to the atmospheres of the giant planets and their satellites is addressed with the goal to understand the global structure of composition, pressure, temperature, and winds. The study of magnetospheric plasma interactions with extended satellite atmospheres is focused on the energy balance, ionospheric structure, and radiative output of their upper atmospheres, and the mass loading rates of the parent planets' magnetospheres. The atmospheres and magnetospheres of the planets are investigated with the aid of theoretical models and the analysis and interpretation of data acquired by ground-based, Hubble Space Telescope, and satellite observations. Professor Strobel is an interdisciplinary scientist on the Cassini/Huygens Mission. An in-depth study of the Saturnian system is being conducted with the Cassini spacecraft and Huygens Probe. He is also a co-investigator on the New Horizons Pluto Kuiper-belt mission, which was successfully launched on January 19, 2006, and will arrive at Pluto in July 2015, after flying by Jupiter during February 2007 and performing observations of the Jovian system.

This research program is closely coordinated with the astrophysics program in the Department of Physics and Astronomy. Students are encouraged to take courses in astrophysics, chemistry, physics, and applied mathematics to gain the comprehensive background necessary for interdisciplinary research. The best undergraduate preparation is a broad background in physics, applied mathematics, and physical chemistry with a minimum of three years of course work in two of these fields. Advanced undergraduate courses in classical mechanics, fluid mechanics, electricity and magnetism, thermodynamics, and quantum mechanics are strongly recommended. The facilities of the Center for Astrophysical Sciences and the Space Telescope Science Institute are available for thesis research.

Financial Aid

The university makes available to the department a number of Gilman Fellowships, which provide for complete payment of tuition, together with Johns Hopkins’ fellowships and graduate assistantships that carry a nine-month stipend. Graduate assistantships cannot require more
than 10 hours a week of service to the department, and all recipients of financial aid carry a full program of study. In addition, a number of special and endowed fellowships pay as much or more. In many areas of study, summer support is also available.

Applications for admission to graduate study and financial aid (including all supporting documents and GRE scores) should be submitted to the department before January 15.

For current faculty and contact information go to http://eps.jhu.edu DIRECTORY/

Faculty
Chair
Thomas W. N. Haine
physical oceanography.

Professors
John M. Ferry
metamorphic geology.

Bruce D. Marsh
igneous petrology and geophysics.

Peter L. Olson
gеophysical fluid dynamics.

Darrell F. Strobel
planetary atmospheres and astrophysics.

Dimitri Sverjensky
molecular surface geochemistry and environmental geochemistry.

David R. Veblen
crystallography.

Darryn W. Waugh
atmospheric dynamics.

Associate Professor
Anand Gnanadesikan
biogeochemical oceanography.

Assistant Professors
Sarah Horst
atmospheric chemistry, planetary atmospheres.

Naomi E. Levin
sedimentary geology, stable isotope ecology.

Kevin Lewis
planetary geology and geophysics.

Benjamin H. Passey
gеоchemistry, paleoecology, paleoclimate.

Benjamin Zaitchik
climate dynamics, surface hydrology.

Professor Emeritus
George W. Fisher
global earth systems and religious ethics.

Research/Teaching Faculty
Albert Arking
Principal Research Scientist: atmospheric sciences.

Linda Hinnov
Research Professor: quantitative stratigraphy and paleoclimatology.

Alexios Monopolis
Lecturer: global change and sustainability.

Sakiko Olsen
Senior Lecturer: metamorphic petrology.

Richard Stolarski
Research Professor: atmospheric chemistry.

Katalin Szlavecz
Associate Research Professor: soil ecology.

Joint Appointments
Olivier Barnouin
Associate Research Professor, Applied Physics Laboratory.

Carlos E. Del Castillo
Associate Research Professor, NASA Goddard Space Flight Center.

Robert A. Dalrymple
Professor, Civil Engineering.

Jocelyne DiRuggiero
Associate Research Professor, Biology.

Seth Guikema
Assistant Professor, Geography and Environmental Engineering.

Michael Harower
Assistant Professor, Near Eastern Studies.

Kevin J. Hemker
Professor, Mechanical Engineering.

Takeru Igusa
Professor, Civil Engineering.

Cindy L. Parker
Professor, Environmental Health Sciences.

James Roberts
Assistant Research Professor, Applied Physics Laboratory.

Kenneth Rose
Professor, Functional Anatomy and Evolution.

David Weishampel
Professor, Functional Anatomy and Evolution.

Peter Wilcock
Professor, Geography and Environmental Engineering.

For current course information and registration go to https://isis.jhu.edu/classes/
Courses

AS.270.102. Freshman Seminar: Conversations with the Earth. 3 Credits.
A discussion of topics on Earth's origin, evolution, and habitability. Students will be introduced to the role that scientific thinking and process play in research and our understanding of Earth systems. We will cover a broad foundation of knowledge of Earth sciences, including solid earth, atmospheric, and oceanic systems, as well as topics concerning the origin of life, evolution, ecosystems, and mass extinctions. And we will discuss the relation of these systems to societal concerns such as climate change, energy resources, mineral ore needs in industry, and nuclear waste storage and risk assessment. We are returning to the original seminar format for this class, with a limit of 15 students. Registration for this course is by permission only, and students should submit a short statement of interest to the instructor. We are looking for students who are willing to engage in frequent class discussion with instructors and classmates to ensure they acquire a broad understanding of the subject matter. This will be a 3 credit course with homework to be completed each week and a term paper submitted at the end of the semester.
Instructor(s): D. Weishampel
Area: Natural Sciences.

AS.270.103. Introduction to Global Environmental Change. 3 Credits.
A broad survey of the Earth as a planet, with emphasis on the processes that control global changes. Topics include: the structure, formation, and evolution of the Earth, the atmosphere, oceans, continents, and biosphere. Special attention is given to present-day issues, such as global climate change, natural hazards, air pollution, resource depletion, human population growth, habitat destruction, and loss of biodiversity. Open to all undergraduates.
Instructor(s): D. Waugh; P. Olson
Area: Natural Sciences.

AS.270.104. History of the Earth and its Biota. 3 Credits.
Instructor(s): L. Hinnov
Area: Natural Sciences.

AS.270.107. Introduction to Sustainability. 3 Credits.
Will introduce interactions between global environment and humans, discuss meaning of sustainability, and introduce use of tools to attain sustainability such as policy, law, communication, marketing, research, advocacy, international treaties.
Instructor(s): C. Parker
Area: Natural Sciences.

AS.270.108. Oceans + Atmospheres. 3 Credits.
This course is a broad survey of the Earth's atmosphere and oceans, and their role in the environment and climate. Topics include: weather systems, atmosphere and ocean circulation, hurricanes and tornadoes, and global warming.
Instructor(s): A. Gnanadesikan; T. Haine
Area: Natural Sciences.

AS.270.110. Freshman Seminar: Sustainable + Non-Sustainable Resources. 1 Credit.
An introduction to the important resources involved in the origin and production of oil, natural gas, coal, cement, metals and geothermal fluids.
Instructor(s): D. Sverjensky
Area: Natural Sciences.

AS.270.113. Freshman Seminar: Environmental Poisons. 1 Credit.
An exploration of the occurrence and potential effects of poisons in the environment, from naturally occurring ones such as arsenic to those that may be introduced by mankind such as nuclear waste.
Instructor(s): D. Sverjensky
Area: Natural Sciences.

AS.270.114. Guided Tour: The Planets. 3 Credits.
An introduction to planetary science and planetary exploration primarily for non-science majors. A survey of concepts from astronomy, chemistry, geology, and physics applied to the study of the solar system.
Instructor(s): B. Marsh; D. Strobel
Area: Natural Sciences.

AS.270.115. Environmental Photojournalism and Filmmaking in the Era of New Media. 3 Credits.
Students will review critical literature focusing on new media, visual representation theory, the relationship between images and social change, the history and typology of environmental photography and film, and an overview of modern environmental history, sustainability issues and environmental problems. Over the course of the semester, students will blend these conceptual frameworks with new media production. Based in Baltimore, students will identify an environmental narrative, document their particular story through photography or film, develop a new media platform through which to communicate that narrative effectively, and write a final paper analyzing their images, narrative and communication strategies using the theoretical frameworks covered throughout the course. The course is designed with an emphasis on independent research and practice, interdisciplinary analysis and application. One hour class time, plus two hours per week of independent field work and media production (times TBD by student groups)
Instructor(s): A. Monopolis
Area: Natural Sciences.

AS.270.116. Freshman Seminar: An Introduction to Climate Change. 3 Credits.
This course introduces the main physical components of the Earth's climate systems and their documented and forecasted changes. The first part of the course presents evidences of climate change in Earth's history, and introduces the main natural and anthropogenic drivers of climate change. The second part of the course focuses on future climates, and includes modules about climate modeling, building of emission scenarios, geoengineering, emission reductions and adaptability. The course is highly interdisciplinary, exploring the relationships among climate science, policy, ecology, economy and ethics. Freshmen Only. No prerequisites required.
Instructor(s): V. Aquila
Area: Natural Sciences.

AS.270.201. Dinosaurs. 3 Credits.
This course covers all of the major groups of dinosaurs, from Triceratops to T. Rex and their relatives living, today birds. It will also cover the origins of the group, their near demise 65 million years ago, their behavior, growth and development, and a history of their study.
Instructor(s): D. Weishampel
Area: Natural Sciences.
AS.270.205. Introduction to Geographic Information Systems and Geospatial Analysis. 3 Credits.
The course provides a broad introduction to the principles and practice of Geographic Information Systems (GIS) and related tools of Geospatial Analysis. Topics will include history of GIS, GIS data structures, data acquisition and merging, database management, spatial analysis, and GIS applications. In addition, students will get hands-on experience working with GIS software.
Instructor(s): X. Chen
Area: Engineering, Natural Sciences.

AS.270.210. Environmental Field Methods. 3 Credits.
This course is designed to introduce students to field based environmental research with a focus on the ecology and geochemistry of the surface and sub-surface environment. Field activities will center around soils and the carbon cycle in the riparian ecosystem adjacent to the Homewood campus and on the urban ecology of the greater Baltimore region. Students will build skills in data collection, analysis and synthesis. Outdoor fieldwork is an essential part of the course.
Prerequisites: AS.270.103 OR AS.270.220.
Instructor(s): K. Szlavecz; N. Levin
Area: Natural Sciences.

AS.270.220. The Dynamic Earth: An Introduction to Geology. 3 Credits.
Basic concepts in geology, including plate tectonics; Earth’s internal structure; geologic time; minerals; formation of igneous, sedimentary, and metamorphic rocks; development of faults, folds and earthquakes; geomagnetism. Corequisite (for EPS Majors): AS.270.221; optional for others.
Prerequisites: Prerequisite or Corequisite: AS.030.101 OR ( AS.171.101 AND AS.171.102 ) or equivalent. AS.270.221 is a corequisite for EPS majors.
Instructor(s): D. Elbert
Area: Natural Sciences.

AS.270.221. The Dynamic Earth Laboratory. 2 Credits.
This course is a hands-on learning experience for introductory geological concepts and techniques using geological tools, such as mineral/rock samples, microscopes, and maps. Field trips are an essential part.
Prerequisites: Corequisite: AS.270.220
Instructor(s): D. Elbert
Area: Natural Sciences.

AS.270.222. Earth Materials. 4 Credits.
An introduction to the properties, occurrence, and origin of the basic constituents of the Earth, including minerals and rocks. Introductory training in the recognition of minerals and rocks in the laboratory and the field.
Instructor(s): D. Veblen; J. Ferry
Area: Natural Sciences.

AS.270.224. Oceans & Atmospheres. 3 Credits.
A broad survey of the Earth’s oceans and atmospheres, and their role in the environment and climate. Topics covered include waves, tides, ocean and atmosphere circulation, weather systems, tornadoes and hurricanes, El Niño, and climate change. For science and engineering majors
Instructor(s): A. Gnanadesikan; T. Haine
Area: Natural Sciences.

AS.270.301. Geochemical Thermodynamics. 3 Credits.
Principles of chemical thermodynamics. Concept of and criteria for equilibrium. Properties of real fluids and solids. Applications to geologic processes. Recommended Course Background: AS.270.341
Prerequisites: AS.270.222 or equivalent or permission of instructor
Instructor(s): J. Ferry
Area: Natural Sciences.

AS.270.302. Aqueous Geochemistry. 4 Credits.
Thermodynamic basis for calculation of equilibria involving minerals and aqueous species at both low and high temperatures and pressures. Theoretical calculation of surface geochemical processes including adsorption and dissolution kinetics.
Instructor(s): D. Sverjensky
Area: Natural Sciences.

AS.270.305. Energy Resources in the Modern World. 3 Credits.
This in-depth survey will inform students on the non-renewable and renewable energy resources of the world and the future prospects. Topics include petroleum, natural gas, coal, nuclear, hydroelectric, geothermal, solar, wind, biomass, and ocean energy. Global production, distribution, usage, and impacts of these resources will be discussed.
Instructor(s): J. Burgess
Area: Natural Sciences.

AS.270.307. Geoscience Modelling. 4 Credits.
An introduction to modern ways to interpret observations in the context of a conceptual model. Topics include model building, hypothesis testing, and inverse methods. Practical examples from geophysics, engineering, and medical physics will be featured.
Area: Natural Sciences.

AS.270.308. Population/Community Ecology. 3 Credits.
This course explores the distribution and abundance of organisms and their interactions. Topics include dynamics and regulation of populations, population interactions (competition, predation, mutualism, parasitism, herbivory), biodiversity, organization of equilibrium and non-equilibrium communities, energy flow, and nutrient cycles in ecosystems. Field trip included.
Prerequisites: AS.270.103 or permission of instructor
Instructor(s): K. Szlavecz
Area: Natural Sciences.

AS.270.309. Designing Sustainable Wellness. 3 Credits.
Limited to juniors, seniors and graduate students. Otherwise permission of instructor. This project-based course will explore and re-imagine interdisciplinary conceptual frameworks aimed at promoting “sustainable wellness” (the convergence of social and ecological sustainability) within the built environment (the space, structures and systems humans generate for living, working and playing). Beginning with a conceptual overview of sustainability, the science of happiness, and design/planning principles, students will review relevant case studies and complete a final, hands-on, community-based studio project.
Instructor(s): A. Monopolis; C. Parker
Area: Social and Behavioral Sciences.
AS.270.310. Global Environmental Changes & Sustainability Seminar. 3 Credits.
By using guest speakers and published literature, students will investigate sustainability topics in greater depth, taking turns presenting relevant papers and leading a focused discussion about the topic.
Prerequisites: AS.270.103 AND AS.270.107 OR Instructor Permission
Area: Natural Sciences.

AS.270.311. Geobiology. 3 Credits.
A survey of the interactions between geological and biological processes at and near the Earth's surface, covering topics such as biogeochemistry and nutrient cycles, soil chemistry, biomarkers, archives of paleobiology, and the evolution of life, with an emphasis on terrestrial systems. Recommended Course Background: AS.270.220
Instructor(s): N. Levin
Area: Natural Sciences.

AS.270.312. Mammalian Evolution. 3 Credits.
An introduction to the evolutionary history and diversity of mammals, with emphasis on the first half of the Cenozoic - the beginning of the Age of Mammals. The course will focus primarily on the adaptive radiation of mammals (including our own order primates) that followed the extinction of the dinosaurs, exploring the origins and relationships of the major groups of mammals as well as the anatomical and ecological reasons for their success. Lectures will be supplemented with relevant fossils and recent specimens.
Instructor(s): K. Rose
Area: Natural Sciences.

AS.270.313. Isotope Geochemistry. 3 Credits.
Instructor(s): B. Passey
Area: Natural Sciences.

AS.270.314. Planetary Tectonics and Geodynamics. 3 Credits.
Fundamental physical processes relevant to interiors of terrestrial planets and icy satellites. Topics include: stress and strain; elasticity and flexure; rheology; internal structure; thermal evolution; fluid mechanics; tectonics; and faulting. Recommended Course Background: AS.110.108-AS.110.109 or equivalent; AS.171.101 or AS.171.105 or equivalent; AS.110.202 or equivalent.
Instructor(s): J. Roberts; O. Barnouin
Area: Natural Sciences.

AS.270.315. Natural Disasters. 3 Credits.
A survey of naturally occurring catastrophic phenomena, with emphasis on the underlying physical processes. Topics include hurricanes, tornadoes, lightning, earthquakes, tsunamis, landslides, and volcanic eruptions and climate change. Intended for students in science and engineering.
Instructor(s): P. Olson
Area: Natural Sciences.

AS.270.318. Remote Sensing of the Environment. 4 Credits.
This course is an introduction to the use of remote sensing technology to study Earth’s physical and biochemical processes. Topics covered include remote sensing of the atmosphere, land and oceans, as well as remote sensing as a tool for policy makers. Also offered as 270.618
Instructor(s): B. Zaitchik; C. Del Castillo
Area: Natural Sciences.

AS.270.320. The Environment and Your Health. 3 Credits.
This course surveys the basic environmental health sciences (toxicology, risk assessment), current public health issues (hazardous waste, radon, water-borne diseases) and emerging global health threats (global warming, ozone depletion, sustainability).
Area: Natural Sciences.

AS.270.322. GECS Fieldwork in Ecuador. 4 Credits.
Course will provide theory and hands-on practice of environmental science and social science fieldwork.
Prerequisites: AS.270.103 and AS.270.107 AND consent of instructor. GECS majors only.
Instructor(s): C. Parker
Area: Natural Sciences.

AS.270.323. Ocean Biogeochemical Cycles. 3 Credits.
This course will examine the cycling of trace chemicals in the ocean, consider what we can learn from the distributions of these chemicals about the ocean circulation, and ocean ecosystems. Topics covered will include oceanic biological productivity, open water cycling of nutrients and oxygen, ocean acidification and sediment cycling.
Instructor(s): A. Gnanadesikan
Area: Natural Sciences.

AS.270.325. Introductory Oceanography. 3 Credits.
This class is an introduction to a wide range of physical, chemical, and biological phenomena in the world's oceans. Underlying basic principles are exposed wherever possible. Topics covered include: seawater, waves, tides, ocean circulation, chemical oceanography, biogeochemical ocean processes, and remote sensing of the oceans.
Recommended Course Background: freshman Physics, Chemistry, Calculus through ordinary differential equations.
Instructor(s): A. Gnanadesikan; T. Haine
Area: Natural Sciences.

AS.270.330. Atmospheric Chemistry. 3 Credits.
This course will examine the structure and composition of the atmosphere and the processes that determine how the composition has changed in the past and might change in the future. Emphasis will be on the chemistry of the stratospheric ozone layer. The chemistry of the troposphere and air pollution will also be covered. Prerequisites: AS.110.106 Calculus I and AS.110.109 Calculus II
Instructor(s): R. Stolarski
Area: Natural Sciences.

AS.270.332. Soil Ecology. 3 Credits.
The course introduces basic aspects of cycles and flows in the soil ecosystem, and provides students with an overview of the higher groups of soil organisms. Laboratory and field surveying methods are also covered.
Instructor(s): K. Sławecki
Area: Natural Sciences.
AS.270.335. Planets, Life and the Universe. 3 Credits.
This multidisciplinary course explores the origins of life, planets’ formation, Earth’s evolution, extrasolar planets, habitable zones, life in extreme environments, the search for life in the Universe, space missions, and planetary protection.
Prerequisites: Students may not register for this class if they have already received credit for AS.171.333 or AS.020.334.
Instructor(s): C. Norman; J. Diruggiero
Area: Natural Sciences.

AS.270.340. Nature of the Solid Planets. 3 Credits.
The overall origin and evolution of the terrestrial-like planets in the Solar System is discussed and analyzed. As a starting point the detailed structure and dynamics of Earth is presented from the perspectives of seismology, gravity, geochronology, and volcanism. Extensions are also made to the origin, structure, and present state of the moons of Jupiter and Saturn and other icy bodies. Recommended Course Background: calculus through differential equations, physics, and chemistry, some grounding in Earth and/or Planetary Sciences.
Instructor(s): B. Marsh
Area: Natural Sciences.

AS.270.350. Sedimentary Geology. 4 Credits.
Introduction to sedimentary processes and sedimentary rocks. Focus is placed on linking physical observations to earth surface processes. Fundamental tools for interpreting the sedimentary rock record, such as depositional models, geochronology, and chemostratigraphy are reviewed. Weekend field trips. Graduate and advanced undergraduate level. Recommended Course Background: AS.270.220 or instructor permission.
Instructor(s): N. Levin
Area: Natural Sciences.

AS.270.360. Climate Change: Science & Policy. 3 Credits.
This course will investigate the policy and scientific debate over global warming. It will review the current state of scientific knowledge about climate change, examine the potential impacts and implications of climate change, explore our options for responding to climate change, and discuss the present political debate over global warming.
Prerequisites: AS.270.103 or permission
Instructor(s): B. Zaitchik
Area: Natural Sciences.

AS.270.369. Geochem Earth/Environmen. 3 Credits.
An introduction to all aspects of Geochemistry: theoretical, experimental, and observational, including the application of geochemistry to issues such as the migration of toxic metals and nuclear waste.
Area: Natural Sciences.

AS.270.377. Climates Of The Past. 3 Credits.
Earth’s climate history through study of forcing mechanisms, climate proxies, and paleoclimate modeling. Presentation of climate-sensitive archives will be followed by discussion of geochemical principles, climates through time, recent advances and emerging problems. For upper-level undergraduate and graduate students in the natural sciences. Recommended Courses Background: AS.270.220 or instructor permission.
Instructor(s): L. Hinnov
Area: Natural Sciences.

AS.270.378. Present & Future Climate. 3 Credits.
Intended for majors who are interested in the science that underlies the current debate on global warming, the focus is on recent observations one can glean from model simulations. Meets with AS.270.641. Recommended Course Background: AS.110.108-AS.110.109 and AS.171.101-AS.171.102
Instructor(s): B. Zaitchik; D. Waugh
Area: Natural Sciences.

AS.270.395. Planetary Physics & Chem. 3 Credits.
The fundamental principles governing the dynamic processes within and around the planets are treated in some detail. Core equations are developed and used to analyze nebula condensation, planetary accretion, convection in mantles and atmospheres, radiative and conductive heat transport, seismic waves, hurricanes, volcanism, and meteorite impacts, among others. Emphasis is on fundamentals and problem solving.
Prerequisites: AS.030.101; AS.171.101-102 or 103-104 or 105-106.
Area: Natural Sciences.

AS.270.402. Scientific Survival Skills. 1 Credit.
Transitioning from graduate school to a postdoc to a “permanent” job in the natural sciences requires a set of essential skills that are not covered as a formal component of most Ph.D. programs. This seminar will be a weekly discussion of career issues relevant to new scientists. Topics will include elements of good presentations, conferences, scientific writing and peer-review, employment trends, job interviews, and grant proposals. The class will conclude with a mock grant proposal review panel, conducted by the students. This seminar is aimed at graduate and advanced undergraduate students in the natural sciences and planning careers in academia or industry.
Instructor(s): J. Roberts
Area: Natural Sciences.

AS.270.405. Modeling the Hydrological Cycle. 3 Credits.
Survey of modeling techniques for hydrological monitoring, analysis and prediction, including applied exercises with commonly used models. Topics include the terrestrial water balance, rivers and floods, groundwater, atmospheric transport, and precipitation processes. Focus is on numerical methods applicable at the large watershed to global scale.
Instructor(s): B. Zaitchik.

AS.270.407. Seminar in Planetary Sciences. 1 Credit.
Instructor(s): B. Marsh; O. Barnouin
Area: Natural Sciences.

AS.270.410. Planetary Surface Processes. 3 Credits.
Instructor(s): J. Roberts; O. Barnouin
Area: Natural Sciences.

AS.270.415. Climate Change Discussions. 2 Credits.
Discussion of current topics in climate change science. Open to Graduate students & Advanced Undergraduates. Instructor permission.
Area: Natural Sciences.
AS.270.425. Earth & Planetary Fluids. 3 Credits.
An introductory course on the properties, flow, and transport characteristics of fluids throughout the Earth and planets. Topics covered include: constitutive relationships, fluid rheology, hydrostatics, dimensional analysis, low Reynolds number flow, porous media, waves, stratified and rotating fluids, plus heat, mass, and tracer transport. Illustrative examples and problems are drawn from the atmosphere, ocean, crust, mantle, and core of the Earth and other Planets. Open to graduate and advanced undergraduate students. Recommended Course Background: Basic Physics, Calculus, and familiarity with ordinary differential equations.
Area: Natural Sciences.

AS.270.495. Senior Thesis.
Preparation of a substantial thesis based upon independent student research, supervised by at least one faculty member in Earth and Planetary Sciences. Open to Sr. departmental majors only. Required for department honors.
Instructor(s): Staff
Area: Natural Sciences
Writing Intensive.

AS.270.496. Senior Thesis. 4 Credits.
Preparation of a substantial thesis based upon independent student research, supervised by at least one faculty member in Earth and Planetary Sciences. Open to Sr. departmental majors only. Required for department honors.
Instructor(s): B. Passey; T. Haine
Writing Intensive.

AS.270.501. Independent Study. 3 Credits.
An independent course of study may be pursued under the direction of an adviser on those topics not specifically listed in the form of regular courses.
Instructor(s): Staff.

AS.270.502. Independent Study. 0 - 3 Credit.
Instructor(s): A. Monopolis; P. Olson.

AS.270.503. Independent Research. 3 Credits.
Instructor(s): Staff.

AS.270.504. Independent Research. 0 - 3 Credit.
Research under the direction of members of the Earth & Planetary Sciences Faculty.
Instructor(s): B. Passey; B. Zaitchik; L. Hinnov; N. Levin.

AS.270.505. GECS Senior Capstone Seminar. 3 Credits.
The GECS Senior Capstone Seminar will provide the intellectual time and space to bring together the knowledge and tools acquired during the four years of interdisciplinary work on the GECS curriculum into a coherent framework in preparation for careers, and/or graduate work. In addition to the culmination of the capstone project, final paper, and presentations, students will look at relevant current events through the lenses of science, social science and the humanities, and engage in depth readings and discussion of these issues.
Instructor(s): C. Parker.

AS.270.507. Internship. 1 Credit.
Instructor(s): C. Parker.

AS.270.595. Internship. 1 Credit.
Instructor(s): C. Parker; D. Sverjensky; D. Veblen.

AS.270.599. Independent Study. 3 Credits.
Instructor(s): A. Monopolis; B. Marsh; D. Sverjensky; K. Szlavecz; S. Stanley.

AS.270.602. Graduate Independent Study.
Instructor(s): B. Marsh.

AS.270.603. Geochemistry Seminar.
A variety of topics of current interest involving mineral-fluid interactions will be reviewed.

AS.270.604. Sem:Geophysical Petrology.
Discussion of present research topics in geophysics and igneous petrology.
Instructor(s): B. Marsh.

AS.270.605. EPS Colloquium.
A weekly seminar series in which graduate students present their latest research results and attend Departmental seminars. This course is required for all graduate students in the Department of Earth and Planetary Sciences.
Instructor(s): T. Wright.

AS.270.606. EPS Colloquium.
A weekly seminar series in which graduate students present their latest research results and attend Departmental seminars. This course is required for all graduate students in the Department of Earth and Planetary Sciences.
Instructor(s): T. Wright.

AS.270.607. Topics in African Climate.
Advanced research seminar on atmospheric dynamics, climate processes, and hydrology of the African continent.
Instructor(s): B. Zaitchik; N. Levin.

AS.270.610. Climate Modeling and Analysis.
Instructor(s): A. Arking
Area: Natural Sciences.

AS.270.611. Global Atmospheric Dynamics.
This course will examine the fluid dynamics that determine large-scale atmospheric circulation and variability using Ian James’ “Introduction to Circulating Atmospheres.” Topics covered will include the dynamics of Hadley cells, mid-latitude jets, baroclinic instability, monsoon circulations, and low-frequency variability of the circulation.
Instructor(s): A. Gnanadesikan.

Transitioning from graduate school to a postdoc to a “permanent” job in the natural sciences requires a set of essential skills that are not covered as a formal component of most Ph.D. programs. This seminar will be a weekly discussion of career issues relevant to new scientists. Topics will include elements of good presentations, conferences, scientific writing and peer-review, employment trends, job interviews, and grant proposals. The class will conclude with a mock grant proposal review panel, conducted by the students. This seminar is aimed at graduate and advanced undergraduate students in the natural sciences planning careers in academia or industry.
Instructor(s): J. Roberts.

AS.270.615. Inversion Modeling & Data Assimilation.
This graduate class will introduce modern inverse modeling and data assimilation techniques. These powerful methods are used in atmospheric science, oceanography, and geophysics and are growing more widespread. Topics will include: singular value decomposition, Green’s function inversions, Kalman filtering, and variational data assimilation. The class will include lectures on concepts and theory, and practical experience in the computer laboratory. Permission of Instructor Required.
Instructor(s): T. Haine.
AS.270.616. Geodesy, Gravity, and Tides.
Introduces physical geodesy problems, and the interpretation of geoid and gravity anomalies on Earth and other planets. Covers potential theory, measurement techniques from surface and spacecraft, planetary rotation, and tides. Recommended: AS.110.301 or EN.550.291 (or equivalent)
Prerequisites: ( AS.110.202 OR AS.110.211 or equivalent) AND ( AS.171.101 OR AS.171.105 or equivalent)
Instructor(s): J. Roberts
Area: Natural Sciences.

Also offered as 270.318
Instructor(s): B. Zaitchik; C. Del Castillo
Area: Natural Sciences.

AS.270.620. Seminar in Geophysical Turbulence and Transport.
This course introduces students to the concept of geophysical turbulence and its ability to describe certain aspects of ocean and atmosphere dynamics and associated transport processes. It covers the phenomenology of turbulence, Kolmogorov scaling, 2d turbulence, stratified geostrophic turbulence, coherent structures, as well as the dispersion theory and its application to the study and parametrization of turbulent transport processes. Students are given 3 assignments involving simple calculations based on theoretical exercises as well as processing of real ocean data and ocean model output (drifter data for dispersion, analysis of model fields for identification of vortices by OW and associated fluxes). Interested students should be familiar with the Navier-Stokes equations for fluid flow.
Instructor(s): A. Gnanadesikan; I. Koszalka.

AS.270.621. TEM: Practice and Applications.
A lab and lecture course covering the practical aspects of transmission electron microscopy. Electron diffraction, image formation, and analytical techniques are explained, and students are given an opportunity to gain hands-on microscopy experience. The detailed theory for these experiments is developed in 270.622.
Instructor(s): D. Veblen; K. Hemker.

AS.270.622. TEM: Theory/Understanding.
This course, which follows and complements 270.621, introduces the student to more detailed aspects of kinematical and dynamical theories of electron diffraction. Theory of conventional TEM imaging, phase-contrast imaging (high-resolution electron microscopy), X-ray and energy loss analytical TEM, and computer-based image simulation are included.
Instructor(s): D. Veblen.

AS.270.623. Planetary Atmospheres.
Instructor(s): D. Strobel
Area: Natural Sciences.

Discussion of the physical principles that underlie earth remote sensing. Topics to include radiative transfer in Earth’s atmosphere, operating principles of active and passive remote sensing systems, and advanced methods for image analysis.
Prerequisites: AS.270.318 OR AS.270.618 or permission of instructors.
Instructor(s): B. Zaitchik; C. Del Castillo.

AS.270.625. Seminar in Biogeochemistry.
In-depth exploration of emerging topics in biogeochemistry, including themes relevant to the evolution of Earth’s biogeochemical cycles, global change, paleoecology, and paleoclimate.
Instructor(s): B. Passeny
Area: Natural Sciences.

AS.270.626. Ocean General Circulation.
The aim of this course is to achieve conceptual understanding of the large scale low frequency ocean general circulation. The role of the ocean circulation in earth’s climate is emphasized throughout.
Instructor(s): T. Haine.

Discussion of current research topics in soil ecology and biogeochemistry.
Instructor(s): K. Szlavecz; Staff.


AS.270.631. Advanced Topics in Isotopic Geochemistry.
Consent of instructor required In depth exploration of selected systems in stable isotope geochemistry, and examination of the physical basis of stable isotope fractionation. Topics vary annually.
Instructor(s): B. Passeny; N. Levin
Area: Natural Sciences.

Instructor(s): D. Veblen.

AS.270.641. Present and Future Climate.
Meets with AS.270.378.
Prerequisites: ( AS.110.108 AND AS.110.109) AND (AS.171.101 AND AS.171.102)
Instructor(s): B. Zaitchik; D. Waugh
Area: Natural Sciences.

AS.270.642. Surface Geochemistry.

AS.270.643. Physics of Climate Variability.
This course is an advanced-level review of the ways in which climate varies on time scales of seasons to decades, including El Nino, the Pacific Decadal Oscillation, the Indian Ocean Dipole Mode, the North Atlantic Oscillation and others. Topics covered will include, depending on class’s interest: 1) Methods for isolating climate modes. (2) Key dynamic and thermodynamic processes involved in causing such fluctuations, including atmospheric and oceanic wave propagation, air-sea interaction and changes in the thermohaline circulation. (3) Impacts of climate modes on biogeochemical cycling, including some that are used by paleoecologists to reconstruct past variability. Geophysical understanding and links to fundamental mechanisms are emphasized. Format will consist of a mix of lectures and paper discussions.
Area: Natural Sciences.
AS.270.645. Earth System Modeling.  
Introduces students to using comprehensive Earth System Models. Students will learn about how such models are structured and configure experiments with such a model, based on their interests. 
Instructor(s): A. Gnanadesikan.

AS.270.647. Earth’s Interior.  
Mechanical processes in Earth’s core and mantle with applications to plate tectonics, the thermal and chemical evolution of the Earth, and generation of Earth’s magnetic field. 
Instructor(s): P. Olson; Staff.

AS.270.652. Physics Of Magma.  
The principles of viscous fluid flow, heat conduction and convection are treated in reference to all aspects of the mechanics of magma. Emphasis is placed on understanding petrologic processes as observed in rocks and rock sequences. 
Instructor(s): B. Marsh 
Area: Natural Sciences.

AS.270.653. Earth and Planetary Fluids II.  
A sequel to AS.270.425 concentrating on planetary-scale atmospheric and oceanic circulation. Physical understanding of the underlying fluid dynamics will be emphasized. 
Instructor(s): N. Paldor.

AS.270.661. Planetary Fluid Dynamics.  
Recommended Course Background: AS.270.646 or equivalent. 
Instructor(s): D. Strobel 
Area: Natural Sciences.

Permission of instructor required 
Instructor(s): D. Strobel.

Instructor(s): K. Szlavecz 
Area: Natural Sciences.

AS.270.681. Advanced Metamorphic Petrology.  
The interpretation of metamorphic processes based on mineral assemblages, mineral chemistry, chemical thermodynamics, transport theory, experimental petrology, and field studies. Geothermometry and geobarometry; mineral reactions and reaction mechanisms; heat transfer and fluid transfer; element and isotope mobility; thermal models for orogenic belts. 
Prerequisites: AS.270.301 
Area: Natural Sciences.

AS.270.690. Igneous Petrology.  
AS.270.692. Igneous Petrology Lab. 
Corequisites : AS.270.690(C).

AS.270.807. Research.  
Instructor(s): T. Haine. 

AS.270.808. Research.  
Instructor(s): T. Haine.

AS.271.107. Introduction to Sustainability. 3 Credits.  
Will introduce interactions between global environment and humans, discuss meaning of sustainability, and introduce use of tools to attain sustainability such as policy, law, communication, marketing, research, advocacy, international treaties. 
Instructor(s): C. Parker 
Area: Natural Sciences.

AS.271.115. Environmental Photojournalism and Filmmaking in the Era of New Media. 3 Credits.  
Students will review critical literature focusing on new media, visual representation theory, the relationship between images and social change, the history and typology of environmental photography and film, and an overview of modern environmental history, sustainability issues and environmental problems. Over the course of the semester, students will blend these conceptual frameworks with new media production. Based in Baltimore, students will identify an environmental narrative, document their particular story through photography or film, develop a new media platform through which to communicate that narrative effectively, and write a final paper analyzing their images, narrative and communication strategies using the theoretical frameworks covered throughout the course. The course is designed with an emphasis on independent research and practice, interdisciplinary analysis and application. One hour class time, plus two hours per week of independent field work and media production (times TBD by student groups) 
Prerequisites: Not open if you have taken AS.270.115 
Area: Natural Sciences.

AS.271.120. Environmental Photojournalism. 3 Credits.  
Environmental cognition, consciousness and communication are produced, reproduced, interpreted and remembered with the support of visual representations and, in particular, photography. Images increasingly structure our experience of nature, environmental problems, human-environmental relations, and ecological awareness. Students will review critical literature focusing on visual representation theory, the relationship between images and social change, and the history and typology of environmental photography. A basic understanding of modern environmental history, sustainability issues and environmental problems is required. Students will identify environmental narratives in Baltimore, document their stories through photojournalism, have their images critiqued in class, and develop a final documentary project focusing on one particular environmental narrative. The class is designed with an emphasis on independent research and practice, interdisciplinary analysis and application. It is geared towards GECS, Film & Media Studies and Writing Seminars majors, in addition to students interested or experienced in photography, film, journalism, psychology, and public health. 
Instructor(s): A. Monopolis.
AS.271.301. Climate Change Adaptation in the Developing World. 3 Credits.
This course considers the way in which people and their livelihoods are adapting to climate change in sensitive regions of the developing world. The course will include an overview of climate systems and climate change science, although it will emphasize vulnerability assessment from an ecosystem and livelihood perspective. Using a case-study approach, the focus will be on key economic sectors of agriculture, water resources, forest systems and tourism. A focus of the course is how to develop an informed approach to climate change adaptation that can drive both national policy and international development and donor efforts to create sustainable responses that serve both the local country and global needs. Students will consider adaptive capacity in specific countries, evaluating the feasibility and sustainability of current adaptation strategies, differentiate national and international efforts and effects of adaptation: learn key tools for climate change assessment, review and critique climate data sources for developing countries, and compare climate change adaptation to the developed world. GECS Majors Only. Prerequisites: Intro to Sustainability, Intro to Global Environmental Change, or Climate Change: Science and Policy. Prerequisites: AS.270.103 or AS.270.107 or AS.270.360
Instructor(s): A. WinklerPrins; C. Parker
Area: Social and Behavioral Sciences.

AS.271.302. Nature, Baltimore and a Sense of Place. 3 Credits.
This course integrates environmental literature, outdoor excursions, nature writing, and ecocriticism. Students will survey a range of authors that have written about nature, environmental issues and sustainability. These include, among others, Lao Tzu, Henry David Thoreau, John Muir, Aldo Leopold, Edward Abbey, Donella Meadows, David Abram, Terry Tempest Williams, and Michael Pollan. Students will define and explore the concepts of nature, sustainability, and a sense of place. Weekly field trips to Baltimore’s parks and green spaces will encourage students to discover their own sense of place and environmental worldview through careful exploration, observation and reflection. Throughout the course, students will write short, ecocritical essays that reflect on their experiences, perspectives, and insights.
Area: Humanities, Natural Sciences, Social and Behavioral Sciences.

AS.271.309. Designing Sustainable Wellness. 3 Credits.
This course examines the convergence of social and environmental sustainability within the built environment. The built environment refers to the space, structures and systems humans generate for living, working and playing. This includes everything from homes and office buildings, to neighborhoods and cities, to green spaces and parks. It also includes hard infrastructure, such as energy, transportation and water systems, and soft infrastructure, such as formal human services (e.g. health, education, recreation). More recently, the term has expanded to include conditions related to public health, such as walkability, bikability, and access to healthy foods. This course will examine the conceptual frameworks that support the creation of built environments, assess their impact on environmental and social well-being, and re-imagine methodologies and designs that may better promote “sustainable wellness” or, socio-ecological sustainability, in the future. Through case studies and a final design-based project, students will learn and apply the fundamental principles behind socio-ecologically sustainable design. The course is designed with an emphasis on interdisciplinary analysis and systems thinking. The course is geared towards GECS majors, in addition to students interested in psychology, design, architecture and urban planning.
Instructor(s): A. Monopolis.

AS.271.360. Climate Change: Science & Policy. 3 Credits.
Prereq: 270.103 or permission of instructor. This course will investigate the policy and scientific debate over global warming. It will review the current state of scientific knowledge about climate change, examine the potential impacts and implications of climate change, explore our options for responding to climate change, and discuss the present political debate over global warming.
Instructor(s): D. Waugh
Area: Natural Sciences.

AS.271.401. Environmental Ethics. 3 Credits.
Environmental Ethics is a philosophical discipline that examines the moral relationship between human beings and the natural environment. Beginning with an analysis of their own values, students will explore complex ethical questions, philosophical paradigms and real-life case studies. Through readings, films, seminar discussions and debates, this course will help students strengthen their ability to communicate viewpoints rooted in ethical principles. Afterwards, students will apply these tools to an examination of contemporary environmental issues, ranging from natural resource depletion, pollution, species extinction, environmental justice, climate change, and overpopulation. This course is geared towards Global Environmental Change & Sustainability and Philosophy majors.
Instructor(s): A. Monopolis.

AS.271.403. Environmental Policymaking and Policy Analysis. 3 Credits.
This course provides students with a broad introduction to US environmental policymaking and policy analysis. Included are a historical perspective as well as an analysis of future policymaking strategies. Students examine the political and legal framework, become familiar with precedent-setting statutes such as NEPA, RCRA, and the Clean Air and Clean Water Acts, and study models for environmental policy analysis. Cost benefit studies, the limits of science in policymaking, and the impact of environmental policies on society are important aspects of this course. A comparison of national and international policymaking is designed to provide students with the proper perspective. This course is taught in conjunction with an identical graduate course. All students will be expected to perform at a graduate level.
Instructor(s): H. Serassio; R. Solomon
Area: Social and Behavioral Sciences.

AS.271.501. Independent Study. 3 Credits.
Instructor(s): Staff.

AS.271.502. Independent Study. 1 - 3 Credit.
Instructor(s): Staff.

AS.271.505. GECS Senior Capstone Seminar. 3 Credits.
The GECS Senior Capstone Seminar will provide the intellectual time and space to bring together the knowledge and tools acquired during the four years of interdisciplinary work on the GECS curriculum into a coherent framework in preparation for careers, and/or graduate work. In addition to the culmination of the capstone project, final paper, and presentations, students will look at relevant current events through the lenses of science, social science and the humanities, and engage in in-depth readings and discussion of these issues.
Instructor(s): A. Monopolis; C. Parker.

AS.271.508. Internship. 1 - 3 Credit.
Instructor(s): A. Monopolis; C. Parker; Staff.
Cross Listed Courses

History of Science Technology

AS.140.322. The Heavens and Earth in the History of Astronomy. 3 Credits.
How do we study the stars, and what do they tell us about the earth? In this course, we explore views of the heavens across history, from ancient Greece to international astrophysics. Special emphasis will be given to the 'new stars' of 1572 and 1604, whose remnants are observed at Johns Hopkins University continue to study today. Cross-listed with Earth and Planetary Science, Physics and Astronomy Area: Humanities, Social and Behavioral Sciences.

Physics Astronomy

AS.171.321. Introduction to Space, Science, and Technology. 3 Credits.
Topics include space astronomy, remote observing of the earth, space physics, planetary exploration, human space flight, space environment, orbits, propulsion, spacecraft design, attitude control and communication. Crosslisted by Departments of Earth and Planetary Sciences, Materials Science and Engineering and Mechanical Engineering. Recommended Course Background: AS.171.101-AS.171.102 or similar; AS.110.108-AS.110.109.
Instructor(s): S. McCandliss; S. Murray
Area: Engineering, Natural Sciences.

Public Health Studies

AS.280.335. The Environment and Your Health. 3 Credits.
This course surveys the basic concepts underlying environmental health sciences (toxicology, exposure assessment, risk assessment), current public health issues (hazardous waste, water- and food-borne diseases), and emerging global health threats (global warming, built environment, ozone depletion, sustainability). Public Health Studies, Global Environmental Change and Stability, and Earth and Planetary Science majors have 1st priority for enrollment. Your enrollment may be withdrawn at the discretion of the instructor if you are not a GECS, PHS, or EPS major.
Prerequisites: (Students may not have taken AS.270.320)
Instructor(s): M. Trush
Area: Natural Sciences.

East Asian Studies

The East Asian Studies major is interdisciplinary and interdepartmental. Its primary purpose is to introduce undergraduates to the knowledge, language skills, and research methods they will need to enter various academic and professional paths relating to China, Japan, and Korea. Majors in East Asian Studies engage in intensive Chinese, Japanese and/or Korean language study through the Center for Language Education and work with faculty on such topics as China in the global economy, nationalism in East Asia, Korean identity and culture, modern Japanese history and politics, Chinese urban history, and women in East Asia. Students are encouraged to pursue original research projects in East Asia with the support of intersession and summer travel grants, stipends for conference presentations, a senior thesis honors option, and seminars that bring together research scholars, faculty, graduate students and undergraduates in a manner that is distinctly Hopkins. Alumni of the program are making their mark around the world in business and finance, academia, law, international development, medicine and public health, engineering, media, public service, and the arts.

China-STEM

Forward thinking and interdisciplinary, Johns Hopkins-China STEM embodies the best of the Johns Hopkins tradition. Building upon well-established partnerships in China and expertise in a variety of technical disciplines, the program addresses the increasing demand for advanced Chinese language education in specialized fields of study. Students, researchers, and practitioners who understand the language, culture, and context of China could significantly enhance their ability to discover new theories, new partnerships, and new practices.

The summer program is designed for undergraduate and graduate students, post-doctoral fellows, and researchers who seek to enhance their Chinese language proficiency for scientific, technological, engineering, and medical (STEM) disciplines. Over the course of eight weeks, students are immersed in rigorous language training, coupled with experiential research trips to laboratories, hospitals, and academic institutions in Nanjing and Beijing.

Complete information on the program, and the application process can be found at: http://krieger.jhu.edu/chinastem/

Hopkins in Nanjing (HIN)

Developed by the East Asian Studies Program at Hopkins in collaboration with the JHU Study Abroad Office and Nanjing University, the fall semester program will include intensive language study as well as two content courses. Students take nine credits of intensive Chinese language courses at Nanjing University. The two content courses are taught by Hopkins faculty in English and vary each year depending on faculty specializations.

Having our own in-house study abroad program gives us more control over the content and quality of study abroad courses, ensuring that our students have a rigorous and challenging semester abroad curriculum tailored to their academic needs. The program also obviates the need for Hopkins undergraduates to transfer their study abroad credits, a process that many students have found frustrating. It also provides an opportunity for qualified undergraduate majors to conduct research in Nanjing in preparation for writing an honors thesis. In addition, it helps our undergraduates realize the goal of passing the qualifying language examinations for Hopkins Nanjing Center.

Successful applicants must have at least a 3.0 cumulative GPA, and have completed at least 4 semesters of college-level Mandarin (or the equivalent). Undergraduates with junior standing will be given preference in selection. Although the program initially only served Hopkins undergraduates, it is now open to undergraduates from several other institutions as well. For more information and application instructions, visit http://krieger.jhu.edu/east-asian/undergraduate/nanjing.html

Hopkins in Tokyo

In fall 2012, a full-year undergraduate exchange program began with the University of Tokyo, and it is off to a great start. This new study abroad program was designed with Hopkins’ East Asian Studies majors and Japanese language students in mind. As with other departmental study abroad programs at Hopkins, students’ credits and grades will be transferred between the two universities.

This is a direct exchange program between our universities, rather than a program run by Hopkins. For each Hopkins student who attends the University of Tokyo, one University of Tokyo student will attend Hopkins.
Each Hopkins student has a Japanese student as his/her personal tutor. The tutors assist students in both academic matters and in daily life.

Limited to 1-3 students per year, admission to the University of Tokyo program is competitive. Students must have completed 4 semesters of college-level Japanese or the equivalent, have a term GPA of 3.0 or above, and submit two faculty references, one of which should be from a Japanese language instructor. For more information and application instructions, visit http://krieger.jhu.edu/east-asian/undergraduate/tokyo.html.

Requirements for the B.A. Degree
(See also Requirements of a Bachelor’s Degree (p. 24.).)

The curriculum of the East Asian Studies major consists of a balanced mixture of language and area studies. The requirements changed significantly for students who entered the University in Fall 2013. Students who entered JHU before Fall 2013 should see the requirements in the archived catalog (http://web.jhu.edu/registrar/catalog) of their year of entry.

Students select from among three discipline-based focus areas - history, political science, or sociology - or create an individualized focus area. In addition to solid language training and content courses about the region, EAS majors receive training in the methods and theory of the particular academic discipline they select as a focus area. If they choose, East Asian Studies majors may double major in International Studies, as the requirements of each of the three focus areas overlap with those of International Studies. The individualized focus area requires consultation and approval of the director of undergraduate studies.

Requirements for the B.A. Degree

<table>
<thead>
<tr>
<th>One East Asian Survey Course</th>
<th>3</th>
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<tbody>
<tr>
<td>AS.100.208 China: Neolithic to Song</td>
<td>3</td>
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<tr>
<td>or AS.100.347 Early Modern China</td>
<td>3</td>
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<tr>
<td>or AS.100.348 20th-Century China</td>
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<tr>
<th>Three Additional East Asian Studies Courses</th>
<th>9</th>
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<tbody>
<tr>
<td>Two East Asian Studies courses at any level</td>
<td>6</td>
</tr>
<tr>
<td>One East Asian Studies course at the 300- or 400-level</td>
<td>3</td>
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East Asian Foreign Language

Four courses in an East Asian Language at any level
Two courses in an East Asian Language at the third-year level or higher **

<table>
<thead>
<tr>
<th>One Focus Area - History, Political Science, or Sociology</th>
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<tbody>
<tr>
<td>History focus area</td>
<td></td>
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<tr>
<td>AS.100.193 Undergraduate Seminar In History</td>
<td>3</td>
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<tr>
<td>AS.100.194 Undergraduate Seminar In History</td>
<td>3</td>
</tr>
<tr>
<td>One East Asian history course at any level</td>
<td>3</td>
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<tr>
<td>One East Asian history course at the 300- or 400-level</td>
<td>3</td>
</tr>
<tr>
<td>Political Science focus area</td>
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<tr>
<td>Two core courses at the 100- or 200-level; in two of the following subfields - American Politics, Comparative Politics, International Relations, or Political Theory.</td>
<td>6</td>
</tr>
<tr>
<td>One East Asian political science or sociology courses at any level</td>
<td>3</td>
</tr>
</tbody>
</table>

One East Asian political science or sociology course at the 300- or 400-level | 3 |

Sociology focus area

One East Asian sociology or political science course at any level | 3 |
One East Asian sociology or political science course at the 300- or 400-level | 3 |
Select two of the following: | 6 |
AS.230.101 Introduction Sociology | 3-4 |
or AS.230.201 Research Methods for the Social Sciences |
or AS.230.205 Introduction to Social Statistics |
or AS.230.213 Social Theory |

* Or students may take another East Asian survey course as approved by the director of undergraduate studies from the History or History of Science & Technology Departments.

** If a student completes third year level language courses in one language and more advanced courses in that language are not available, the student may, with permission from the EAS Director, substitute other EAS courses for up to two of the required language courses.

Honors

- Honors in the major may be earned by maintaining a GPA of 3.7 in the major and writing a senior honors thesis by taking a two-semester seminar, AS.310.431 Senior Thesis Seminar: East Asian Studies and AS.310.432 Senior Thesis Seminar: East Asian Studies. The thesis seminar is a total of six credits and may count toward two of the required EAS courses.

Other Departmental Requirements

No major requirements may be taken satisfactory/unsatisfactory. All courses required for the major must be passed with a grade of C- or higher. The University encourages students enrolled in this program to take advantage of foreign study options. Courses and programs must be pre-approved by the student’s East Asian Studies advisor. Transfer credit policy: Up to six classes may be transferred from study abroad programs or other schools upon approval of the major advisor.

For current faculty and contact information go to http://krieger.jhu.edu/east-asian/directory/

Faculty

Director

Erin Chung
Associate Professor (Political Science)

Professors

Lingxin Hao
(Sociology)

Tobie Meyer-Fong
(History)

William T. Rowe
(History)

Kellee S. Tsai
(Political Science)


**Associate Professors**

Joel Andreas  
(Sociology)

Rebecca M. Brown  
(History of Art)

Marta Hanson  
(History of Medicine)

Ho-Fung Hung  
(Sociology)

**Assistant Professor**

Yulia Frumer  
(History of Science and Technology)

**Associated Faculty**

Victoria Cass  
Visiting Associate Professor (Humanities Center).

Aiguo Chen  
Lecturer (Center for Language Education).

Yuki Johnson  
Teaching Professor and Director (Center for Language Education).

Choonwon Kang  
Lecturer (Center for Language Education).

Satoko Katagiri  
Lecturer (Center for Language Education).

Huei Ying Kuo  
Senior Lecturer (Sociology) and Director of Research (East Asian Studies Program)

Lu Li  
Lecturer (Center for Language Education).

Limin Lievens  
Lecturer (Center for Language Education).

Makiko Nakao  
Lecturer (Center for Language Education).

Nan Zhao  
Lecturer (Center for Language Education).

For current course information and registration go to https://isis.jhu.edu/classes/

**Courses**

**AS.310.103. Modern Japan - 1800 to the Present. 3 Credits.**

An introduction to the history of Japan from the 18th century to the present. In lectures and discussion we will draw upon a combination of primary source materials (political documents, memoirs, oral histories, journalism, fiction, film) and scholarly writings in order to gain insight into the complex and tumultuous process by which Japan became an industrialized society, a modern nation-state, and a world power.  
Instructor(s): A. Bronson  
Area: Humanities, Social and Behavioral Sciences

**AS.310.104. Pacific Crossings: East Asia and the US from the 19th Century to the Present. 3 Credits.**

This course examines the connections between US and East Asian history from the 19th century to the present day. We will explore how cultural exchange and confrontation shaped humanitarian, nationalist, and socialist projects in the US, China, Korea, and Japan. Readings include memoirs, travelogues, essays, and novels that provide a window into transpacific history.  
Instructor(s): A. Bronson  
Area: Humanities, Social and Behavioral Sciences  
Writing Intensive.

**AS.310.105. Medicine and Society in China: From the Song to the Republican Period. 3 Credits.**

This course introduces students to medical history in China in relation to gender history, legal history, publishing history, and literature from the Song to the Republican period.  
Instructor(s): Y. Zhang  
Area: Humanities.

**AS.310.108. Introduction to Chinese Fiction and Drama. 3 Credits.**

This course will introduce Chinese fiction and drama from the Tang dynasty (618-906) to the early Republican period (1911-1949), such as the romantic dramas of Tang Xianzu and the uncanny tales of Pu Songling. Students will draw connection between these vibrant literary genres and the cultural and socio-historical events that shaped imperial China. Key topics include story-telling, romance, urban culture, gender, reincarnation, and many more. Students will acquire skills in how to read, analyze and discuss the rich legacy of Chinese fiction and drama in translation and to think critically about these writings. Reading materials are all in English.  
Instructor(s): F. Joo  
Area: Humanities.

**AS.310.115. Ghost Tales from China and Japan, 14th-19th Centuries. 3 Credits.**

We cannot express our own experience of death – only imagine life after death. How did people in the past conceptualize the world of the dead? Ghost tales will teach us what we imagine as the experience of dead and life after death. This course aims to introduce students to a variety of ghost stories in Late Imperial China and Tokugawa Japan and connect their literary imagination of the dead to the cultural, socio-historical, and religious context of each society as well as to the broad East Asian tradition of supernatural narratives. While we also touch upon earlier traditions on narrating the dead, most of the stories in class readings are from the Ming (1368-1644) and Qing (1644-1911) dynasties of China, and the Tokugawa period (1600-1868) of Japan. Key issues include family, gender, sexuality, body, medicine and many more. Although we will also take a look at visual and theatrical representations of the dead, we will primarily focus on literary texts about ghostly phenomena. Film screenings required. All readings are in English.  
Instructor(s): F. Joo  
Area: Humanities.
AS.310.116. Romantic Love in Chinese Literature. 3 Credits.
This course aims to introduce students to a variety of literary texts featuring romantic love from the 9th to the mid-20th centuries in China. The target materials cover a wide range of literary products from Bo Juyi's court poem to the modern Shanghai novella by the woman writer Zhang Ailing (Eileen Chang). As we read romance in a variety of narrative forms such as fiction, drama, and poetry, we will examine changing ideas about marriage, love, sexuality, family, emotion, and morality within the literary discourse as well as in society. Thus, students are expected to connect various literary texts about romance to their socio-historical, literary, and political surroundings. At the same time, we will discuss the shifting significance of romance for writers and readers from a holistic perspective. Reading assignments are all in English.
Instructor(s): F. Joo
Area: Humanities.

AS.310.203. Women Writers from East Asia, 11th to 19th Centuries. 3 Credits.
Introduction to women-authored texts in East Asia, 11th to 19th centuries. Historical and literary significance of their output in Chinese, Japanese, and Korean societies.
Instructor(s): F. Joo
Area: Humanities.

AS.310.204. Rural Development in Asia. 3 Credits.
We will examine the transformation of the Asian countryside from the beginning of the twentieth century up until the present by looking at agrarian structure, economic and social development, collectivization and decollectivization, rural industrialization, agribusiness, sustainable agriculture, and rural unrest. Course materials combine theoretical readings with empirical case studies. While theoretical readings examine global processes involving Asia and elsewhere, case studies cover several Asian countries, with an emphasis on China and India.
Instructor(s): B. Gurel
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.310.207. Mapping Migrations in East Asia. 3 Credits.
This seminar introduces students to the phenomenon of migration in Japan, South Korea, and Taiwan from theoretical, empirical, and comparative perspectives. The objectives of the course are to understand the 1) historical context behind present-day migrations in East Asia; 2) different patterns of migration flows and their consequences on receiving countries; 3) various theoretical frameworks for migration. The course is divided into three parts. In the first part, the course will examine theoretical approaches to migration, structured around the question of whether East Asia as a region represents a distinct model of migration. In the second, students will explore the empirical cases in greater detail by comparing and contrasting the different types of migrations. The third part addresses the responses to migration by host governments and societies and the implications of migration on citizenship and identity. Recommended Course Background: any class related to the history or politics of Japan, Korea, Taiwan, and/or China.
Instructor(s): D. Kim
Area: Humanities
Writing Intensive.

AS.310.214. Empire and Hierarchy in East Asia. 3 Credits.
This course investigates the spectrum of unequal political authority in international politics. Empire, as one pole of hierarchical politics, persists in today’s multilateral, rule-based order. We will examine the theoretical foundations of hierarchy and empire in the study of international politics in East Asia. In addition, we will look at why empires arose at particular junctures, and contemporary directions in the debate on empire.
Instructor(s): J. Wang
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.310.215. Enlightenment, Empire, and Democracy: Transnational Political Cultures in East Asia, 1880-1980. 3 Credits.
This course explores the global circulation of political ideas and the formation of transnational social, intellectual, and aesthetic movements in Japan, China, and Korea from the 1880s to the 1980s.
Instructor(s): A. Bronson
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.310.221. Introduction to Eastern Religious Traditions. 3 Credits.
This course serves as an introduction to Hinduism, Jainism, Buddhism, Sikhism, Confucianism, and Daoism. Successful completion of this course will provide students with a critical understanding of these six traditions.
Instructor(s): J. Valentine
Area: Humanities, Social and Behavioral Sciences.

AS.310.244. Korean Culture: Past and Present. 3 Credits.
This course will provide an introduction to Korean society and culture through a close study of the recent and highly acclaimed film Chunhyang, which is a theatrical version of a famous 18th century Korean literary work. It provides a complex and visually effective window into late Korean traditional culture, educational system, family and gender issues, literature, and the performing arts. Through class work and readings, students will be able to study the concept of culture as a complex, intricate, and interrelated fabric of meanings and symbols. In this regard, the study of Korea will allow students to begin to acquire the tools to understand many cultures as well as current developments in South and North Korean inter-relations.
Area: Humanities, Social and Behavioral Sciences.

AS.310.303. A World Upturned: Cultures of Catastrophe in Japan. 3 Credits.
Focusing on earthquake science and earthquake lore, radioactive mutation and nuclear decimation, this course will consider the relationship between technological culture and large-scale cataclysm. In addition to treating a broad array of written, graphic, and filmic representations of Japan's past and potential catastrophes, we will also be keeping a close and careful eye on present developments in Japan's 2011 earthquake/tsunami/nuclear disaster.
Instructor(s): R. Sayre
Area: Humanities, Social and Behavioral Sciences.
AS.310.304. The Architectonics of Tokyo: The Anthropology of City Life in Japan and Abroad. 3 Credits.
In this advanced undergraduate seminar on urban life and the anthropology of aesthetics, we will develop tools with which to think and write about city life in Japan and abroad. 'Architectonic' is a philosophical term referring to the ability to pull otherwise autonomous ideas together into a single coherent whole. In this course we will employ methodologies culled from class readings, lectures, web-based resources, and class discussions to collectively construct a digital patchwork of writings and images that will serve as the classes' own quasi-coherent whole, or 'architectonic' of city life in Tokyo.
Instructor(s): R. Sayre
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.310.305. Southeast Asia and US Security. 3 Credits.
This survey course is designed to introduce students to Southeast Asia -- the ten member countries of the Association of Southeast Asian Nations (ASEAN) plus Australia and New Zealand. Southeast Asia is an integral part of the broader region of East Asia and a geographic bridge to the Indian subcontinent (South Asia). Southeast Asia has been one of the great success stories in the saga of modernization and development of post-colonial Afro-Asia over the last six decades. Its resulting economic importance is matched by its strategic significance given the presence of imbedded jihadist networks and the emergence of China as a regional great power and aspirant superpower. Nevertheless, the region has been largely overlooked by senior foreign policy and defense officials in Washington. This course will equip students to fill that void by examining the region from the perspective of national security strategy -- broadly understood in its multiple dimensions. Students will be challenged to formulate some element of a viable U.S. national security strategy for the region.
Instructor(s): M. Ott
Area: Social and Behavioral Sciences

Writing Intensive.

AS.310.306. Domestic Politics of Contemporary China. 3 Credits.
This course introduces students to China’s contemporary political history and current political system. It helps students develop a critical understanding of China’s governance institutions and processes, political economy, and state-society relations. The course focuses primarily on China’s domestic politics but also covers China’s changing role in Asia and the world.
Instructor(s): Y. Yang
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.310.307. Governance and Politics in China. 3 Credits.
A dramatic rise of popular protests in China today has spurred lively discussions about the causes, dynamics, and impact of these protests. This course will provide students with an opportunity to understand these issues by discussing the social, institutional and cultural background of protests, major forms of protest, social groups involved, government responses, and social implications of various kinds of protests. The first part of the course will explore significant socio-economic changes since 1978 and the effects of these changes on China’s social structure and stratification. This part will also examine changes in governance and political systems in the reform era and review important theories of contentious politics. The second part will examine protests by distinct social groups, including peasants, workers, homeowners, and ethnic minority groups, pro-democratic activists, among others. This part will identify similarities and differences in the demands and actions of different groups, introduce the major forms of popular resistance, and explore how the state deals with them accordingly. The course will conclude with discussion of the outcomes of social protests in China and make a cross-national comparison between protests in China and other authoritarian states. By taking China as an example, this course will enhance students’ knowledge about forms of popular contention and government responses in an authoritarian regime as well as help students develop analytical and critical thinking skills with regard to contentious politics.
Instructor(s): Y. Li
Area: Social and Behavioral Sciences
Writing Intensive.

AS.310.314. China’s Golden Age: Diversity of Language, Literature and Culture. 3 Credits.
This is a basic introduction to the language and culture of the Golden Age of China (7th century to 13 century). The course aims at developing student’s awareness of linguistic, literary and cultural diversity during China’s Golden Age. It introduces not only the basic grammar of literary Chinese but also the linguistic features of early Modern Chinese. Through the reading and discussion of the original texts, students will learn to analyze, to comprehend and to appreciate the historical texts in different genres. Students will also become aware of the difference between literary Chinese and modern Chinese. In addition to language skills, students will learn to study the cultural background of the texts and to gain a good knowledge of the achievements of China’s Golden Age. Recommended Course Background: AS.373.111-AS.373.112, AS.373.115-AS.373.116, AS.373.211-AS.373.212, and AS.373.215-AS.373.216
Area: Humanities.

AS.310.315. First Year Classical Chinese, First Semester. 3 Credits.
Readings in prose and poetic texts of the pre-Qin period. Class emphasizes language acquisition, especially grammar and vocabulary memorization. In addition we will read and discuss works in western languages that treat the culture and writers of the Ancient period. Biweekly quizzes included. A final translation project required.
Recommended Course Background: 2 years mandarin or the equivalent.
Instructor(s): F. Joo
Area: Humanities.
AS.310.316. First Year Classical Chinese: Language and Literature of the Ancient Period. 3 Credits.
Readings in prose and poetic texts of the Zhou and Han Dynasties. Class emphasizes language acquisition, especially grammar and vocabulary memorization. In addition we will read and discuss works in western languages that treat the culture and writers of the Ancient period. Quizzes and Tests (Midterm and Final) will cover both language and cultural data. A short paper also required.
Instructor(s): V. Cass
Area: Humanities.

AS.310.321. Classical Chinese. 3 Credits.
This course introduces the basic syntax, grammar and vocabulary of Classical Chinese or Literary Chinese (guwen###/wenyan wen ###), the written language from Old Chinese to the early twentieth century. Classical Chinese, which differs substantially from modern colloquial Chinese, is the language in which traditional Chinese historical, philosophical, religious and literary works are written. The structure, grammar and vocabulary of Classical Chinese still has large influence on modern Chinese formal documents and newspaper. Therefore, studying Classical Chinese is crucial not only to those who wish to understand original Chinese texts correctly but also to anyone who wants to attain a high level of reading proficiency in modern Chinese.
Prerequisites: AS.373.111 OR AS.373.112 OR AS.373.115 OR AS.373.116 AND AS.373.211 AND AS.373.212 OR AS.373.215 OR AS.373.216
Instructor(s): F. Chao
Area: Humanities.

AS.310.334. Southeast Asia: Contestations, Continuities, Changes. 3 Credits.
‘Southeast Asia’ designates a geographical region comprised of countries such as Thailand, Indonesia, Malaysia, Vietnam, the Philippines, and Singapore. These countries are often more different than alike, and their cultural, ethnic, religious and political diversity resists easy reduction. As such, this is not a survey course of the area. Rather, we will examine elements of the Southeast Asian experience that speak to contemporary debates on cultural, political, and religious diversity in globalization’s second wave, and what it can teach us about assimilation, acculturation, and acceptance. We will try to get a feel of the variegated texture of Southeast Asian societies through historically and theoretically oriented texts drawn from different disciplines. Specifically, we will concentrate on responses to European colonialism, nationalist identity formations, and the impact of these histories upon contemporary contentions over the role of religion in public life, migratory practices, and second-wave globalization.
Instructor(s): D. Kwek.

AS.310.356. The Buddhist Experience. 3 Credits.
This course is a survey of Buddhist practice across Asia, covering a span of nearly 2500 years (from ca 500 BCE until the present). In addition to studying the origins of Buddhism in India and its eventual spread across Asia, we will examine unique local interpretations of Buddhism. Particular focus will be on manifestations of Buddhism in art and material culture. Students will gain a critical understanding of the role of texts, art, doctrine, and practice play in the overall Buddhist experience. This course is a survey of Buddhist practice across Asia, covering a span of nearly 2500 years (from ca 500 BCE until the present). In addition to studying the origins of Buddhism in India and its eventual spread across Asia, we will examine unique local interpretations of Buddhism. Particular focus will be on manifestations of Buddhism in art and material culture. Students will gain a critical understanding of the role of texts, art, doctrine, and practice play in the overall Buddhist experience.
Instructor(s): J. Valentine
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.310.403. Women Writers from East Asia, 11th to 19th Centuries. 3 Credits.
Introduction to women-authored texts in East Asia, 11th to 19th centuries. Historical and literary significance of their output in Chinese, Japanese, and Korean societies.

AS.310.413. Senior Thesis Seminar: East Asian Studies. 3 Credits.
Students may earn honors in the East Asian Studies major by maintaining a 3.7 average in the major and completing a senior thesis by taking the year-long AS.310.431 & AS.310.432 Senior Thesis Seminar: East Asian Studies. Students are required to secure the mentorship of an adviser among the EAS faculty before asking for permission to enroll in the course.
Instructor(s): E. Chung
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.310.432. Senior Thesis Seminar: East Asian Studies. 3 Credits.
This course is the continuation of Senior Thesis Course AS.360.431 for students completing their thesis in the East Asian Studies program.
Instructor(s): E. Chung
Area: Social and Behavioral Sciences Writing Intensive.

AS.310.435. International Relations Theory and the Margins: The Case of East Asia. 3 Credits.
This course explores how the concept of international relations was introduced, challenged, and negotiated in East Asia. Implicitly comparative, the course illuminates the divergent understanding of familiar terms such as order, hierarchy, history, community, border/territoriosity, and law, in light of the East Asian modernity. Students will be asked to reflect on questions of identity in relation to China, Korea and Japan and to ponder the extent to which those identities may be translated and understood to Western categories. Specifically this course will consider the role played by Sino-centrism, the rise of Japan later, and Westernization in shaping international relations in East Asia.
Instructor(s): H. Koyama
Writing Intensive.

AS.310.501. Independent Study - East Asia. 1 Credit.
Students carry out an independent research project involving East Asia.
Instructor(s): J. Andreas
Area: Humanities, Social and Behavioral Sciences.
AS.310.592. Summer Internship. 1 Credit.
Instructor(s): W. Rowe
Area: Social and Behavioral Sciences.

AS.310.600. Advanced Topics in East Asian Studies.
This interdisciplinary seminar gives graduate students in East Asian Studies opportunities to present and receive comments on their dissertation chapters, prospectuses, conference papers, and/or potential publications.
Instructor(s): E. Chung
Area: Humanities, Social and Behavioral Sciences.

Cross Listed Courses

History of Art

AS.010.211. Monuments of Asia. 3 Credits.
An examination of selected architectural monuments from across Asia, including the Indian subcontinent, Southeast Asia, China, Japan, and Korea. Ancient to contemporary.
Instructor(s): R. Brown
Area: Humanities.

AS.010.311. Japanese Print Culture and Western Collecting. 3 Credits.
The first half of this seminar will examine issues in Japanese print culture, especially the development and circulation of ukiyo-e prints, during the Edo and Meiji periods (1615-1912). Topics will include technological innovations, the role of publishers, censorship, and prints as didactic objects. The second half of the course will explore the popularity of Japanese prints in the West, including their impact on Japonisme and incorporation into Western collections Cross-list with East Asian Studies
Instructor(s): H. Snow
Area: Humanities.

AS.010.313. The Image in Japanese Visual Culture: Muromachi Painting to Manga and Anime. 3 Credits.
This course explores the Japanese image as a distinct and readily identifiable cultural expression. Through a series of five critical works serving as visual landmarks, the students trace the emergence of the Japanese image from its roots in imported Chinese paintings, through the interpretations of the Rimpa painters, ukiyo-e printmakers, and decorative arts craftsmen of the early modern period, to the internationally acclaimed expressions we now find in 21st-century manga and anime. This course will be taught by Robert Mintz, Associate Curator of Japanese Art at The Walters Art Museum.
Instructor(s): R. Mintz
Area: Humanities.

AS.010.359. Arts of East Asia. 3 Credits.
This course introduces students to East Asian art and, by extension, to East Asian history and culture. Lectures and discussions will address major movements in the visual culture of East Asia, including architecture, painting and sculpture. Readings include both art historical works and primary source material in translation. Themes will include religious art, particularly the introduction of Buddhist to East Asia from India, cultural interchange within East Asia, and the collection and display of East Asian art in America. Cross-listed with East Asian Studies
Area: Humanities.

AS.010.353. Key Moments in East Asian Politics & Visual Culture. 3 Credits.
Examines key political moments in China, Japan, and Korea from 1850 to the present, focusing on the way visual imagery shapes these events. Includes: Japanese occupation of Korea, Hiroshima and Nagasaki bombings, 1989 Tiananmen square protests, North Korean propaganda.
Instructor(s): R. Brown
Area: Humanities
Writing Intensive.

English

AS.060.118. Asian American Literature and Film. 3 Credits.
This course offers students a survey of Asian American literature, film and cultural politics. Throughout the course we will evaluate the literary and filmic productions of Asian Americans in order to ask a series of questions: Who is American? Who is Asian American? How does “Asian American” work as a category that uncovers contestations over the meaning of ethnic, sexual, and national identity? We will look at a diverse array of Asian American groups while paying attention to the formation of Asian American subjectivities across differences and the intersections of ethnicity, sexuality, class and gender. Cross-listed with Film and Media Studies
Instructor(s): R. Neutill
Area: Humanities
Writing Intensive.

Anthropology

AS.070.256. Monsters, Beasts & Aliens: Cosmology in Asian Religious Traditions. 3 Credits.
This course examines the types of beings that act as agents in Asian religious worlds. Using primary sources, along with literature from Anthropology and Religious Studies, we will explore issues of narrative, belief, personhood, oneness, and marginality. Some of the central questions of the course are: What types of creatures populate the Buddhist and Hindu cosmos? How do we make sense of worlds that contain different beings than our own? What makes us, or others, “believe” in the beings that are beyond our perception? Do religious traditions need monsters and beasts in the world in the same way they need gods? The course is organized around a three-part cosmology, found in many Asian religious traditions, which divides the universe into the realms (1) above the earth, (2) on the earth, and (3) below. The course thus first explores encounters with beings of the underworld and graveyards (“monsters”), and investigates religious practices and beliefs related to these monsters. The “beasts” section of the course turns to beings encountered on the earth: from local spirits and mountain deities, to monkey-men and yetis. Finally, we will look at transcendent or non-terrestrial beings (“aliens”), and examine how they act upon, or through, humans.
Instructor(s): C. Hatchell
Area: Humanities, Social and Behavioral Sciences.
AS.070.288. Tibetan Buddhist Culture. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

History

AS.100.185. A Cultural History of Contemporary China. 3 Credits.
This course explores cultural and intellectual changes in post-Mao and contemporary China. In considering topics such as literature, cinema, art, music, and the media, it seeks to provide students with an understanding of the interactions between developments in popular culture and the profound social and economic transformations in China’s three decades of reform. We will pay attention to both domestic issues as well as the context of globalization.
Instructor(s): K. Ren
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.203. Modern Japan. 3 Credits.
Instructor(s): T. Steen
Area: Humanities, Social and Behavioral Sciences.

AS.100.208. China: Neolithic to Song. 3 Credits.
This class offers a broad overview of changes in China from Neolithic times through the Song Dynasty (roughly from 5000 BCE through the 13th century CE) and will include discussion of art, material culture, and literature as well as politics and society. Close readings of primary sources in discussion sections and extensive use of visual material in lectures will help students gain firsthand perspective on the materials covered. Cross listed with East Asian Studies
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences.

AS.100.213. The Rise of Modern Japan. 3 Credits.
This course begins in the year 1868, when Japan shed its samurai past and embraced a modernity centered around its imperial legacy. The new Meiji leaders made studied efforts to modernize (and at times, westernize) in an effort to create a Japan that was primed to compete on the international scene. We will explore the nation’s emergent imperialism at the end of the 19th century, its involvement in two world wars, post-Occupation economic growth in the 1960s and 1970s, and finally the economic and social troubles of the 1980s to the present.
Cross listed with East Asian Studies
Instructor(s): J. Oakes
Area: Humanities, Social and Behavioral Sciences.

AS.100.214. Japan’s Last Shogunate, 1568-1868. 3 Credits.
This course begins in the last years of the Warring States period and explores the history and culture of Japan’s last samurai-based government—the Tokugawa Shogunate—that spanned the period 1600-1868. Known for its two and a half centuries of peace, the Tokugawa period witnessed significant changes for the samurai class, the advent of a new urban-based culture, and an increasingly complicated relationship with the west. Although this period is considered part of Japan’s pre-modern past, it laid the foundations for the country’s emergence as a modern nation in the latter part of the nineteenth century.
Instructor(s): J. Oakes
Area: Humanities, Social and Behavioral Sciences.

AS.100.219. Chinese Cultural Revolution. 3 Credits.
The Cultural Revolution was Mao Zedong’s last attempt to trasform Chinese society spiritually and structurally. The events of this period were marked by social upheaval, personal vendettas, violence, massive youth movements, and extreme ideological pressure. This course will explore the Cultural Revolution from a variety of perspectives, focusing on the relationship between events in China from 1966-1976, and their interpretation in China and the West during the Cultural Revolution decade and since.
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences.

AS.100.308. Bridging East and West: Chinese Cosmopolitans and Cultural Mediators in the 19th and 20th Centuries. 3 Credits.
This course explores the contributions that cosmopolitan Chinese intellectuals, revolutionaries, diplomats, artists, translators, politicians, and scholars made to cross-cultural understanding in Europe and China of the 19th and 20th centuries. Cross-listed with East Asian Studies
Instructor(s): K. Ren
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.329. Chinese Thought. 3 Credits.
Chinese classical philosophy, Confucianism, and Daoism. Cross-listed with East Asian Studies
Instructor(s): B. Lievens
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.330. National Identity in 20th Century China & Japan. 3 Credits.
Using primary sources, including literature and film, we will explore the changing ways in which ideologues, intellectuals, and ordinary citizens defined national identity in 20th century China and Japan. Cross-listed with WGS and East Asian Studies
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences.

AS.100.347. Early Modern China. 3 Credits.
The history of China from the 16th to the late 19th centuries.
Instructor(s): W. Rowe
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.348. 20th-Century China. 3 Credits.
Cross listed with East Asian Studies
Instructor(s): W. Rowe
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.356. The Buddhist Experience. 3 Credits.
Introduction to Buddhist theory and practice - from India to East Asia.
Instructor(s): J. Valentine
Area: Humanities, Social and Behavioral Sciences Writing Intensive.
AS.100.395. A Cultural History of Contemporary China. 3 Credits.
This course examines cultural and intellectual changes in post-Mao China through developments in literature, film, art, music, and the media, with attention to both domestic transformations and global contexts.
Instructor(s): K. Ren
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.407. The History of Science Policy and Diplomacy in Japan. 3 Credits.
This course traces and analyzes the history of Japan's science policy and diplomacy. Students learn Japan's unique position evolved under the influence of neighboring Asian countries, Europe and the U.S.
Instructor(s): T. Steen
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.422. Society & Social Change in 18th Century China. 3 Credits.
Reading knowledge of Chinese recommended but not required. Cross listed with East Asian Studies
Instructor(s): W. Rowe
Area: Humanities, Social and Behavioral Sciences.

AS.100.424. Women & Modern Chinese History. 3 Credits.
This course examines the experience of Chinese women, and also how writers, scholars, and politicians (often male, sometimes foreign) have represented women's experiences for their own political and social agendas. Cross listed with East Asian Studies.
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.437. Late Imperial China: History and Fantasy. 3 Credits.
Students in this seminar will look at the ways in which Chinese and Western scholars, novelists, film-makers, and artists have represented China's Late Imperial period. We will look at the way foreigners have imagined China, and the ways in which Chinese writers past and present have fancifully, nostalgically, and inventively rendered their personal and national pasts. The course will explore issues of historical, geographical, and literary imagination. Cross-listed with East Asian Studies.
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.470. Monuments and Memory In Asian History. 3 Credits.
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.479. Problems in Chinese Urban History. 3 Credits.
Reading and discussion of works in Western languages on the role of cities in Chinese society, from the Tang dynasty (628-906 A.D.) to the present.
Instructor(s): W. Rowe
Area: Humanities, Social and Behavioral Sciences.

AS.100.482. Historiography Mod China. 3 Credits.
A survey of assumptions and approaches in the study of modern Chinese history, as written by Chinese, Japanese, and Western historians.
Instructor(s): W. Rowe
Area: Humanities, Social and Behavioral Sciences.

AS.100.659. Women and Modern Chinese History.
Graduate students only. This course examines the experience of Chinese women, and also how writers, scholars, and politicians (often male, sometimes foreign) have represented women’s experiences for their own political and social agendas. Cross listed with East Asian Studies.
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences.

AS.100.754. Advanced Topics in Chinese History:Early-Middle Period.
This course will survey and attempt to contextualize recent developments in the historiography of China’s “early” and “middle” periods. Intended for graduate students, this class is open to advanced undergraduates who have taken either East Asian Civilizations or Neolithic-Song - or by permission of instructor. Cross-listed with East Asian Studies.

History of Science Technology

AS.140.305. Science and Technology in East Asia. 3 Credits.
The course explores the historical and cultural context of scientific and technological developments in China, Japan and Korea, focusing especially on the rise of modern science in the 19th and the 20th century.
Instructor(s): Y. Frumer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.307. War and Technology in East Asia. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.140.346. History of Chinese Medicine. 3 Credits.
Students will study the most recent anthropological, philosophical, and historical scholarship on medicine in traditional and modern Chinese society. They will approach the topic from several angles including medical pluralism, the range of healers, domestic and literate medicine, gender, emergence of new disciplines, public health and the history of disease. The course relies on secondary sources and primary sources in English translation. Cross-listed with East Asian Studies.
Instructor(s): M. Hanson
Area: Humanities, Social and Behavioral Sciences.

AS.140.354. Science, Technology and Society in Modern East Asia. 3 Credits.
The course aims to survey the history of science and technology in East Asian countries—China, Japan and Korea—since the late 19th century. Since Japan was the only nation in East Asia that succeeded in modernizing itself by adopting western science, technology and politics, it will be studied first. The Chinese and Korean cases then will be reviewed from different angles. The course will emphasize the mutual influence between science & technology and society to answer how they became major industrial powers in the 21st century. Cross-listed with East Asian Studies.
Instructor(s): D. Kim; Y. Li
Area: Humanities, Social and Behavioral Sciences.
AS.140.369. The Cities of East Asia: A Cultural History. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.377. When the West Came East: Science & Technology in East Asia 19th-Early 20th Century. 3 Credits.
This course is an exploration of 19th - 20th century China, Japan and Korea. We will examine the links between technology and imperialism to understand why by the 19th and 20th centuries these East Asian countries began to fall behind in the race for technological superiority.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.398. Godzilla and Fukushima: Japanese Environment in History and Films. 3 Credits.
Juxtaposing Japanese environmental history and its reflection in popular media, the course will explore the intersection between technology, environment, and culture. The course will be accompanied by relevant movie screenings.
Instructor(s): Y. Frumer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

Philosophy

AS.150.227. Introduction to Asian Philosophy. 3 Credits.
What is the nature of reality? What is the mind? What is the meaning of life? How ought we to live? In this course, we will explore how some of the better known philosophical systems of India, China and Japan have attempted to answer these most central philosophical questions. We will focus on the following systems: Nyaya, Samkhya-Yoga, Vedanta, Buddhism, Carvaka, Confucianism, Taoism, and Zen.
Instructor(s): B. Miller
Area: Humanities.

Political Science

AS.190.315. Asian American Politics. 3 Credits.
This course examines issues of political identity, political incorporation, and political participation of Asian Americans. Themes include Asian American panethnicity, the struggle for immigration and citizenship, Asian American electoral politics, political activism and resistance since the 1960s, and the impact of Asian Americans on the politics of race and ethnicity in the United States.
Instructor(s): E. Chung
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.320. Politics Of East Asia. 3 Credits.
Examines some of the central ideas and institutions that have transformed politics in the contemporary world through the lens of East Asia, focusing on Japan, South Korea, Taiwan, and China. Topics include state-society relations, late development, nationalism, democratization, political culture, social movements, and globalization.
Instructor(s): E. Chung
Area: Social and Behavioral Sciences.

AS.190.330. Japanese Politics. 3 Credits.
This course introduces students to the major debates and issues of postwar Japanese politics. Topics include nationalism, electoral politics, civil society, and immigration.
Instructor(s): E. Chung
Area: Social and Behavioral Sciences.

AS.190.341. Korean Politics. 3 Credits.
This course introduces students to the historical and institutional foundations of modern South Korean politics. Topics include nationalism, political economic development, civil society, globalization, and ROK-DPRK relations. (CP)
Instructor(s): E. Chung
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.348. Domestic Politics: Contemporary China (CP). 3 Credits.
This course examines key issues in contemporary Chinese politics, spanning the period from the Communist Revolution (1949) through the Mao (1949-1976) and reform eras (1978 to present). Particular emphasis will be placed on contemporary challenges, including the political economy of reform and alternative forms of political participation.
Area: Social and Behavioral Sciences.

AS.190.610. Advanced Topics in Contemporary Chinese Politics. This seminar is structured around key concerns in China’s domestic politics, including the politics of economic reform, central-local-relations, corruption, increasing inequality, the role of intellectuals, the rise of quasi-governmental organizations, various channels for political participation and protest, and other contemporary issues. Undergraduates who wish to be enrolled in this class must have taken AS.190.348 and by permission only.
Instructor(s): K. Tsai
Area: Social and Behavioral Sciences.

AS.191.204. Chinese Foreign Policy. 3 Credits.
The domestic sources of, and international constraints on, Chinese foreign policy-making will be examined. We will also study the development and evolution of Chinese foreign policy objectives and their implementation during and after the Cold War.
Instructor(s): P. Leon
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.215. Modern Tibet: Politics, Religion, and Culture. 3 Credits.
Drawing on histories, autobiographies, literature, and film produced by Tibetans, this course explores modern Tibet, focusing on Sino-Tibetan relations and contemporary religion and culture.
Instructor(s): C. Hatchell
Area: Social and Behavioral Sciences.

AS.191.226. Globalization and State-Society Relations in Contemporary East Asia. 3 Credits.
This course examines the extent to which globalization is reshaping state-society relations in contemporary East Asia, and how East Asian societies and political systems respond to, and influence, aspects of globalization in turn. Topics to be explored include the origins and trajectories of developmental states in East Asia, macroeconomic and industrial policy-making, social unrest and political organizing, export-led growth and political liberalization, the East Asian financial crisis and its aftermath, and today’s East Asian political and economic landscapes in a globalizing world.
Instructor(s): P. Leon
Area: Social and Behavioral Sciences
Writing Intensive.
AS.191.305. Southeast Asia and US Security Strategy. 3 Credits.
This is a survey course designed to introduce students to Southeast Asia -- defined as the ten member countries of the Association of Southeast Asian Nations (ASEAN) plus Australia and New Zealand. Southeast Asia is an integral part of the broader region of East Asia and a geographic bridge to the Indian subcontinent (South Asia). Southeast Asia has been one of the great success stories in the saga of modernization and development of post-colonial Afro-Asia over the last six decades. Its resulting economic importance is matched by its strategic significance given the presence of imbedded jihadist networks and the emergence of China as a regional great power and aspirant superpower. Nevertheless, the region has been largely overlooked by senior foreign policy and defense officials in Washington. This course will equip students to fill that void by examining the region from the perspective of national security strategy -- broadly understood in its multiple dimensions. Students will be challenged to formulate some element of a viable U.S. national security strategy for the region.
Instructor(s): M. Ott
Area: Social and Behavioral Sciences.

AS.191.315. Chinese Foreign Relations. 3 Credits.
This course examines China's foreign relations since the beginning of the economic reforms. Readings will draw on a diversity of perspectives, both Chinese and non-Chinese, to examine China's foreign policy debates and strategic choices.
Instructor(s): G. Christoffersen
Area: Social and Behavioral Sciences.

AS.191.323. Asian Energy Security. 3 Credits.
This course is concerned with the relationship between energy security and human security. It will study the energy issues of East Asian countries as they make difficult energy policy choices, attempting to achieve simultaneously economic growth, energy security, and environmental sustainability.
Instructor(s): G. Christoffersen
Area: Social and Behavioral Sciences.

AS.191.335. US Foreign Policy in East Asia. 3 Credits.
This course examines key issues in U.S.-Chinese relations. We will take an in-depth look at the politics, policies, and topics surrounding strategic balancing, trade, energy, nuclear proliferation on the Korean Peninsula, relations across the Taiwan Strait, China's rise and the response of the United States and its allies. We will place the relationship between the United States and China in the context of its geopolitical implications not only for the two countries but also for the international system.
Instructor(s): P. Leon
Area: Social and Behavioral Sciences.

AS.191.343. American Relations. 3 Credits.
This course will introduce and analyze the international relations of the Asia-Pacific, weighing the various approaches that scholars use for theoretical understanding and policy prescription. From the 19th c. to the 21st c., realist balance of power politics have prevailed. Since the early 20th c., liberal-institutionalism has emerged to challenge realist assumptions in both Track I and Track II organizations such as the Institute of Pacific Relations, APEC, the ASEAN Regional Forum, East Asian Summit, and CSCAP. Constructivism questions these older approaches, focusing on national and regional identity formation in explaining foreign policy outcomes. The course will consider realist, institutionalist and constructivist approaches to Pacific Asia in examining prospects for peace and stability.
Instructor(s): G. Christoffersen
Area: Social and Behavioral Sciences.

AS.191.348. Domestic Politics of Contemporary China. 3 Credits.
This course examines salient issues in the domestic politics of contemporary China. It begins with a brief historical overview of China's developments that led to the revolutions of 1911 and 1949, as well as the Cultural Revolution. The main part of the course will explore the era of economic reform and opening that began in the late 1970s and that still continues today. Topics include the relationship between business and politics, obstacles to economic and political reforms, the interplay between foreign relations and domestic politics, institutional and bureaucratic sources of policy-making, the social and political impact of economic growth, the relationship between central and provincial governments, and the questions of political opening and leadership transitions.
Instructor(s): P. Leon
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.359. Politics and Thought in Japan. 3 Credits.
Area: Social and Behavioral Sciences.

AS.191.366. Chinese Domestic Politics. 3 Credits.
This course provides an introduction to the key institutions and relationships that make up the modern Chinese political system. The course will examine both theoretical and historical understandings of Chinese politics, considering alternative models of Chinese politics. It examines a range of current Chinese domestic governance issues: the political impact of the economic reforms, state-society relations, the legitimacy of the Communist Party, and Chinese understandings of politics.
Instructor(s): G. Christoffersen
Area: Social and Behavioral Sciences.

AS.191.368. International Relations of the Asia-Pacific. 3 Credits.
This course will introduce and analyze the international relations of the Asia-Pacific, weighing the various approaches that scholars use for theoretical understanding and policy prescription. From the 19th c. to the 21st c., realist balance of power politics have prevailed. Since the early 20th c., liberal-institutionalism has emerged to challenge realist assumptions in both Track I and Track II organizations such as the Institute of Pacific Relations, APEC, the ASEAN Regional Forum, East Asian Summit, and CSCAP. Constructivism questions these older approaches, focusing on national and regional identity formation in explaining foreign policy outcomes. The course will consider realist, institutionalist and constructivist approaches to Pacific Asia in examining prospects for peace and stability.
Instructor(s): G. Christoffersen
Area: Social and Behavioral Sciences.

AS.191.373. Asian Americans and the Law. 3 Credits.
Area: Social and Behavioral Sciences
Writing Intensive.
AS.191.435. International Relations Theory and the Margins: The case of East Asia. 3 Credits.
This course explores how the concept of ‘international relations’ was introduced, challenged and negotiated in a region which we call ‘East Asia.’ Implicitly comparative, the course illuminates the divergent understanding of familiar terms such as “order,” “hierarchy,” “history,” “community,” “border/territoriality,” and “law” in light of the East Asian modernity. Students will be asked to reflect on questions of identity in relation to China, Korea and Japan and to ponder the extent to which those identities may be translated and understood in Western categories. Specifically this course will consider the role played by Sino-centrism, the rise of Japan later, and Westernization in shaping ‘international relations’ in East Asia. Dean’s Teaching Fellowship
Instructor(s): H. Koyama
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.145. Social Problems in Contemporary China. 3 Credits.
This course will introduce students to contemporary Chinese society in the era of reform through examination of major social problems. We will examine issues such as: urban-rural divisions and the hukou system; urbanization and the plight of millions of peasant workers migrating into China’s cities; changing class structure and the lives of the new urban underclass such as laid-off state workers; the one-child policy and its impacts on women, children, and society in China; education and gender inequality; land disputes and rural protests; corruption and stalled political reforms; government media control and contesting cyber-space; pollution and emerging environmental movement; ethnic conflicts; and challenges faced with China’s medical care and public health system. The course will also discuss the impact of the rise of China, and its past, current, and possible future development paths in the region and the world. Through lectures, discussions, group projects, and documentary films, students will get a bird’s eye view of contemporary Chinese society, and gain some insights on the problems of balancing economic growth and social development. Cross-listed with East Asian Studies
 Instructor(s): L. Zhang
Area: Social and Behavioral Sciences.

AS.230.166. Chinese Migration in Modern World History 1500’s-2000’s. 3 Credits.
This interdisciplinary course applies theories of economic sociology to examine the effects of Chinese overseas migration on modern world economy from the sixteenth century to the contemporary era. It examines the contribution of overseas Chinese to the development of capitalism in the following junctures: the East-West economic integration in the pre-modern era, China’s modern transformation after the Opium War (1839-1842), the making of US national economy in the early twentieth century, as well as the postwar economic miracles in the Pacific Rim, among others. Special Note: Fulfills History requirement for GSCD track students.
 Instructor(s): H. Kuo
Area: Social and Behavioral Sciences.

AS.230.175. Chinese Revolutions. 3 Credits.
This course introduces the origins, operation and impacts of five major revolutions in modern China between 1850 and 1950. These include the Taiping Rebellion, the republican revolutions, federalist and southern automatic movements, labor strikes as well as peasant rebellions. It draws on the existing historiography that examines China’s transition from an empire to a republic, impacts of western and Japanese influences to China, as well as the continuity and change of Chinese social organizations. Cross list with International Studies and East Asian Studies. Fulfills IS History requirement.
 Instructor(s): H. Kuo
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.228. Colonialism in Asia and Its Contested Legacies. 3 Credits.
This seminar examines the theories and historiography of colonialism in Asia, with special focus on the development of British Straits Settlements and Hong Kong as well as Japanese Taiwan. We will review the competing discourses about the impact of colonial dominations in these areas from the 1800s to the present-day. In the beginning of the era, the British built up the economic linkage between Hong Kong and Penang, Malacca as well as Singapore to sustain its dominance throughout the “Far East.” In the middle of the period, the expanding Japanese empire developed Taiwan as a foothold to compete with the British interests in South China and Southeast Asia. Hong Kong and the Straits Settlements, especially Singapore, became the contested terrain where two colonial powers vied for their influences in the region. The competition was not only about trade, but about the construction of a new East Asian regional order after the end of the Chinese hegemony. In the end of the period, the intervention of the US power in postwar Asia facilitated the retreat of the colonial establishments, British and Japanese ones included. The course that compares the colonial establishments and discourses on colonial legacies among the three areas points out that colonialism constituted an inalienable part of Asian history. Cross listed International Studies (CP) and East Asian Studies. Fulfills History requirement for IS GSCD track students only.
 Instructor(s): H. Kuo
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.285. Maritime East Asia. 3 Credits.
This course examines the transnational connections among merchants and migrants in the waters of East and Southeast Asia from a historical and comparative perspective. In this class, we will explore how diplomatic ties, trade and migration between the thirteenth and eighteenth centuries contribute to the making of cosmopolitan cities such as Quanzhou, Macau, Nagasaki, Fort Zeelandia (Formosa), Malacca, Singapore and Batavia. The course will also address the role that transnational trade and migration networks played in the incorporation of East and Southeast Asia into the Western-led capitalism in the nineteenth century. The course will close with an examination of how the legacies of the long-standing transnational maritime connections continue to shape contemporary inter-state competition and negotiation in the region. Key concepts to be introduced include tribute trade system, rice economy, pan-Asianism, and ASEAN free trade zone. Cross listed with East Asia Studies.
 Instructor(s): H. Kuo
Area: Social and Behavioral Sciences
Writing Intensive.
AS.230.321. Revolution, Reform and the Social Inequality of China. 3 Credits.
This course explores various aspects of social inequality in China during the Mao Zedong and the post-Mao reform eras. We will examine inequality within villages, the rural/urban divide, urban inequality, education and health policies, and gender and ethnic relations. Each of these issue areas will be tackled analytically, but the aim is also to understand what it was/is like to live in China during and after the Mao era. The course is designed for both undergraduate and graduate students. Cross-listed with East Asian Studies and International Studies (CP).
Instructor(s): J. Andreas
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.344. Health and Society in Contemporary China. 3 Credits.
This class examines the social and health consequences of systemic transformations in China, including collapse of the urban work-unit system, resurgence of infectious disease, and implementation of the One-Child Policy. Dean’s Teaching Fellowship; Cross-listed with East Asian Studies, Public Health and International Studies.
Instructor(s): R. Core
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.360. Globalization, Labor and the State in East Asia. 3 Credits.
The course will examine the relationship between labor, state policies, and globalization in China, South Korea and Japan in comparative perspective. We will look at debates about the role of developmentalist states on economic and social development, as well as transformation in the nature of work and labor relations in the three countries.
Instructor(s): L. Zhang
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.372. Social Protest in Contemporary China. 3 Credits.
This class introduces popular resistance in post-1978 China, examining its socioeconomic, political, and cultural background, various types of protests by multiple social groups, and outcomes of protests. Cross listed with Dean’s Teaching Fellowship.
Instructor(s): Y. Li
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.377. Colonialism and Anti-Colonialism. 3 Credits.
This seminar examines the theories and historiography of colonialism and anti-colonial movements. It focuses on the establishment of the colonial division of labor, comparative colonialism, identity formation, and nationalism as well as anti-colonial movement.
Instructor(s): H. Kuo
Area: Social and Behavioral Sciences.

AS.230.415. Social Problems in Contemporary China. 3 Credits.
In this course we will examine contemporary Chinese society, looking at economic development, rural transformation, urbanization and migration, labor relations, changes in class structure and family organization, health care, environmental problems, governance, and popular protest. The course is designed for both graduate and undergraduate students. Undergraduates must have already completed a course about China at Hopkins. Cross-listed with East Asian Studies.
Instructor(s): J. Andreas
Area: Social and Behavioral Sciences
Writing Intensive.

Humanities Center

AS.300.207. A Mix of Voices: Chinese Literatures from Late Imperial through Modern. 3 Credits.
This course examines the arts and culture of China from 1368-2000, with major focus on writers. We will begin with artists of the Ming (1368-1644) and Qing (1644-1911), focusing first on canonical voices: court poets, authors of classical fiction, literati essayists, calligraphers and painters. Outside of the court urban artists observed a dramatically changing world around them. Fiction, drama, memoir and mass-produced arts explored new social alignments and freedoms. The twentieth century brought revolution and party governance, along with arts born of mass media: periodicals, film and wood block print. Finally, post-Mao avant-garde artists both retrieved traditional aesthetics and explored new venues and visions. This look at the literature of China will require both close reading of texts as well as an interdisciplinary examination of the cultural factors that shape literatures.
Instructor(s): V. Cass
Area: Humanities.

AS.300.209. Chinese Literature and Culture of the Ancient and Early Medieval periods. 3 Credits.
We will read selections in the original, as well scholarship and criticism concerning the texts. We will consider issues specific to the variety of texts: the social and political context of the “philosophical schools” and writers, the religious and ritual contexts of medical literature and poetry, especially the Elegies of Chu (Chu Ci), the development of literati traditions and the craft of historiography, artistic responses to the collapse of the Han, and the rise of religious literatures of the Six Dynasties. We will introduce aspects of classical language texts: complex form characters, classical Chinese grammar and classical Chinese semantic values. Written assignments, classroom exercises and tests will be based on developing skills in reading and writing classical Chinese; however, tests, discussions, one short paper and one research paper will require interpretation of larger issues pertinent to the texts. Texts to be read in Chinese. Recommended Course Background: two years of Mandarin Chinese.
Area: Humanities.

AS.300.305. Asian American Literature. 3 Credits.
This course examines Asian American Literature with emphasis on East Asian American culture and history. Topics of discussion will include immigration, nation, conceptions of home, loyalty, navigation, and translation of various kinds. Throughout the course, we will explore how recognizable emotions, in tension with historical events, become manifest in art.
Area: Humanities
Writing Intensive.

AS.300.339. Asian American Literature and Culture. 3 Credits.
Topics include conceptions of home, law, loyalty, and belonging as they come up within Asian American texts, Works by Chang-rae Lee, Mei-mei Berssenbrugge, Maxine Hong Kingston, John Okada, Bich Minh Nguyen and others. The course will also explore theoretical and historical questions about how a literary canon is formed, as well as the idea of a post-ethnic America. Cross-listed with East Asian Studies
Instructor(s): S. Rhee
Area: Humanities
Writing Intensive.
AS.300.341. East Asian Cinema. 3 Credits.
A study of select films across East Asia in their aesthetic and institutional contexts. Highlighted directors will include Yasujiro Ozu and Akira Kurosawa, Chen Kaige, Wong Kar-wai, Im Kwon-Taek, and Gen Sekiguchi, Bong Joon-ho. Cross-listed with East Asian Studies and Film and Media Studies
Instructor(s): S. Rhee
Area: Humanities
Writing Intensive.

AS.300.358. Modern Korean Culture and Film. 3 Credits.
This course examines modern Korean culture through film and literature in translation. Emphasis will be on the politics of representation, especially in light of the many collective and personal traumas (caused by poverty and factionalism, colonial rule, war, and an accelerated pace of modernization) that mark twentieth century Korean history.
Instructor(s): S. Rhee
Area: Humanities.

AS.300.384. Modern Korean Literature and Film. 3 Credits.
We will examine twenty-first century Korean culture through short stories that are canonical in modern Korean literature and through a series of films associated with New Korean Cinema. One aim of the course is to gain a sense of the history against which the literary and cinematic artifacts obtain their representative artistic status. A second aim is to inquire into the relationship between written and filmic texts in order to see the limits and advantages of one medium over another for representing national culture. No prior familiarity with Korean language is required.
Instructor(s): S. Rhee
Area: Humanities.

AS.300.408. Lyric Modernity. 3 Credits.
A comparative literature course on modern lyric and poetics. The main issue of the course is how the lyric voice is constructed and sustained under the pressures of modernization in the United States, Europe, and Korea. We will also emphasize issues of translation and the relationship of music and poetry. Readings will include texts by Adorno, Benjamin, Grossman, von Hallberg and Waters, and poems by Dickinson, Rilke, and Kim among others. All readings available in English. Cross-listing requested with East Asian Studies, GRLL, and English
Instructor(s): S. Rhee
Area: Humanities.

Interdepartmental

AS.360.244. Korean Culture: Past and Present. 3 Credits.
This course will provide an introduction to Korean society and culture through a close study of the recent and highly acclaimed film Chunhyang, which is a theatrical version of a famous 18th century Korean literary work. It provides a complex and visually effective window into late Korean traditional culture, educational system, family and gender issues, literature, and the performing arts. Through class work and readings, students will be able to study the concept of culture as a complex, intricate, and interrelated fabric of meanings and symbols. In this regard, the study of Korea will allow students to begin to acquire the tools to understand many cultures as well as current developments in South and North Korean inter-relations.
Instructor(s): S. Oh
Area: Humanities, Social and Behavioral Sciences.

AS.360.431. Senior Thesis Seminar: East Asian Studies. 3 Credits.
Instructor(s): J. Andreas
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.360.432. Senior Thesis Seminar: East Asian Studies. 3 Credits.
This course is the continuation of Senior Thesis Course 360.431 for students completing their thesis in the East Asian Studies program.
Prerequisites: AS.360.431
Instructor(s): J. Andreas
Area: Social and Behavioral Sciences.

Center for Language Education

AS.373.111. First Year Heritage Chinese. 3 Credits.
This course is designed for students who were raised in an environment in which Chinese is spoken by parents or guardians at home and for those who are familiar with the language and possess native-like abilities in comprehension and speaking. The course therefore focuses on reading and writing (including the correct use of grammar). Cross-listed with East Asian Studies
Instructor(s): N. Zhao.

AS.373.112. First Year Heritage Chinese II. 3 Credits.
For students who have significant previously-acquired ability to understand and speak Modern Standard Chinese. Course focuses on reading and writing. Teaching materials are the same as used in AS.373.115-116; however, both traditional and simplified versions of written Chinese characters are used. Lab required. Continuation of AS.373.111. Recommended Course Background: AS.373.111 or permission required.
Instructor(s): L. Lievens.

AS.373.115. First Year Chinese. 4 Credits.
This course is designed primarily for students who have no prior exposure to Chinese. The objective of the course is to help students build a solid foundation of the four basic skills—listening, speaking, reading, and writing in an interactive and communicative learning environment. The emphasis is on correct pronunciation, accurate tones and mastery of basic grammatical structures. Note: Students with existing demonstrable skills in spoken Chinese should take AS.373.111-112. No Satisfactory/ Unsatisfactory. Students may choose to attend either lecture at 9am or 3pm on TTh. Cross-listed with East Asian Studies
Instructor(s): J. Chen; N. Zhao.

AS.373.116. First Year Chinese II. 4 Credits.
Introductory course in Modern Standard Chinese. Goals: mastery of elements of pronunciation and control of basic vocabulary of 800-900 words and most basic grammatical patterns. Students work first with Pin-Yin system, then with simplified version of written Chinese characters. Continuation of AS.373.115. Note: Student with existing demonstrable skills in spoken Chinese should take AS.373.111-112. Recommended Course Background: AS.373.115 or permission required.
Instructor(s): N. Zhao; Y. Chiang.

AS.373.211. Second Year Heritage Chinese. 3 Credits.
This course is designed for students who finished AS.373.112 with C+ and above (or equivalent). Students in this course possess native-like abilities in comprehension and speaking. The course focuses on reading and writing. Cross-listed with East Asian Studies
Prerequisites: AS.373.112 or equivalent.
Instructor(s): A. Chen
Area: Humanities.
AS.373.212. Second Year Heritage Chinese II. 3 Credits.
For students who have significant previously-acquired ability to understand and speak Modern Standard Chinese. Course focuses on reading and writing. Teaching materials are the same as used in AS.373.115-116; however, both traditional and simplified versions of written Chinese characters are used. Continuation of AS.373.211.
Recommended Course Background: AS.373.211 or permission required.
Instructor(s): A. Chen
Area: Humanities.

AS.373.215. Second Year Chinese. 4 Credits.
Consolidation of the foundation that students have laid in their first year of study and continued drill and practice in the spoken language, with continued expansion of reading and writing vocabulary and sentence patterns. Students will work with both simplified and traditional characters. Note: Students who have native-like abilities in comprehension and speaking should take AS.373.211-212. Cross-listed with East Asian Studies
Instructor(s): A. Chen; Y. Chen
Area: Humanities.

AS.373.216. Second Year Chinese II. 4 Credits.
Consolidation of the foundation that students have laid in their first year of study and continued drill and practice in the spoken language, with continued expansion of reading and writing vocabulary and sentence patterns. Students will work with both simplified and traditional characters. Note: Students who have native-like abilities in comprehension and speaking should take AS.373.211-212. Recommended Course Background: AS.373.215 or Permission Required.
Cross-listed with East Asian Studies
Instructor(s): A. Chen; N. Zhao
Area: Humanities.

AS.373.303. Chinese Calligraphy. 3 Credits.
This is an introductory course on Chinese brush writing. Knowledge of the Chinese language is useful but not essential. You will hear lectures on history, theory and techniques of brush writing plus aspects of Chinese culture associated with characters used. Remaining time will be used for hands-on practice. Taught in English. Cross-listed with East Asian Studies Cross-listed with East Asian Studies
Area: Humanities.

AS.373.313. Third Year Heritage Chinese. 3 Credits.
This course is designed for those who have already taken AS.373.212 or equivalent. Students need to have native-level fluency in speaking and understanding Chinese. The course focuses on reading and writing. In addition to the textbooks, downloaded articles on current affairs may also be introduced on a regular basis. Cross-listed with East Asian Studies
Prerequisites: Prereq: AS.373.211 AND AS.373.212 or instructor's permission
Instructor(s): A. Chen
Area: Humanities.

AS.373.314. Third Year Heritage Chinese II. 3 Credits.
This course is a continuation of AS.373.313. Students need to have native-level fluency in speaking and understanding Chinese. The course focuses on reading and writing. In addition to the textbooks, downloaded articles on current affairs may also be included on a regular basis. Recommended Course Background: AS.373.313 or Permission Required. Lab required.
Prerequisites: AS.373.313 or equivalent
Instructor(s): A. Chen
Area: Humanities.

AS.373.315. Third Year Chinese. 3 Credits.
This two-semester course consolidates and further expands students' knowledge of grammar and vocabulary and further develops reading ability through work with textbook material and selected modern essays and short stories. Class discussions will be in Chinese insofar as feasible and written assignments will be given. Cross-listed with East Asian Studies
Prerequisites: Prereq: AS.373.216 or equivalent
Instructor(s): Y. Chen
Area: Humanities.

AS.373.316. Third Year Chinese II. 3 Credits.
This two-semester course consolidates and further expands students' knowledge of grammar and vocabulary and further develops reading ability through work with textbook material and selected modern essays and short stories. Class discussions will be in Chinese insofar as feasible, and written assignments will be given. Continuation of AS.373.315.
Recommended Course Background: AS.373.315 or permission required.
Instructor(s): L. Lievens
Area: Humanities.

AS.373.415. Fourth Year Chinese. 3 Credits.
This course is designed for students who finished AS.373.316 with a C+ or above (or equivalent). Readings in modern Chinese prose, including outstanding examples of literature, newspaper articles, etc. Students are supposed to be able to understand most of the readings with the aid of a dictionary, so that class discussion is not focused primarily on detailed explanation of grammar. Discussion, to be conducted in Chinese, will concentrate on the cultural significance of the readings’ content. Cross-listed with East Asian Studies
Prerequisites: AS.373.315
Instructor(s): N. Zhao
Area: Humanities.

AS.373.416. Fourth Year Chinese II. 3 Credits.
Continuation of AS.373.415. Readings in modern Chinese prose, including outstanding examples of literature, newspaper articles, etc. Students should understand most of the readings with the aid of a dictionary, so that class discussion need not focus primarily on detailed explanations of grammar. Discussion, to be conducted in Chinese, will concentrate on the cultural significance of the readings’ content. Recommended Course Background: AS.373.415 or Permission Required.
Cross-listed with East Asian Studies
Instructor(s): L. Lievens
Area: Humanities.

AS.373.421. Classical Chinese. 3 Credits.
Classical Chinese will introduce key features of grammar, syntax, and usage, along with the intensive study of a set of readings in the language. Readings are drawn from a variety of philosophical and historical texts. Students are required to have knowledge of traditional Chinese characters in order to read short selections of early literary prose. Recommended Course Background: Four years of Chinese Language courses at JHU or equivalent language skills.
Area: Humanities.
AS.373.416. Topics in Chinese Media. 3 Credits.
The main focus of this course is to expand the student’s knowledge of four essential skills in Chinese language and to deepen the student’s knowledge of Chinese culture. The course is taught based on various written and visual materials (including newspapers, journals, TV, movies, and short novels) to improve students’ reading comprehension, maintain conversation skills through class discussion, increase understanding of the culture and society of China, and enhance writing ability through short compositions and a writing project. Recommended Course Background: Completion of four years of Chinese language or permission required. Instructor(s): N. Zhao Area: Humanities.

AS.373.417. 5th Year Chinese. 3 Credits.
Fifth Year Chinese is designed for students who finished fourth year regular or third year heritage Chinese course at JHU or its equivalent and wish to achieve a higher advanced proficiency level in Chinese. The goal of the course is to help students further develop their listening, speaking, reading and writing skills cohesively and to enhance students’ understanding of Chinese culture and society through language learning. Instructor: N. Zhao
Prerequisites: AS.373.416 or AS.373.314 or equivalent.
Instructor(s): N. Zhao

AS.373.410. Slow-Paced Beg Japanese I. 3 Credits.
Part one of a two-semester introductory course for students who want to study Beginning Japanese at a slower pace, attending three classes rather than five classes per week. Lab required. Note: Those who wish to continue beyond these two semesters must enroll in Beginning Japanese AS.378.116 the following Spring. Cross-listed with East Asian Studies.

AS.373.410. Slow-Paced Beg Jap II. 3 Credits.
Part two of a four-semester introductory course for students who want to study Beginning Japanese at a slower pace, attending three classes rather than five classes per week. Lab required. A continuation of 378.101. Note: Students who wish to continue beyond these two semesters must enroll in Beginning Japanese AS.378.116 the following spring. Recommended Course Background: AS.378.101 or permission required.

AS.378.115. First Year Japanese. 4 Credits.
This course is designed for students who have no background or previous knowledge in Japanese. The course consists of lectures on Tuesday/Thursday and conversation classes on Monday/Wednesdays/Fridays. The goal of the course is the simultaneous progression of four skills (speaking, listening, writing, and reading) as well as familiarity with aspects of Japanese culture. By the end of the year, students will have basic speaking and listening comprehension skills, a solid grasp of basic grammar items, reading and writing skills, and a recognition and production of approximately 150 kanji in context. Knowledge of grammar will be expanded significantly in AS.373.215. No Satisfactory/Unsatisfactory. Student may choose to attend either lecture at 10:30 am or 12 pm on TTh. Cross-listed with East Asian Studies
Instructor(s): M. Johnson; S. Katagiri.

AS.378.215. Second Year Japanese. 4 Credits.
Training in spoken and written language, increasing their knowledge of more complex patterns. At completion, students will have a working knowledge of about 250 Kanji. Recommended Course Background: AS.378.115 and AS.378.116 or equivalent.
Instructor(s): M. Johnson; M. Nakao Area: Humanities.

AS.378.216. Second Year Japanese II. 4 Credits.
Continuation of Beginning Japanese and Intermediate Japanese I. Training in spoken and written language, increasing students’ knowledge of more complex patterns. At completion, students will have a working knowledge of about 250 Kanji. Lab required. Recommended Course Background: AS.378.215 or equivalent.
Instructor(s): M. Nakao Area: Humanities.

AS.378.311. Japanese Conversation. 2 Credits.
Advanced training in spoken Japanese, at the completion of Intermediate Japanese, available to those with equivalent proficiency. Students will develop more interactive skills, using authentic audio/video materials. No reading/writing instructions. Recommended Course Background: AS.378.216 or equivalent.

AS.378.312. Japanese Conversation. 2 Credits.

AS.378.315. Third Year Japanese. 3 Credits.
Emphasis shifts toward reading, while development of oral-aural skills also continues apace. The course presents graded readings in expository prose and requires students to expand their knowledge of Kanji, grammar, and both spoken and written vocabulary. Cross-listed with East Asian Studies
Prerequisites: AS.378.215-216
Instructor(s): M. Nakao Area: Humanities.
AS.378.316. Third Year Japanese II. 3 Credits.
Emphasis shifts toward reading, while development of oral-aural skills also continues apace. The course presents graded readings in expository prose and requires students to expand their knowledge of Kanji, grammar, and both spoken and written vocabulary. Lab required. Recommended Course Background: AS.378.315 or equivalent.
Instructor(s): S. Katagiri
Area: Humanities.

AS.378.396. Fundamentals of Japanese Grammar. 2 Credits.
This course is designed for students who have already studied 1st-year Japanese grammar and wish to develop a thorough knowledge of Japanese grammar in order to advance all aspects of language skills to a higher level. It is also appropriate for graduate students who need to be able to read materials written in Japanese. Recommended Course Background: AS.378.115-116 or equivalent.
Instructor(s): M. Johnson
Area: Humanities.

AS.378.397. Fundamentals of Japanese Grammar. 2 Credits.
Continued from 378.396: Fundamentals of Japanese Grammar. This course is designed for students who have already studied 1st-year Japanese grammar and wish to develop a thorough knowledge of Japanese grammar in order to advance all aspects of language skills to a higher level. It covers complex grammatical items introduced in the 2nd year level from a higher level, linguistic perspective. It is also appropriate for graduate students who need to be able to read materials written in Japanese.
Prerequisites: 378.116 or equivalent or 378.396
Instructor(s): M. Johnson
Area: Humanities.

AS.378.415. Fourth Year Japanese. 3 Credits.
By using four skills in participatory activities (reading, writing, presentation, and discussion), students will develop reading skills in modern Japanese and deepen and enhance their knowledge on Kanji and Japanese culture. Recommended Course Background: AS.378.315 and AS.378.316 or equivalent.
Instructor(s): S. Katagiri
Area: Humanities.

AS.378.416. Fourth Year Japanese II. 3 Credits.
By using four skills in participatory activities (reading, writing, presentation, and discussion), students will develop reading skills in modern Japanese and deepen and enhance their knowledge on Kanji and Japanese culture. Lab required. Recommended Course Background: AS.378.415
Instructor(s): M. Nakao
Area: Humanities.

This course is designed for graduate students (particularly in East Asian Studies) and undergraduate students whose proficiency level is higher than 4th-year Japanese as offered at Johns Hopkins University or equivalent and those who plan to pursue studies utilizing written Japanese materials. Students will learn effective methods for reading Japanese materials, varying from works of literature to modern academic articles on topics of students’ interest.

AS.378.612. Readings in Japanese Studies II.
This course is designed for graduate students (particularly in East Asian Studies) and undergraduate students whose proficiency level is higher than 4th-year Japanese as offered at Johns Hopkins University or equivalent and those who plan to pursue studies utilizing written Japanese materials. Students will learn effective methods for reading Japanese materials, varying from works of literature to modern academic articles on topics of students’ interest. Cross-listed with East Asian Studies.

AS.380.101. First Year Korean. 3 Credits.
Introduces the Korean alphabet, hangeul. Covers basic elements of the Korean language, high-frequency words and phrases, including cultural aspects. Focuses on oral fluency reaching Limited Proficiency where one can handle simple daily conversations. No Satisfactory/ Unsatisfactory. Cross-listed with East Asian Studies
Instructor(s): Staff.

AS.380.102. First Year Korean II. 3 Credits.
Focuses on improving speaking fluency to Limited Proficiency so that one can handle simple daily conversations with confidence. It provides basic high-frequency structures and covers Korean holidays. Continuation of AS.380.101. Recommended Course Background: AS.380.101 or permission required.
Instructor(s): C. Kang.

AS.380.201. Second Year Korean. 3 Credits.
Aims for improving oral proficiency and confident control of grammar with vocabulary building and correct spelling intended. Reading materials of Korean people, places, and societies will enhance cultural understanding and awareness. Project due on Korean cities. Existing demonstrable skills in spoken Korean preferred.
Prerequisites: Prereqs: AS.380.101 and AS.380.102
Instructor(s): C. Kang.
Area: Humanities.

AS.380.202. Second Year Korean II. 3 Credits.
Aims for improving writing skills with correct spelling. Reading materials of Korean people, places, and societies will enhance cultural understanding and awareness, including discussion on family tree. Continuation of AS.380.201. Recommended Course Background: AS.380.201 or equivalent.
Instructor(s): C. Kang
Area: Humanities.

AS.380.301. Third Year Korean. 3 Credits.
Emphasizes reading literacy in classic and modern Korean prose, from easy essays to difficult short stories. Vocabulary refinement and native-like grasp of grammar explored. Project due on Korean culture. Cross-listed with East Asian Studies
Instructor(s): Staff
Area: Humanities.

AS.380.302. Third Year Korean II. 3 Credits.
Emphasizes reading literacy in classic and modern Korean prose. By reading Korean newspapers and professional articles in one’s major, it enables one to be well-versed and truly literate. Continuation of AS.380.301. Cross-listed with East Asian Studies Prerequisite: AS.380.301 or equivalent.
Instructor(s): C. Kang
Area: Humanities.
Program in Museums and Society

AS.389.369. Encountering the Art of East Asia: Museum Display, Theory and Practice. 3 Credits.

Students reconsider the exhibition and interpretation of East Asian Art at the Walters Art Museum, developing a pilot installation to suggest a new permanent display. M&S Practicum Course. Class meets at the Walters Art Museum (extended time to allow for travel). Cross-listed with East Asian Studies.

Instructor(s): R. Mintz
Area: Humanities.

Geography Environmental Engineering

EN.570.407. Comparison of Environmental Challenges and Governance in China and the US. 3 Credits.

In cooperation with the School of the Environment at Nanjing University, Nanjing, China, this course will study China’s environmental challenges and governance in the context of America’s own environmental challenges and governance system. Case studies will involve greenhouse gas emissions and a comparison of water quality issues in Tai Lake and the Chesapeake Bay. We will consider how developments may shape business, government, and culture, and the ways in which China and America may learn from one another. The class sessions will be conducted in part “live,” in part by teleconference with Nanjing University, and in part by web (including communications with Nanjing University students and faculty). The objectives for the course are to 1) Provide students with basic information and concepts-of law, business, and governance needed to understand 21st century environmental governance challenges; 2) Provide students exposure to important environmental problems facing both China and America; 3) Provide students with alternative frameworks needed to sift through and understand the wealth of information about environmental challenges and opportunities faced by China in the globalized world; and 4) Encourage students to learn to observe and think independently about how to frame and address questions of China environmental challenges and governance which may be key to the 21st century.

Instructor(s): E. Bouwer; H. Alavi
Area: Social and Behavioral Sciences.

Economics

The Department of Economics offers programs designed to improve the understanding of important economic problems and to provide the tools needed for the critical analysis of these problems and for dealing with them in practice.

On the undergraduate level, the department provides both for those who want to become professional economists and for those interested in a specialty related to economics, such as business, law, government, history, health care management, or environmental engineering. Still other students are simply interested in improving their understanding of society or making informed assessments of economic policies as citizens or making wise decisions about personal finances.

On the graduate level, the department provides advanced training for students preparing for careers as professional economists. The program encompasses such fields as macroeconomics, microeconomic theory, econometrics, labor economics, international economics, industrial organization, economic development, and public finance, with an emphasis on the application of economic theory and quantitative methods. Because of the small number of graduate students admitted, they can work closely with faculty in graduate courses and seminars, and have easy and informal access to faculty members.

The introductory course AS.180.101 Elements of Macroeconomics-AS.180.102 Elements of Microeconomics is open to all students. Courses at the 200-level have Elements of Economics (AS.180.101 and AS.180.102) as prerequisites.

AS.180.301 Microeconomic Theory and AS.180.302 Macroeconomic Theory courses have AS.180.101 and AS.180.521 as well as Calculus I (AS.110.106 or equivalent) as prerequisites. All 300-level courses above 301 and 302 have Microeconomic and/or Macroeconomic Theory (AS.180.301, AS.180.302) as prerequisites (or, with permission of the instructor, corequisites), as well as Elements of Economics and Calculus. Some 300-level courses have additional prerequisites; see individual course listings. Independent study is available, subject to the consent of the department and of the faculty member with whom the student wants to work.

Subject to the consent of the instructor, graduate courses at the 600-level are open to qualified undergraduates. The 600-level courses for which advanced undergraduates are most likely to be qualified are AS.180.601 Microeconomic Theory and AS.180.603 Macroeconomic Theory.

Requirements for the B.A. Degree

(Also see Requirements for a Bachelor’s Degree. (p. 24))

For both the economics major and minor, a minimum grade of C- or better is required for all courses meeting the requirements and courses may not be taken satisfactory/unsatisfactory. Courses from study abroad or taken at other universities may count towards requirements only if they are approved by the department’s director of undergraduate studies. Internships, independent studies, and intersessions courses do not apply towards major or minor requirements.

Major Requirements:

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<td>AS.180.102 Elements</td>
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<td>AS.180.334 Econometrics</td>
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<td>Three 200- or 300-level economics courses</td>
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<td>or AS.110.108 Calculus I</td>
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<td>EN.550.111 Statistical Analysis I</td>
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<td>or EN.550.112 Statistical Analysis II</td>
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<td>or EN.550.211 Probability and Statistics for the Life Sciences</td>
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<td>or EN.550.311 Probability and Statistics for the Biological Sciences</td>
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*Courses above 301 and 302 have prerequisites; see individual course listings.
Students who use exam credits to satisfy the AS.180.101 Elements of Macroeconomics and/or AS.180.102 Elements of Microeconomics requirements must take additional courses in the department to reach a total of 10 courses in the department.

Additional Notes for Students

- EN.550.111 (https://e-nextcatalog.jhu.edu/departments-program-requirements-and-courses/arts-sciences/economics) Statistical Analysis I or equivalent is a prerequisite for Econometrics.
- The Senior Honors Thesis sequence (AS.180.521 (https://e-nextcatalog.jhu.edu/departments-program-requirements-and-courses/arts-sciences/economics) Research in Economics and AS.180.522 (https://e-nextcatalog.jhu.edu/departments-program-requirements-and-courses/arts-sciences/economics) Senior Thesis) cannot be used to satisfy any of the requirements for the major.

** Consult with faculty at an early stage.

** Honors Program in Economics

Departmental honors are awarded to those students who satisfy the following requirements:

- All economics courses applied to the major have been taken in the department.
- AS.180.521 Research in Economics and AS.180.522 Senior Thesis. The thesis may not be counted as one of the five economics electives.
- A grade point average of at least 3.5 for all economics courses.

Minor in Economics

Students with a major in another department may be awarded a minor in economics with satisfactory work in the following courses:

- AS.180.101 Elements of Macroeconomics
- AS.180.102 Elements of Microeconomics

Four economics courses at the 200- or 300-level

No substitution of courses in other departments for economics electives may be made.

Center for Financial Economics (CFE)

Founded in 2008 and housed in the Economics Department in the Krieger School of Arts and Sciences at Johns Hopkins, the Center for Financial Economics blends the study of finance and economics, providing in-depth training and cutting-edge research in both. The dual research and teaching missions of the Center are premised on the belief that a deep understanding of modern economies requires an integrated treatment of finance and the broader economic forces driving economic progress. The recent financial crisis vividly illustrates the vital need for improved understanding of these issues on the part of practitioners, policymakers, and academics.

The CFE offers an undergraduate minor, producing expertise in finance within the context of a top-notch liberal arts education. The minor will equip students with a thorough foundation in the workings of financial markets and their role in the broader economy, providing a foundation for careers in finance, business, academics, and government. The Center is working toward offering a financial economics major and a Ph.D. in financial economics.

The Minor in Financial Economics

The main objective of the minor is to provide students with training in the conceptual framework, guiding concepts, and technical tools of modern finance. The broader goal is to provide insights into the large and the small—the macro and micro—of how this framework helps us understand the workings of the economy. The minor in financial
economics includes four required courses and two elective courses chosen from the list below.

**Required Courses**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AS.180.101</td>
<td>Elements of Macroeconomics</td>
<td>3</td>
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<tr>
<td>AS.180.102</td>
<td>Elements of Microeconomics</td>
<td>3</td>
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<tr>
<td>AS.180.263</td>
<td>Corporate Finance</td>
<td>3</td>
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<tr>
<td>AS.180.367</td>
<td>Investment-Portfolio Management</td>
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**Elective Courses (Select two of the following)**

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<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>AS.180.242</td>
<td>International Monetary Economics</td>
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<tr>
<td>AS.180.261</td>
<td>Monetary Analysis</td>
<td></td>
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<tr>
<td>AS.180.266</td>
<td>Financial Markets and Institutions</td>
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<tr>
<td>AS.180.336</td>
<td>Economic Forecasting</td>
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<tr>
<td>AS.180.337</td>
<td>Financial Econometrics</td>
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<tr>
<td>AS.180.369</td>
<td>Research in Economics of Financial Markets</td>
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<tr>
<td>AS.180.370</td>
<td>Financial Market Microstructure</td>
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<tr>
<td>AS.180.373</td>
<td>Corporate Restructuring</td>
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</table>

Total Credits: 18

The minor is open to all majors. A minimum grade of C- or better is required for all courses and they may not be taken satisfactory/unsatisfactory. One cannot take both the economics and financial economics minor. For economics majors, there is a restriction on double-counting: the two elective courses counting toward the minor cannot also count toward the economics major.

**Requirements for Admission**

To apply for admission, an application must submit an official transcript of all academic work beyond secondary school and at least two letters of recommendation from previous instructors. Applicants must submit scores from the Graduate Record Examination. All applicants who have not done their undergraduate work in a university where English is the sole language of instruction must take the TOEFL. We have a minimum required score of 100 on the Internet-based test (IBT), or 250 on the computer-based test (CBT), or 600 on the old paper-based test (PBT).

Students should have a knowledge of economic theory and statistics and a strong background in mathematics including differential and integral calculus and linear algebra. Admission decisions are primarily based on GRE scores (especially quantitative), academic record (especially in economics and mathematics courses), and letters of recommendation. We especially welcome applications from under-represented minorities, as diversity is important in our graduate program.

**Requirements for the M.A. Degree**

The department does not admit students from outside Johns Hopkins University who intend to work only for an M.A. However, it does offer this degree as an intermediate step toward the Ph.D. or as a final degree to some of those who do not complete their doctoral work.

Beyond the general university requirements, the department requires for the master’s degree either two years of satisfactory graduate course work or one year of satisfactory graduate course work and an acceptable master’s essay.

**Requirements for the Ph.D. Degree**

The departmental requirements for the doctor’s degree include the following:

- Basic course work in economic theory, mathematical methods of economics, and econometrics, and additional work in specialized branches of economics depending on his/her previous training and special interests. Candidates may take relevant work in related departments, such as History, Mathematics, Mathematical Sciences, Political Science, Sociology, Anthropology, and Public Health.
- The comprehensive examination. Administered by the department, this consists of two written examinations designed to test the candidate’s grasp of micro- and macroeconomics, and a research paper. The written examinations are usually taken at the beginning of the third term, and the research paper is submitted during the fourth term.
- A dissertation. This should be an original investigation worthy of publication, prepared under the supervision of one or more members of the faculty. The candidate must submit the dissertation in final typed form at least three weeks before the date of the Graduate Board Oral Examination.

**Financial Aid**

The department offers a variety of forms of financial support to graduate students enrolled in the Ph.D. program. Students may receive full or partial tuition fellowships, which may be accompanied by cash stipends or teaching assistantships. The department guarantees financial aid for a minimum of five years of graduate study conditional on satisfactory performance and often for a sixth year as well. In the 2013-2014 academic year, full stipends or assistantships will carry an award of approximately $ 21,000 per year. The T. Rowe Price Fellowship, established by the T. Rowe Price Associates Foundation to honor the memory of Mr. Price, is awarded to an entering graduate student each year. It covers tuition and adds several thousand dollars to the basic stipend for three years and provides for a teaching assistantship thereafter. At the same time, it is possible that the department will be able to offer one or more of the university’s Owen Fellowships to its outstanding graduate applicants. This fellowship consists of a stipend of $27,000 toward the student’s first three years. Although aid is provided on a yearly basis subject to the availability of financial support from the university, it is the department’s policy to continue aid for at least four and usually five years, provided the student is making satisfactory progress.

**Carl Christ Fellowship**

In the academic year 1989-90, the department established the Carl Christ Fellowship fund to honor one of its faculty members for his distinguished service and achievements. The proceeds of the fund are used to support outstanding graduate students at the dissertation stage of their research.

For further information about graduate study in economics, contact the director of graduate admissions, Department of Economics.

For current faculty and contact information go to http://econ.jhu.edu/directoryindex/faculty/
Faculty
Chair
Robert A. Moffitt
Krieger-Eisenhower Professor: labor economics, applied econometrics, public finance, population economics.

Professors
Laurence M. Ball
Macroeconomics.

Christopher Carroll
Macroeconomics.

Gregory Duffee
Carl Christ Professor: finance.

Jon Faust
Louis J. Maccini Professor, Director of the Center for Financial Economics: econometrics, macroeconomics, financial economics.

Mark Gersovitz
Development economics, public finance.

Olivier Jeanne
International macroeconomics.

Edi Karni
Scott and Barbara Black Professor: economics of uncertainty and information, microeconomic theory, decision theory.

M. Ali Khan
Abram G. Hutzler Professor: mathematical economics, microeconomic theory, intellectual history.

Jonathan Wright
Time series econometrics, empirical macroeconomics, finance.

Associate Professors
Hulya Eraslan
Political economics, game theory, corporate finance.

Yingyao Hu
Econometrics, applied microeconomics.

Assistant Professors
Jorge Balat
Industrial Organization, Applied Microeconomics, Applied Econometrics.

Elena Krasnokutskaya
industrial organization, applied microeconomics, applied econometrics.

Nicholas Papageorge
Health, Labor and the Economics of Innovation.

Yuya Sasaki
Econometrics.

Professors Emeriti
Carl F. Christ
Macroeconomics, econometrics.

Bruce W. Hamilton
Applied microeconomics.

Louis J. Maccini
Macroeconomics, applied econometrics.

Research Professor
Caroline Fohlin
Research Professor: financial economics, economic history.

Richard Spady
Econometrics, industrial organization.

H. Peyton Young
Scott and Barbara Black Professor Emeritus: game theory, evolutionary economics, microeconomic theory.

Fellows
Robert Barbera
Center for Financial Economics

Barclay Knapp

Lecturer
Barbara Morgan
Economics of discrimination, comparative economic systems.

Joint Appointments
David Bishai
Associate Professor (Bloomberg School of Public Health): health economics.

Joshua Epstein
Professor (School of Medicine): mathematical and computational modeling of social dynamics.

Steve H. Hanke
Professor (Geography and Environmental Engineering): applied micro- and macroeconomics and finance.

Pravin Krishna
Professor (SAIS): international trade, political economy, development.

Jian Ni
Assistant Professor (Carey Business School): industrial organization.

Mitsukuni Nishida
Assistant Professor (Carey Business School): industrial organization.

Catherine Norman
Assistant Professor (Geography and Environmental Engineering): environmental economics.

For current course information and registration go to https://isis.jhu.edu/classes/
Courses

AS.180.101. Elements of Macroeconomics. 3 Credits.
An introduction to the economic system and economic analysis, with emphasis on total national income and output, employment, the price level and inflation, money, the government budget, the national debt, and interest rates. The role of public policy. Applications of economic analysis to government and personal decisions. Students should have basic facility with graphs and algebra. Instructor(s): R. Barbera
Area: Social and Behavioral Sciences.

AS.180.102. Elements of Microeconomics. 3 Credits.
An introduction to the economic system and economic analysis with emphasis on demand and supply, relative prices, the allocation of resources, and the distribution of goods and services; theory of consumer behavior, theory of the firm, and competition and monopoly, including the application of microeconomic analysis to contemporary problems. Students should have basic facility with graphs and algebra. Instructor(s): D. Garcia Molina; M. Smirnov
Area: Social and Behavioral Sciences.

AS.180.105. International Finance and the Current Economic Crisis. 3 Credits.

AS.180.171. Topics in Political Economy. 3 Credits.
Societies make their key economic decisions under the constraints imposed by their political institutions. This course studies the interaction between economics and politics in public policy design, with topics ranging from fiscal policy to international development. Some recurring questions include why inefficient policies get enacted and how different political institutions give rise to different policy outcomes. Instructor(s): L. Karakas
Area: Social and Behavioral Sciences.

AS.180.201. Behavioral Finance. 3 Credits.
In recent years, the assumptions of traditional finance models that market participants are generally rational and prices of securities accurately reflect all available information came under challenge. The field of behavioral finance argues that financial markets are best understood with models in which at least some agents are not fully rational. In this course, we will examine behavioral finance models and their practical applications. This course is based on Harvard Business School cases. Recommended Course Background: AS.180.102
Instructor(s): A. Scherbina.

AS.180.202. Faculty Research in Economics. 1 Credit.
The purpose of this course is to provide students an insight of how Economics can help to understand individual’s legal behavior, and how the Law can affect the way economic agents behave. The course will be divided in two parts, the first one will study the economics of litigation, while the second one will study the social implications of a change in the law. For the first part we will study how litigation costs, information of the parties involved, tort regimes, and the size of the stakes in dispute affect the outcome of a litigation process. For the second part we will study actual courts decisions and their social implications such as welfare participation, business ventures and public policy making. Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

AS.180.203. Faculty Research in Economics. 1 Credit.
This course will consist of a series of informal lectures by various professors in the Department of Economics. Each lecture will consist of a description of a professional research project which he/she has undertaken over the course of his/her profession career. S/U grading only.
Prerequisites: Prereqs: AS.180.101 AND AS.180.102
Instructor(s): B. Hamilton.

AS.180.215. Game Theory and the Social Sciences. 3 Credits.
This course provides an introduction to game theory with an emphasis on applications. Applications in economics, political science, business, military science, history, biology, theology and recreation will be covered. No prior knowledge of game theory is presumed and the required mathematical background is minimal (high school algebra and one term of calculus will be sufficient).
Instructor(s): L. Karakas
Area: Social and Behavioral Sciences.

AS.180.228. Economic Development. 3 Credits.
Diagnostic test on Elements of Economics is required to be taken in the second week. A review of the historical experience in presently developed economies, model of development, planning techniques, and development policies. The course is aimed at identifying major economic questions relevant to less developed economies and to showing how economic analysis can be used further to understand the obstacles to development and to formulate appropriate policies.
Prerequisites: AS.180.101 AND AS.180.102
Instructor(s): M. Gersovitz
Area: Social and Behavioral Sciences.

AS.180.233. Introduction to the European Union. 3 Credits.
Area: Social and Behavioral Sciences.

AS.180.235. Introduction to International Political Economy. 3 Credits.
Area: Social and Behavioral Sciences.

AS.180.236. Business Gov’t & the Int. Economy. 3 Credits.
Writing Intensive.

AS.180.241. International Trade. 3 Credits.
Theory of comparative advantage and the international division of labor: the determinants and pattern of trade, factor price equalization, factor mobility, gains from trade and distribution of income, and theory and practice or tariffs and other trade restrictions.
Prerequisites: AS.180.101-102
Instructor(s): T. Bertrand
Area: Social and Behavioral Sciences.

AS.180.242. International Monetary Economics. 3 Credits.
Balance of payments concepts and the trade balance, exchange rates and the foreign exchange market, expectations, interest rates and capital flows, central banking and monetary policy in open economies, exchange rate regimes and macroeconomic policy. Formerly AS.180.342
Prerequisites: AS.180.101
Instructor(s): O. Jeanne
Area: Social and Behavioral Sciences.
AS.180.243. Memorandums of Misunderstanding. 3 Credits.
For centuries, international trade has been a source of intense debate within and among nations. Proponents of free trade claim that trade benefits all nations in terms of higher incomes, lower consumer prices, and greater product variety. Opponents point to the painful economic adjustments that accompany the removal of trade barriers. In recent years, the debate has expanded to include labor rights, the environment, health and safety, intellectual property, and national sovereignty. Through the lens of economic theory, we will evaluate the arguments put forth by proponents and opponents of free trade. We will apply these theories to several case studies, with a particular focus on the conflicts that have arisen since the establishment of the World Trade Organization.
Prerequisites: AS.180.101 and AS.180.102
Instructor(s): P. Seneviratne
Area: Social and Behavioral Sciences.

AS.180.244. War and Peace in International Trade. 3 Credits.
Instructor(s): M. Linask
Area: Social and Behavioral Sciences.

AS.180.252. Economics of Discrimination. 3 Credits.
What does the empirical evidence show, and how can we explain it? How much of the difference in observed outcomes is driven by differences in productivity characteristics and how much is due to discrimination? How have economists theorized about discrimination and what methodologies can be employed to test those theories? What has been the impact of public policy in this area; how do large corporations and educational institutions respond; and what can we learn from landmark lawsuits? The course will reinforce skills relevant to all fields of applied economics, including critical evaluation of the theoretical and empirical literature, the reasoned application of statistical techniques, and analysis of current policy issues.
Prerequisites: AS.180.102
Instructor(s): B. Morgan
Area: Social and Behavioral Sciences
Writing Intensive.

AS.180.261. Monetary Analysis. 3 Credits.
This course analyzes the financial and monetary system of the U.S. economy and the design and implementation of U.S. monetary policy. Among other topics, we will examine the role of banks in the economy, the term structure of interest rates, the stock market, the supply of money, the role of the Federal Reserve in the economy, the objectives of monetary policy in the United States and current monetary policy practice.
Prerequisites: AS.180.101 and AS.180.102
Instructor(s): L. Ball
Area: Social and Behavioral Sciences.

AS.180.263. Corporate Finance. 3 Credits.
This course is an introduction to the financial management of a corporation. Students study the following broad questions. How should a firm decide whether to invest in a new project? How much debt and equity should a firm use to finance its activities? How should a firm pay its investors? How do taxes affect a firm’s investment and financing decisions? What determines the value of a firm? The emphasis throughout the course is on the economic principles that underlie answers to these questions.
Prerequisites: AS.180.101 AND AS.180.102
Instructor(s): A. Scherbina
Area: Social and Behavioral Sciences.

AS.180.266. Financial Markets and Institutions. 3 Credits.
Understanding design and functioning of financial markets and institutions, connecting theoretical foundations and real-world applications and cases. Basic principles of asymmetric information problems, management of risk. Money, bond, and equity markets; investment banking, security brokers, and venture capital firms; structure, competition, and regulation of commercial banks. Importance of electronic technology on financial systems.
Prerequisites: AS.180.101 AND AS.180.102
Instructor(s): J. Faust
Area: Social and Behavioral Sciences.

AS.180.267. Economics of the Internet. 3 Credits.
This course explores the Internet from an economist’s perspective, with the objective of understanding the effects on pricing and competitive behavior brought about by lower search and transaction costs in online markets. Unique features of information goods, product differentiation, market dynamics, reputation, and online auctions are among the topics examined. Dean’s Teaching Fellowship course.
Instructor(s): L. Tiererova
Area: Social and Behavioral Sciences.

AS.180.289. Economics of Health. 3 Credits.
Application of economic concepts and analysis to the health services system. Review of empirical studies of demand for health services, behavior of providers, and relationship of health services to population health levels. Discussion of current policy issues relating to financing and resource allocation.
Prerequisites: AS.180.102
Instructor(s): D. Bishai
Area: Social and Behavioral Sciences.

AS.180.301. Microeconomic Theory. 4 Credits.
An introduction to the modern theory of allocation of resources, starting with the theories of the individual consumer and producer, and proceeding to analysis of systems of interacting individuals, first in the theory of exchange, then to systems which include production as well.
Prerequisites: Corequisite/Prerequisite: AS.180.101
must be taken EITHER BEFORE (prerequisite) enrolling in 180.301 or AT THE SAME TIME (corequisite).
Instructor(s): Y. Chen
Area: Social and Behavioral Sciences.

AS.180.302. Macroeconomic Theory. 4 Credits.
The course provides a treatment of macroeconomic theory including a static analysis of the determination of output, employment, the price level, the rate of interest, and a dynamic analysis of growth, inflation, and business cycles. In addition, the use and effectiveness of monetary and fiscal policy to bring about full employment, price stability, and steady economic growth will be discussed.
Prerequisites: AS.180.101 and Calculus 1 or equivalent
Instructor(s): J. Driscoll; L. Ball
Area: Social and Behavioral Sciences.
**AS.180.303. The Global Finance Crisis. 3 Credits.**
The course will first review the main causes of the crisis in financial regulation, monetary policy, as well as global financial imbalances. The prospects for economic recovery and the current challenges to fiscal and monetary policies will then be discussed. The third part of the course will focus on the long-run implications of the crisis for economic policy. The course will rely on mathematical modeling of key microeconomic and macroeconomic aspects of the crisis, in particular in the areas of banking and monetary policy.

**Prerequisites:** AS.180.301 AND AS.180.302  
Instructor(s): O. Jeanne  
Area: Social and Behavioral Sciences.

**AS.180.306. The Business of Sports. 3 Credits.**
This course uses data from the sports industry to test standard microeconomic theories of individual and firm behavior. The major focus of this course will be applied empirical analysis.

**Instructor(s):** B. Hamilton  
Area: Social and Behavioral Sciences.

**AS.180.307. Advanced Seminar in the Future of Finance. 3 Credits.**
In this seminar, we will discuss broad ranging views on the future of finance. Most classes will involve presentations by and discussions with experts in the field on their perspectives regarding how finance will evolve in light of the current turmoil and rapidly changing conditions. We will place an emphasis on bringing in speakers with a wide range of views, including controversial ones. Speakers will come from the finance industry, government, and academics. The grade will be based on classroom participation and a term paper.

**Prerequisites:** AS.180.301 AND ( AS.180.263 OR AS.180.367 )  
**Instructor(s):** J. Wright; R. Barbera.

**AS.180.308. Financial Regulations in the US. 3 Credits.**
This course begins with the time of the great Framers and adopts a historical approach to U.S. financial regulations. By examining all major crises and the respective policy responses, the course will provide a narrative on the evolution of the regulatory landscape in America. Students will also be exposed to influential academic papers that address the essentiality (and even the redundancies and failures) of key aspects of financial regulations, including deposit insurance, bank capital and liquidity requirements, and supervisory rules. Dean’s Teaching Fellowship course. Recommended courses: AS.180.261, AS.180.266, AS.180.302  
**Prerequisites:** AS.180.101 AND AS.180.102  
**Instructor(s):** H. Nguyen  
Area: Social and Behavioral Sciences.

**AS.180.310. Economics of Antitrust. 3 Credits.**
This course explores the economic rationale for, and consequence of, antitrust laws. In addition to economic analysis we will study landmark antitrust cases.

**Prerequisites:** AS.180.301  
**Instructor(s):** B. Hamilton  
Area: Social and Behavioral Sciences  
Writing Intensive.

**AS.180.321. The Economics of Growing-Up. 3 Credits.**
The goal of this course is to use economic models to investigate life events such as going to school, getting married, and having children. The course will focus on individual behavior and outcomes in six important stages of the life cycle: early childhood, schooling, adolescence, marriage and divorce, child bearing years, and retirement. While the course is designed to introduce students to a variety of economic theory and empirical techniques, the material is designed to prepare upper level students to write a proposal on an original research question.

**Prerequisites:** AS.180.301  
**Instructor(s):** G. Pauley  
Area: Social and Behavioral Sciences.

**AS.180.334. Econometrics. 3 Credits.**
Introduction to the methods of estimation in economic research. The first part of the course develops the primary method employed in economic research, the method of least squares. This is followed by an investigation of the performance of the method in a variety of important situations. The development of a way to handle many of the situations in which ordinary least squares is not useful, the method of instrumental variables, concludes the course.

**Prerequisites:** AS.180.301 AND ( EN.550.420 OR EN.550.310 OR AS.280.345 OR EN.550.112 OR EN.550.113 OR EN.550.211 OR EN.550.311 OR EN.550.430 OR EN.550.435 OR EN.550.111)  
**Instructor(s):** B. Demiralp-foreman; J. Balat  
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

**AS.180.335. Topics in Econometrics. 3 Credits.**  
Area: Social and Behavioral Sciences.

**AS.180.336. Economic Forecasting. 3 Credits.**
Will sketch out a strategy for anticipating economic turning points. Business cycle basics, monetary policy/financial market/real economy interactions will be reviewed. Long-term growth issues will be explored.

**Prerequisites:** AS.180.101 AND AS.180.102 AND AS.180.302 or Perm. Req’d.  
**Instructor(s):** R. Barbera  
Area: Social and Behavioral Sciences.

**AS.180.337. Financial Econometrics. 3 Credits.**
This course introduces financial models and the necessary techniques to estimate and test these models. E.g. ARCH models, GARCH models, option pricing models, efficient market hypothesis, as well as Risk management models. Recommended Course Background: AS.180.367  
**Prerequisites:** AS.180.334  
**Instructor(s):** J. Harrington; T. Woutersen  
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

**AS.180.350. Economics of Social Networks. 3 Credits.**
A detailed analysis of why certain social networks are likely to emerge and what the structure of these networks means for a wide range of social and economic interactions.

**Prerequisites:** AS.180.301  
**Instructor(s):** M. Smirnov  
Area: Social and Behavioral Sciences.
AS.180.351. Labor Economics. 3 Credits.
The course discusses various issues in labor markets from the perspective of economic theory. We first study the major forces at work that shape labor market behavior; firms’ labor demand and workers’ labor supply. Then we discuss the equilibrium behavior of employment and wages. Using these tools, we also cover various applied topics in labor economics, such as minimum wage regulations, male-female wage differentials, human capital investment, worker mobility, and unemployment.
Prerequisites: Prereq: AS.180.301
Instructor(s): J. Wright
Area: Social and Behavioral Sciences.

AS.180.355. Economics of Poverty and Inequality. 3 Credits.
This course focuses on the economics of poverty and inequality. It covers the measurement of poverty and inequality, facts and trends over time, the causes of poverty and inequality with a focus on those related to earnings and the labor market, and public policy toward poverty and inequality, covering both taxation and government expenditure and programs. By the nature of the material, the course is fairly statistical and quantitative. Students should have an intermediate understanding of microeconomic concepts. Basic knowledge of regression analysis is also helpful.
Prerequisites: AS.180.301
Instructor(s): Y. Takahashi
Area: Social and Behavioral Sciences.

AS.180.366. Corporate Finance. 3 Credits.
Prerequisites: AS.180.101 AND AS.180.102
Instructor(s): G. Duffee
Area: Social and Behavioral Sciences.

AS.180.367. Investment-Portfolio Management. 3 Credits.
Prerequisites: AS.180.301 AND ( EN.550.111 OR EN.550.112 OR EN.550.310 OR EN.550.311 OR EN.550.420 OR EN.550.430 )
Instructor(s): J. Wright
Area: Social and Behavioral Sciences.

AS.180.368. Managerial Economics and Business Strategy. 3 Credits.
Seminar on quantitative concepts, decision-making, and strategy in business organizations. Overall context is ‘value’ – how it is measured and maximized long term. Microeconomic theory of the firm, competitive analysis, corporate finance.
Prerequisites: AS.180.301 AND EN.550.111 AND ( EN.551.302 OR AS.180.367 ) or Perm. Req’d.
Instructor(s): J. Knapp
Area: Social and Behavioral Sciences.

AS.180.369. Research in Economics of Financial Markets. 3 Credits.
In this course, we undertake a semester-long research project from beginning to end. Students will gain advanced knowledge of the functioning of financial markets, will be able to apply their econometrics technique, and will develop a deep understanding of the process of creating research. The course is not based on lectures. Rather, the class will decide on a research question, and students will work together to develop hypotheses, gather data, and analyze the data to provide new insight onto the issue. Grading is based on participation, periodic drafts of the research in progress, a final paper, and a final presentation. In past semesters, we have analyzed the workings of new issues (IPO) markets, examined long-term patterns in M&A activity, measured the impact of technology on trading costs, and studied the impact of the 2008 ban on short selling in financial stocks.
Prerequisites: AS.180.301 AND AS.180.334
Instructor(s): C. Fohlin
Area: Social and Behavioral Sciences
Writing Intensive.

AS.180.370. Financial Market Microstructure. 3 Credits.
Prerequisites: AS.180.301
Instructor(s): C. Fohlin
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

AS.180.371. Industrial Organization. 3 Credits.
Investigation of firm behavior in markets characterized by imperfect competition. Imperfect competition lies in between monopoly and perfect competition and characterizes most major industries in modern capitalist economies. Central issues to be covered in the course include what determines the intensity of competition? What determines the extent of entry and exit? How is it that some firms consistently dominate their industries?
Instructor(s): E. Krasnokutskaya
Area: Social and Behavioral Sciences.

AS.180.373. Corporate Restructuring. 3 Credits.
The objective of this course is to familiarize students with financial, legal and strategic issues associated with corporate restructuring process. Main focus of the course is on the restructuring of financially distressed firms. The course surveys a variety of restructuring methods (out-of-court workouts, exchange offers, prepackaged bankruptcies, Chapter 11 bankruptcies, insolvency practices in other countries) available to troubled firms. A small portion of the course is concerned with restructuring employee contracts and equity claims (equity carve-outs, spin-offs, tracking stock). AS.180.263 Corporate Finance recommended.
Prerequisites: AS.180.301
Instructor(s): H. Eraslan
Area: Social and Behavioral Sciences.

AS.180.376. Economics of the Internet. 3 Credits.
The course covers advanced theory and econometric methods to analyze economics of on-line markets. The focus of the discussion is on implications of these new markets and institutions for economic policy and efficiency. The topics include: standards, advertising, on-line auctions, networks and platforms.
AS.180.385. Evolution and Economics. 3 Credits.
This course provides an introduction to evolutionary theory and its applications to modern economics. We start by introducing formal models of the driving forces of evolution: mutation, selection, and survival of the fittest. Next we investigate how these forces have shaped human preferences and behaviors that are typically taken as given in economic models. Finally, we discuss the evolution of social systems like the economy we live in.
Instructor(s): A. Korinek
Area: Social and Behavioral Sciences.

AS.180.389. Social Policy Implications of Behavioral Economics. 3 Credits.
Economists increasingly incorporate insights from psychology into models of rational decision-making. Known as "behavioral economics", this line of research considers how, for example, emotions, rules-of-thumb, biased beliefs and time-inconsistent preferences influence how we make choices. Behavioral economics increasingly pervades policy discussions on topics as diverse as: obesity, the role of media, subprime mortgages and voting patterns. Behavioral models are certainly novel, but do they help us to design superior social policies? With the goal of preparing students to address this question, this course (1) provides a thorough overview of the main contributions of behavioral economics, highlighting departures from more traditional economic models and (2) emphasizes how behavioral economic models might (or might not) improve how we think about social policy.
Prerequisites: Prereqs: AS.180.301 AND AS.180.334 or knowledge of statistical analysis up to the level of multi-variate regression.
Instructor(s): N. Papageorge
Area: Social and Behavioral Sciences.

AS.180.390. Health Economics & Developing Countries. 3 Credits.
Prerequisites: AS.180.301
Instructor(s): M. Gersovitz
Area: Social and Behavioral Sciences
Writing Intensive.

AS.180.391. Economics of China. 3 Credits.
Discussion of the economic experience of Post-War China, primarily emphasizing topics rather than historical narrative: agriculture, industry including corporate governance and public enterprises, international trade, population, migration, education, health, public finances among other topics.
Prerequisites: AS.180.301 OR AS.180.228
Instructor(s): M. Gersovitz
Writing Intensive.

AS.180.393. Economics of Africa. 3 Credits.
Discussion of the economic experience of post-colonial Africa emphasizing topics rather than a historical narrative: agriculture, manufacturing, trade, population, education, health, public finances among others. Students are responsible for a research paper, topic choice and paper development in close consultation with the instructor, students to give a class presentation on paper findings. Course qualifies as writing intensive for the writing requirement.
Prerequisites: AS.180.228 or permission of instructor
Instructor(s): M. Gersovitz
Area: Social and Behavioral Sciences
Writing Intensive.

AS.180.501. Independent Study. 0 - 3 Credit.
Instructor(s): Staff.

AS.180.502. Independent Study. 0 - 3 Credit.
Instructor(s): B. Hamilton; G. Duffee; L. Ball; R. Barbera; Staff.

AS.180.503. Independent Study. 0 - 3 Credit.
Instructor(s): B. Morgan; O. Jeanne.

AS.180.521. Research in Economics. 2 Credits.
The assignment in this course is to complete the initial stages of research for the Senior Honors Thesis in Economics. Students will work independently under the supervision of a thesis advisor. The contact (in spring of junior year) should be the course instructor listed for this course. He/she will coordinate registration and grade-reporting, and will also be available to discuss research ideas and to help students in touch with possible thesis advisors. Open to Senior and Junior Economics majors. Note: This course can not be counted as one of the 5 elective economics courses required for the Economics major.
Instructor(s): M. Gersovitz
Area: Social and Behavioral Sciences.

AS.180.522. Senior Thesis. 3 Credits.
Students enrolled in this course will complete the Senior Honors Thesis under the supervision of a thesis advisor (who will have been chosen by the student prior to registration for AS.180.521). The formal course instructor will be in charge of overseeing registration and submitting grades. He/she will also be available for discussions of progress or problems on the thesis. Please note that your thesis advisor can be any faculty member in the Department of Economics, and need not be the same person as the course instructor. (This course cannot be counted as one of the 5 elective economics courses required for the Economics Major.)
Prerequisites: AS.180.521
Instructor(s): M. Gersovitz; M. Khan
Writing Intensive.

AS.180.552. Internship. 1 Credit.
Instructor(s): G. Duffee.

AS.180.595. Economic Internship. 1 Credit.
Instructor(s): B. Hamilton; B. Morgan; S. Hanke; Staff.

AS.180.597. Research. 3 Credits.
Instructor(s): N. Papageorge; Staff.

AS.180.599. Independent Study. 3 Credits.
Instructor(s): Staff; T. Woutersen.

A systematic presentation of microeconomic theory in both its partial equilibrium and general equilibrium aspects. Topics covered include preferences and utility, exchange, production, theory of the firm, capital and interest, competition and monopoly, stability of equilibrium, and welfare economics.
Instructor(s): M. Khan.

First term: a systematic presentation of microeconomic theory both its partial equilibrium and general equilibrium aspects. Topics covered will include preferences and utility, exchange, production, theory of the firm, capital and interest, competition and monopoly, stability of equilibrium, and welfare economics. Second term: a more intensive discussion of selected topics, emphasizing recent contributions.
Instructor(s): E. Karni; H. Eraslan.
A comprehensive treatment of macroeconomic theory, including static analysis of aggregate output employment, the rate of interest, and the price level; aggregative theory of investment, consumption, demand and supply of money; empirical work on aggregative relationships. Instructor(s): C. Carroll.

First term: a comprehensive treatment of macroeconomic theory, including static analysis of aggregate output employment, the rate of interest, and the price level; aggregative theory of investment, consumption, demand and supply of money; empirical work on aggregative relationships. Second term: the macrodynamic theory of growth, cycles, unemployment and inflation, and selected subjects. Instructor(s): A. Korinek.

AS.180.605. Advanced Macroeconomics.
Topics of recent research in macroeconomics. Content will vary from year to year. Likely topics include implicit contract theory, search theory and unemployment, disequilibrium macroeconomic models, monetary policy and the control of inflation, contract-based rational expectations models, imperfect competition in macrodynamic models, business cycle models, empirical tests of rational expectations models, theories of investment behavior, and debt neutrality. Instructor(s): C. Carroll.

AS.180.606. Advanced Macroeconomics II.
Topics of recent research in macroeconomics. Prof. Ball’s course covers nominal rigidities, dynamic-consistency theories of inflation, inflation inertia and the costs of disinflation, monetary policy, costs and benefits of price stability, benefits of output stabilization, alternative policy rules, measuring inflation, unemployment, efficiency-wage theories, the behavior of the NAIRU, macro in middle-income countries, high inflation and stabilization, currency crises. Prof. Carroll’s course analyzes implications of the buffer-stock and habit formation theories of consumption for comovement of aggregate variables and asset pricing. The models are applied to study the phenomena of declining U.S. saving rate, the dynamic relationship between saving rates and growth, and the equity premium puzzle. Prerequisites: AS.180.603 AND AS.180.604 Instructor(s): L. Ball.

AS.180.607. Macroeconometrics I.
The course is an attempt to provide a framework for discussing the techniques that are used in macroeconomic analysis. Generally the bias that it has is one of looking at these from the perspective of someone analyzing macroeconomic data for policy analysis. Consequently, many of the applications considered are drawn from the type of research conducted in central banks and finance ministries. Its emphasis is therefore upon the issues raised by the analysis of time series of macro-economic data. Today there is an emerging literature that looks at micro-economic data as well as conducting cross-country studies. We will tend to ignore that material as the methods used in such research are essentially those of micro-econometrics, although sometimes with adjustments made to reflect the nature of macro-economic time series. Prerequisites: AS.180.633-634 Instructor(s): J. Wright.

AS.180.608. Macroeconometrics II.
Prerequisites: AS.180.601-603
Instructor(s): J. Wright.

AS.180.611. Economics of Uncertainty.
A review of the theory of decision making under uncertainty and its applications to problems of optimal insurance, portfolio selection, savings decisions and optimal search. Alternative approaches to decision making under uncertainty will be surveyed. Attitudes towards risk will characterized and the issues of measurement and comparability of these attitudes discussed, both in the univariate and multivariate cases; applications will be given. The theory of optimal search will be developed with emphasis on its usefulness for the study of labor markets and unemployment. Prerequisites: AS.180.601 AND AS.180.603 or Permission Instructor(s): E. Karni.

A course describing developments in the theory of choice of uncertainty, responding to evidence that observed behavior is inconsistent with the predictions of expected utility theory. The course will cover rank-dependent models of choice under risk and uncertainty, multiple prior models of choice in the absence of well-defined probabilities and the problem of responding to ‘unknown unknowns’, that is the problem that any model of a decision problem is necessarily incomplete and may be overturned by unanticipated contingencies. Recommended Course Background: AS.180.611-AS.180.612 Instructor(s): J. Quiggin.

This course traces the extent to which modern economic theory, particularly as it pertains to pure competition in market and non-market games under the rationality postulate, is grounded in the language of probability and measure theory. Special attention will be paid to the formal expression of ideas such as economic and numerical negligibility, on the one hand, and diffuseness and conditional independence of information, on the other. Towards this end, the course will develop rigorous formulations of basic ideas of (conceptual rather than computational) probability and apply them: first, to develop the fundamental theorems of welfare economics, including the core theorems, and second, to large anonymous and non-anonymous games as well as to finite-agent games with private information. The course will be self-contained from the technical point of view but will presuppose a level of mathematical maturity that ought typically to be achieved by taking courses such as AS.180.615 and AS.180.601. Instructor(s): M. Khan.

A course in mathematics for economists not planning to work in quantitative areas, or for those whose mathematics background is weak. The emphasis is on optimization theory; also included are topics in advanced calculus and linear algebra. Instructor(s): E. Karni.

AS.180.616. Mathematical Methods in Economics II.
This is a continuation of AS.180.615 and is a course in dynamic aspects of optimization models. Techniques of dynamic programming and the calculus of variations will also be developed. Prerequisites: AS.180.615 or Perm. req’d Instructor(s): M. Khan.
**AS.180.617. Multi-Agent Numerical Methods.**
The course covers a set of numerical methods that facilitate computation and estimation of equilibrium outcomes in economic environments. The emphasis is put on dynamic models and their applications in multi-agent settings. Topics covered include, among others: solving dynamic programs in discrete and continuous time, approximate dynamic programming, dynamic games, approximations of Markov perfect dynamics, and CCP estimation of dynamic systems.
Instructor(s): P. Jezierski
Area: Social and Behavioral Sciences.

**AS.180.618. Game Theory.**
This course is an introduction to cooperative and non-cooperative games. Its focus is non-cooperative game theory with applications in economics. Topics include foundations of solution concepts, refinements of Nash equilibrium, repeated games, games with incomplete information, differential games, and experimental testing of hypotheses.
Prerequisites: AS.180.601
Instructor(s): H. Eraslan.

**AS.180.628. Economic Development.**
Corequisites: AS.180.601, AS.180.603
Instructor(s): M. Gersovitz.

**AS.180.632. Topics in Applied Microeconometrics.**
This course teaches methods for using micro-data to recover structural parameters of microeconomic models. We cover static models, but focus largely on single-agent dynamic programming, including “full solution” methods along with innovations that permit circumvention of daunting computational tasks. Additional topics will be partially based on students’ interests, but will likely include: general equilibrium models, static and dynamic games, matching models, unobserved heterogeneity, structural methods with experimental data and biased expectations. The goal is to teach students to use structural methods in their own research, and so we will delve into the nuts and bolts of structural work, examining how researchers actually get from raw data to results. This includes: how the sub-sample for analysis is chosen, how the model is specified, how the programming problem is solved, which moments are generated, how these are matched to the analogous moments in the data and, importantly, how identification is established.
Instructor(s): N. Papageorge.

**AS.180.633. Econometrics.**
Mathematical models of economic behavior and the use of statistical methods for testing economic theories and estimating economic parameters. Subject matter will vary from year to year; statistical methods, such as linear regression, multivariate analysis, and identification, estimation and testing in simultaneous equation models, will be stressed.
Prerequisites: AS.180.636 and AS.180.601 and (AS.180.614 OR AS.180.615)
Instructor(s): Y. Hu.

**AS.180.634. Statistical Inference.**
Theory and applications of statistical inference. Topics include probability and sampling, distribution theory, estimation, hypothesis testing, and simple regression analysis. Statistical applications will be drawn from economics. Limited to graduate students in Economics except by permission of the chair. Recommended Course Background: AS.110.201, AS.110.302
Instructor(s): Y. Sasaki.

**AS.180.637. Microeconometrics I.**
This is an advanced graduate course on major econometric techniques and models that are used in empirical microeconomics. The first half of the course introduces econometric theories of nonlinear extremal estimation, nonparametric estimation, and semiparametric estimation. The second half of the course illustrates applications of these theories to limited dependent variable models, selection models, and endogenous treatment models with unobserved heterogeneity.
Instructor(s): Y. Sasaki.

**AS.180.638. Microeconometrics II.**
This course introduces techniques that are used in applied research in microeconomics. Focus is on a particular class of models, namely discrete choice models. Well-known models in this class are the logit and probit models. Models that have better properties involve high-dimensional integrals, and this leads us to a discussion of simulation estimation. Finally, dynamic decision models for forward-looking agents who face irreversible decisions are introduced. As an application some models in economic demography are considered.
Prerequisites: AS.180.601 AND AS.180.602
Instructor(s): Y. Hu.

**AS.180.641. International Trade.**
This is a graduate course in international trade. It will develop basic analytical tools and frameworks used in the general equilibrium analysis of international trade. Recent research topics will be discussed in the second half of the course.
Prerequisites: AS.180.601 AND AS.180.603
Instructor(s): P. Krishna.

**AS.180.642. International Monetary Economics.**
A link between the balance of payments and asset accumulation/decumulation, microeconomics of international finance and open-economy macroeconomics. The section on open-economy macroeconomics covers approaches to balance-of-payments adjustments, theories of exchange rate determination and monetary, fiscal, and exchange-market policies under fixed and flexible rate regimes.
Instructor(s): O. Jeanne.

**AS.180.651. Labor Economics I.**
Theories of the allocation of time and supply of labor, human capital, demand for labor, market equilibrium, and income distribution. As time allows, other topics, such as unemployment, unions, and compensating differences are discussed. Corequisite: AS.180.601
Instructor(s): R. Moffitt.

**AS.180.653. Numerical Methods in Economics.**
The course covers a set of numerical methods that are used to compute and estimate economic models. We focus on dynamic models and their applications in IO and labor economics, including dynamic discrete choice; dynamic games, two-step methods (CCP based), general equilibrium models. We also cover several technical tools, such as numerical integration, approximation, and optimization.
Instructor(s): Y. Takahashi.

**AS.180.654. Empirical Methods in Risk and Uncertainty.**
Instructor(s): S. Shore.
AS.180.662. Asset Pricing.
This course is an introduction and guide to the most important issues in asset pricing. It begins with classic concepts such as the Capital Asset Pricing Model and the Arbitrage Pricing Theory and continues through continuous-time dynamic no-arbitrage models. It covers both basic theory and classic empirical research. Recommended Course Background: AS.180.604, AS.180.633, AS.180.636 or instructor’s permission.
Instructor(s): G. Duffee.

AS.180.671. Industrial Organization.
This course covers methods in applied empirical Industrial Organization. The focus will be on the use of econometric analysis and data both for descriptive and measurement purposes, and to test the predictions of economic theories. The course will cover demand estimation, cost and production function estimation, and estimation of auction models.
Prerequisites: AS.180.601
Instructor(s): J. Balat.

AS.180.672. Industrial Organization.
First term: This course covers methods in applied empirical Industrial Organization. The focus will be on the use of econometric analysis and data both for descriptive and measurement purposes, and to test the predictions of economic theories. The course will cover demand estimation, cost and production function estimation, and estimation of auction models. Second term: The emphasis in this course is on empirical analysis of firm behavior. The first part of the course focuses on models of the internal organization of the firm. The second part considers empirical analysis of firm behavior in markets, with an emphasis on the “new industrial economics.”
Prerequisites: AS.180.601
Instructor(s): E. Krasnokutskaya.

Advanced econometric techniques are often essential to innovative empirical work, but finding and implementing the right methods for a particular problem poses formidable challenges. This course/seminar aims to address these challenges by combining lectures and discussions of foundational econometric methods in areas of student interest (whether those interests be specific for thesis work or more speculative) with examples of implementation, including software development, in more of a ‘workshop’ environment. The emphasis will be on drawing on the resources of econometric theory to address specific empirical issues while at the same time developing implementation skills.
Instructor(s): R. Spady.

The goal of this workshop is to foster active discussion of a research topic among the students and faculty with the ultimate objective of producing new research. The topic and the papers are to be discussed with the input of the participants based on their research interests. Each week one or two participants will lead the discussion. All the participants will be expected to read and think about the papers to be discussed before the presentation Economics Graduate Students Only.
Prerequisites: AS.180.602
Instructor(s): H. Eraslan.

This is a weekly seminar series that brings in speakers from other universities to present their research in the field of applied microeconomics. Graduate Students only.
Instructor(s): Staff.

This is a seminar series devoted to the presentation of research in microeconomic theory, typically by speakers from outside the department. Graduate students only.
Instructor(s): Staff.

This course features lectures by economists from other universities. They present research findings at the frontier of the field. Graduate students only.
Instructor(s): Staff.

The purpose of this seminar is to train students to do research in economics. This course is for second year graduate students in the Ph.D program in Economics. For Graduates Students Only.
Instructor(s): G. Duffee.

AS.180.698. Research/Teaching Practicums.
The purpose of the Ph.D. program in economics is to train students to teach and to do research in economics. This course is for graduate students in the Ph.D. program in economics to obtain graduate credit for work off campus that provides training and the development of skills in teaching and/or research. Before the practicum is begun, the graduate student must identify a sponsoring faculty member or seek permission from the student’s faculty adviser. The faculty member or adviser must sign a form that certifies that graduate credit will be granted, verifies the nature of the work to be performed by the student, and explains how the practicum helps to fulfill a degree requirement. Once completed, the sponsoring faculty member or adviser submits a grade of pass or fail for the student. The course may be used for curricular practical training. Economic majors /Graduate students only.
Instructor(s): Staff.

AS.180.899. Independent Study.
Instructor(s): Staff.

Cross Listed Courses
Sociology
AS.230.367. Islamic Finance. 3 Credits.
Today, Islamic finance is a global industry comprising nearly $2 trillion in assets, with hubs from Kuala Lumpur to Dubai to London. But half a century ago, nothing called “Islamic finance” existed. So where did Islamic finance come from? Why is it growing so fast? And what does it mean for finance to be Islamic? We discuss the ban on riba in the Quran and hadith, finance in early and medieval Islamic societies, petrodollars and the birth of Islamic banking in the 1970s, the rise of Islamic capital markets since 2000, contemporary shariah-compliant financial structures, and the constitution of piety through financial practice.
Instructor(s): R. Calder
Area: Social and Behavioral Sciences.
Public Health Studies


This course introduces students to the controversial topic of who should pay for healthcare. Examines four themes of financing, pooling, purchasing and provision of healthcare and considers the financial, political and social implications of distinct health financing methods. Explores major principles and practices of health financing across countries with different political and economic frameworks, featuring Japan, Cambodia, U.K., Canada, Germany and the U.S.

Prerequisites: Prereq: AS.180.102 OR AS.180.101
Area: Social and Behavioral Sciences.

Interdepartmental

AS.360.247. Introduction to Social Policy: Baltimore and Beyond. 3 Credits.

How can we address pressing social problems, such as inner city poverty, inequality in educational attainment among children from different backgrounds, and disparities in access to health care? Social policy refers to the programs, legislation and governmental activities that regulate access to important social, financial and institutional resources needed by members of a society to address these concerns. Social policy also aims to reduce inequality, especially in the areas of education, health, income, housing, neighborhoods, and employment. The study of social policy is interdisciplinary, and this course will introduce students to the basic concepts in economics, political science, and sociology relevant to the study of social problems and the programs designed to remedy them. We will cover issues of national policy importance, as well as issues specifically affecting Baltimore City and the metropolitan region. This course is open to all students, but will be required for the new Social Policy Minor. The course is also recommended for students who are interested in law school, medical school, programs in public health, and graduate school in related social science fields. Cross list with Sociology, Economics and Political Science. Freshman, Sophomore and Juniors only.

Instructor(s): A. Sheingate; B. Morgan; K. Edin
Area: Social and Behavioral Sciences
Writing Intensive.

AS.360.528. Problems in Applied Economics. 3 Credits.

Permission Required. This course brings the principles of economic theory to bear upon particular problems in the fields of economics, finance and public policy. Micro, macro and international problems, from both the private and public sectors, are addressed. A heavy emphasis is placed on research and writing. Students learn how to properly conduct substantive economic research, utilizing statistical techniques and lessons from economic history. Findings are presented in the form of either memoranda or working papers. Exceptional work may be suitable for publication through the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise.

Instructor(s): S. Hanke
Area: Social and Behavioral Sciences
Writing Intensive.

Geography Environmental Engineering

EN.570.428. Problems in Applied Economics Research. 3 Credits.

This course brings the principles of economic theory to bear upon particular problems in the fields of economics, finance and public policy. Micro, macro and international problems, from both the private and public sectors, are addressed. A heavy emphasis is placed on research and writing. Students learn how to properly conduct substantive economic research, utilizing statistical techniques and lessons from economic history. Findings are presented in the form of either memoranda or working papers. Exceptional work may be suitable for publication through the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise.

Prerequisites: Prerequisites: EN.660.203
Area: Social and Behavioral Sciences
Writing Intensive.

EN.570.470. Applied Econ & Finance. 3 Credits.

This course focuses on company valuations, using the proprietary Hanke-Guttridge Discounted Free Cash Flow Model. Students use the model and data from financial statements filed with the Securities and Exchange Commission to calculate the value of publically-traded companies. Using Monte Carlo simulations, students also generate forecast scenarios, project likely share-price ranges and assess potential gains/losses. Stress is placed on using these simulations to diagnose the subjective market expectations contained in current objective market prices, and the robustness of these expectations. During the weekly seminar, students’ company valuations are reviewed and critiqued.

Prerequisites: Prerequisites: EN.660.203
Instructor(s): S. Hanke
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences
Writing Intensive.

EN.570.487. Financial Market Research. 3 Credits.

This course investigates the workings of financial, foreign exchange, and commodity futures markets. Research is focused on price behavior, speculation, and hedging in these markets. Extensive research and writing is required. Exceptional work may be suitable for publication through the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise.

Prerequisites: Prerequisites: EN.660.203
Instructor(s): S. Hanke
Area: Social and Behavioral Sciences
Writing Intensive.

English

The Department of English offers separate undergraduate and graduate programs, each designed to suit the needs of its particular student body. The undergraduate program, in the context of university requirements and elective courses, provides the basis for a liberal education and prepares students for graduate work or professional schools, such as medicine and law, as well as professional teaching and literary scholarship. The graduate program prepares advanced students for professional teaching careers in English literature.

Facilities

Besides the Sheridan Libraries, Hopkins students have easy access to the 12 million volumes and innumerable historical manuscripts of the Library of Congress, as well as the library at Dumbarton Oaks, the Folger Library, the Freer Library, the library of the National Gallery,
and many other specialized public collections. Students learn about advances in research and criticism and confer with leading American and European scholars and critics through participation in the activities of the Tudor and Stuart Club, the ELH Colloquium, and the department’s other programming.

Courses in the department are open to all qualified students in the university.

Requirements for the B.A. Degree
(Also see Requirements for a Bachelor’s Degree (p. 24.))
In addition to demonstrating foreign language proficiency in at least one classical or modern foreign language, the English major requires students complete general courses in the humanities and social science, a required course in literary study (AS.060.107 Introduction to Literary Study), and nine additional English courses, of which at least three must be literature before 1800. Within the nine additional English courses, at least two and no more than four courses must be designated as lecture courses. Students may identify lecture courses by the presence of the POS-Tag ENGL-LEC in a course description in the schedule of classes. Pre-1800 literature courses are identified by the POS-Tag ENGL-PR1800. Additional details include:

- Only two courses towards the nine required English courses for the major may be taken outside of the department and those must be cross-listed with the English department.
- Only two independent studies or senior essay courses may apply towards the major.
- Students must earn a grade of C- or better in all major requirements and courses may not be taken satisfactory/unsatisfactory.
- Up to two courses taken through approved study abroad programs may be applied towards the major with approval of the director of undergraduate studies.

Major Requirements:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Two courses in the humanities or social sciences</td>
<td>6</td>
</tr>
<tr>
<td>Foreign language proficiency through the intermediate level</td>
<td>0-17</td>
</tr>
<tr>
<td>AS.060.107 Introduction to Literary Study</td>
<td>3</td>
</tr>
<tr>
<td>** Nine Additional English Courses (divided as follows): **</td>
<td></td>
</tr>
<tr>
<td>One non-lecture course in pre-1800 literature</td>
<td>3</td>
</tr>
<tr>
<td>Two courses in pre-1800 literature</td>
<td>6</td>
</tr>
<tr>
<td>Six 200 to 400-level English courses</td>
<td>18</td>
</tr>
<tr>
<td>Total Credits</td>
<td>36-53</td>
</tr>
</tbody>
</table>

* Should be taken no later than sophomore year.

** Students are required to take at least two lectures courses and up to four lecture courses may apply towards this requirement.

Advising for Students
All students, whether their goals are professional or not, should choose courses in consultation with their major advisor to suit their individual needs and satisfy departmental requirements. Students planning to enter graduate school in English should study a second foreign language. Students who have not yet been assigned to a major advisor may discuss departmental requirements and curriculum planning with the director of undergraduate studies.

Honors in English
Departmental honors are awarded to undergraduate English majors who achieve a cumulative average of 3.6 or higher for all English courses taken to satisfy the major requirements. For more information about Honors in English, contact the director of undergraduate studies in English.

Senior Essay Option
Majors with a cumulative G.P.A. of 3.8 in English courses by the end of the fall semester of their junior year may apply to write a senior essay in the fall of their senior year. For further information and deadlines, contact the director of undergraduate studies in English.

English Minor
Students who wish to graduate with a minor in English must take AS.060.107 Introduction to Literary Study, generally within one year of declaring the minor. Six additional English courses are required, of which at least two and no more than three must be lecture courses. At least one of the six courses must be a pre-1800 course. Students must earn a grade of C- or better in all minor requirements and courses may not be taken satisfactory/unsatisfactory.

Minor Requirements:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.060.107 Introduction to Literary Study</td>
<td>3</td>
</tr>
<tr>
<td>One course in pre-1800 literature</td>
<td>3</td>
</tr>
<tr>
<td>Four additional English courses</td>
<td>12</td>
</tr>
<tr>
<td>** Total Credits</td>
<td>18</td>
</tr>
</tbody>
</table>

Major requirements are completed in both the third and fifth years at Hopkins.

The Department of English offers advanced programs and guided research leading to the Ph.D. degree in English and American literature in the following major literary fields: the Renaissance, the 18th century, the Romantic period, the Victorian period, American literature, and 20th-century literature.

The department accepts only full-time students working toward the Ph.D.; there is no autonomous M.A. program. Because of its small size and the close association between faculty and students, the department is able to offer an intensive program leading to the Ph.D. in five years.

Requirements for the Ph.D. Degree
Students are required to enroll in three graduate courses in each of the semesters of their first year of study and two in each of the semesters of their second year. By the end of the third year, students will have completed 10 graduate seminars, an oral examination in two fields, and examinations in one or two foreign languages. Fourth-year students will receive dissertation fellowships.

Teaching experience is regarded as an important part of the graduate program, and graduate students are required to teach in the department’s literature and expository writing courses during their second, third, and fifth years at Hopkins.

For further information about graduate study, contact the graduate coordinator at the Department of English or go to http://english.jhu.edu/graduate/.
Faculty

Chair
Eric Sundquist
Andrew W. Mellon Professor of the Humanities: American literature and culture, including African American and Jewish American; literature of the Holocaust.

Professors
Sharon Achinstein
Sharon Cameron
Douglas Mao
British, Irish, and U.S. poetry and fiction since 1860; interdisciplinary study of modernism.
Christopher Nealon
American literature, aesthetic theory, poetry and poetics, the history of sexuality
Eric Sundquist
Andrew W. Mellon Professor of the Humanities: American literature and culture, including African American and Jewish American; literature of the Holocaust.

Associate professors
Andrew Daniel
Early modern literature, critical theory, aesthetics.
Mark Thompson
19th- and 20th-century African-American literature, 20th-century German Idealism, French philosophy and aesthetics, theory.

Assistant professors
Jared Hickman
American literature, intellectual and cultural history of Atlantic (anti) slavery, religion and radical politics, critical race studies.
Jeanne-Marie Jackson
Jesse Rosenthal
American literature, aesthetic theory, poetry and poetics, the history of sexuality.

Professors emeriti
Frances Ferguson
Literature, aesthetic theory, and moral/legal philosophy in the 18th and early 19th centuries.
Allen Grossman
Andrew W. Mellon Professor Emeritus of the Humanities: poetry and poetics.
Ronald Paulson

Research professor
Larzer Ziff
Caroline Donovan Professor Emeritus of English Literature: American literature.

Joint appointments
Neil Hertz
Professor Emeritus (Humanities): Romantic literature and critical theory.
John T. Irwin
Professor (Writing Seminars): American literature.

Lecturers
Aliza Watters
Lecturer: Expository Writing Program
Anne-Elizabeth Murdy Brodsky
Lecturer: Expository Writing Program.
Williams Evans
Senior Lecturer: Expository Writing Program.
Patricia Kain
Senior Lecturer and Director: Expository Writing Program.
George Oppel
Lecturer: Expository Writing Program.
Marie O’Connor
Lecturer: Expository Writing Program.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

**AS.060.100. Introduction to Expository Writing. 3 Credits.**
Introduction to “Expos” is designed to introduce less experienced writers to the elements of academic argument. Students learn to recognize the paradigm of academic argument as they learn to read and summarize academic essays, and then they apply the paradigm in academic essays of their own. Classes are small, no more than 10 students, and are organized around three major writing assignments. Each course guides students’ practice through pre-writing, drafting, and revising, and includes discussions, workshops, and tutorials with the instructor. In addition to its central focus on the elements of academic argument, each “Intro” course teaches students to avoid plagiarism and document sources correctly. “Intro” courses do not specialize in a particular topic or theme and are available to freshmen only.
Instructor(s): A. Brodsky; M. O’Connor; P. Kain; W. Evans
Area: Humanities
Writing Intensive.
AS.060.102. The Novel and the American Family. 3 Credits.
While America and the “American Dream” promise the possibility of unlimited individual development, the American family has often resisted this promise and cramped America’s style. In this course we will explore works by Philip Roth, Eudora Welty, Alice Walker, and Jonathan Franzen that dramatize this tension in devastating and hilarious ways. Against the backdrop of post-WWII America, these writers struggle with issues of race, sex, and the erosion of tradition, shedding light on the challenging relation between the individual and the family.
Instructor(s): R. Day
Area: Humanities.

AS.060.105. Academic Writing. 3 Credits.
Area: Humanities
Writing Intensive.

AS.060.107. Introduction to Literary Study. 3 Credits.
See section descriptions.
Instructor(s): A. Daniel; D. Mao
Area: Humanities
Writing Intensive.

AS.060.110. The African American Novel. 3 Credits.
This course will survey classic novels by African-American writers. From slavery to freedom, from subjection to the qualified triumph of integration, we’ll examine several examples of black writers writing about what it means to be "white" from a “black” perspective, and what it means to be "white" from a “black” perspective.
Instructor(s): D. Tye
Area: Humanities
Writing Intensive.

AS.060.111. How Not to Be Afraid of Poetry. 3 Credits.
What is poetry? And why don’t we like it? This course will explore what makes poetry turn ordinary language into something extraordinary, into shapes and sounds so that sometimes we find it difficult to understand and sometimes we find it gives us great delight. This seminar will open up a range of poetry written in English, including some of the greatest writers of the English language. This course is designed for the students without a strong background in reading poetry but who have the desire to gain it; the main emphasis is exploration of the world and words of poetry and developing an appreciation and analytical understanding of the ways poetry can express, advocate, record, and move. Assignments will include reading poems, becoming an expert about a single poet, attending public poetry readings, creating poems, and writing short weekly assignments about poems. You will be expected to be an active member in classroom discussion and activities. Pre 1800 course.
Instructor(s): S. Achinstein
Area: Humanities
Writing Intensive.

AS.060.113. Expository Writing. 3 Credits.
“Expos” is designed to introduce more confident student writers to the elements of academic argument. Students learn to apply the paradigm of academic argument in academic essays of their own. Classes are capped at 15 students and organized around four major writing assignments. Each course guides students’ practice through pre-writing, drafting, and revising, and includes discussions, workshops, and tutorials with the instructor. In addition to its central focus on the elements of academic argument, each “Expos” course teaches students to document sources correctly and provides its own topic or theme to engage students’ writing and thinking. Please note: Each course has a different topic. To check individual course descriptions, go to the EWP web site. “Expos” courses are available to freshmen, sophomores, and juniors, and to seniors by special permission.
Instructor(s): Staff
Area: Humanities
Writing Intensive.

AS.060.114. Expository Writing. 3 Credits.
“Expos” is designed to introduce more confident student writers to the elements of academic argument. Students learn to apply the paradigm of academic argument in academic essays of their own. Classes are capped at 15 students and organized around four major writing assignments. Each course guides students’ practice through pre-writing, drafting, and revising, and includes discussions, workshops, and tutorials with the instructor. In addition to its central focus on the elements of academic argument, each “Expos” course teaches students to document sources correctly and provides its own topic or theme to engage students’ writing and thinking. Please see the following list of individual course descriptions to decide which sections of “Expos” will most interest you. “Expos” courses are available to freshmen, sophomores, and juniors, and to seniors by special permission.
Instructor(s): Staff
Area: Humanities
Writing Intensive.

AS.060.116. Reading Muslims in Global Fiction and Film. 3 Credits.
This course will explore representations of complex, fully-developed Muslim characters in fictions detailing experiences from the Balkans, the Indian Ocean, Britain, and the United States. These may include novels by Abdulrazak Gurnah, Orhan Pamuk, and Leila Aboulela, as well as films like A Separation (2011). In studying the way each text represents Muslims and their relationships to their faith, the class will analyze themes of belonging and identity politics, imagined relationships to geographies, and representations of individuality alongside rituals of belief. It will look at how race, socio-economic status, gender, and citizenship contribute to these representations, when and how these texts are read as political acts, and what contributions such fiction has made to aesthetics.
Instructor(s): Staff
Area: Humanities
Writing Intensive.
AS.060.118. Asian American Literature and Film. 3 Credits.
This course offers students a survey of Asian American literature, film and cultural politics. Throughout the course we will evaluate the literary and filmic productions of Asian Americans in order to ask a series of questions: Who is American? Who is Asian American? How does “Asian American” work as a category that uncovers contestations over the meaning of ethnic, sexual, and national identity? We will look at a diverse array of Asian American groups while paying attention to the formation of Asian American subjectivities across differences and the intersections of ethnicity, sexuality, class and gender. Cross-listed with Film and Media Studies
Instructor(s): R. Neutill
Area: Humanities
Writing Intensive.

AS.060.121. The British Empire and 20th Century Fiction. 3 Credits.
This course explores the ways in which the British Empire—which at its peak commanded a quarter of the world’s population and landmass—affected the development of British literature in the 20th century. In studying works set in Africa, South Asia, and the Caribbean, we will discuss themes of imperialism, culture, international development, and modernization. Authors include Rudyard Kipling, E.M. Forster, Graham Greene, Jean Rhys, and Arundhati Roy.
Instructor(s): R. Day
Area: Humanities.

AS.060.125. Nineteenth-Century American Experimental Writing. 3 Credits.
Emerson famously exalted the power of the individual self: “To believe your own thought, to believe what is true for you is true for all men—that is genius.” Melville regarded such hubristic intoxication with “untraditional and independent thinking” as the condition of tragedy. Emily Dickinson’s poems neither extol the “greatness” of the individual nor decry his limitations. Rather her poems invent a language for experiences so solitary and apparently incommunicable that she called them “inner than the bone.” We shall examine the representations of self in the genre-bending writing of these three nineteenth-century giants—writing that forever redefined the essay, the novel, and the poem.
Instructor(s): S. Cameron
Area: Humanities
Writing Intensive.

AS.060.129. Writing Africa Now. 3 Credits.
This course surveys post-2000 literary and cultural production from sub-Saharan Africa. Topics will include debates over genre and fiction’s relevance to African experience, legacies of canonical writing about independence, urban Africa as violent or “tragic” landscape, and problems of scale and geographical context. Readings by authors such as Adichie, Wainaina, Duiker, and Vladislavic, and students will be introduced to the main print and online arteries of African intellectual discussion. This class is for non-majors and does not count towards the English major or minor.
Instructor(s): J. Jackson
Area: Humanities
Writing Intensive.

AS.060.131. Law and Literature. 3 Credits.
This course queries the nature of legal authority both formally and historically. What distinguishes between law and literature? Is law more authoritative? Is it more ethical? Is it more “real”? Avenues of inquiry will include the power of language to embody, inhabit, or represent law; the relationship between law and ideas about self, liberty, and love; and conflicts and confluences between literary and legal claims to autonomy. Readings may include Sophocles’ Antigone, Andreas Capellanus’ On Love, Shakespeare’s Measure for Measure, William Godwin’s Caleb Williams, and Franz Kafka’s The Trial. This course is for non-majors.
Instructor(s): M. O’Connor
Area: Humanities
Writing Intensive.

AS.060.133. Medicine and Literature. 3 Credits.
This course is designed to introduce students to a range of literary representations of illness. How does literature build upon but exceed the surrounding frame of medical knowledge to explore illness as political crisis, mystical experience, divine punishment, neurotic hallucination, or opportunity? Possible texts include: “The Book of Job”; William Shakespeare, “Hamlet”; Moliere, “La Malade Imaginaire” (The Imaginary Invalid); Virginia Woolf, “On Being Ill”; Thomas Mann, “Death in Venice”; Susan Sontag, “Illness as Metaphor”; David Feldshuh, “Miss Evers’ Boys”; Audre Lord, “The Cancer Journals”; Thom Gunn, “The Man with Night Sweats”. This course does not count toward the English major or minor.
Instructor(s): A. Daniel
Area: Humanities
Writing Intensive.

AS.060.134. Franz Kafka. 3 Credits.
An introduction to one of the 20th century’s most eccentric and important writers. From his German-speaking Jewish background in Austrian-controlled Prague, Franz Kafka managed to overturn the conventions of modern fiction. Both bleak and zany, both logical and absurd, his writing shows the struggle of the individual against the modern institutional world. Discussion topics will include the political and religious views informing Kafka’s work, the role of bureaucracies in everyday life, and the impossibility of living within the law. Reading: short stories; his famous novella, The Metamorphosis; and two novels, The Trial and Amerika—all in English translation.
Instructor(s): R. Day
Area: Humanities.

AS.060.136. Literature of the American South. 3 Credits.
This course considers the development of southern identity in twentieth-century American fiction. Reading works from authors of different races, genders, and classes, students will explore the importance of region in determining ways of being and modes of expression.
Instructor(s): E. Steedley
Area: Humanities.
AS.060.138. No "I" in "News": The New Journalism, Hunter S. Thompson to David Foster Wallace. 3 Credits.
In 1972, Tom Wolfe noticed a trend in magazine reporting that he called a “new journalism,” a “higher journalism.” This new breed of reporting, he claimed, was “causing panic, detroning the novel as the number one literary genre, starting the first new direction in American literature in half a century.” It goes without saying that Wolfe considered himself on the cutting edge of the revolution. With no pretense of objectivity, the new journalists unapologetically wrote themselves into stories, stylizing their narratives with the techniques of fiction and recasting fact to suit their intended effect. This course will survey the field of new journalism, from Hunter S. Thompson’s drug-fueled, “gonzo” exposé of Southern culture, “The Kentucky Derby is Decadent and Depraved,” to mild-mannered George Plimpton’s chronicle of his tenure as a middle-aged professional football player, Paper Lion: Confessions of a Last-String Quarterback. We’ll also consider some of the movement’s precursors and heirs, from Stephen Crane’s efforts to brave the heat of battle as a war correspondent to David Foster Wallace’s attempt to understand the mild pleasures (and existential terrors) of a cruise ship vacation, “A Supposedly Fun Thing I’ll Never Do Again.”
Instructor(s): D. Tye
Area: Humanities
Writing Intensive.

AS.060.139. Expository Writing: The Narrative Essay. 3 Credits.
Telling stories is one of the first and most important ways that human beings try to make sense of the world and their experience of it. The narrative art informs fiction and nonfiction alike, is central to the writing of history, anthropology, crime reports and laboratory reports, sports stories and political documentaries. What happened? The answer may be imagined or factual, but it will almost certainly be narrative. This course focuses on the narrative essay, a nonfiction prose form that answers the question of “what happened” in a variety of contexts and aims to make sense not only of what happened but how and why. We will begin by summarizing narrative essays, will move to analyzing them, and in the second half of the course you will write two narrative essays of your own, the first based on a choice of topics and sources, the second of your own design. Authors may include James Baldwin, Annie Dillard, Chang Rae Lee, Danielle Ofri, George Orwell, Richard Rodriguez, Richard Selzer, and Abraham Verghese. You will learn the power of narrative to inform and persuade as you test that power in your own writing.
Instructor(s): P. Kain
Area: Humanities
Writing Intensive.

AS.060.140. Censorship and Modern Literature. 3 Credits.
Whether because of its religious or political dissent, sexual deviance, or corrupting effects on readers, literature has often been perceived as threatening the social order. In this course, we will read a variety of famous literary works, which have each been censored, banned, or subject to public outrage. Alongside each work, we will also read documents related to that work’s suppression, such as reviews, court proceedings, and statements by the authors themselves. We will consider the ways in which literature is both the result of individual artistic achievement, and shaped by its social context. Possible authors include Oscar Wilde, Djuna Barnes, D.H. Lawrence, Vladimir Nabokov, Allen Ginsberg, Salman Rushdie, and Brett Easton Ellis. (This course is for non-majors)
Instructor(s): R. Day
Area: Humanities
Writing Intensive.

AS.060.141. Joyce’s Ulysses. 3 Credits.
James Joyce’s Ulysses is often described as both the greatest novel of the twentieth century (it may be) and as nearly impossible to read (it’s not). We’ll spend most of our time on a careful exploration of the novel’s 18 episodes, with some help from secondary sources. In the process we’ll try to get a handle on Ulysses’ vivid cast of characters, extravagant stylistic innovations, occasionally low comedy, incorporation of myth and history, relation to literary modernism, and the novel’s enduring influence.
Instructor(s): R. Higney
Area: Humanities.

AS.060.144. Joyce’s Ulysses. 3 Credits.
James Joyce’s Ulysses is often described as both the greatest novel of the twentieth century (it may be) and as nearly impossible to read (it’s not). We’ll spend most of our time on a careful exploration of the novel’s 18 episodes, with some help from secondary sources. In the process we’ll try to get a handle on Ulysses’ vivid cast of characters, extravagant stylistic innovations, occasionally low comedy, incorporation of myth and history, relation to literary modernism, and the novel’s enduring influence.
Instructor(s): R. Higney
Area: Humanities.

AS.060.145. Literature, Science, and Technology. 3 Credits.
This class will consider a range of reactions to scientific discoveries in literature, from electricity in the nineteenth century to bioengineering today. We’ll pay special attention to the utopian hope, doomsaying despair, and radical reconceptions of reality technological breakthroughs seemed and seem to provide. Authors will include Mary Shelley, Wells, LeGuin, Ishiguro.
Instructor(s): E. Tempesta
Area: Humanities

AS.060.146. Detective Fiction. 3 Credits.
This course will look at the history of English-language detective fiction through the nineteenth and twentieth centuries. We will pay special attention to the way clues and suspense operate, the role of the reader in figuring out the mystery, and the complicated relationship of the detective with official authority. Authors will likely include some selection of Wilkie Collins, Edgar Allan Poe, Arthur Conan Doyle, Agatha Christie, Dashiell Hammet, and Raymond Chandler. This class is for non-majors.
Instructor(s): J. Rosenthal
Area: Humanities
Writing Intensive.

AS.060.149. Freshman Seminar: Work and Worth in American Literature. 3 Credits.
This course explores the idea of meaningful work, past and present. How do Americans decide which work is worth doing? Who gets the chance to do it? And what happens when people find themselves doing work that isn’t worth doing? Through representations of people at work in the writings of Douglass, Melville, Hurston, Steinbeck, Frost, and Springsteen, and with the help of select critical materials, we will engage contemporary discussions of labor and vocation. Dean’s Prize Freshman Seminar
Instructor(s): E. Tempesta
Area: Humanities
Writing Intensive.

AS.060.150. Shakespeare and (Teen) Film. 3 Credits.
In this course, students will read four of Shakespeare’s plays (Romeo and Juliet, Othello, Taming of the Shrew and A Midsummer Night’s Dream) alongside a movie adaptation of each that belongs to a genre rarely subjected to serious study: teen film. Participants will consider the costs and benefits of viewing the Shakespearean canon through the lens of teenage experience.
Instructor(s): M. Vinter
Area: Humanities
AS.060.151. American Literature, Race, and Civil Rights. 3 Credits.
The course will explore the role played by literature in advancing and reflecting upon the African American pursuit of freedom and civil rights over the course of the twentieth century, from the era of harsh segregation through the post-Civil Rights era. Although we will focus primarily on fiction, we will also consider essays, autobiography, and poetry. Writers to be considered, mostly black but some white, may include James Weldon Johnson, Ralph Ellison, Richard Wright, Ann Petry, James Baldwin, William Faulkner, Harper Lee, William Melvin Kelley, Malcolm X, Amiri Baraka, Toni Morrison, and Paule Marshall. This class is for non-majors.
Instructor(s): E. Sundquist
Area: Humanities
Writing Intensive.

AS.060.152. Shakespeare. 3 Credits.
This course introduces students to Shakespearean drama through a selection of comedies, tragedies, and histories. Class time will include lectures on the historical, political, and philosophical implications of Shakespearean drama, film clips from various cinematic adaptations, and a significant amount of student discussion of the plays. We will focus our discussion particularly on themes that were important to Shakespeare and that continue to concern us today, such as family relationships, intimacy, sexuality, power, religion, and war. Plays include the Taming of the Shrew, Merchant of Venice, 1 and 2 Henry IV, Hamlet, Macbeth, and the Tempest.
Instructor(s): B. Parris
Area: Humanities
Writing Intensive.

AS.060.154. Zombies. 3 Credits.
Why does the zombie figure so prominently in modern literary and cinematic texts? What particular anxieties does this figure of mindless violence disclose? Why does the zombie genre so often lend itself to political allegory? How do we make historical sense of this figure’s original association with Afro-Atlantic religions like Haitian voodoo? This course is designed for non-majors interested in developing critical reading and writing skills by investigating this surprisingly rich topic. Texts, literary and cinematic, may include: firsthand accounts of the Atlantic slave trade, Mary Shelley’s “Frankenstein”, Edgar Allan Poe’s short stories, Rudolph Fisher’s “The Conjure-Man Dies”, “The Invasion of the Body Snatchers” (dir. Don Siegel), “The Serpent and the Rainbow” (dir. Wes Craven), “Pontypool” (dir. Bruce McDonald), and “Zombieland” (dir. Ruben Fleischer).
Instructor(s): J. Hickman
Area: Humanities
Writing Intensive.

AS.060.156. Introduction to Poetry. 3 Credits.
This is a beginner’s guide to the varieties of poetry in English from the Anglo-Saxons to today, with a few detours, here and there, into poetry from other languages in translation. We will study how patterns of sound, image, rhythm, and ideas allow us to become better tuned-in to poetry. You should leave the class with a better appreciation of poetry, some improvement in your writing skills, and a new favorite poem. This course does not count toward the English major or minor.
Instructor(s): E. Tempesta
Area: Humanities
Writing Intensive.

AS.060.157. J.R.R. Tolkien and the Contemporary Fantasy Epic. 3 Credits.
J.R.R. Tolkien’s “The Lord of The Rings” trilogy can honestly be said to have initiated a new genre: a novel-based epic narrative set in a fantasy world. Since Tolkien’s works were first published in the 1940’s, there has been a massive flowering in similar works, as later authors expanded and developed the notion of the multi-volume fantasy narrative. However, these later texts are also, importantly, creative responses to the models Tolkien developed. In this course, we are going to study this genre, identify its history and formal features, and consider the nature of fantasy fiction more generally. What do authors hope to achieve by setting plots and characters in a completely imagined world? What narrative possibilities does such a decision enable, and what possibilities does it foreclose? Does the fantasy genre mask certain ideologies, and how can we uncover them? Authors will include Tolkien, Robert Jordan, George R.R. Martin, and Steven King, and may also include selections from Brandon Sanderson, David Eddings, Patrick Rothfuss, Ursula K. LeGuin, and Elizabeth Moon. This course is for non-majors. (Limit 18)
Instructor(s): P. Fessenbecker
Area: Humanities.

AS.060.158. Advertising and Literary Modernism. 3 Credits.
To say that certain modernist authors were skeptical about the growing power of advertising would be an understatement. H.G. Wells described it as a form of “legalized lying,” while F. Scott Fitzgerald quipped that “its constructive contribution to humanity is exactly minus zero.” Such views on marketing were hardly uncommon, as many modernist authors saw advertising as an enemy to true artistic creation. The modernist response to this form of popular culture, however, was not uniformly hostile. Avant-garde artists, who rejected mainstream commercial values, often turned to newspaper ads and posters for the material that they would repurpose for their own work. In the stream of consciousness epic Ulysses, the protagonist works in advertising and his eye is often drawn to the notices and promotions that cover the streets of Dublin. Virginia Woolf even pauses her narrative to depict a fictional crowd of Londoners contemplating an airplane writing an ad in smoke letters. This course will explore the variety of stances toward advertising in the modernist period, as well as provide historical context. Novels include: “Sister Carrie”, “The Ambassadors”, “Mrs. Dalloway”, “Turnabout”, as well as selections from Ulysses. Critical sources include: Benjamin, Adorno, Williams, Moretti, Brown, and Butler. This course is for non-majors.
Instructor(s): K. Wedekind
Area: Humanities
Writing Intensive.
AS.060.168. Literature and the Civil Rights Movement. 3 Credits.
The course will examine the role of literature in the American civil rights movement. Both non-fiction and fiction played an essential role in motivating protest and shaping public views. Our focus will be on works that entered into the debates over race, rights, and freedom, and introduced a new vocabulary of cultural pride into African American discourse. Works to be studied will include Martin Luther King, Jr., selected speeches and Why We Can’t Wait (including “Letter from Birmingham Jail”); Malcolm X, selected essays and Autobiography of Malcolm X; James Baldwin, Notes of a Native Son; William Melvin Kelley, A Different Drummer; Ralph Ellison, selected short fiction and essays; William Faulkner, Intruder in the Dust; Amiri Baraka (LeRoi Jones), selected poetry and Dutchman; John Howard Griffin, Black Like Me; Paule Marshall, Praisesong for the Widow. This course does not count toward the English major or minor.
Instructor(s): E. Sundquist
Area: Humanities
Writing Intensive.

AS.060.176. The Russian Novel: Tolstoy and Dostoevsky. 3 Credits.
If there is no God, how can I be a captain?* We’ll examine this and other religious, philosophical, and historical questions in Tolstoy’s and Dostoevsky’s titanic novels. Readings (in translation) include War and Peace and The Brothers Karamazov. No prerequisites. Substantial reading; 6-8 page paper; 10 page paper; weekly exercises and quizzes. Freshman/sophomore seminar. This class is for non-majors.
Instructor(s): S. Cameron
Area: Humanities
Writing Intensive.

AS.060.180. Introduction to the Gothic. 3 Credits.
Intended as a survey of American and British Gothic fiction (with some excursions into poetry, film, and television), this course will introduce students to the genre of the Gothic and some of its key terms via a selection of major works of Gothic literature from the 19th and 20th Centuries, as well as some of its more popular incarnations (True Blood, the Twilight series). By the end of the course students should have a better understanding of why the Gothic mode continues to play such an important role in our cultural imagination and be better equipped to think and write critically about any manifestation of Gothic terror, from In Cold Blood to True Blood. Students will write short (1-2 page) weekly response papers along with one longer 5-7 page paper.
Instructor(s): A. Zecca; E. Steedley
Area: Humanities

AS.060.200. Introduction to Modern Fiction. 3 Credits.
This course will examine the formalistic innovations and major themes, as well as the interplay of aesthetics and politics in literary modernism, by looking in depth at the novels of four of the most influential modernist writers in the twentieth century. Novels will include Joseph Conrad’s Heart of Darkness; James Joyce’s A Portrait of the Artist as a Young Man; Virginia Woolf’s Mrs. Dalloway; and Franz Kafka’s The Castle.
Area: Humanities.

AS.060.201. The Nineteenth Century British Novel. 3 Credits.
Reading major novelists from the nineteenth century including Austen, C. Brontë, Dickens, Eliot, Hardy, and Conrad. We will pay attention to formal conventions, and relation to social and historical context.
Instructor(s): J. Rosenthal
Area: Humanities.

AS.060.202. What is Tragedy?. 3 Credits.
This course is an introduction to tragedy. What is a tragedy? How has the genre been defined and redefined over its long and varied existence? And why do authors and audiences keep returning to these spectacles of pity and fear? To consider these questions, we’ll examine plays including Sophocles’ Oedipus Rex, Shakespeare’s Hamlet, Racine’s Phèdre and Beckett’s Endgame, ending with the Coen Brothers’ film No Country for Old Men.
Instructor(s): W. Miller
Area: Humanities.

AS.060.204. Satan in Literature. 3 Credits.
What is it about Satan that has captured the literary imagination? From moral opposition to God in the Book of Job, to divine punishment in Dante’s Inferno, from political revolution in Milton’s Paradise Lost to irreverence of tradition in Salman Rushdie’s The Satanic Verses, this class will examine the ways in which Satan has been used in literature to represent a variety of moral, political and social forces, from Ancient, Medieval, Renaissance and Modern eras.
Instructor(s): J. Chilton
Area: Humanities.

AS.060.207. Shakespeare. 3 Credits.
Reading the major comedies, histories and tragedies alongside the narrative poem “Venus and Adonis” and the sonnets, this survey course considers Shakespeare’s hybrid career as poet and playwright. Pre 1800 course.
Instructor(s): A. Daniel
Area: Humanities.

AS.060.208. Radical Politics and the English Novel. 3 Credits.
This course will examine radical politics and its relationship to popular print culture and the English novel from the late eighteenth century through the early Victorian period. Students will consider widespread fears of radical rebellion, the position of the English working class, and controversies over political reform. Readings will include the novels Caleb Williams, A Tale of Two Cities and North And South and political writings by Thomas Paine, Edmund Burke and George Eliot, among others.  Area: Humanities.

AS.060.209. The American Novel since World War II. 3 Credits.
This course surveys the formal and thematic developments of the American novel from 1945 to the present. Against the backdrop of American post-war triumphalism, we consider how contemporary writers, struggling with issues of identity, race and authenticity, express different and deeply troubled accounts of the American dream. We will pay particular attention to the relationship between fiction and history; the tension between individual and collective identity; the changing role of literature in American culture, and the gradual emergence of postmodernism as a significant force in American literary life. Possible authors include: Richard Wright, Flannery O’Connor, Jack Kerouac, J.D. Salinger, Thomas Pynchon, Philip Roth, Cormac McCarthy, Toni Morrison, John Barth, Saul Bellow, Maxine Hong Kingston.
Instructor(s): A. Wexler
Area: Humanities.
**AS.060.211. British Literature I. 3 Credits.**

What is British Literature? Beginning in the fourteenth century and concluding in the eighteenth century, this survey course examines the time period in which the notion of vernacular English literature, the corporate body of “Great Britain” as a national framework, and, with it, “British-ness” as an imaginary, synthetic identity, were all created. Participants will read a representative group of Geoffrey Chaucer’s “The Canterbury Tales”, Book I of Edmund Spenser’s “The Faerie Queene”, the entirety of John Milton’s “Paradise Lost”, and Alexander Pope’s “The Rape of the Lock.” The course is designed as an introductory level lecture course and is open to all students curious about the beginnings of the English literary canon. It is recommended that students follow this course with its sequel, Professor Mao’s “British Literature II,” which will be offered the following semester. Pre-1800 course

Instructor(s): A. Daniel

Area: Humanities.

**AS.060.212. British Literature II: 18th Century to the Present. 3 Credits.**

A survey of major authors such as Wordsworth, Keats, Austen, Tennyson, Dickens, Wilde, Woolf, Joyce, and Rushdie. Substantial attention to formal conventions as well as stylistic innovation, to aesthetic value as well as social meaning.

Instructor(s): D. Mao

Area: Humanities.

**AS.060.213. Gothic Fiction. 3 Credits.**

The Castle of Otranto (1764), considered by most to be the first Gothic novel, forged a volatile synthesis of the supernatral and the ordinary. We will consider this wildly popular genre from multiple angles: How do haunted ruins and ghostly visitors speak to the way we create history? What does terror reveal about psychology? And how does a genre so open to parody expose how narrative works? Authors will include Walpole, Lewis, Radcliffe, and Austen.

Instructor(s): S. Hershinow

Area: Humanities.

**AS.060.214. Crime and Detective Fiction. 3 Credits.**

This course will survey the nineteenth-century origins of detective and crime fiction and its development into the twentieth century. Students will examine how this self-reflexive genre uses suspense and narrative to reflect on acts of storytelling and interpretation. We will consider the role of the detective and how this genre portrays urban space, crime and class and gender relations. Course material includes readings from Poe, Collins, Conan Doyle, Chandler, Sayers and Auster, as well as the film The Maltese Falcon. Course will include two term papers and a final exam.

Instructor(s): J. Valdez

Area: Humanities.

**AS.060.215. Advanced Expository Writing. 3 Credits.**

Designed for juniors and seniors with experience in using analysis to make clear and persuasive arguments, but open to any students who have taken Expository Writing (060.113/114), this course focuses on the advanced skills of argument. Students learn to draw inferences from the evidence, use sources in a variety of ways to develop their thinking, and structure complex arguments.

Instructor(s): P. Kain; W. Evans

Area: Humanities

Writing Intensive.

**AS.060.216. Wilde to Eminem: A Literary History of the Obscene. 3 Credits.**

What is obscene? What is indecency? Where is the line between public and private? How have the answers to these questions changed over the past century? This course will examine artworks and performances from a variety of media which have been publicly accused of indecency or obscenity. Wilde, Joyce, Nabokov, Ginsberg, Bruce, Carlin, Kubrick, Serrano, Lyne, Prince, and Eminem among others will provide the materials for our inquiry.

Instructor(s): J. Chilton

Area: Humanities, Social and Behavioral Sciences.

**AS.060.217. American Literature Since World War II. 3 Credits.**

This is a survey lecture covering American literature since about 1945, focusing on fiction from Saul Bellow, and James Baldwin to Toni Morrison and Don DeLillo, poetry from Robert Lowell, Sylvia Plath, Adrienne Rich, John Ashbery, and an array of and political journalism from the 1960s to today.

Instructor(s): C. Nealon

Area: Humanities.

**AS.060.218. What is the Great American Novel? 3 Credits.**

This course will investigate the curiously persistent idea of the “Great American Novel” (GAN) through a close engagement with three exemplary candidates for the title that span American literary history (Moby-Dick, Song of Solomon, and Freedom). Students will also read several critical essays to provide both a history of the concept as well as criteria for what might make an American novel “great.” Through analyses of the individual novels, students will be encouraged to reflect on the persistence, efficacy, and validity of the GAN.

Instructor(s): G. Shreve

Area: Humanities.

**AS.060.219. American Literature to 1865. 3 Credits.**

A survey course of American literature from contact to the Civil War.

Instructor(s): J. Hickman

Area: Humanities.

**AS.060.220. Coming of Age Novels. 3 Credits.**

In this course, we will consider how "coming of age" is depicted in the novels of British and American modernism. We will discuss how questions of family, sexual love, education, work, and religion contribute to an individual's personal development in the novels of Virginia Woolf, James Joyce, F. Scott Fitzgerald, Virginia Woolf, and James Baldwin. We will also reflect on how the form of the coming of age novel in the early to mid twentieth century engages with important social and historical developments that protected adolescence as a stage of life, such as labor and education reform. Writing requirements include two 4-5 page papers.

Instructor(s): C. Gannon

Area: Humanities.

**AS.060.221. American Literature, 1865 to today. 3 Credits.**

This course is a survey of major developments in American poetry and narrative fiction from the end of the Civil War to the present day. Authors to be covered may include Mark Twain, Willa Cather, Henry James, James Baldwin, Toni Morrison, Emily Dickinson, Walt Whitman, Wallace Stevens, and John Ashbery.

Instructor(s): C. Nealon

Area: Humanities.
AS.060.223. Jane Austen and Film. 3 Credits.
Jane Austen, along with William Shakespeare, is one of the few figures from the literary canon who is also popular with contemporary audiences. Yet unlike Shakespeare, her popularity appears to be a reason for dismissal: her works are quickly labeled as the forerunner of the harlequin romance, and her brilliant innovations in aesthetic form, as well as her philosophical and psychological insights, go unrealized. In this course, we’ll study Austen in both her original and her contemporary forms, by reading four novels—Northanger Abbey, Sense and Sensibility, Pride and Prejudice, and Emma—and watching the corresponding movies. I will occasionally assign short pieces from secondary critics. Student assessment will include reading quizzes, response papers, and one 6-8 page paper.
Area: Humanities.

AS.060.224. The Modern Novel. 3 Credits.
This course covers the British novel from the late nineteenth century to the present, with a particular focus on the decades around World War I. We’ll balance attention to formal innovations and experiments with consideration of social and historical context, exploring issues such as gender, empire, psychology, the city, and war. Our goal will be to understand what makes these novels “modern” and sets them apart from their predecessors; to this end, we’ll examine how many important authors also wrote extensively on the craft and aims of fiction. Readings will include representative selections by authors such as Henry James, James Joyce, Ford Madox Ford, E.M. Forster, Virginia Woolf, Jean Rhys, and Ian McEwan.
Instructor(s): A. Grener
Area: Humanities.

AS.060.225. Shakespeare: Then and Now. 3 Credits.
Shakespeare’s plays remain vital in part because of their engagement with perennially provocative topics: sexuality, politics, social intolerance, the often vexed relations between men and women, parents and children. In this survey of some of the major comedies, histories and tragedies, we will both place Shakespeare’s plays in their historical context and consider their significance for present-day readers and audiences.
Instructor(s): R. Halpern
Area: Humanities.

AS.060.226. African American Literature to 1914. 3 Credits.
This course serves as an introduction to African-American literature, from its beginnings until the outbreak of WWI. In it, we will consider various genres of African-American literary production, such as the slave narrative, novel, the poem, and the essay. Through critical readings, we will explore recurrent themes in early African-American literature in its cultural and historical contexts, as well as the question of what constitutes the African-American literary tradition as such.
Instructor(s): M. Thompson
Area: Humanities.

AS.060.227. The Female Novel of Development. 3 Credits.
This course investigates the female novel of development in the later nineteenth and early twentieth centuries, reading novels by George Eliot, Henry James, May Sinclair, and Virginia Woolf, as well as short historical texts of the period, and literary criticism about the Novel. We will consider how writers use the novel to engage with contemporary questions about women’s social roles, marriage, suffrage, and the expansion of women’s education.
Area: Humanities.

AS.060.249. Hardy, Conrad, James. 3 Credits.
This course will look in depth at the novels of three of the most important writers of the late nineteenth and early twentieth centuries: Thomas Hardy, Joseph Conrad, and Henry James. We will look at their central concerns and stylistic innovations, and consider their place at the crossroads of the Victorian novel and literary modernism. We will also look at selections of Hardy’s poetry and James’s critical writings.
Instructor(s): J. Rosenthal
Area: Humanities.

AS.060.250. Anti-Heroes of British Fiction. 3 Credits.
When is it Good to be Bad?: Anti-Heroes of British Fiction. Although the Victorians are widely known for their interest in traditional virtues, many Victorian novels are actually full of anti-heroes: of cynical, willful figures who lack respect for conventional norms. The course explores ways that three Victorian novels both privilege and critique anti-heroic villains, including Mr. Hyde (from Dr. Jekyll and Mr. Hyde), Heathcliff (from Wuthering Heights), and Becky Sharp (from Vanity Fair).
Area: Humanities.

AS.060.251. Visionary America. 3 Credits.
This course will consider the role that visionary experiences play in the development of American literary forms across the 19th and 20th centuries. Beginning with William James’s seminal analysis of such profound, individual encounters with transcendence, we will examine a formally diverse array of texts—from Uncle Tom’s Cabin to Allen Ginsberg’s Howl—seek either to record visionary experiences, to represent them, or even to induce them in readers. Through this lens, we will consider how religious expression, subjective experience, and literary aesthetics overlap with one another across American literary history.
Area: Humanities.

AS.060.252. Popular Fiction of the Eighteenth Century. 3 Credits.
Forms like travel writing, erotic fiction, the sentimental story, and the gothic make up the early novel; each of these crowd-pleasing subgenres was dominated by female authors. We will read examples of these experimental—and often strange—varieties of the proto-novel, by Behn, Haywood, Burney, Radcliffe, and Austen.
Area: Humanities.

AS.060.254. Modern Poetry. 3 Credits.
This course will explore modern poetry, primarily in the first half of the 20th century, with a focus on poets’ own ideas of what makes their poetry distinctively modern. Our reading will also address some of Modernism important forerunners and inheritors, along with related movements such as Imagism, war poetry, and the Harlem Renaissance. We will pay particular attention to poetry’s place in the broader history of modern art and literature, and to central themes including nature and the city; love and sexuality; violence and myth. Authors will include W.B. Yeats, Robert Frost, T.S. Eliot, Ezra Pound, Marianne Moore, Wallace Stevens, William Carlos Williams, W.H. Auden, Hart Crane, Langston Hughes, Claude McKay, Philip Larkin, and Elizabeth Bishop.
Area: Humanities.

AS.060.255. The Bible as Literature. 3 Credits.
This course looks at the Bible’s influence on literature by examining the use and impact of the most common biblical stories on canonical literary works. Pre 1800 Course
Instructor(s): M. Thompson
Area: Humanities.
**AS.060.260. Ethnic American Literature. 3 Credits.**
This class is an introductory course in ethnic American literature. We will read Native American, Chicano, Latino, Asian American, and African American literatures. The class will pose questions such as: Why ethnic American literature? Why not simply American? What are the dissonances and similarities between these literary voices? We will explore themes such as identity, otherness, and the construction of race and Americanness. Readings in post-1945 course will include works by authors such as James Baldwin, David Henry Hwang, Toni Morrison, Sherman Alexie, Junot Diaz, Sandra Cisneros, Maxine Hong Kingston, and Jhumpa Lahiri.
Instructor(s): R. Neutill
Area: Humanities.

**AS.060.262. Literature and Knowledge. 3 Credits.**
Can poems, plays, and imaginary narratives teach us something about the real world? Or does their fictional status make them unreliable as sources of knowledge? This course explores these questions by examining classical and contemporary discussions of the topic in conjunction with major works of literature. Primary sources include works by Shakespeare, Jane Austen, and William Golding, while the criticism will be represented among others by Aristotle, Dr. Johnson, and Martha Nussbaum.
Instructor(s): R. Maioli dos Santos
Area: Humanities.

**AS.060.266. Modern Drama. 3 Credits.**
An introduction to drama of the late-19th and 20th centuries, with an emphasis on its ideological and political contexts. In modern drama, we find vivid accounts of key aspects of modernity: urbanization, industrialization, migration, war, democracy, capitalism, fascism, communism, and nationalism, to name a few. We will read a selection of plays that ask timely questions about the limits of human subjectivity and integrity in a modern, often dehumanizing world. Modern drama is shaped by, and responds to, social and political changes, such as the demise of the aristocracy, the ambitions of the middle class, totalitarian conquest of Europe, apartheid in South Africa, and the AIDS epidemic in the United States. This course also charts how major debates, movements, and theories in the arts have motivated drama’s diverse forms and themes. Playwrights may include Henrik Ibsen, Oscar Wilde, Anton Chekhov, Bertolt Brecht, Eugene O’Neill, Tennessee Williams, Samuel Beckett, Athol Fugard, Edward Albee, Caryl Churchill, and Tony Kushner. Secondary readings by the playwrights themselves, in addition to Georg Lukacs, T.S. Eliot, Raymond Williams, Eric Bentley, and more recent scholars and critics.
Instructor(s): R. Day
Area: Humanities
Writing Intensive.

**AS.060.278. Social Climbers and Charlatans in American Literature. 3 Credits.**
“T’t good to be shifty in a new country,” declares Johnson Hooper’s swindling vagabond Simon Suggs. The ability to speak in many voices—to play many roles—is one key facet of the rags-to-riches American ideal of not only making something of one’s self, but of making one’s self. But how much social mobility or personal fluidity is too much? In this course, we’ll consider the problem of fashioning a self that is both flexible and authentic, both capacious and individual, as it is represented in a broad swath of American literature. We’ll begin with Benjamin Franklin’s Autobiography, in which Franklin reimagines his life into an intricate web of fact and fabrication. From there, we’ll explore the Transcendentalist ideal of the “Moral Sense,” in the form of Emersonian self-reliance and Thoreau’s revolutionary militancy, and its dark side in Poe’s “Imp of the Perverse.” After this, we’ll account for the great showman P.T. Barnum, who splits the difference between legitimate businessman and devious swindler. We’ll see what happens when, in order to make yourself, you first have to steal yourself in “The Narrative of the Life of Frederick Douglass, American Slave”. In Mark Twain’s “Pudd’nhead Wilson” and Nella Larsen’s “Passing”, we’ll investigate how, why, and with what consequences black Americans might try to pass for white. As the semester winds down, we’ll reconsider the rise and fall of Fitzgerald’s Jay Gatsby, the mobster made good (if only for a while), before ending with Nathanael West’s “Miss Lonelyhearts”, a dark comedy about a man who writes an advice column as a woman. The course will explore some of the fine lines—between honest art and heinous hoaxing, belief and delusion, entrepreneurship and charlatanry—relentlessly worked over in American literature since the nation’s inception. Throughout, we’ll take stock of the possibilities and pitfalls lurking in the seemingly incompatible goals of novelty and authenticity, fluidity and authority. Dean’s Teaching Fellowship course.
Instructor(s): D. Tye
Area: Humanities
Writing Intensive.

**AS.060.279. Law and Literature. 3 Credits.**
This course explores topics of legal authority in the context of American literature. How much social mobility or personal fluidity is too much? In this course, we’ll consider the problem of fashioning a self that is both flexible and authentic, both capacious and individual, as it is represented in a broad swath of American literature. We’ll begin with Benjamin Franklin’s Autobiography, in which Franklin reimagines his life into an intricate web of fact and fabrication. From there, we’ll explore the Transcendentalist ideal of the “Moral Sense,” in the form of Emersonian self-reliance and Thoreau’s revolutionary militancy, and its dark side in Poe’s “Imp of the Perverse.” After this, we’ll account for the great showman P.T. Barnum, who splits the difference between legitimate businessman and devious swindler. We’ll see what happens when, in order to make yourself, you first have to steal yourself in “The Narrative of the Life of Frederick Douglass, American Slave”. In Mark Twain’s “Pudd’nhead Wilson” and Nella Larsen’s “Passing”, we’ll investigate how, why, and with what consequences black Americans might try to pass for white. As the semester winds down, we’ll reconsider the rise and fall of Fitzgerald’s Jay Gatsby, the mobster made good (if only for a while), before ending with Nathanael West’s “Miss Lonelyhearts”, a dark comedy about a man who writes an advice column as a woman. The course will explore some of the fine lines—between honest art and heinous hoaxing, belief and delusion, entrepreneurship and charlatanry—relentlessly worked over in American literature since the nation’s inception. Throughout, we’ll take stock of the possibilities and pitfalls lurking in the seemingly incompatible goals of novelty and authenticity, fluidity and authority. Dean’s Teaching Fellowship course.
Instructor(s): M. O’Connor
Area: Humanities
Writing Intensive.
AS.060.280. The Modernist Novel and the Question of Culture. 3 Credits.

“The man ain’t got no culture!” declare Simon & Garfunkel, of someone who is so unhip as to confuse Bob Dylan with Dylan Thomas. How is such a statement possible, and what does “culture” mean? In some contexts, culture is something you can get by learning about art, music, and literature. But in other contexts, culture is something that everyone already has; we all live in the “culture” of our everyday habits and customs. Out of the tangle of these two meanings, we get concepts like “cultural districts” in cities, “cultural relativism” about moral issues, and even “multiculturalism.” In this course, we’ll read a selection of novels related to modernism, a literary and artistic movement preoccupied with the difference between the two forms of life that “culture” can name—a life of intellectual refinement, and a life of organic development to one’s community. Along the way, we’ll discuss notions of prestige, sophistication, the relation of religion to the arts, the cultural life of imperialism, and the role of education in forming and reflecting students’ cultural aspirations. Background readings from Matthew Arnold, Walter Pater, Raymond Williams, Pierre Bourdieu, and Francis Mulhern; novels by Oscar Wilde, E.M. Forster, James Joyce, Virginia Woolf, Evelyn Waugh, and V.S. Naipaul. Dean’s Teaching Fellowship course.

Instructor(s): R. Day
Area: Humanities
Writing Intensive.

AS.060.281. Criminal Characters: Law and Order in the Early Novel. 3 Credits.

Thieves, prostitutes, and murderers populate the early English novels. This course will examine the rise of the novel alongside the emergence of law enforcement and the legal profession in the eighteenth century. We will examine how the novel as a genre coalesces around characters that are placed in risky situations and the legal fictions that develop around them (forms such as testimony, confession, and the arguing of a case). This will require a focus on individual laws (such as the 1662 Poor Relief Act and the 1753 Hardwicke Marriage Act), on the psychologies of guilt and innocence, and on the formal legal challenges of representing transgression and justice. We will also examine critical interpretations of several of the major works, paying special attention to the way they address the primary text’s engagement with law and the legal system. Readings from Defoe, Fielding, Goldsmith, and Austen. Dean’s Teaching Fellowship course.

Pre 1800 course
Instructor(s): S. Hershinow
Area: Humanities
Writing Intensive.

AS.060.282. Moral Philosophy and the Novel in Nineteenth-Century England. 3 Credits.

Can novels ask philosophical questions? What do literary narratives and moral arguments have to do with each other? Everyone who has read a novel recognizes that it is in part an expression of ideas: characters, narrators, authors, and so forth say and do things that express a way of thinking. In this course we’ll examine the connections between moral philosophy and literature in nineteenth-century England in a series of four units, each of which pairs a novelist and a philosopher. The novelists will be Jane Austen, Charles Dickens, George Eliot, and E.M. Forster; the major philosophers will include Edmund Burke, John Stuart Mill, Immanuel Kant, and G.E. Moore, and we’ll read excerpts from Jeremy Bentham, Ludwig Feuerbach, F.H. Bradley, and Henry Sigwick.

Assignments will include reading quizzes, response papers, and a final essay with a research component. Dean’s Teaching Fellowship course.

Pre 1800 course.
Instructor(s): P. Fessenbecker
Area: Humanities
Writing Intensive.

AS.060.283. Advertising and Modernism. 3 Credits.

To say that certain modernist authors were skeptical about the growing power of advertising would be an understatement. H.G. Wells described it as a form of “legalized lying,” while F. Scott Fitzgerald quipped that “its constructive contribution to humanity is exactly minus zero.” Such views on marketing were hardly uncommon, as many modernist authors saw advertising as an enemy to true artistic creation. The modernist response to this form of popular culture, however, was not uniformly hostile. Avant-garde artists, who rejected mainstream commercial values, often turned to newspaper ads and posters for the material that they would repurpose for their own work. In the stream of consciousness epic “Ulysses”, the protagonist works in advertising and his eye is often drawn to the notices and promotions that cover the streets of Dublin. Virginia Woolf even pauses her narrative to depict a fictional crowd of Londoners contemplating an airplane writing an ad in smoke letters. This course will explore the variety of stances toward advertising in the modernist period, as well as provide historical context. Novels include: “Sister Carrie”, “The Ambassadors”, “Mrs. Dalloway”, “Turnabout”, as well as selections from “Ulysses”. Critical sources include: Benjamin, Adorno, Williams, Moretti, Brown, and Butler.

Area: Humanities
Writing Intensive.

AS.060.290. Literary Theory. 3 Credits.

This course will provide a survey of many of the major theoretical positions that have been directly or indirectly influential for literary studies. We will read selections from the following: Russian Formalism (Propp, Shklovsky, Bakhtin), structuralism (Levi-Strauss, Barthes), deconstruction (Derrida, de Man), speech act theory (Austin, Butler), Marxism (Jameson), queer theory (Sedgwick, Miller), and distant reading (Moretti). Recommended Course Background: three courses in the English Department.

Instructor(s): F. Ferguson
Area: Humanities
Writing Intensive.
AS.060.301. Colonial Modernism and the Novel of Youth. 3 Credits.
Focusing on the period 1900-1940, this course examines coming-of-age novels by writers from around the British Empire, emphasizing connections between aesthetic innovation and accelerating social change.
Instructor(s): R. Higney
Area: Humanities
Writing Intensive.

AS.060.303. Literature of London. 3 Credits.
Ian Watt famously linked the rise of the novel with the rise of the city in his seminal work, The Rise of the Novel. This course will survey British literature from the late eighteenth through the early twentieth century that features the city of London. Students will consider how the city and urban life change over the course of the nineteenth century and how they transform literary depictions and understandings of selfhood and the social imagination. They will examine how nineteenth-century literature represents the space of the city and how these efforts to depict the city cause formal and stylistic innovations. How does the compressed space of the city and its intense stimuli affect characters' sense of identity? Students will also consider the ways in which the city affects understandings of gender, class and race in these texts. The course will focus on the novel, but it will also include excerpts from newspapers, poetry and essays. Students will read Our Mutual Friend over the course of the semester in order to mimic the experience of nineteenth-century serial reading. Other readings will include Evelina, The Secret Agent, and A Study in Scarlet.
Instructor(s): J. Valdez
Area: Humanities
Writing Intensive.

AS.060.304. Large Novels. 3 Credits.
This course will look at novels that are not only large in size, but which also think about the meaning and methods of trying to capture huge segments of the world into a piece of art. How much can be fit into a novel? What is gained and what is lost? How large is too large? We will read Charles Dickens's "Bleak House", Lev Tolstoy's "War and Peace", and Thomas Pynchon's "Gravity's Rainbow".
Instructor(s): J. Rosenthal
Area: Humanities
Writing Intensive.

AS.060.306. The Rise of the Novel. 3 Credits.
This course will look at the development of the novel form, from its earliest incarnations. We will pay special attention to questions of how changes in social, cultural, and economic context played a part in the growing popularity and relevance of the novel form. Authors will likely include Miguel de Cervantes, Daniel Defoe, Samuel Richardson, Henry Fielding, Jane Austen, and Henry James. [This course satisfies the pre-1800 requirement]
Instructor(s): J. Rosenthal
Area: Humanities
Writing Intensive.

AS.060.307. Training|Writing|Consulting. 1 Credit.
A one credit course for those undergrads who have been nominated as Writing Center tutors. Permission required.
Instructor(s): E. Steedley
Area: Humanities
Writing Intensive.

AS.060.308. The Novelty of the Novel. 3 Credits.
The English novel has been traditionally regarded as having originated in the eighteenth century, with the works of Defoe, Richardson, and Fielding. This view of the novel's origins owes much to the influence of Ian Watt's The Rise of the Novel (1957). Watt claims that the prose fiction written by these three authors is defined and distinguished from other varieties by its "formal realism" - a set of procedures that made the novel much more lifelike than picaresque tales, courtly novellas, or the romance. Watt's view of the canon is now taken to be too restrictive, but his thesis concerning what was novel about the novel remains influential. In this course students will engage with two aspects of Watt's argument that have been criticized by later critics but still retain some of their original force: the idea that eighteenth-century prose fiction marks a break with the past and that the tradition emerging at that point has English origins. We will be testing these two theses by reading and contrasting older and newer forms of prose fiction from England, France, and Spain, comparing their formal procedures, and discussing how satisfactorily Watt accounts for them. We will also be reading critiques and defenses of Watt by critics including Michael McKeon, J. Paul Hunter, Margaret Anne Doody, and Nicholas Seager. Primary sources will include excerpts from Roger Boyle's romance Parthenissa (1651) alongside Defoe's Moll Flanders (1722); the picaresque tale Lazarillo de Tormes (1554) together with Fielding's road epic Joseph Andrews (1742); and the conjugal drama of Madame de Lafayette's La Princesse de Clèves (1678) together with Richardson's treatment of a similar topic in Pamela (1740). As we read the primary sources we will be also reading the relevant chapters of The Rise of the Novel. By gaining a first-hand view of the actual changes in prose fiction students will be able to appreciate the force of Watt's thesis as well as its limitations. Toward the end of the course they will also engage with the provocative final chapter of Watt's book, which claims that the problems raised by formal realism as practiced by Richardson and Fielding are finally resolved in the work of Jane Austen.
Sence and Sensibility should provide the testing ground for this thesis.
Pre 1800 course.
Instructor(s): R. Maioli dos Santos
Area: Humanities
Writing Intensive.

AS.060.309. Home and Wanderlust in Modernist Literature. 3 Credits.
This course will examine forms of wanderlust and tensions between rootedness in one's own culture and a cosmopolitan orientation in Henry James, Joyce, Tagore, Hemingway, Isak Dinesen, and Hualing Nieh.
Dean's Teaching Fellowship course.
Instructor(s): N. Zhang
Area: Humanities
Writing Intensive.

AS.060.310. Work and Worth in American Literature. 3 Credits.
This course will engage contemporary discussions of economics, labor, and vocation with representations of people at work in the writings of Douglass, Melville, Hurston, Steinbeck, Frost, Yates, Springsteen, and others. Dean's Teaching Fellowship Course
Instructor(s): E. Tempesta
Area: Humanities
Writing Intensive.
AS.060.311. On "Moral Insanity": Self-Control in Victorian Philosophy, Psychology, and Fiction. 3 Credits.
Standard utilitarianism, the dominant philosophical account of moral agency in the Victorian period, has a surprisingly unsophisticated account of self-control: both Jeremy Bentham and John Stuart Mill thought it was relatively straightforward, insofar as agents reliably pursued whatever end appeared to promise the greatest gain in happiness with little psychic effort. But other forms of intellectual life in the period—the now-forgotten "Intuitionist" school, the pre-Freudian psychologists, and perhaps most importantly, an important series of Victorian novelists—recognized that agency was much more complex, and tried to work through the problem that J.C. Prichard called "moral insanity." Conceiving it as a situation where agents cannot for some reason pursue their own reflectively endorsed goals, these authors developed a variety of rich complex accounts of and treatments for the loss of self-control. In this class, we are going to explore those accounts at some length. To start with the utilitarian model as a backdrop to the more complex accounts, we will read selections from Jeremy Bentham and John Stuart Mill in which they lay out their pleasure/pain account of agency, and then work through a set of theoretical materials for use throughout the course. First, we’ll examine the intuitionist views of agency from William Whewell and John Grote, who held that moral action essentially required mastering oneself in such a way as to perceive and act upon moral intuitions; then, we’ll turn to analyses from Prichard, Forbes Winslow, Henry Mausley, and other early forerunners in the developing field of psychology, and situate these arguments within the philosophical context. With this theoretical frame in place, we will spend the bulk of the course reading a series of novels that address the question of self-control. Beginning with Jane Austen and Charlotte Brontë, we’ll consider the ways in which these novels represent the relationship between desire, reflection, and gender. Turning to George Eliot’s Romola and Anthony Trollope’s Can You Forgive Her?, we’ll consider the way Eliot and Trollope analyze the nature of practical rationality. Finally, we’ll conclude with two important challenges to the belief in the moral value of self-control, in Thomas Hardy’s Tess of the d’Urbervilles and Oscar Wilde’s The Picture of Dorian Gray.
Instructor(s): P. Fessenbecker
Area: Humanities
Writing Intensive.

AS.060.312. Literature of the Gray Zone: The Holocaust and Its Shadow. 3 Credits.
Primo Levi’s well-known essay “The Gray Zone” describes complex states of complicity and moral erosion between the categories of “victims,” “perpetrators,” and “bystanders” during and after the Holocaust. Literature written at the time or in the immediate aftermath, whether memoir, commentary, or fiction, contains many illustrative examples, but even more have arisen at one or another remove from the events, as later generations have confronted an atrocity frequently taken to be historically and morally unique. How did the Holocaust become a touchstone for both extremities of human behavior and problems of representation? When did the Holocaust become available to literature or to the once unthinkable strategies of satire, post-modernism, and even pornography, and can these strategies be considered examples of “the gray zone”? The course will deal with the testimonies of perpetrators such as Rudolf Höss (commandant of Auschwitz) and historical documents setting forth plans for genocide; with memoirs of prisoners such as Filip Müller forced into participation in the Holocaust; and more particularly with literary depictions of life in “the gray zone.” The sequence of readings will be organized mainly around literary texts, but these will be paired, sometimes in two-week sequences, with historical and critical materials that take up the problem of complicity through various perspectives: the role of Jewish leaders during the Holocaust; attempts to fictionalize extremities of evil (e.g., Hitler); the aestheticizing of atrocity; the moral responsibility of bystanders; and the extension of genocidal paradigms to other dimensions such as slavery and animal rights. Texts to be studied (mostly, though not exclusively, written first in English) may include: Primo Levi, The Drowned and the Saved; Rudolph Hoess, Commandant of Auschwitz; Tadeusz Borowski, This Way to the Gas, Ladies and Gentlemen; George Steiner, The Portage to San Cristobal of A. H.; Leslie Epstein King of the Jews; Sylvia Plath, selected poems; Philip Roth, The Plot against America; D. M. Thomas, The White Hotel or Pictures At an Exhibition; Caryl Philips, The Nature of Blood; and J. M. Coetzee Elizabeth Costello.
Instructor(s): E. Sundquist
Area: Humanities
Writing Intensive.

AS.060.313. Dialog of Forms: The Newspaper and the Novel in the Nineteenth Century. 3 Credits.
This course examines the rise and professionalization of print journalism and its formal and thematic interactions with the nineteenth-century British novel.
Instructor(s): J. Valdez
Area: Humanities
Writing Intensive.

AS.060.315. Literatures of the American West. 3 Credits.
Area: Humanities
Writing Intensive.

AS.060.317. Time Well Wasted: Reading Fiction in the 18th Century. 3 Credits.
Is reading fiction just escapism? Or can novels speak to us about real life? We will discuss this question by reading classic works by Defoe, Swift, Fielding, and Sterne. Dean’s Teaching Fellowship Course. Pre 1800 course
Instructor(s): R. Maioli dos Santos
Area: Humanities
Writing Intensive.
AS.060.318. The Theology of Narrative. 3 Credits.
Everything happens for a reason.” “I guess it wasn’t meant to be.”
People often impose a narrative logic on life events by reference—
however attenuated—to a transcendent order of meaning. This course
asks two basic questions: How do theological concepts such as God’s
omniscience, Providence, predestination, and prophecy get translated
into particular narrative structures? How does narrative experimentation
function as a critique of traditional theological viewpoints, particularly
around the question of how divine agency is related to the existence of
evil? Texts may include: “The Book of Job” (4th century B.C.E), Voltaire’s
“Candide” (1759), Olaudah Equiano’s “Slave Narrative” (1789), Herman
Melville’s “Moby-Dick” (1851), Rebecca Harding Davis’s “Life in the Iron-
Mills” (1861), James Agee’s “Let Us Now Praise Famous Men” (1941),
and Scarlett Thomas’s “Our Tragic Universe” (2010). Recommended
Course Background: AS.060.107, a lecture course (200-level) in the
English department, or instructor approval.
Instructor(s): J. Hickman
Area: Humanities
Writing Intensive.

AS.060.319. Values and Gender in Nineteenth-Century British
Literature. 3 Credits.
The course considers how nineteenth-century British authors—including
Ruskin, Gaskell, Eliot, and Wilde—engage and oppose various sets of
values in their representations of gender.
Instructor(s): M. Flaherty
Area: Humanities
Writing Intensive.

AS.060.320. Slave Narratives and Neo-Slave Narratives. 3
Credits.
This course will offer a critical and historical understanding of slave
narratives. The course will also consider the ways in which neo-slave
narratives adopt and transgress their literary-historical models, and to
what effects. Texts under consideration may include Olaudah Equiano,
‘The Interesting Narrative in the Life of Olaudah Equiano’; Mary Prince,
‘The History of Mary Prince: A West Indian Slave’; Frederick Douglass,
‘Narrative of the Life of Frederick Douglass’; Harriet Jacobs; ‘Incidents
in the Life of a Slave Girl’; Charles Johnson, ‘Oxherding Tale’; Ishmael
Reed, ‘Flight to Canada’, Gayl Jones, ‘Corregidora’; Toni Morrison,
‘Beloved’; and Octavia Butler, ‘Kindred’.
Area: Humanities
Writing Intensive.

AS.060.321. Victorian Poetry. 3 Credits.
In this class, we’re going to briefly survey the major poets of the
Victorian era: Alfred, Lord Tennyson, Robert and Elizabeth Barrett
Browning, Dante Gabriel Rossetti and his sister Christina, Matthew
Arnold, George Meredith, and others. Moreover, we’ll try to situate
them in the social, political, and intellectual contexts that gave rise
to their works, and investigate the questions that stimulated them
and which their works address: we will, for instance, follow Arnold in
thinking about the place of religion in the modern world, Meredith
in thinking about the nature of moral egoism, and Elizabeth Barrett
Browning in recovering the voices of oppressed classes. We’ll also try
to address the various formal innovations of poetry in the Victorian era,
attending to—for example—Tennyson’s complex re-imagination of the
verse of the Arthurian legends and Robert Browning’s development
of sophisticated forms of irony. Specific poems to be studied include
Tennyson’s “Ulysses” and “The Lady of Shalott,” George Meredith’s
“Modern Love,” and Christina Rossetti’s “Goblin Market.”
Instructor(s): P. Fessenbecker
Area: Humanities
Writing Intensive.

AS.060.322. Heart and Science: Forms of Knowledge in 19th
Century Literature. 3 Credits.
This course focuses on science’s influence on nineteenth-century British
literature, exploring how literature was thought to collaborate with
scientific discoveries, but also tracing their gradual separation into
distinct disciplines. Dean’s Teaching Fellowship Course
Area: Humanities
Writing Intensive.

AS.060.323. Modern British Poetry. 3 Credits.
In this course, students will consider the emergence and development
of modern British poetry. Beginning with Hopkins and Hardy, two of the
forebears of modernist literature, students will read and discuss the
war poems of Owen and Sassoon before turning to major modernist
poets like Eliot, Pound, and Auden. By reading pertinent critical pieces
by and biographical information about these poets, students will acquire
an understanding of modernism’s concern with form, its interest in
experimentation, and its navigation of both tradition and modernity.
Over the course of the semester, students will be asked to write three
five-to-seven-page essays on the works previously covered in class.
Instructor(s): E. Steedley
Area: Humanities
Writing Intensive.

AS.060.324. A Literary Decade: Britain between 1789 and 1799.
3 Credits.
The course will particularly focus on how various writings of the decade
involved conceiving of literature as what Wordsworth called “the history
or science of feeling.” Readings will include Rousseau’s ‘Confessions’,
selections from Wordsworth poetry, and two Gothic novels (Radcliffe’s
‘Mysteries of Udolpho’ and Godwin’s ‘Caleb Williams’). Pre- 1800 course.
Area: Humanities
Writing Intensive.
AS.060.325. Renaissance Poetry. 3 Credits.
During the Renaissance, England experienced a flowering of the arts and sciences greatly inspired by the discovery of new lands and peoples, on the one hand, and the rediscovery of Classical texts in literature, history and philosophy, on the other. In this survey of Renaissance poetry, we will consider the ways in which poets of the period variously negotiate the creative challenge of reconciling the old with the new. Pre 1800 course
Instructor(s): D. Hershinow
Area: Humanities
Writing Intensive.

AS.060.326. Spectral Evidence. 3 Credits.
Rising to its greatest prominence during the 1692 Salem Witch Trials, "spectral evidence" refers to a category of evidence that involves supernatural claims--dreams, visions, etc. Even in 1692 within the largely homogeneous Euro-American Puritan community, the category raised profound questions about what should count as evidence in legal settings, and, more broadly, about the ontological status of the supernatural--to what extent are certain experiences of the supernatural mediated by private subjectivity and thus difficult to transmit or even illegible in the public sphere? These questions only intensify in cross-cultural contexts like the colonial Americas and postcolonial Australia and South Africa and often get reconfigured into debates about the limits of cultural relativism. This course will examine historical, literary, and filmic sites at which the question of "spectral evidence" comes into play. Texts may include: documents pertaining to the Salem Witch trials; Inquisition records; the novels of Charles Brockden Brown; Nathaniel Hawthorne, "The Scarlet Letter" and other fiction; Edgar Allan Poe, "The Tell-Tale Heart," "The Pit and the Pendulum," and other fiction; the spiritualist medium Fox sisters' confessions; Mark Twain, "Personal Recollections of Joan of Arc"; Arthur Miller, "The Crucible"; Peter Weir, dir., The Last Wave; Gavin Hood, dir., A Reasonable Man; Scott Derrickson, dir., The Exorcism of Emily Rose. Recommended Courses Background: AS.060.107, 200-level English course, or instructor approval.
Instructor(s): J. Hickman
Area: Humanities
Writing Intensive.

AS.060.327. Best Sellers in the Early Nineteenth Century: Sir Walter Scott, Lord Byron, and Jane Austen. 3 Credits.
Sir Walter Scott and Lord Byron were the best-selling authors of their day by a significant margin. In this course, we’ll attempt to come to terms with their unprecedented success, which was felt within the business of the publishing industry as much as it was in the minds of their fellow writers. Readings include Scott's poems set in Scotland’s legendary past, Byron’s scandalous and heroic poems (including his masterpiece, Don Juan), as well as a novel by their less-popular contemporary, Jane Austen, whose formally elegant novels must be understood as drawing on and competing with the works of her age’s most dominant literary figures. Additionally, we’ll place a strong emphasis on understanding how the workings of the publishing industry affected not only the habits of reading, but also of writing, during this crucial period in literary history. Secondary readings will help to situate the authors and primary texts in their historical and literary context, and provide practical tools for literary analysis. Assignments will include reading quizzes, response papers, and three longer papers. Required Texts: Walter Scott, The Poetical Works of Walter Scott (Wildside Press) Walter Scott, Waverley (Broadview) Lord Byron, The Major Works (Oxford) Jane Austen, Persuasion (Oxford)
Instructor(s): N. Bujak
Area: Humanities
Writing Intensive.

AS.060.328. Restoration and 18th Century Literature. 3 Credits.
This course is a survey of the major authors and genres in English from 1660-1800. Topics include the rise of the novel, politics and satire, gender and women writers, landscape and ecological consciousness, philosophy, science and literature.
Prerequisites: AS.060.107
Instructor(s): J. Kramnick
Area: Humanities
Writing Intensive.

AS.060.329. Prophecy after Science. 3 Credits.
Prophets and their prophecies are everywhere: whether preached by evangelical visionaries of Rapture, opined by prime-time sports forecasters, or sold at hourly rates by countless fortunetellers and astrologers. Our dizzying era, predicated economically, technologically, and politically on objective methods of prediction, comfortably accommodates and even welcomes pre-scientific, prophetic modes of futurity. We look up our horoscopes on our smartphones. How did we come to balance these futures so blithely? Do we – and should we – think of these modes as continuous or separate, complementary or conflicting? This course explores the history of prophecy, from ancient Greek and Judaic sources to current intimations of technological singularity and ecological doom, with a focus on the effect of the rise of science in shaping the course of prophetic writings. The majority of texts in this course come from the literature of 1600-1800 - centuries that witnessed the emergence of our modern scientific disciplines, and the recasting of prophecy in terms of the human imagination.
Instructor(s): W. Miller
Area: Humanities
Writing Intensive.
AS.060.330. The Contemporary Novel. 3 Credits.
This course will survey a variety of novels written since 2000, from literary novels to best-sellers, both in English and in translation (into English). We'll pay attention to formal and aesthetic questions -- what counts as a good story, at this point in history? -- and we'll hone our skills in recognizing narrative patterns and motifs across different fictional styles. Authors likely to be considered include Arundhati Roy, Junot Díaz, Roberto Bolaño, Muriel Barbery, Marlene van Niekerke, David Mitchell, and Amitav Ghosh.
Instructor(s): C. Nealon
Area: Humanities
Writing Intensive.

AS.060.331. Poetry and Perfect Worlds. 3 Credits.
A seminar exploring poetic representations of ideal realms. Beginning with classical pastorals, we will move on to medieval and Renaissance arcadias, Romantic geographies, modernist utopias, and the ecopoetics and necropastoral of the twenty-first century. We will consider in detail what makes a place Edenic or utopian and how the fabrication of an imaginary world relates to the construction of a poetic text. Writers studied may include Theocritus, Virgil, Chaucer, Spenser, Milton, Shelley, Tennyson, T. S. Eliot, W. H. Auden, Lisa Robertson, and Juliana Spahr.
Instructor(s): D. Mao
Area: Humanities
Writing Intensive.

AS.060.332. Jewish American Fiction. 3 Credits.
Instructor(s): E. Sundquist
Area: Humanities
Writing Intensive.

AS.060.333. American Jewish Literature. 3 Credits.
How did eighteenth-century writers respond to the culture of enlightenment? The English novel will be our primary focus, though some poetry, drama or autobiography will be included. Authors may include Swift, Pope, Defoe, Manley, Richardson, Equiano, Inchbald, Brown, Godwin.
Area: Humanities
Writing Intensive.

AS.060.334. Oaths, Pledges, Promises and Pacts: Literature and Obligation. 3 Credits.
Through readings of Scripture, medieval and early modern drama and prose fiction, and modern political theory and environmental writing, this course explores the complex and overlapping status of oaths, pledges, promises, pacts, and contracts. Starting with an examination of speech act theory, this upper division seminar will consider a range of literary “scenes of obligation” in which verbal promises or written contracts bind persons together. We will look at how promises and contracts mediate relationships between humanity and inhuman forces (pledges to God, pacts with the Devil), how they consolidate bonds between human beings (business contracts, marriage contracts), and how they are fulfilled, broken, or re-negotiated. Possible texts include: J. L. Austin, “How to Do Things with Words”; John Searle, “Speech Acts”; Anon., “The Building of the Ark”, “The Flood” (York Corpus Christi Plays); Anon., “Arden of Feversham”; Christopher Marlowe, “Doctor Faustus”; Wil liam Shakespeare, “The Merchant of Venice”; Margaret Cavendish, “The Contract”; and chapters from Jean Jacques Rousseau, “The Social Contract”; Carole Pateman, “The Sexual Contract”; and Michel Serres, “The Natural Contract”. Pre 1800 course.
Instructor(s): A. Daniel
Area: Humanities
Writing Intensive.

AS.060.336. Scribbling Women: Female Authorship in Nineteenth-Century America. 3 Credits.
This course will introduce students to a range of texts by women in nineteenth-century America, with a particular focus on how these authors conceive of the relation between gender and the work of writing. We will consider why these authors write, how they understand the importance (or unimportance) of literary endeavor, whom they write for, how they present themselves to their audiences, and whether and how they suggest their gender authorizes or limits their authorial scope.
Instructor(s): C. Ellis
Area: Humanities
Writing Intensive.

AS.060.337. James Joyce. 3 Credits.
A seminar covering the oeuvre of James Joyce, including but not limited to Dubliners, A Portrait of the Artist as a Young Man, Ulysses, and parts of Finnegans Wake. Selected readings in other writers and in relevant historiography; some attention to Joyce criticism.
Instructor(s): D. Mao
Area: Humanities
Writing Intensive.

AS.060.340. The Literature of Atlantic Slavery. 3 Credits.
This seminar will trace the historical development of the slavery debate in the Atlantic world through examination of key texts from a host of genres and locations—Quaker religious tracts, political documents like the Haitian Declaration of Independence, Cuban antislavery novels, slave narratives, and “classics” of American literature like Melville’s Benito Cereno. We will consider how the institution of Atlantic slavery was variously represented, justified, and criticized, discovering in the process the deep structures of modern slavery discourse. Texts may include: Aphra Behn, “Oroonoko”; John Woolman’s “Journal”; Robert Wedderburn, “The Horrors of Slavery and Other Writings”; Gertrudis Gomez de Avellaneda, “Sab”; Frederick Douglass, “My Bondage and My Freedom”; Herman Melville, “Benito Cereno”; Harriet Beecher Stowe, “Dred”; Antonio Castro Alves, “The Slaves”.
Instructor(s): J. Hickman
Area: Humanities
Writing Intensive.
AS.060.341. Milton. 3 Credits.
This class will study Milton’s poetry and prose across the whole of his writing career, with special attention to Paradise Lost, the great epic poem retelling the story of the fall of humankind. We will consider Milton’s literary background, his contemporary political and social milieu, as well as critical debates that surrounding the poet, who was accused of being ‘of the devil’s party.’ Pre-1800 course.
Instructor(s): S. Achinstein
Area: Humanities
Writing Intensive.

AS.060.343. Milton and Liberty: Public and Private. 3 Credits.
This course examines John Milton’s commitment to liberty in its many varieties, both public and private, as articulated in his early prose writings and as imagined in his poetic works. Dean’s Teaching Fellowship Course. Pre 1800 course.
Instructor(s): R. Buckham
Area: Humanities
Writing Intensive.

AS.060.344. The American Renaissance in Technicolor. 3 Credits.
The American Renaissance refers to the boom in U.S. literary production between the 1830s and the 1860s that gave us the American writers who have achieved the greatest stature in the popular mind—Emerson, Thoreau, Hawthorne, Melville, Whitman. This work was in large part animated by literary nationalism—by the self-conscious effort to produce a distinctively “American” literature that could take its rightful place on the world stage. As such, questions about the meaning of American history and the nature of American identity were central to this work both as implicit impetus and explicit theme. Importantly, these questions were being asked during the heyday of “Manifest Destiny”—of Euro-American westward expansion, which displaced Native peoples and Hispanic settlers and perpetuated the enslavement of African Americans. The goal of this course is to read some of the major works of the period’s canonical Euro-American male writers in conjunction with works by African, Native, Latino, and female American writers in order to gain a fuller picture of literary and cultural history during this formative moment. Texts may include: Ralph Waldo Emerson’s essays and antislavery lectures; the anonymous historical romance of the Aztec conquest, Xicotencatl; William Apons, A Son of the Forest, “Eulogy on King Philip”; Frederick Douglass, My Bondage and My Freedom; Henry David Thoreau, Walden, “Slavery in Massachusetts,” “Plea for Captain John Brown”; Harriet Beecher Stowe, Uncle Tom’s Cabin; Herman Melville, “Hawthorne and His Mosses,” Benito Cereno, Moby-Dick; Nathaniel Hawthorne, tales and sketches, The Blithedale Romance; Walt Whitman, Leaves of Grass (1855 edition).
Prerequisites: AS.060.107 or English department lecture, or instructor permission.
Instructor(s): J. Hickman
Area: Humanities
Writing Intensive.

AS.060.345. Mapping Victorian England. 3 Credits.
The landscape of England changed dramatically during the course of the nineteenth-century, from the unprecedented expansion of the British Empire and the rapid growth of cities and urban environments, to the increasing psychological investment in more confined spaces like the home. In this course, we’ll explore how Victorian literature “maps” these various spaces and, perhaps more importantly, the connections between them. The bulk of our reading will be novels by authors such as Charles Dickens, Elizabeth Gaskell, George Eliot, Anthony Trollope, Thomas Hardy, and Rudyard Kipling, though we’ll also turn to poems, non-fiction prose, and short theoretical readings to enrich our understanding of how Victorian writers attempted to represent the spatial, social, and economic geography of their nation. In addition to examining the “horizontal” connections drawn by these novels—between, for example, the country and the city, the colonies and the capital, the home and the nation as a whole—we’ll also explore how these novelists draw on intellectual developments like the emerging Darwinian worldview and incorporate what we might call “vertical” mapping to understand how the past shapes the present. Throughout, we’ll pay careful attention to how these writers represent the specificity of place and investigate the influence of environment on character and personal development.
Instructor(s): A. Grener
Area: Humanities
Writing Intensive.

AS.060.346. Major British Authors: George Eliot. 3 Credits.
In this course we will read the major novels of George Eliot, one of the most significant writers in the history of British fiction. Her novels addressed a number of compelling moral and social issues through powerful narratives about fallen women, disappointed love, tense family dramas, and individual struggles to find meaningful vocation. We will read the works carefully, examining their formal features in relation to philosophical, social, and historical context. To read Eliot is necessarily to enter into a rich engagement with nineteenth-century culture and thought, and in order to further our understanding of her oeuvre, we will read a number of key critical appraisals of individual novels, as well as some of Eliot’s own essays on various topics. Novels will include “Adam Bede”, “The Mill on the Floss”, “Felix Holt”, “Middlemarch”, and “Daniel Deronda”.
Instructor(s): A. Anderson
Area: Humanities
Writing Intensive.

AS.060.347. American Bibles. 3 Credits.
This course will examine texts drawn from across the Americas—from Mather’s Magnalia Christi Americana to Melville’s Moby-Dick to Euclides da Cunha’s Os Sertões (Rebellion in the Backlands) to Kushner’s Angels in America—that are fundamentally biblical in their inspirations, aspirations, proportions, and allusions. We will consider these texts’ attempts, in the face of globalizing and secularizing forces like Atlantic slavery and German higher criticism, to affirm, undermine, appropriate, and redirect the authority of the ur-canonical text. Recommended Course Background: AS.060.107 or lecture course in English department.
Prerequisites: AS.060.107 or a lecture course in the English department.
Instructor(s): J. Hickman
Area: Humanities
Writing Intensive.
**AS.060.348. Virginia Woolf and Bloomsbury. 3 Credits.**
An exploration of the achievements and investments of one of the most influential coteries in the history of Britain. In addition to delving into key fictions by Virginia Woolf, we will examine novels by Leonard Woolf and E. M. Forster, art criticism by Roger Fry and Clive Bell, biographical essays by Lytton Strachey, economic writings by John Maynard Keynes, and poetry by T. S. Eliot.
Area: Humanities
Writing Intensive.

**AS.060.349. Modern Drama. 3 Credits.**
A survey of works by major modern playwrights. Ibsen, Chekhov, Pirandello, Beckett, Genet, Brecht, Pinter, Albee, Wilson, and others. Recommended Course Background: AS.060.107
Prerequisites: AS.060.107
Instructor(s): R. Halpern
Area: Humanities
Writing Intensive.

**AS.060.350. Literature by Other Means: Experimental and Conceptual Fiction and Poetry. 3 Credits.**
This course will introduce students to experimental, conceptual, and constraint-generated literature. In some cases, the texts we will read were created through the application of some particular premise, constraint, or rule-governed system. In other cases, practices of appropriation, creative re-use, or sampling were involved in the generation of textual material (sometimes subjected to editing and transformation, sometimes presented “as is”). What happens to literary meaning, genre identification, and the author/reader contract under these conditions? Can an experiment be evaluated as a success or failure at literature? What’s so “conceptual” about this practice, anyway? Why are the results—often typocast as difficult or resistant to understanding—frequently so funny? In search of answers, we will read widely in experimental and conceptual literature and in the manifestos and critical analyses that surround this work, and we will look at the overlap between experimental and avant-garde literary movements and concurrent processes of “dematerialization” in play within the related domain of the visual arts. Finally, we will consider the importance of digital tools, search engines, and databases in the construction of experimental literature at the present time. Possible authors/texts include Raymond Queneau “Exercises in Style”, Raymond Roussel “How I Wrote Certain of My Books”, Georges Perec “A Void”, Harry Matthews “Oulipo Compendium”, Walter Abish “Alphabetical Africa”, Marjorie Perloff “Unoriginal Genius”, William S. Burroughs “The Cut-Up Method”, Charles Bernstein, “The L=A=N=G=U=A=G=E Book”, Vanessa Place “Notes on Conceptualisms”, Kenneth Goldsmith “The Weather”, Gary Sullivan “The Flarf Files”, Aaron Kunin “The Sore Throat”, Christian Bok “Eunoia”, and David Trinidad and D. A Powell’s “By Myself, An Autobiography”.
Instructor(s): A. Daniel
Area: Humanities
Writing Intensive.

**AS.060.352. Whitman, Frost, Stevens. 3 Credits.**
This course will examine the way in which the body, nature, and the imagination are developed as central tropes in the poetry of Whitman, Frost, and Stevens. Recommended Course Background: at least two introductory literature courses.
Instructor(s): S. Cameron
Area: Humanities
Writing Intensive.

**AS.060.353. World Literature in Theory and Practice. 3 Credits.**
This course takes stock of how the current hot topic of “world literature” has evolved from Immanuel Wallerstein’s work on world-systems theory over the course of the last three decades. We will read work by a wide range of literary critics engaged with the topic of world literature, including Franco Moretti, Pascale Casanova, David Damrosch, Emily Apter, and Alex Beecroft, as well as major “world” novels by Herman Melville, Amitav Ghosh, and Chimamanda Adichie. Students will also be introduced to critical approaches that offer a conceptual alternative to the world literature framework, for example, Edward Said’s ideas on worldliness and contrapuntalism, Gaston Bachelard’s phenomenology of the home, Fredric Jameson’s concept of cognitive mapping, and Eric Hayot’s work on literary “world-creation.” We will ask just how broadly the field can be defined before it loses its critical cohesion. In other words, does world literature exist?
Instructor(s): J. Jackson
Area: Humanities
Writing Intensive.

**AS.060.354. Marlowe and Shakespeare’s History Plays. 3 Credits.**
The first folio of Shakespeare’s works groups his plays into three categories: “Comedies,” “Tragedies,” and “Histories.” This course will consider what a Renaissance history play was. What are the consequences of basing literature on real historical events? How do the ways in history has been dramatized on stage relate to renaissance understandings of history and to how we understand history today? We will read all ten of the plays classed as Histories in the Folio, along with two other Shakespeare plays based on British historical chronicles (King Lear and Cymbeline) and Christopher Marlowe’s Edward II. We will also look at the chronicles and histories that served as sources for the playwrights, and theoretical discussions of the purpose and nature of history and literature from the early modern period. Pre 1800 course
Instructor(s): M. Vinter
Area: Humanities
Writing Intensive.

**AS.060.355. Postmodern American Fiction. 3 Credits.**
This seminar is a survey of so-called “postmodern” American fiction. Authors to be considered include Thomas Pynchon, Don DeLillo, Kathy Acker, Ursula LeGuin, William Gibson, Oscar Zeta Acosta, and Denis Johnson.
Area: Humanities
Writing Intensive.

**AS.060.356. Empire’s Fiction and its Collapse: Colonial and Postcolonial Novels in Dialogue. 3 Credits.**
Area: Humanities
Writing Intensive.

**AS.060.357. The Novels of Jane Austen. 3 Credits.**
An intensive study of Austen’s six major novels, read in their literary and historical context.
Instructor(s): J. Kramnick
Area: Humanities
Writing Intensive.

**AS.060.358. Victorian Realisms. 3 Credits.**
Area: Humanities
Writing Intensive.

**AS.060.359. Traveling Literature in Africa and the African Diaspora. 3 Credits.**
Area: Humanities
Writing Intensive.
AS.060.360. Jane Austen. 3 Credits.
All of Austen’s completed novels, as well as a selection of her letters. We will examine both her influence on the novel form, and her work’s relation with her social context. We will also consider why Austen has such unprecedented cultural authority today.
Instructor(s): J. Rosenthal
Area: Humanities
Writing Intensive.

AS.060.361. Literature, War, Trauma. 3 Credits.
With a focus on the post-World War II period, a world redefined by the cataclysmic events of the Holocaust and the atomic bombing of Hiroshima and Nagasaki (as well as the more widespread strategic aerial bombing of civilian targets in Europe and Japan), the course will consider the nexus of literature, war, and trauma across a range of modern works in English, supplemented by some works in translation. What does it mean to live in the shadow of the Holocaust and the ever-present threat of nuclear war? How can annihilation on such a scale be accommodated to historical, theological, and ethical understanding? What is the role of the imagination in addressing such questions? What if the war had had a different outcome? We will investigate the consequences for literature as it attempted to address such questions in fiction, memoir, and commentary. In addition to a range of historical and theoretical readings, we will concentrate on literary works of several kinds: as a point of departure a few primary works by figures such as Primo Levi “The Drowned and the Saved” and John Hersey “Hiroshima”; fictional and non-fictional ruminations on the war’s legacy by figures such as Kurt Vonnegut “Slaughterhouse Five”, D. M. Thomas “The White Hotel”, Msuji Ibuse “Black Rain”, and W. G. Sebald “On the Natural History of Destruction”; counterfactual narratives about the world that might have been, had the Axis powers prevailed, by figures such as Philip K. Dick “The Man in the High Castle”, Ira Levin “The Boys from Brazil”, Philip Roth “The Plot against America”, and Michael Chabon “The Yiddish Policeman’s Union”; and works in which the impact of catastrophic destruction is absorbed into other cultural arenas by figures such as Toni Morrison “Beloved”, Don DeLillo “White Noise”, and J. M. Coetzee “Elizabeth Costello”. Readings are tentative and may be modified. Requirements: class participation, short writing exercises, and two longer papers.
Instructor(s): E. Sundquist
Area: Humanities
Writing Intensive.

AS.060.362. Nature’s Nation: American Nature in Literature and Film. 3 Credits.
Area: Humanities
Writing Intensive.

AS.060.363. Henry James. 3 Credits.
A reading of the major novels. Recommended Course Background: AS.060.107 or two lower level literature courses.
Instructor(s): S. Cameron
Area: Humanities
Writing Intensive.

AS.060.364. The Un-Christian Renaissance. 3 Credits.
Area: Humanities
Writing Intensive.

AS.060.365. Worlds of Postwar Fiction. 3 Credits.
Area: Humanities
Writing Intensive.

AS.060.366. Ellison. 3 Credits.
After his landmark novel “Invisible Man” appeared in 1952 and won the National Book Award, Ralph Ellison was one of the most highly regarded and influential American writers. Although his writing—beginning with the powerful short stories and criticism that he published in the 1930s and 40s—was steeped in African American history, literature, music, and folklore, he also thought of himself as part of the great tradition of American, European, and classical literature, from Homer through Joyce. He quickly set to work on a second novel dealing with the assassination of a racist senator during the height of the Civil Rights movement, but he came to the end of his life in 1994 without having completed the novel to his own satisfaction. This massive book, which appeared posthumously in a very abbreviated form as Juneteenth and more recently in the much longer Three Days before the Shooting, reveals the work of a master while at the same time it leaves critics and readers with an exceptional puzzle: What would his final intention have been? Why was he unable to complete the novel? How does it speak to the key issues of African American identity, freedom, and the American ideal that Ellison grappled with all his life? At the same time that he worked on his second novel, Ellison became one of the most prolific and important essayists of the twentieth century, and wrote brilliantly about American race relations from the era of segregation through the twentieth century. Even as he was celebrated by the literary establishment, however, Ellison at times found himself as odds with younger black writers and thinkers who felt that public activism, not just artistic greatness, was required of the African American writer. Using Ellison as a lens through which to see the course of American race relations from slavery to the present, the course will include study of all of Ellison’s major work: the short stories collected in “Flying Home”; “Invisible Man”; the essays collected in “Shadow and Act” and “Going to the Territory”, as well as others; and “Three Days before the Shooting”.
Instructor(s): E. Sundquist
Area: Humanities
Writing Intensive.

AS.060.367. Emerson, Thoreau, Poe. 3 Credits.
We shall examine what “divinity,” “nature,” “Being in general” and “personal identity” differently mean in the writings of Ralph Waldo Emerson, Henry Thoreau, and Edgar Allan Poe, and consider the genres (essay, excursion, home-cosmography, tale, and treatise) in which these authors write. Finally, taking seriously Thoreau’s question —“Why do precisely these objects we behold make a world?”—we’ll ask how these nineteenth-century American authors construct worlds out of their sustained visions of the intuitive (Emerson), the natural (Thoreau), and the perilous (Poe). Junior/Senior seminar. Recommended Course Background: AS.060.107 or two lower level literature courses.
Instructor(s): S. Cameron
Area: Humanities
Writing Intensive.

AS.060.369. The Harlem Renaissance. 3 Credits.
Area: Humanities
Writing Intensive.
AS.060.370. Black History and the Fictive Imagination. 3 Credits.
In this course, we will turn our attention to U.S. and Caribbean black writers who used fiction to address, or sometimes redress, significant historical events and moments. Alongside novels, we will read more formal histories as a way to explore how fiction writers creatively weighed in on historical debates as diverse as slavery and its legacies, the Civil Rights Movement, black power, communism, and anti-colonial struggles. Some of the writers we will consider include: Alice Walker, Edwidge Danticat, Charles Johnson, Gayl Jones, Ann Petry, Michelle Cliff, and Richard Wright.
Instructor(s): S. Mott
Area: Humanities
Writing Intensive.

AS.060.371. Major American Authors: Philip Roth. 3 Credits.
Over the course of his long career Philip Roth has struck a precarious balance between identification as a Jewish American novelist and insistence that his art escapes such ethnic enclosures. This tension lies at the heart of his work, as indeed some would argue it lies at the heart of the American Jewish experience of the twentieth century. Having emerged as a decidedly rebellious figure who shocked the Jewish community and the nation at large in the 1950s and 60s, Roth has written more than twenty-five novels exploring issues that range from conflicts over assimilation to the roles of the Holocaust and Israel in American Jewish life to the countercultural turbulence of the 1960s to the identity politics of the 1990s. Roth has revealed in forms of fictive autobiography—“counter-lives,” “counter-plots,” and counterfactual histories—that have enlarged the scope of fiction while still grappling with the tensions and dangers of modern life. Works to be read include: “Goodbye, Columbus”; Portnoy’s Complaint”; “Operation Shylock”; “American Pastoral”; “The Ghost Writer”; “The Anatomy Lesson”; “The Plot Against America”; “The Human Stain”; “The Facts”; “The Counterlife”; “Sabbath’s Theater”; and “Nemesis”. Requirements: two 8-10 page papers, a class presentation, and participation in discussion.
Instructor(s): E. Sundquist
Area: Humanities
Writing Intensive.

AS.060.372. Melville, Poe, Hawthorne. 3 Credits.
We will read major fiction by Poe, Melville, and Hawthorne, and consider how conceptions of identity are treated as psychological, philosophical, and historical problems in the writings of these authors. We will also be concerned with the formal inventions that accompany these mid-nineteenth century American investigations of personal identity, and with topics such as gothic horror, divinity, and the status of explanation.
Prerequisites: Prereq: AS.060.107 OR one lower level English course.
Instructor(s): S. Cameron
Area: Humanities
Writing Intensive.

AS.060.373. Victorian Poetry. 3 Credits.
Area: Humanities
Writing Intensive.

AS.060.374. Topics in Modern Literature: The Avant-Garde. 3 Credits.
This course considers the writings of avant-garde artists of the first half of the twentieth century. Paying special attention to the manifestos of movements in art such as cubism, futurism, dada and surrealism, the course then links developments in the plastic arts to those in literature.
Area: Humanities
Writing Intensive.

AS.060.375. Literature of the Holocaust. 3 Credits.
The course will focus on reactions to, and representations of, the Holocaust in European, Israeli, and American literature. In moving from the initial response of eyewitness testimony, through the emergence of fiction as one means to test the adequacy of historical accounts and memoirs, and on to more recent reflections on the problem of adequately “remembering” the event, we will consider how the Nazi genocide has entered into world consciousness. What does it mean to have an artistic or aesthetic response to such an event? Why has the Holocaust assumed so a significant role in contemporary life that there are entire genres of literature and film devoted to it? We will also look at some more contemporary writers whose work deals indirectly with the after-effects of the Holocaust. Readings may include: Levi, Survival in Auschwitz; Borowski, This Way for the Gas, Ladies and Gentlemen; Delbo, Auschwitz and After; Kosinski, The Painted Bird; Grossman, See Under: Love; Ozick, The Shawl; Epstein, King of the Jews; Roth, The Plot against America; Appelfeld, Baddenheim 1939; Coetzee, Elizabeth Costello; Phillips, The Nature of Blood. Cross-listed with Jewish Studies.
Instructor(s): E. Sundquist
Area: Humanities
Writing Intensive.

AS.060.376. The Imprisonment of the African Writer from Mandela to Present. 3 Credits.
An international newspaper report in 1965 on writers from an African nation reads thus: “A year ago, one playwright was acquitted of holding up a radio station. A month ago, one poet was principal actor in a gun-running melodrama.” This course examines the phenomenon of writers in politics. It explores the concept of engagement or commitment in literature as developed by Jean-Paul Sartre, particularly in postcolonial African literature. We will discuss the traditional notions of art and activism, imagination and ideology. The questions that are crucial to our concerns in this course include: why is writing in Africa a very hazardous career? How do writers respond to the threat and actual experience of metaphoric, physical, and spiritual confinement and harm? What does the precarious situation of the African writer reveal about the nature of postcolonial societies? Texts include selections from theoretical essays and autobiographical narratives such as: Nelson Mandela, “No Easy Walk to Freedom”; Wole Soyinka, “The Man Died”; Ngugi wa Thiong’o, “Detained: A Writer’s Prison Diary”; Jack Mapanje, “The Chattering Wagtails of Mikuju Prison”; Denis Brutus, “Letters to Martha and Other Poems from a South African Prison”; Ken Saro-Wiwa, “A Month and a Day: A Detention Diary”; and Michel Foucault, “Discipline and Punish”.
Instructor(s): O. Ibironke
Area: Humanities
Writing Intensive.
**AS.060.377. The Literature of Crisis, Restoration to French Revolution. 3 Credits.**

The long eighteenth century (1660-1800) has often been regarded as the tranquil Age of Reason, marked by the “Peace of the Augustans.” In fact it was a time of fiery political debate, religious controversy, and rapid social change. A plague that wiped out a fifth of the London population, the great fire a year later, succession crises, a revolution and an exiled monarch, wars, the birth of political parties, invasion fears (and three invasions), the American Revolution, radicalism at home, cries for liberty, the French Revolution—very little was tranquil or stable in this period. Writers responded with anger, disgust, fear: political crisis inspired a massive amount of polemic and propaganda, as well as some of the great masterpieces of English Literature. Readings will include works by Dryden, Defoe, Swift, Pope, Gay, Fielding, Churchill, Johnson, Burke, Wollstonecraft, Blake, and William Godwin.

Instructor(s): A. Daniel
Area: Humanities
Writing Intensive.

**AS.060.379. Edmund Spenser. 3 Credits.**

A comprehensive upper division undergraduate seminar on the writing of Edmund Spenser, spanning both his shorter poetry (“The Shepheardes Calendar”, “Mjuopotmos”, “Colin Clouts Come Home Againe”, “Amoretti”, “Epithalamion”) and his allegorical masterpiece, “The Faerie Queene”.

Instructor(s): A. Daniel
Area: Humanities
Writing Intensive.

**AS.060.380. Law and Literature. 3 Credits.**

Jurists and literary scholars have become increasingly interested in the relationship between law and literature, whether examining legal language and concepts in literature or bringing literary methods and the kinds of ethical concerns conventionally associated with literature to bear on law. This course queries the nature of legal authority, both formally and historically, without any starting assumptions about what constitutes “law” or “literature” or what distinguishes between them. Avenues of inquiry will include the relationship between law and genre; the power of language to embody, inhabit, or represent law; the relationship between law and ideas about interiority, liberty, citizenship, and empire; and conflicts and confluences between literary and legal claims to autonomy. Readings include Sophocles’ “Antigone”, Anne Askew’s “The Examinations of Anne Askew”, Shakespeare’s “Measure for Measure”, V. S. Naipaul’s “The Mimic Men”, and J. M. Coetzee’s “Waiting for the Barbarians”.

Instructor(s): M. O’Connor
Area: Humanities
Writing Intensive.

**AS.060.382. Renaissance Literature and the Sense of Time. 3 Credits.**

One could do worse than to define the literary Renaissance by a newfound complexity, variety, and urgency in its attitudes to time. The Renaissance, it’s been argued, saw in its own preoccupation with temporal experience the mark of its difference from other times; and it’s of some importance (for both the history of literature and of time) that this event was far more decisive in literature than in formal philosophy. In this course, we will read some classic texts in Renaissance epic, lyric, drama, and prose that place specifically temporal problems and categories-continuity, immortality, memory, growth, the event, historical loss, prediction, duration, aging—at their center. Our investigations will center on three salient features of the Renaissance imagination of time: the “discovery” of a temporality of persistence and loss specific to the cultural past, often prompting a reworking of classical texts as if they were themselves “about” time; the alignment of literary creation and biological procreation as means of “defeating” (or inhabiting) time; and the tensions and negotiations between traditional eschatology-life and history lived in relation to a final end- and the notion of time as infinite, successive extension. Throughout the course, special emphasis will be placed on how the texts modify and extend philosophical questions by relating them to the temporal aspects of literary form, such as the regularity of meter or the unity of action. Pre 1800 course.

Instructor(s): A. Sisson
Area: Humanities
Writing Intensive.

**AS.060.383. The Gothic Novel. 3 Credits.**

This course surveys the history, major themes, aesthetics and politics of the Gothic novel, from its beginnings to the end of the nineteenth century.

Instructor(s): M. Thompson
Area: Humanities
Writing Intensive.

**AS.060.384. Jane Austen and the Eighteenth-Century Novel. 3 Credits.**

Although the robust presence of Jane Austen in popular culture attests to the broad historical appeal of her work, her novels are nevertheless deeply concerned with political, philosophical, and aesthetic questions of her own historical moment. In this course, we’ll read Austen in the context of the late eighteenth-century novel in order to understand how she engages with her literary predecessors. We’ll focus in particular on Austen’s innovations in narrative form and technique, innovations that led one of her early critics to claim that she constituted a “new school of fiction.” Readings by Austen will include “Northanger Abbey”, “Sense and Sensibility”, and “Pride and Prejudice” (all of which Austen conceived and began drafting in the 1790s), along with her “juvenilia.” Other readings will include works by Ann Radcliffe, Mary Wollstonecraft, Frances Burney, Charlotte Smith, and Edmund Burke. Pre 1800 course.

Instructor(s): A. Greener
Area: Humanities
Writing Intensive.
AS.060.385. Passing and American Culture. 3 Credits.
This course will focus on the subject of passing from a variety of identity perspectives. Reading culture in its broadest sense, we will look at early- to late-twentieth century films, memoirs, essays, short stories, and novels to examine how passing functioned as both an experience and a symbol, challenging privilege and undermining power structures. We will look at narratives wherein white people masquerade as African Americans, gentiles pretend to be Jewish, the poor feign wealth, and blacks play white; we will consider how the color line affected the ways people were raced, classed, and gendered. And by focusing on the trope of passing, we will come to understand how people negotiated their identities, sometimes enforcing and at other times challenging societal notions of difference.
Area: Humanities
Writing Intensive.

AS.060.386. Narrative, the Mind, and Human Experience. 3 Credits.
This course will explore how narratives operate as vehicles for organizing and communicating human experience. We’ll begin by examining the basic mechanics of narratives -- What makes a story a story? How do stories organize experience into meaningful sequences? -- before considering how narratives reflect patterns of human evolution and the development of consciousness. Indeed, our primary interest will be these cognitive elements of narrative; we will consider how narratives relate to the structure of the human brain, as well as their capacity to immerse us in the minds of other individuals, both fictional and real. By the end of the semester, then, you’ll not only have a better understanding of how narratives create meaning (and a robust set of terms and concepts with which to approach them), but also a heightened appreciation for how narratives relate to the architecture of your mind and your daily life. Primary texts include novels by Jane Austen, Raymond Chandler, Ford Madox Ford, Kazuo Ishiguro, and Virginia Woolf.
Instructor(s): A. Grener
Area: Humanities
Writing Intensive.

AS.060.387. The Empire of Books. 3 Credits.
Area: Humanities
Writing Intensive.

AS.060.390. Whitman and Dickinson. 3 Credits.
An examination of the formal, conceptual, and philosophical innovations in the work of the two major nineteenth-century American poets. The seminar will consider such topics as: the public versus the private poet; the tropes of body and mind in Whitman’s and Dickinson’s verse; the revision fundamental to each poet’s “development”; the forms through which a reader is engaged by Whitman’s poetry and ignored by Dickinson’s. Finally, we shall examine the premises behind Whitman’s poetry of wholes (nothing left out) and Dickinson's poetry of fragments. Junior/senior seminar. Writing Intensive. Recommended Course Background: two lower level English Department courses.
Instructor(s): S. Cameron
Area: Humanities
Writing Intensive.

AS.060.391. Early American Literature. 3 Credits.
This course will introduce students to major texts of the colonial Americas, primarily from English-speaking North America, but also from the non-Anglophone Americas (in translation). From recovered and reconstructed pre-Columbian indigenous oral stories to political declarations of independence, with spiritual autobiographies and epic poems in between, all variously authored by writers of European, African, and Native American origins, we will work to situate a vast array of fictional, nonfictional, poetic, and dramatic texts in historical context. Ever lurking in the background will be that seminal question: At what point does this literature become identifiably “American”? Or, we will ask, is this an anachronistic question to ask? This course will satisfy the pre-1800 major requirement. Recommended Course Background: 200-level course or instructor approval
Prerequisites: AS.060.107 or 200-level English Course or Instructor Approval.
Instructor(s): J. Hickman
Area: Humanities
Writing Intensive.

AS.060.392. Crossing the Literary Color Line. 3 Credits.
Turning to the early to mid-twentieth century, this course will turn to novelists who defied literary and social expectation and wrote novels with protagonists and secondary characters whose racial identity differed from the authors’. We will focus our attention on white writers who took up the subject of black life and African American writers who wrote white-life novels. Some of the questions we will consider include those around authenticity, political motivation, cross class/racial alliances, minstrelsy, psychoanalysis, and citizenship. Not only will we become more familiar with the mid-twentieth century literary terrain and how writers creatively grappled with volatile and sometimes taboo political matter, we will question and engage how America’s racial landscape always impacted the literary process.
Instructor(s): S. Mott
Area: Humanities
Writing Intensive.

AS.060.393. Shakespeare and the People. 3 Credits.
Was Shakespeare socially conservative or radical? This course approaches this question by exploring how Shakespeare represents “the people” and “popular culture,” keeping in mind that the sphere below the aristocracy in the early modern period was complex. We will begin by considering early modern theatre as a form of popular culture and by investigating Shakespeare’s own representation of theatre, its audience, and its participants in “A Midsummer Night’s Dream”. From here, we will move on to consider topics such as how “the people” and their actions, including group action and rebellion, are figured; the role of comedy, inversion, and genre in such representations; and images of “the people” as participants and actors within the commonwealth. By the conclusion of the course, students will have gained knowledge of a range of critical, as well as imaginative, approaches to the issue of “the people” in Shakespeare and to the nature of Shakespeare’s political engagements. Readings will include “Richard II”, “King Lear”, “Coriolanus”, and “The Tempest”. Pre 1800 course.
Instructor(s): M. O’Connor
Area: Humanities
Writing Intensive.
**AS.060.394. Class Fictions. 3 Credits.**

This seminar investigates one of the central concerns of nineteenth-century fiction: social and economic class. Why did raising oneself from humble beginnings and falling into poverty, become such familiar stories? And why are they still so familiar today? We will look at how a number of writers approached the topic of class mobility, each with a unique blend of excitement and anxiety. Authors will likely include Jane Austen, Honoré de Balzac (in translation), Charles Dickens, and William Dean Howells. In order to understand our topic better, we will also look at a selection of theoretical work on the nature of class.

Instructor(s): J. Rosenthal
Area: Humanities
Writing Intensive.

**AS.060.395. Global Tales of Transformation. 3 Credits.**

A traveling salesman turns into a giant cockroach, an American adman switches bodies with his wife, a Brazilian philosopher maybe or may not be reincarnated as his beloved dog, and a British scientist creates half-animal humanoids on a secluded island. These are just a few examples of the fantastical, allegorical, comical, dreamlike, grotesque, and bizarre stories that were produced throughout the world during the modernist period. Modernism has often been associated with social and political change; colonial rule was waning, cosmopolitanism emerging, and new modes of production were affecting social organization. In literature, modernist authors broke from the realist style and turned instead to myths, folktales, and new forms of expression. In this class, we will consider a range of cultural and historical conditions that inform these stories of transformation. Do these stories reveal anxieties about dehumanization in an increasingly high-pressure workplace or do they reveal fantasies about idleness? Are they nostalgic for a local folkloric tradition in an age of cosmopolitanism or are they creating a kind of mythic universalism? How do these character transformations allow for reassessments of identity in terms of gender construction, sexuality, or in terms of human and animal relations? Authors include: Edgar Allan Poe, Nikolai Gogol, Franz Kafka, H. G. Wells, Virginia Woolf, Rebecca West, Machado de Assis, T. S. Eliot, Charlotte Gilman Perkins, Thorne Smith, and James Joyce. Throughout the semester, the primary texts will be supplemented with secondary reading and critical interpretations. Primary Texts: Machado de Assis, “Philosopher or Dog” T. S. Eliot, “The Wasteland” Charlotte Gilman Perkins, “Herland” Nikolai Gogol, “The Nose Franz Kafka, “The Metamorphosis” Ovid, selections from “Metamorphoses” Edgar Allan Poe, selections Thorne Smith, “Turnabout” H. G. Wells, “Island of Dr. Moreau” Rebecca West, “The Return of the Soldier” Virginia Woolf, “Orlando”

Instructor(s): K. Wedekind
Area: Humanities
Writing Intensive.

**AS.060.396. The Postcolonial Novel. 3 Credits.**

This seminar introduces students to a select group of “classic” postcolonial novels written between 1960 and the present. Over the course of the semester we will explore the history of such writing, how it developed and how it departs in significant ways from the colonial novels written during the height of British Imperialism. Through an exploration of the recurrent themes and images in these postcolonial novels, and with the help of secondary sources, we will clarify and deepen our understanding of the postcolonial condition. Authors include: Edward Said, Leela Gandhi, Eikele Boehmer, Achebe, Coetzee, Naipaul, Rushdie, Roy, Rhys, Kureishi.

Instructor(s): A. Wexler
Area: Humanities
Writing Intensive.

**AS.060.397. Thomas Pynchon. 3 Credits.**

This course is a study of the fiction of Thomas Pynchon. We will likely focus on two novels, Gravity’s Rainbow (1973) and Against The Day (2009). Along the way, we will discuss Pynchon’s particular interpretation of what character should look like, what the novel’s relationship to history might be, and whether and how his writing examples something called “postmodernism.

Instructor(s): C. Nealon
Area: Humanities
Writing Intensive.

**AS.060.398. Obscenity and the Law in 20th-Century Literature. 3 Credits.**

In order to log on to JHU’s GuestNet you must “agree that your activities on the Guest Network shall not...[among other things] be obscene.” But what is obscene? What does the law determine as obscene today, and how has that determination changed over the past century? These questions will lead us to considerations of publicity and privacy, morality and standards of decency. This course will examine artworks and performances in a variety of media that have been publicly accused of indecency or obscenity. We will read legal judgments of obscenity and discuss their implications for figures such as Wilde, Joyce, Miller, Ginsberg, Bruce, Carlin, Prince, 2 Live Crew, and others.

Instructor(s): J. Chilton
Area: Humanities
Writing Intensive.

**AS.060.400. Imagining Education: 1800-1915. 3 Credits.**

In a recent edition of Harper’s, Mark Slouka fears the vanishing role of the humanities in the university: “By downsizing...the deep civic function of the arts and the humanities, we’re well on the way to producing a nation of employees, not citizens. Thus is the world made safe for commerce, but not safe.” Slouka questions the role of a liberal arts education in today’s world. How are the humanities and the sciences meant to relate to one another? What kind of individuals are we producing from a liberal arts education? How have capitalism and globalization changed the nature of education, and what role should education play in nation-building? This course traces the origins of our present-day educational debates in nineteenth- and twentieth-century texts. We will read poetry by Wordsworth, Shelley and Coleridge, novels by Dickens, Bronte, Hardy, and Lawrence, and a variety of historical and philosophical texts. As a writing-intensive course, students will develop their own opinions in weekly one-page response papers, as well as two longer essays. Dean’s Teaching Fellowship Course

Instructor(s): C. Gannon
Area: Humanities
Writing Intensive.
AS.060.402. The Literature of Atlantic Revolution. 3 Credits.
This course will consider how political revolutions in the Atlantic World, from the English Civil War of the 1640s to the European revolutions of 1848, were represented and theorized in contemporary literary texts and how those revolutions in turn affected literary history. We will consider questions like: What is revolution? Can revolution be represented? How do literature and history inform each other? Texts may include: John Milton’s tracts; Thomas Paine’s writings; US and Haitian founding documents; Edmund Burke’s “Reflections on the Revolution in France”; Leonora Sansay’s novel, “Secret History, or the Horrors of Santo Domingo”; selected Hawthorne and Melville short stories; Martin Delany’s "Blake, or the Huts of America". Pre 1800 course
Instructor(s): J. Hickman
Area: Humanities
Writing Intensive.

AS.060.403. Theory of the Novel. 3 Credits.
We all know a novel when we see one, but it’s surprisingly hard to say just what one is. This seminar will introduce the theory of the novel by reading a number of novels along with the works of central thinkers about the novel. We will look at the connection of the rise of the novel form with historical and cultural changes and investigate key stylistic elements. Novelists will likely include Miguel de Cervantes, Johann Wolfgang von Goethe, Jane Austen, Gustave Flaubert, and Virginia Woolf.
Instructor(s): J. Rosenthal
Area: Humanities
Writing Intensive.

AS.060.404. Literature in History. 3 Credits.
All texts have contexts. In this course we will explore the relationship of literature to history from a variety of perspectives. Part of the course will be devoted to literary texts which require contextual analysis if one is to arrive at anything like a sufficient interpretation—including Jane Austen’s “Pride and Prejudice”, Herman Melville’s “Billy Budd”, and the poetry of William Blake and T. S. Eliot. We will also look at literary depictions of history—perhaps Shakespeare’s “Richard II”, Daniel Defoe’s “Journal of a Plague Year”, George Bernard Shaw’s “Heartbreak House”, and Bertolt Brecht’s “Galileo”. Along the way we will ask what it means to recover “historical meaning,” consider the representation of history in literature and literature’s impact on history, and think about concepts of “literary history.” The last reading of the semester will be Tom Stoppard’s brilliant historical play “Arcadia”, a lively but forceful commentary on human attempts to reconstruct the past. Students will be free to write their papers either on historistic theory or on plays, poems, or fiction from any period, medieval to contemporary
Instructor(s): A. Marshall
Area: Humanities
Writing Intensive.

AS.060.406. Seventeenth Century Literature. 3 Credits.
A survey of major lyric poets and prose writers from 1601-1660. Works by Bacon, Burton, Donne, Herbert, Hobbes, Jonson, Lanyer, Marvell, and others. Pre-1800 course. Recommended Course Background: AS.060.107
Instructor(s): R. Halpern
Area: Humanities
Writing Intensive.

AS.060.407. Dramatic and Fictional Narratives by Women. 3 Credits.
In this course, we will read a wide range of plays and novels written by women from as far back as Aphra Behn at the end of the seventeenth century to living writers. Works and writers likely to be featured in discussions and in suggested paper topics include: Behn’s Oroonoko, Jane Austen’s “Persuasion” (very different angle from Pride and Prejudice), Charlotte Brontë’s Jane Eyre and Jean Rhys’s “Wide Sargasso Sea” (a “prequel” to Brontë’s masterpiece), Gertrude Stein’s “Three Lives”, Virginia Woolf’s “Orlando”, Arundhati Roy’s “The God of Small Things”, Timberlake Wertenbaker’s “Our Country’s Good” (on early Australian convicts), Patricia Duncker’s “The Doctor”, and Jane Smiley’s “A Thousand Acres” (King Lear in Iowa). Women have produced a lot of wonderful and drastically different kinds of narrative work; there is no single ideological agenda in this course. Readings will be all over the map—some are ideologically and technically conservative, some radical; some are angry and strident, some funny and light; some are sober, some wild. Students should emerge from the course with a far richer sense of the issues and questions and crises with which women have concerned themselves over the last two centuries.
Instructor(s): A. Marshall
Area: Humanities
Writing Intensive.

AS.060.408. Rising and Falling in Marlowe and Jonson. 3 Credits.
This course considers the problem of negativity within two of the great “success stories” of English Renaissance literature: Christopher Marlowe and Ben Jonson. In praising “the sweet fruition of an earthly crown” or humbly recommending that one “keep thy shop, and thy shop will keep thee”, these authors both seem to extol tangible visions of worldly advancement. Yet each author’s work can also be read as a savage moral critique of those very ambitions and energies. What can the fierce competitions staged within the urban, masculine world of their plays and poems teach us about the lures and limits of success? Tracking their movements in and out of prison, in and out of royal favor, and in and out of critical fashion, we will read either one play or a substantial group of poems per week. Students will be asked to craft two short papers and an extended final essay. Possible texts include: “Tamburlaine”, “The Jew of Malta”, “Edward II”, “The Tragical History of Doctor Faustus”, “Sejanus His Fall”, “Volpone”, “The Alchemist”, “Catiline His Conspiracy”, “The Masque of Blackness”, and “Bartholomew Fair”. Pre 1800 course.
Instructor(s): A. Daniel
Area: Humanities
Writing Intensive.

AS.060.501. Independent Study. 3 Credits.
Instructor(s): Staff
Area: Humanities
Writing Intensive.

AS.060.502. Independent Study. 0 - 3 Credit.
Instructor(s): Staff.

AS.060.505. Internship - English. 1 Credit.
Instructor(s): Staff.

AS.060.506. Internship-English. 0 - 3 Credit.
Instructor(s): Staff.
AS.060.597. Independent Study. 3 Credits.
Instructor(s): E. Sundquist; F. Ferguson; J. Rosenthal.

AS.060.598. Internship-English. 1 Credit.
Instructor(s): Staff.

AS.060.605. Early Modern Literary Ontologies.
What is the matter of literature? How does literary form represent substance? What might early modern literary representations of material (and immaterial) forms of existence contribute to current conversations about the resources ontology has to offer in longstanding relativist deadlocks around politics, religion, and interpretation? To pursue these questions, our readings are divided into three interlinked sections: an introductory account of substance and ontology in Ancient Philosophy (potentially including Empedocles, Plato, Aristotle, Lucretius), a sequence of readings in early modern literary works which revise or customize those philosophical backgrounds (Sir John Davies "Orchestra, or a Poem of Dancing", Phineas Fletcher's "The Purple Island", John Milton's "Paradise Lost", poems by Andrew Marvell and Margaret Cavendish), and a wide array of contemporary writings in metaphysics and early modern literary criticism at the intersection of ontology and poetics (potentially including Gilles Deleuze, Graham Harman, N. K. Sugimura, Daniel Tiffany, Jonathan Goldberg, Steven Shaviro).
Instructor(s): A. Daniel
Area: Humanities
Writing Intensive.

AS.060.609. Senior Essay. 3 Credits.
The English Department offers qualified majors the option of writing a senior essay. This is to be a one-semester project undertaken in the fall of the senior year, resulting in an essay of 30-35 pages. The senior essay counts as a three-credit course which can be applied toward the requirements for the major. Each project will be assigned both an advisor and a second reader. In addition, students writing essays will meet as a group with the Director of Undergraduate Study once or twice in the course of the project. The senior essay option is open to all students with a cumulative GPA of 3.8 or higher in English Department courses at the end of the fall term of their junior year. Project descriptions (generally of one to two pages) and a preliminary bibliography should be submitted to a prospective advisor selected by the student from the core faculty. All proposals must be received at least two weeks prior to the beginning of registration period during the spring term of the junior year. Students should meet with the prospective advisor to discuss the project in general terms before submitting a formal proposal. The advisor will determine whether the proposed project is feasible and worthwhile. Individual faculty need not direct more than one approved senior essay per academic year. Acceptance of a proposal will therefore depend on faculty availability as well as on the strength of the proposal itself. When completed, the senior essay will be judged and graded by the advisor in consultation with the second reader. The senior essay will not be part of the Department's honors program, which will continue to be based solely on a cumulative GPA of 3.6 in English Department courses.
Instructor(s): A. Daniel; C. Nealon; D. Mao; J. Rosenthal; Staff
Area: Humanities
Writing Intensive.

AS.060.607. Lives and Afterlives of Anti-Humanism.
This seminar will offer a preliminary history of the 20th-century critique of "humanism" -- a critique that has continued to take new forms, long after we might imagine humanism to have been laid to rest. Beginning with Heidegger and Carl Schmitt, we will spend time with Sartre, Althusser, the phenomenologists, and key post-structuralists, before moving on to the current variety of post- and anti-humanisms in philosophy (object-oriented ontology, speculative realism), and cultural and critical theory (eco-criticism and queer theory). Why has it been important to critique "humanism"? What is the ongoing appeal of making that critique?
Instructor(s): C. Nealon
Area: Humanities.

AS.060.610. What Is Baroque?.
This course examines the Baroque as an aesthetic movement and as a topic of theoretical interest. Works by Bal, Benjamin, Bersani, Deleuze; Browne, Caravaggio, Donne, Leibniz, Tourneur, Webster and others.
Instructor(s): R. Halpern
Area: Humanities.

AS.060.617. Poetry and Social Organization.
This course will consider how poets writing in English have described, imagined, and critiqued orderings of persons and institutions since the eighteenth century: texts examined will include poems, critical essays, and manifestos as well as writings in several non-literary disciplines. One matter of continuing interest will be the relationship between poems' internal organization and the organization of societies; another will be the implications of thinking of societies as ordered or subject to ordering. Poets to be studied may include Pope, Wordsworth, Shelley, Eliot, Zukofsky, Oppen, Niedecker, Walcott, and Ronald Johnson.
Instructor(s): D. Mao
Area: Humanities.

AS.060.619. The Time is Out of Joint: Shakespearean Temporalities.
This course is designed to serve a double purpose: first, we shall read and analyze a substantial body of Shakespearean drama and poetry for its resources as a means for thinking about time, temporality, and historical change. Concurrently, we shall read and respond to debates in recent early modern literary scholarship about secularity, modernity and the problem of "presentism" as a critical orientation towards the past. If a previous critical generation enlisted Shakespeare into service as an exemplar of an incipient modernity based upon a tacit assumption of a secular bias, has that assumption been complicated by recent evidence and fresh readings? How might we rethink the relationship between religious discourse and academic periodization? In the process of answering these questions, it is hoped that a plurality of other Shakespeares- whether medieval, untimely, recusant Catholic, crypto-atheist, queer, anachronistic, or "presentist"- might emerge. In addition to Shakespeare, possible critical and secondary authors include Augustine, Henri Bergson, Johannes Fabian, Jan Kott, Madhavi Menon, Elizabeth Freeman, Kathleen Davis, Agnes Heller, Paul Kottman, Eric Mallin, Hugh Grady and Stanley Cavell.
Instructor(s): A. Daniel
Area: Humanities.

AS.060.620. A Brief History of Reading and Practical Criticism.
Area: Humanities.
AS.060.621. World Literature and the Global Sublime.
In this seminar, we will consider how the idea of world literature converges with forms of anxiety or exhilaration attending confrontation with the sheer scale of the world. The first three weeks will focus on key theoretical texts pertaining to colonial and postcolonial conditions, globalization, cognitive mapping, planetarity, and the market for world literature. The remaining weeks will consider such issues as refracted through literary works. Authors to be studied may include Francis Bacon, Olaudah Equiano, Anthony Trollope, T. S. Eliot, Virginia Woolf, Jean Rhys, Raja Rao, George Lamming, Chinua Achebe, Thomas Pynchon, Derek Walcott, and Jessica Hagedorn.
Instructor(s): D. Mao
Area: Humanities.

This course examines sociological and philosophical theories of the body in space with regard to its representations in 19th-century fiction. Some of the themes the course deals with are: how space shapes the body and determines subjectivity; how the 19th-century metropolis disseminates and supports capital as a system of signification; to what extent literary production is based on the desire and practice of accruing cultural capital; how certain readings of modernity understand the distribution of space and bodies as genitive of the literary field. Authors considered may be: Bourdieu; Foucault; Benjamin; Harvey; Goffman; Giddens; Balzac; Flaubert; and Zola.
Instructor(s): M. Thompson
Area: Humanities.

AS.060.625. Modernism and Sacrifice.
Instructor(s): M. Thompson
Area: Humanities.

AS.060.628. Literature of the Holocaust.
The seminar will focus on reactions to, and representations of, the Holocaust in literature. In moving from eyewitness testimony and survivor memoir, through the emergence of fiction as one means to test the adequacy of such accounts or extend them into a new register, and on to more recent reflections on the problem of adequately “remembering” the event in which memory is constantly at issue, we will consider how the Nazi genocide has entered into world consciousness. Although the focus of the course will be on literature, primary readings will be studied with close attention to historical contexts as they bear on questions of authorship, representation, and reception, and to the theoretical vocabularies that have emerged from successive stages of post-Holocaust inquiry. American works will be emphasized but not the sole concern. Primary readings (all in English) will include some of the following: Elie Wiesel, “Night”; Primo Levi, “Survival in Auschwitz”; Charlotte Delbo, “Auschwitz and After”; Tadeusz Borowski, “This Way for the Gas, Ladies and Gentlemen”; John Hersey, “The Wall”; Leon Uris, “Exodus”; Jerzy Kosinski, “The Painted Bird”; Jorge Semprun, “The Long Voyage”; Imre Kertész, “Fatelessness”; David Grossman, “See: Under Love”; Leslie Epstein, “King of the Jews”; Cynthia Ozick, “The Shawl”; Philip Roth, “The Plot against America”; and William Gass, “The Tunnel”, with various historical and theoretical works in accompaniment. Requirements: a circulated discussion paper; reports on critical/theoretical works; participation in discussion; a research paper.
Instructor(s): E. Sundquist
Area: Humanities.

AS.060.629. Poetry and Poetics after The ‘Linguistic Turn’.
This seminar will canvas a few of the many developments in English-language poetry, and in poetic theory, that have emerged since the heyday of post-structuralism, on the one hand, and “language”-driven poetry, on the other. The readings will include recent critical work by Joel Nichols, Ruth Jennison, Oren Izenberg, Maria Damon, and others; the poetry will be a combination of recent volumes by contemporary writers, and individual poems.
Instructor(s): C. Nealon
Area: Humanities.

AS.060.632. Sovereignty, Community, and 17th Century Literature.
Can we think sovereignty and community together? How might the vertical axis of sovereignty and the horizontal axis of community complicate or multiply each other? What conversations are possible when we attempt to reconcile these two contrary formations, and how does the early modern theory and practice of absolutism inflect contemporary theory? In this course we will read texts from across the seventeenth century (from Shakespeare and Ford to Milton, Dryden and Behn) in which the person of the monarch, sovereign, leader or judge and the larger structural institution of sovereignty slip out of alignment with each other. We will then read early modern political texts about sovereign power and the constitution of state power and monarchical authority from Jean Bodin, James I, and Thomas Hobbes. This early modern sequence will be placed in dialogue with contemporary theorists of sovereignty and/or community: potential authors include Schmitt, Nancy, Agamben, Esposito, Derrida, Blanchot, and De Landa.
Instructor(s): A. Daniel
Area: Humanities.

AS.060.636. Philosophical Literary Criticism.
Area: Humanities.
**AS.060.640. From Phantasmagoria to Photography: Cultures of the Lens and Virtual Image in Poetry of the Long Nineteenth Century (1780-1900).**

This course is about the poetics of the lens and the mirror. From Wordsworth to Hardy, from Anna Barbauld to ‘Michael Field’ (the pseudonym of two women), poetry is haunted by the virtual image. Lens-made technologies, developed in the late Enlightenment, from the ‘high’ science of the telescope and microscope to the popular culture of the magic lantern and optical toys, created for a mass public for the first time a newly mobile screened image that could be thrown from one surface to another. This was a non-mimetic image made with the aid of the glass lens by light out of light. From this arose the screen practices of the phantasmagoria, diorama, panorama, kaleidoscope, and a host of optical toys exploiting visual ambiguities. The course explores the immanent presence of these in Romantic and Victorian poetry, studying poems and concurrently the documents of visual and optical theory generated by the new technologies. It includes work by male and female poets. We will consider how poets explored the philosophical implications of the poetics of the lens and a new epistemology. Technologies of the lens and mirror had repercussions across aesthetics and politics.

Instructor(s): I. Armstrong
Area: Humanities.

**AS.060.642. Readings in Aesthetics.**

This course offers a general survey of twentieth-century aesthetics, with particular emphasis on (but not limited to) the Interbellum (1919-1939) and its immediate aftermath. Some of the authors under consideration are: Heidegger; Levinas; Sartre; Blanchot; Bataille; Merleau-Ponty; Benjamin; Adorno; and Gadamer.

Instructor(s): M. Thompson
Area: Humanities.

**AS.060.643. Idea of Progress.**

Area: Humanities.

**AS.060.644. The Trouble with “Modernity.”**

This course will offer some genealogies and critiques of the various modernity-theses that provide us ready-to-hand (and perhaps too easy) periodizations in the humanities. Readings will include Hans Blumenberg, Martin Heidegger, Marshall Berman, Perry Anderson, Hans-Robert Jauss, Larry Norman, Charles Taylor, and Ellen Meiksins Wood.

Instructor(s): C. Nealon
Area: Humanities.

**AS.060.646. Transnational American Studies.**

This seminar will consider the “transnational turn” in American studies in particular and the humanities more generally. What, if anything, is at stake in this turn? What sort of a corrective does it mean to offer? What political fantasies drive it? Half of the course will be dedicated to reconstructing the genealogy of the turn and will involve reading primarily theoretical and critical texts. Texts may include: Wai-Chee Dimock, “Through Other Continents”; Laura Doyle, “Towards a Philosophy of Transnationalism,” Eric Lott, “Anti-American Studies”; Donald Pease, The New American Exceptionalism”. The other half will be dedicated to reading American literary texts that have invited or might invite transnationalist readings. Texts may include: Joel Barlow, “The Vision of Columbus”; Herman Melville, “Moby-Dick”; Martin Delany, “Blake, or the Huts of America”; Leslie Marmon Silko, “Almanac of the Dead”; Karen Tei Yamashita, “Tropic of Orange”. We will ask to what extent these texts are already doing something like “transnational American studies” and how the longstanding figuration of American nationality (not just the US but other American nations) as a species of transnationality ("a nation of nations") might cause us to reconsider the cultural work of recent transnational American studies.

Instructor(s): J. Hickman
Area: Humanities.

**AS.060.647. Capitalism for Humanists.**

This course will examine different ways capitalism is understood in the humanities: how it shapes our attempts to interpret texts, periodize them, historicize them, or understand their political meanings. We will read some economic history, some history of the profession of economics, some contemporary critical theories of capitalism, and some literary scholarship that tries to think through the relationship between literary study and economic inquiry, as well as between literature and money.

Instructor(s): C. Nealon
Area: Humanities.

**AS.060.648. George Eliot.**

This seminar will explore George Eliot’s major novels alongside selections from the considerable body of criticism that has grown up around her oeuvre. Topics of discussion will be determined in part by seminar participants, but we will certainly address the following: the nature of her idealism (and its relation to her realism), her long argument with religion, the tension between her larger theories of the moral life and her treatment of embedded, struggling individuals, and the larger relations among her sociological, philosophical, and existential perspectives. Eliot was a polymath, and we will need to situate her thinking and her art in relation to a wide range of continental and English sources. We will also pay special attention to the formal features of her novelistic project: the function of her narrators, the character system considered within and across the novels, the role of argument and philosophy within the works, and the particular forms of plotting and mode she employs. Novels will include "Adam Bede", "The Mill on the Floss", "Romola", "Felix Holt", "Middlemarch", and “Daniel Deronda”.

Instructor(s): A. Anderson.

**AS.060.651. Form and Matter.**

This course takes a look at revived interest in formalism and materialism in critical theory as it bears on the literature of the long eighteenth century: topics include formalism and close reading from the new criticism to the present, object oriented ontologies and eighteenth-century materialisms, cognitive criticism and phenomenology.

Instructor(s): J. Kramnick
Area: Humanities.
AS.060.652. Narrative and the Unconscious before Freud.
TBD
Instructor(s): J. Rosenthal.

AS.060.655. Ralph Ellison and His Circle.
A study of Ellison’s peculiar career—from greatness to failure. After the success of “Invisible Man”, why could he not finish his second novel? Role as critic and lightning rod for arguments about black writing central to discussion.
Instructor(s): E. Sundquist
Area: Humanities.

AS.060.656. Literature and Philosophy, Locke to Wordsworth.
This is a class on epistemology, aesthetics, and literary form in eighteenth-century British writing. We will focus particularly on perception and look at how poetry, fiction, and the visual arts recruit and account for phenomenal experience or consider material and natural objects. We’ll ask (for example) what happens when the empirical psychology of consciousness or the categories of the sublime, beautiful, and picturesque take narrative or poetic form. Authors include Locke, Addison, Thomson, Hume, Burke, Sterne, Smith, Gilpin, Cowper, and Wordsworth, read alongside recent criticism and theory, including new work in phenomenology and the philosophy of mind.
Instructor(s): S. Cameron
Area: Humanities.

Area: Humanities.

AS.060.660. Liberalism and Aesthetics.
This seminar will examine the relation between liberalism as a political philosophy and liberalism in its aesthetic dimensions—the latter will include not only traditional understandings of the liberal temperament and the liberal imagination but also the key formal and conceptual elements characterizing a range of literary engagements with liberal thought, focusing in particular on the realist novel and the debate over realism/modernism (with some brief discussion of modern drama as well). The first half of the course will focus on philosophical and theoretical texts; the second half of the course will consider literary texts from the nineteenth and twentieth centuries. Critics and theorists will include: Lionel Trilling, John Dewey, Irving Howe, George Kateb, Georg Lukács, Theodor Adorno, Stefan Collini, Francis Mulhern, Richard Rorty, Toril Moi. Literary authors likely to include Elizabeth Gaskell, Anthony Trollope, E. M. Forster, Lionel Trilling, and Doris Lessing.
Instructor(s): A. Anderson
Area: Humanities.

AS.060.661. Naturalism and Modernism.
Area: Humanities.

AS.060.662. Edwards, Emerson, Thoreau.
We shall examine what “divinity,” “nature,” “Being in general” and “personal identity” differently mean in the writings of Jonathan Edwards, Ralph Waldo Emerson and Henry Thoreau (the emphasis will be on the two nineteenth-century American writers); how “the intuitively beheld and immediately felt” (what Edwards called “experiential religion”) are contrastively understood in the writings of the three; and to what end these literary and philosophical writings marginalize persons— and even evacuate them—from their scrutiny. We shall also examine features of the prose (Edwards’s “rhetoric of sensation”; Emerson’s contradictions; Thoreau’s infatuation with particulars), and the genres in which the three authors write: the sermon, the treatise, the journal entry, the lecture, and the essay. Finally, we shall consider Adorno’s proposition in “The Essay as Form” that discontinuity is essential to the essay, that “the essay rebels against the doctrine, deeply rooted since Plato, that what is transient and ephemeral is unworthy of philosophy.”
Instructor(s): S. Cameron
Area: Humanities.

AS.060.663. Sacred Spaces and the Novel, 1853-1926.
This course offers both a survey of late nineteenth- and early twentieth-century prose fiction of Britain and its empire and an examination of recent scholarship on literature’s relation to religion and the geographies of modernity. We’ll begin with three Victorian novels inhabiting the convergence between historical imagination and religious inquiry (Charles Kingsley, George Eliot, Walter Pater), move on to three turn-of-the-century narratives in which the momentum of the quest confronts sacred implacability (Olive Schreiner, Joseph Conrad, Rudyard Kipling), and conclude with three novels of the 1920s propelled by pagan ecstasy (E. M. Forster, D. H. Lawrence, Sylvia Townsend Warner). Primary readings will be accompanied by critical and theoretical texts from György Lukács, René Girard, Fredric Jameson, David Harvey, Leela Gandhi, and others.
Instructor(s): D. Mao
Area: Humanities.

AS.060.665. Whitman and Dickinson.
An examination of the formal, conceptual, and philosophical innovations in the work of the two major nineteenth-century American poets. We’ll consider the premises behind Whitman’s poetry of wholes (nothing left out) and Dickinson’s poetry of fragments. How does Whitman reconcile the need for formal universals with the emotional attachment to substantive particulars? How does Dickinson find a language for the off-the-map quality of private experience?
Instructor(s): S. Cameron.

AS.060.666. 20th C American Poetry.
An examination of 20th century American poetry: Frost, Eliot, Crane, Stevens
Instructor(s): S. Cameron.

AS.060.668. The Slavery Debate in the Atlantic World.
This graduate seminar will trace the historical development of the slavery debate in the Atlantic world through examination of key texts from a host of genres and locations—Quaker religious tracts, political documents like the Haitian Declaration of Independence, Cuban anti-slavery novels, slave narratives, and “classics” of “American” literature like Melville’s Benito Cereno. Our historical investigations into the rhetorical field of anti- and pro-slavery will be framed by a theoretical interest in political theology. How might critical reflection on sovereignty, recent and not so recent—from Derrida back to Bodin (widely acknowledged as having provided one of the first philosophical defenses of anti-slavery)—help us recast the intellectual history of the slavery debate and African radicalism, more generally?
Instructor(s): J. Hickman
Area: Humanities.

A reading of the major novels.
Instructor(s): S. Cameron
Area: Humanities.

This course takes its cue from a basic etymological kinship between “discovery” and apocalypse (ἀποκάλυψις, literally “un-covering”). How are world-building and world-ending related? What pathways join the literary and philosophical construction of new worlds with theological and theoretical scenarios of revelation, extinction, and doom? In search of answers, this course reads Renaissance narratives of cosmogony, proto-science fiction and utopian discovery alongside contemporary theories of “worlding”, environmental futurity, climate change, and planetary precarity. After commencing with Lucian and Plutarch, we will read a comprehensive sequence of early modern fictions in which utopias, new worlds and/or new planets are visited or “discovered”: Thomas More, Utopia; Robert Greene, Planetomachia; Tommaso Campanella, The City of the Sun; Johannes Kepler, Somnium (The Dream); Francis Bacon, New Atlantis; Margaret Cavendish, The Description of a New World, Called the Blazing World; Apha Behn’s translation of Fontenelle’s Conversations on the Plurality of Worlds. These early modern texts will be read alongside works in primary philosophy and contemporary eco-theory that constellate key concepts: earth, planet, and world. Texts include Martin Heidegger, Being and Time; Jacques Derrida, “Of An Apocalyptic Tone Recently Adopted In Philosophy”; Timothy Morton, Hyperobjects: Philosophy and Ecology After the End of the World; Jeffrey Cohen, Prismatic Ecology: Ecotheory Beyond Green; Ray Brassier, “The Truth of Extinction” (from Nihil Unbound); Gayatri Chakravorty Spivak, “Planetary” (from Death of A Discipline).
Instructor(s): A. Daniel
Area: Humanities.

AS.060.675. Aesthetics and Ethics before Kant.
This is a course on ideas of art and norms of moral action in British literature and philosophy roughly from Hobbes to Smith.
Area: Humanities.

AS.060.676. The Philosophy of African-American Literature.
Area: Humanities.

AS.060.678. Melville, Poe, Hawthorne.
A reading of the major fiction of Poe, Melville, and Hawthorne with an emphasis on Melville.
Instructor(s): S. Cameron

This seminar will offer an in-depth examination of the theory and practice of the nineteenth-century realist novel in three traditions: American, British, and French. Our aim will be to understand the central theories and controversies surrounding realism, as well as to interrogate the centrality of realism to novel theory and narrative theory. Authors will likely include Jane Austen, Charles Dickens, George Eliot, Honoré de Balzac, Gustave Flaubert, Frank Norris, and William Dean Howells. Theorists and critics will likely include Erich Auerbach, M. M. Bakhtin, Roland Barthes, Leo Bersani, Bertolt Brecht, Richard Chase, René Girard, Howells, Roman Jakobson, Henry James, Fredric Jameson, Harry Levin, G. H. Lewes, Georg Lukács, Boris Tomashevsky, lan Watt, and Émile Zola.
Instructor(s): J. Rosenthal
Area: Humanities.

AS.060.681. Literary Theory.
This course will provide a survey of many of the major theoretical positions that have been directly or indirectly influential for literary studies. We will read selections from the following: Russian Formalism (Propp, Shklovsky, Bakhtin), structuralism (Levi-Strauss, Barthes), American New Criticism (Wimsatt & Beardsley, Brooks) deconstruction (Derrida, de Man), speech act theory (Austin, Butler), Marxism (Jameson), queer theory (Sedgwick, Miller), and distant reading (Luhmann, Moretti).
Instructor(s): F. Ferguson
Writing Intensive.
AS.060.682. The 21st Century University.
This seminar will focus on the changing contours of the American university in an era of economic instability and crisis. With a look back at the formative relationship between monopoly capitalism and the university in the 19th century, we will investigate the effect on the university of the unraveling of American economic power, with attention to the rise of administrative power and the loss of faculty governance, to the pressures of financialization, and to the contradictory situation into which the university is placed by student activism that calls its founding premises into question. We will also ask what intellectual life looks like under conditions of adjunctification and de-politicization. Reading will include selections from Gerald Graff, Professing English, Christopher Newfield’s Ivy and Industry and Unmaking The Public University, Benjamin Ginberg’s The Fall of The Faculty, Stefano Harney’s and Fred Moten’s Undercommons, and [the x’s] The University Against Itself, as well as material produced by student and faculty activists in the university struggles of the last 5 to 10 years.
Instructor(s): C. Nealon
Area: Humanities.

Primo Levi’s well-known essay “The Gray Zone” describes complex states of complicity and moral erosion between the categories of “victims,” “perpetrators,” and “bystanders” during and after the Holocaust. Literature written at the time or in the immediate aftermath, whether memoir, commentary, or fiction, contains many illustrative examples, but even more have arisen at one or another remove from the events, as later generations have confronted an atrocity frequently taken to be historically and morally unique. How did the Holocaust become a touchstone for both extremities of human behavior and problems of representation? When did the Holocaust become available to literature or to the once unthinkable strategies of satire, post-modernism, and even pornography, and can these strategies be considered examples of “the gray zone”? The course will deal with the testimonies of perpetrators such as Rudolf Höss (commandant of Auschwitz) and historical documents setting forth plans for genocide; with memoirs of prisoners such as Filip Müller forced into participation in the Holocaust; and more particularly with literary depictions of life in “the gray zone.” The sequence of readings will be organized mainly around literary texts, but these will be paired, sometimes in two-week sequences, with historical and critical materials that take up the problem of complicity through various perspectives: the role of Jewish leaders during the Holocaust; attempts to fictionalize extremities of evil (e.g., Hitler); the aestheticizing of atrocity; the moral responsibility of bystanders; and the extension of genocidal paradigms to other dimensions of life such as animal rights. Texts to be studied (mostly, though not exclusively, written in English) will likely include: Primo Levi, The Drowned and the Saved; Tadeusz Borowski, This Way to the Gas, Ladies and Gentlemen; George Steiner, The Portage to San Cristobal of A. H.; Leslie Epstein King of the Jews; Sylvia Plath, selected poems; Philip Roth, The Plot against America; D. M. Thomas, The White Hotel; and J. M. Coetzee Elizabeth Costello.

AS.060.692. Race and Enlightenment.
This course examines the philosophical interplay between Enlightenment aesthetics and the construction of the concept of race. We will read texts in aesthetics and on human difference by Rousseau, Voltaire, Condorcet, Kant, Herder, Jefferson, Burke, Hume and others, in an attempt to see the points at which reflections on art and notions of human biological hierarchy intersect. Particular attention will be paid to the idea of the sublime as it pertains to early anthropological thought.
Instructor(s): M. Thompson
Area: Humanities.

Instructor(s): Staff.

AS.060.800. Independent Study.
Instructor(s): M. Thompson.

AS.060.801. Teaching Practicum.
Instructor(s): Staff
Area: Humanities
Writing Intensive.

AS.060.893. Individual Work.
Instructor(s): M. Thompson.

AS.060.894. Independent Reading.
Instructor(s): M. Thompson
Area: Humanities
Writing Intensive.

Instructor(s): M. Thompson.

Cross Listed Courses

Anthropology
AS.070.328. Ethnographies: Our Animals Ourselves. 3 Credits.
Topic: Our Animals Ourselves. How does the figure of the animal appear in anthropological thought? Looking at classical topics such as totemism, sacrifice and pastoralism, as well as emerging topics of animal rights and vegetarianism, we shall see how anthropological concepts bend or are bent by the animal as boundary marker or bridge between self and other. Required course background: two or more prior courses in anthropology (not cross-listed courses). Course is a requirement for anthropology majors.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

German Romance Languages Literatures
AS.211.201. Case Studies: Law in Literature. 3 Credits.
In law and literature, words and stories play a crucial role. Indeed, the courtroom is often inherently theatrical. What happens when legal trials and questions of law and justice are transformed into literature? What are the possibilities—and risks—of following the long tradition that combines the fields of law and literature as social and cultural forces? Why has this dynamic connection intrigued many writers of modern literature and how do they represent legal issues? This course explores the representation of law and trials in 19th and 20th century German-language literature as well as larger ethical concerns around justice and revenge. Following a theoretical overview, we will discuss drama and prose by, among others, Heinrich von Kleist, Franz Kafka Bertolt Brecht and Peter Weiss—as well as selected stage and filmic adaptations of their works—as “case studies.” (Taught in English)
Area: Humanities.
AS.211.233. Freshman Seminar - A History of Reading: from Gutenberg to Kindle. 3 Credits.
Freshmen only. This course investigates the 18th-century revolution in reading – the pedagogical and aesthetic debates about the virtues and dangers of reading, idealizations and critiques of print culture, books as material objects, and the shifting concepts of both author and reader, and to what extent this historical period anticipates our own present day revolution in reading technologies.
Area: Humanities.

AS.212.478. Guillaume de Machaut: exploring medieval authorship in the digital age. 3 Credits.
Using new websites devoted to the lyrics and music of Guillaume de Machaut, the foremost poet and composer of the 14th-century French royal court, this seminar will explore the role of music and literature during the Hundred Years War. Students will learn to use digital tools to view and analyze original illustrated musical manuscripts of Machaut’s work.
Instructor(s): T. Rose-Steel
Area: Humanities
Writing Intensive.

AS.212.601. Word and Image: An Introduction to the Languages of Literature and Cinema.
Taught in English, this course is a primer in the linguistics and the rhetoric of literary and cinematic texts. Students will familiarize themselves with the notion of the literary language’s exceptionality by studying Aristotle, Plato, Viktor Sklovskij and Roman Jakobson among others. They will then compare the power of the literary with the language of cinema by studying Andre Bazin’s take of New Realism, Christian Metz’s structuralist approach to cinema and psychoanalysis, Gilles Deleuze’s theory of the moving-image and the time-image, a feminist approach to cinema by E.Ann Kaplan and others, as well as theories of digital cinema from Peter Weibel to Lev Manovich, among others. We will place the language of literature and film within a context that includes religion music, magic, prophecy and medicine. Cross-listed with Film and Media Studies and English (This course is offered as AS 212.601, 213.601, 214.601, and 215.601. Please check other course numbers for open seats.)
Instructor(s): B. Wegenstein; P. Forni.

AS.212.603. Senses of the Imagination in Medieval Thought and Lyric.
AS.212.789. Literature & Identity in the Age of Globalization.
In this seminar we will examine a selection of literary reflections on and engagements with globalization and its mounting failures and burdens, as it has emerged in Europe and the Americas from the mid-twentieth century to the present. From the economic, constitutional, and cultural politics around the unification of Europe, to the ideological and imperial misfortunes of the U.S. after the collapse of the “End-of-History” thesis, to the resurgence of state populism in Latin America in the wake of neoliberal exhaustion, literary fiction has been deployed to posit, explore, and contest national and post-national myths of identity. The seminar will interrogate how this engagement functions both as aesthetic and theoretical discourse. Readings may include novels by Albert Camus, W. G. Sebald, Leonardo Sciascia, Orhan Pamuk, Javier Marías, Roberto Bolaño, and Jonathan Franzen, along with theoretical writings by Gianni Vattimo, Jürgen Habermas, Rodolphe Gasché, and others.
Instructor(s): E. Gonzalez; W. Egginton
Area: Humanities.
AS.213.321. Bodies and Pleasures. 3 Credits.
Taught in English. This course traces a literary history of sexuality from the Middle Ages to contemporary women’s writing. We will analyze how sexual pleasure changed over time. In particular, we will discuss what role literature plays in the reproduction and transformation of bodily pleasures. The course explores how the pleasures of bodies are imagined in and through literature, but also whether words are bodies that give pleasure and perhaps even have their own pleasures. Authors discussed will include Boccaccio, Cleland, Rousseau, Schlegel, Kleist, Hoffmann, Novalis, Arnim, Büchner, Freud, Rilke, Kafka, Rich, Foucault, Kristeva, Cixous, Giddens, and Winterson.
Instructor(s): K. Pahl
Area: Humanities.

AS.213.332. Zionism in Modern Literature: Jewish or Israeli?. 3 Credits.
This course will be an examination of the themes of nationalism, Zionism, and the problems of the nation-state in modern Jewish literature of the past hundred years. Among the topics we will consider are the unique challenges of a diasporic culture relocating its national aspirations to an unfamiliar and often hostile environment, the controversies surrounding political nationalism within modern Jewish culture, the competition between languages in the formation of Israeli society, the character of Israeli national culture, the relationship of Israel’s Jewish majority with its minority population, and the relationship of Israeli culture to the Jewish culture of the diaspora. To what extent does Israeli literature constitute a continuation of themes and techniques found in previous Jewish writing, and to what extent does it represent a new beginning? To what extent can Israeli literature be compared with other varieties of Jewish writing and to what extent is this writing a unique cultural phenomenon? Although the majority of works discussed will be translated from Hebrew—including such leading figures of Israeli literature as S. Y. Agnon, S. Yizhar, Amos Oz, and Orly Castel-Bloom—we will also be considering works translated from Yiddish (Mendele Moykher-Sforim), German (Theodor Herzl), and Arabic (Emile Habiby), as well as contemporary American writers such as Philip Roth and Michael Chabon. All readings and discussions conducted in English. Cross-listed with Jewish Studies, English, and the Humanities Center
Instructor(s): M. Caplan
Area: Humanities
Writing Intensive.

AS.213.380. Ghost Stories, Haunted House and Other Occult Phenomena. 3 Credits.
Although the eighteenth century is often associated with the Enlightenment, the period also gave birth to the gothic novel with its lurid description of haunted houses, ghosts, phantoms, and diabolical forces in nature. This course will examine the modern obsession with occult phenomena from Chamisso to Bram Stoker and Freud, whose 1919 essay “The Uncanny” constitutes one of the most rigorous analyses of the irrationality of psychic life. We will consider the appearance of ghosts in literature as well as explore the status of literature as a play of appearances, of light and shadow. Why have ghost stories been so prevalent in the modern era, when science and reason are said to dominate our understanding of the world? Is the occult the dark side of science? What kind of knowledge does literature yield? And what can literature tell us about random, obscure, or inexplicable events? Readings in English and German; discussion in English. Additional hour for German discussion through AS.213.381.
Cross-listed with English
Instructor(s): R. Tobias
Area: Humanities.

AS.213.601. Word and Image: An Introduction to the Languages of Literature and Cinema.
Taught in English, this course is a primer in the linguistics and the rhetoric of literary and cinematic texts. Students will familiarize themselves with the notion of the literary language’s exceptionality by studying Aristotle, Plato, Viktor Sklovskij and Roman Jakobson among others. They will then compare the power of the literary with the language of cinema by studying Andre Bazin’s take of New Realism, Christian Metz’s structuralist approach to cinema and psychoanalysis, Gilles Deleuze’s theory of the moving-image and the time-image, a feminist approach to cinema by E. Ann Kaplan and others, as well as theories of digital cinema from Peter Weibel to Lev Manovich, among others. We will place the language of literature and film within a context that includes religion music, magic, prophecy and medicine. Cross-listed with Film and Media Studies and English (This course is offered as AS.212.601, 213.601, 214.601, and 215.601. Please check other course numbers for open seats.)
Instructor(s): B. Wegenstein; P. Forni.

AS.213.660. Discourses of Dislocation.
Dislocation—travel, migration, exile, diaspora, immigration—is a preeminent symptom of the modern condition; as Jacques Derrida has suggested, it is one way of characterizing how language itself comes into being. To what extent does the relationship of various modes of mobility serve as a prerequisite for understanding modernity and literary modernism, and to what extent can one understand commonalities among these itinerant discourses? This seminar will consider several varieties of dislocated discourse (the picaresque, the pseudo-autobiography, the travelogue, as well as narratives of immigration, displacement, war and demobilization, and exile) in search of a means to discuss or consider all of them critically. Writers to be considered will include Sigmund Freud, Robert Walser, Yosef Haim Brenner, Walter Benjamin, Theodor Adorno, Jacques Derrida, Irmgard Keun, Israel Rabon, Joseph Roth, Flannery O’Connor, Yoel Hoffmann, Anton Shammas, and Salman Rushdie. All readings and discussions available in English. Undergraduates may register with instructor approval.
Instructor(s): M. Caplan
Area: Humanities
Writing Intensive.
AS.213.666. “To be continued” - Seriality in Literature and Other Media.
Taught in German. By ending with the words “(To be continued)” [“(ist fortzusetzen”)], Goethe’s Wilhem Meisters Wanderjahre not only reflects on the open form of the modern novel but also points toward serialized formats of fiction as they emerge in the 19th century due to advances in printing technologies. The publication of fiction in periodical installments in magazines or newspapers brings about the development of new genres (serialized novel/Feuilletonroman) along with specific serial narrative techniques. The cliffhanger e. g. – although invented earlier – becomes a prominent technique to create suspense. The course analyzes seriality with respect to narrative forms and genres across various media (literature, theater, film, TV) from the 19th century to the present. It further discusses serial aesthetics, seriality in structuralist and poststructuralist theory as well as the ambivalent status of seriality in the arts between avantgarde and popular culture. The course material will include: Stifter, Fontane, excerpts from the magazine “Die Gartenlaube”, Wagner, Freud, Kafka, Lévi-Strauss, Deleuze, Eco, Iser, “The Perils of Pauline” (serial, 1914), “Copycat” (Jon Amiel, 1995), “Twin Peaks” and current US-American TV series.
Instructor(s): E. Strowick
Area: Humanities
Writing Intensive.

AS.213.725. Proto-, Modern, and Post-: Locating the -ism in Modernism.
All discussions in English. This graduate seminar will seek to disentangle the interrelationship among “proto-modernism,” “modernism,” and “post-modernism” from the straightjacket of periodization and taxonomy by focusing instead on questions of temporality and phenomenology. When is the time of modernity? What precedes modernism? How is post-modernism a continuation of modernism and a break with modernity? What follows the “post” or precedes the “proto”? How does literature establish a dialogue not just across linguistic borders but temporal ones as well? And when do these processes repeat themselves due to historical and political factors? By way of complicating all of these questions we will be considering writers from “across” the 20th century, including Walter Abish, Thomas Bernhard, André Breton, Orly Castel-Bloom, Henry Dumas, Moshe Kulbak, Machado de Assis, Mendele Moykher-Sforim, Joseph Roth, Anton Shammas, Gertrude Stein, and Robert Walser.
Instructor(s): M. Caplan.

Taught in German. The course analyzes the performative on the basis of the very field that John L. Austin’s speech act theory excludes: literature. What challenges Austin’s speech act theory indeed opens up the question of the performative towards iterability and theatricality and thus calls for the performative as a methodological category of literary criticism. According to Shoshana Felman’s readings of Austin, the performative act can be accentuated as an act of the “speaking body” in which the body is conceived of not as a means of linguistic expression but rather as a spillover of the act of utterance into the statement. How then is the corporeality or materiality of writing asserted in acts of narrating and reading? The course will examine theories of the performative from the perspective of literature and literary criticism as well as analyze literary speech acts (promises, pacts, etc.) in detail. Readings will include: Austin, Derrida, Felman, Freud, Nietzsche, de Man, Hamacher, Goethe, Büchner, Kafka, Henry James, Thomas Mann etc.
Instructor(s): E. Strowick
Area: Humanities.

In this seminar we will examine a selection of literary reflections on and engagements with globalization and its mounting failures and burdens, as it has emerged in Europe and the Americas from the mid-twentieth century to the present. From the economic, constitutional, and cultural politics around the unification of Europe, to the ideological and imperial misfortunes of the U.S. after the collapse of the “End-of-History” thesis, to the resurgence of state populism in Latin America in the wake of neoliberal exhaustion, literary fiction has been deployed to posit, explore, and contest national and post-national myths of identity. The seminar will interrogate how this engagement functions both as aesthetic and theoretical discourse. Readings may include novels by Albert Camus, W. G. Segal, Leonardo Sciascia, Orhan Pamuk, Javier Marías, Roberto Bolaño, and Jonathan Franzen, along with theoretical writings by Gianni Vattimo, Jürgen Habermas, Rodolphe Gasché, and others.
Instructor(s): E. Gonzalez; W. Egginton
Area: Humanities.

AS.214.251. Survey of Italian Lit. 3 Credits.
An overview of the key texts, authors, and movements in the Italian literary tradition, from the Middle Ages to the present. Recommended for all Italian majors and minors, and for Romance Languages majors who include Italian. Taught entirely in Italian. Completion of Italian 210.252 Intermediate recommended; the Survey of Italian Literature may be taken concurrently with Advanced Italian 210.352.
Area: Humanities
Writing Intensive.

This course investigates how ecological factors inspired storytellers, influenced modes of literary publication, and determined reader responses in Europe before 1700. Students enrolling in section 2 will attend a supplementary one hour session at a time to be mutually decided and complete the work in Italian.
Instructor(s): T. Tower
Area: Humanities
Writing Intensive.

AS.214.352. Writing and Wonder: Books, Libraries, and Discovery 1250-1550. 3 Credits.
The invention of printing occurred amid two centuries of intense development in the conduct and material means of European scholarship. The transition from writing by hand to movable type was accompanied by a revolution in scholarship that involved a new attitude to Classical and Biblical antiquity, the recovery of neglected and “lost” works, the formation of secular libraries, and the development of tools for the study of ancient handwriting, writing materials, and the history of language and of history itself. The revolution in attitudes to and uses of the book eventually transformed every discipline related to reading, writing, and the organization of knowledge. Topics to be covered include writing as an object of wonder, the transformation of a mythology of writing into a true history of books, writing, and libraries, the scientific study of writing and of language, and the representation of writing and books in the art and literature of the Middle Ages and Renaissance. Extensive use will be made of Johns Hopkins’ large collection of books published before 1600, and student projects will be oriented toward reliving the experiences of scholars in this period, including via computer-assisted means. Open to all undergraduates. Knowledge of a foreign language helpful but not required.
Area: Humanities.
AS.214.479. Dante's Journey through the Afterlife: The Divine Comedy. 3 Credits.
Dante's Divina commedia is universally recognized as the greatest long poem of the Middle Ages; many consider it the greatest poem of all time. We will study the entire Commedia critically in terms of broad categories: (1) What it reveals about the worldview of late-medieval Christian Europe; (2) its internal thematic cohesion and formal symmetries, or how it works as poetry; (3) its critique of the intellectual cultures of pagan antiquity and medieval Christianity; (4) its presentation of political and social issues; (5) its influence on European intellectual history; (6) the interpretive problems it presents to modern readers and translators; (7) the challenges Dante faced in understanding and summarizing the whole of cosmology, world history and culture. We will read and discuss Commedia in English, in editions containing the Italian text on facing pages: students will be expected to refer to the original Italian regularly and familiarize themselves with key terms and concepts even if they do not speak Italian. Italian majors will meet once a week for discussions in Italian and will submit all written work in Italian, for major credit.
Instructor(s): W. Stephens
Area: Humanities
Writing Intensive.

AS.214.601. Word and Image: An Introduction to the Languages of Literature and Cinema.
Taught in English, this course is a primer in the linguistics and the rhetoric of literary and cinematic texts. Students will familiarize themselves with the notion of the literary language's exceptionality by studying Aristotle, Plato, Viktor Sklovskij and Roman Jakobson among others. They will then compare the power of the literary with the language of cinema by studying Andre Bazin's take of New Realism, Christian Metz's structuralist approach to cinema and psychoanalysis, Gilles Deleuze's theory of the moving-image and the time-image, a feminist approach to cinema by E.Ann Kaplan and others, as well as theories of digital cinema from Peter Weibel to Lev Manovich, among others. We will place the language of literature and film within a context that includes religion music, magic, prophecy and medicine. Cross-listed with Film and Media Studies and English (This course is offered as AS.212.601, 213.601, 214.601, and 215.601. Please check other course numbers for open seats.)
Instructor(s): B. Wegenstein; P. Forni
Area: Humanities.

AS.214.633. Poetry and Divinity in Medieval and Early-Modern Italy.
The late Middle Ages saw intense debates between humanists (like Petrarch and Mussato) who considered great poetry (even from pagan antiquity) to be replete with divine wisdom, and theologians who condemned poetry as mendacious and spiritually corrupting. These debates intensified in the 15th and 16th centuries, leading to important contributions by thinkers like Marsilii Ficino and Giordano Bruno, who re-conceptualized the nature of poetic inspiration and "divine frenzy." In this course we will consider how these developments shaped both the theory and practice of poetic composition and interpretation. Discussions will be in English. Ability to read Italian is required.
Instructor(s): J. Coleman
Area: Humanities.

AS.214.640. Film Theory.
This class deals with film theory in its history and its current trends. We will examine structuralist, feminist, Marxist, psycho-analytic, Deleuzian, and other theoretical approaches to understanding and interpreting the cinematic medium. We will will look at several different film samples from European film to Latin American Film, auteur-films to independent documentary collectives, animation films to blockbusters. We will invite at least one film theorist to class during the semester.
Instructor(s): B. Wegenstein
Area: Humanities.

This class examines the areas of aesthetics, technology, and society critically in regard to media theory and practice following the 2010 anthology Critical Terms in Media Studies. The class also thematically accompanies the international conference Technologies of Meaning, March 3-4, 2011 with such speakers as Avital Ronell, Tom Gunning, and Sam Weber. Cross-listed with English, Political Science, and Anthropology.
Instructor(s): B. Wegenstein.

In this seminar we will examine a selection of literary reflections on and engagements with globalization and its mounting failures and burdens, as it has emerged in Europe and the Americas from the mid-twentieth century to the present. From the economic, constitutional, and cultural politics around the unification of Europe, to the ideological and imperial misfortunes of the U.S. after the collapse of the "End-of-History" thesis, to the resurgence of state populism in Latin America in the wake of neoliberal exhaustion, literary fiction has been deployed to posit, explore, and contest national and post-national myths of identity. The seminar will interrogate how this engagement functions both as aesthetic and theoretical discourse. Readings may include novels by Albert Camus, W. G. Sebald, Leonardo Sciascia, Orhan Pamuk, Javier Marías, Roberto Bolaño, and Jonathan Franzen, along with theoretical writings by Gianni Vattimo, Jürgen Habermas, Rodolphe Gasché, and others.
Instructor(s): E. Gonzalez; W. Egginton
Area: Humanities.

Taught in English, this course is a primer in the linguistics and the rhetoric of literary and cinematic texts. Students will familiarize themselves with the notion of the literary language's exceptionality by studying Aristotle, Plato, Viktor Sklovskij and Roman Jakobson among others. They will then compare the power of the literary with the language of cinema by studying Andre Bazin's take of New Realism, Christian Metz's structuralist approach to cinema and psychoanalysis, Gilles Deleuze's theory of the moving-image and the time-image, a feminist approach to cinema by E.Ann Kaplan and others, as well as theories of digital cinema from Peter Weibel to Lev Manovich, among others. We will place the language of literature and film within a context that includes religion music, magic, prophecy and medicine. Cross-listed with Film and Media Studies and English (This course is offered as AS.212.601, 213.601, 214.601, and 215.601. Please check other course numbers for open seats.)
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Instructor(s): E. Gonzalez; W. Egginton
Area: Humanities.

Taught in English, this course is a primer in the linguistics and the rhetoric of literary and cinematic texts. Students will familiarize themselves with the notion of the literary language's exceptionality by studying Aristotle, Plato, Viktor Sklovskij and Roman Jakobson among others. They will then compare the power of the literary with the language of cinema by studying Andre Bazin's take of New Realism, Christian Metz's structuralist approach to cinema and psychoanalysis, Gilles Deleuze's theory of the moving-image and the time-image, a feminist approach to cinema by E.Ann Kaplan and others, as well as theories of digital cinema from Peter Weibel to Lev Manovich, among others. We will place the language of literature and film within a context that includes religion music, magic, prophecy and medicine. Cross-listed with Film and Media Studies and English (This course is offered as AS.212.601, 213.601, 214.601, and 215.601. Please check other course numbers for open seats.)
Instructor(s): B. Wegenstein; P. Forni.
AS.215.650. Mexico and the Invention of America.
Departing from O’Gorman, the course will entail a reconsideration of the
discursive invention of Mexico-America. Anonymous, Sahagun, Clavijero,
Humboldt, Dussel and Alzandua will conform part of the readings.
Taught in English
Instructor(s): S. Castro-Klaren
Area: Humanities
Writing Intensive.

Readings from colonial times to the present from three cultural legacies,
Hispanic, English and French. Centered on slavery and its sequels.
Instructor(s): E. Gonzalez.

AS.215.777. The Invention of Fiction.
Rather than understand fiction as a constant in human history, this
course will consider it a historically specific form of cultural expression.
We will examine and compare theories of the fictional from an array of
historical moments in order to better understand what fiction is, how it
differs from premodern notions of history and poetry, and how it both
informs and depends on modern notions of knowledge and subjective
agency.
Instructor(s): W. Egginton
Area: Humanities
Writing Intensive.

In this seminar we will examine a selection of literary reflections on
and engagements with globalization and its mounting failures and
burdens, as it has emerged in Europe and the Americas from the mid-
twentieth century to the present. From the economic, constitutional,
and cultural politics around the unification of Europe, to the ideological
and imperial misfortunes of the U.S. after the collapse of the “End-of-
History” thesis, to the resurgence of state populism in Latin America in
the wake of neoliberal exhaustion, literary fiction has been deployed to
posit, explore, and contest national and post-national myths of identity.
The seminar will interrogate how this engagement functions both as
aesthetic and theoretical discourse. Readings may include novels by
Albert Camus, W. G. Sebald, Leonardo Sciascia, Orhan Pamuk, Javier
Marias, Roberto Bolaño, and Jonathan Franzen, along with theoretical
writings by Gianni Vattimo, Jürgen Habermas, Rodolphe Gasché, and
others.
Instructor(s): E. Gonzalez; W. Egginton
Area: Humanities.

Humanities Center
AS.300.111. Shakespeare and his ‘Goddess’. 3 Credits.
Shakespeare’s description of his lover’s eyes as ‘nothing like the sun’
is both an homage and a sendup of a 300-year-old poetic convention
reaching back to the days of Petrarch and the early humanist poets.
In this course we will trace that tradition from the perspective of
Shakespeare and his contemporaries, finishing the semester with
several plays, including ‘The Taming of the Shrew,’ that further illustrate
and problematize Shakespeare’s ‘goddess’ reference. Readings will
include poetic dialogues between male and female poets, such as those
by the early Italian Petrarchans Vittoria Colonna, Michelangelo, Veronica
Gambara, and Gaspara Stampa; their French counterparts, Maurice
Scève and Les Dames des Roches; and the later English reflections on
the sonnet tradition by Sir Philip Sidney, Shakespeare, and Sidney’s
niece, Lady Mary Wroth. All works will be read in translation. Freshmen
only.
Instructor(s): E. Patton
Area: Humanities
Writing Intensive.

AS.300.211. Great Poems of the Americas. 3 Credits.
This course investigates the long poem or post-epic in 20th- and 21st-
century North and Latin America. The epic has been rearticulated in
sequences and series, verse novels, lyric cycles, and collage poems:
from T.S. Eliot’s The Waste Land, the encyclopedic Cantos of Ezra
Pound, and the sweeping Canto General of Pablo Neruda to works
by Derek Walcott and Gwendolyn Brooks and fragmented series by
Gertrude Stein, Hart Crane, and César Vallejo. We will examine Aimé
Césaire’s Notebook of a Return to the Native Land, Vicente Huidobro’s
playful Altazor, and very recent epic poems from Canadian women
poets such as Anne Carson, Lisa Robertson, and M. NourbeSe Philip. As
we test the term post-epic against these texts, we will consider whether
it may be applied equally to the heroic tale and the open field poem.
How do poets interpret the idea of “the Americas” as lands and nations
in these works, and in what tangled ways do their poetics develop
through dialogue across linguistic and geographical distances? To
situate the long poem in history, we’ll examine developments in poetic
form alongside modernization and globalization, and technological and
socio-political changes. We will draw on theories of poetry and poetics
as well as critical theory, taking a comparative, Hemispheric Studies
approach to literature.
Instructor(s): R. Galvin
Area: Humanities.
AS.300.225. Blogs and Spies in Shakespeare's England. 3 Credits.
This seminar celebrates the university's recent acquisition of State Papers Online (1509-1714), which contains searchable digital images of thousands of contemporary manuscripts. While we read plays, poetry, and essays by such figures as Queen Elizabeth, William Shakespeare, members of the Sydney family, Elizabeth Cary, John Donne, Aemelia Lanyer, Robert Southwell, Andrew Marvell, William Marlowe, Jane Cavendish, Elizabeth Brackley, and Katherine Philips, we will also be carrying out on-line searches of correspondences, wills, court documents, spy reports (including play-by-play accounts of houses dismantled in searches for hidden priests), and letters of condolence from Queen Elizabeth alongside decoded messages revealing plots to unseat her. In addition to searching virtual archives students will be introduced to early modern paleography, in part through visits to Johns Hopkins University's brick-and-mortar libraries to consult actual manuscripts, incunabula, and illegal imprints from the 16th and 17th centuries.
Instructor(s): E. Patton
Writing Intensive.

AS.300.305. Asian American Literature. 3 Credits.
This course examines Asian American Literature with emphasis on East Asian American culture and history. Topics of discussion will include immigration, nation, conceptions of home, loyalty, navigation, and translation of various kinds. Throughout the course, we will explore how recognizable emotions, in tension with historical events, become manifest in art.
Area: Humanities
Writing Intensive.

AS.300.315. The Sense of Loss, 1880-1930. 3 Credits.
A comparative study of the aesthetics and representation of loss (personal, political, historical, etc.) in a number of modernist texts. Authors to be studied will include J.P. Jacobsen, Ibsen, Unamuno, Kafka, Rilke, Woolf and T.S. Eliot. The class will focus on the twofold sense of "sense" (both as feeling and as meaning) in order to explore the way these texts seek to come to terms with and capture the nature of loss.
Instructor(s): L. Lisi
Area: Humanities

AS.300.330. Trauma in Theory, Film, and Fiction. 3 Credits.
An examination of the representation of trauma in literary theory, psychiatry, survivor literature, films, novels, and comics. Works by Sebald ("The Emigrants"), Lanzmann ("Shoah"), Spiegelman ("In the Shadow of No Towers"), McCarthy ("Remainder"), and others.
Instructor(s): R. Leys
Area: Humanities, Social and Behavioral Sciences.

AS.300.331. Modern Tragedy. 3 Credits.
Since the late 18th century, tragedy has repeatedly been declared dead on the grounds that the changed social, historical and philosophical conditions of modernity do not allow for the genre in a strict sense. This course looks at some versions of this argument in relation to modern works of drama in order to examine its validity and the extent to which the concept and experience of the tragic have changed in our time. Authors to be studied will include Schiller, Kleist, Strindberg, Maeterlinck, Lorca, Miller, Brecht and Beckett. Cross-listed with GRLL and English
Instructor(s): L. Lisi
Area: Humanities

AS.300.353. Henry James and the Art of the Novel. 3 Credits.
Area: Humanities.

AS.300.371. The Modernist Novel: James, Woolf, and Joyce. 3 Credits.
The purpose of this course is to survey works by three of the greatest, most relentless innovators of the twentieth century - Henry James, Virginia Woolf, and James Joyce -- who explored and exploded narrative techniques for depicting what Woolf called the "luminous halo" of life. Selected novels include: The Portrait of a Lady, The Wings of a Dove, Jacob’s Room, Mrs. Dalloway, To the Lighthouse, A Portrait of the Artist as a Young Man, and Ulysses.
Instructor(s): Y. Ong
Area: Humanities.

AS.300.400. Philosophy of Tragedy. 3 Credits.
Since the late eighteenth century, philosophers have repeatedly been drawn to investigations of tragedy and the tragic. In this course we will study some of the most important thinkers in this tradition, and examine the different implications (philosophical, historical, political, existential, aesthetic, etc.) that these concepts carry in their works.
Authors to be read will include Schiller, Hegel, Kierkegaard, Nietzsche, Unamuno, Benjamin and Cavell.
Instructor(s): L. Lisi
Area: Humanities.

AS.300.408. Lyric Modernity. 3 Credits.
A comparative literature course on modern lyric and poetics. The main issue of the course is how the lyric voice is constructed and sustained under the pressures of modernization in the United States, Europe, and Korea. We will also emphasize issues of translation and the relationship of music and poetry. Readings will include texts by Adorno, Benjamin, Grossman, von Hallberg and Waters, and poems by Dickinson, Rilke, and Kim among others. All readings available in English. Cross-listing requested with East Asian Studies, GRLL, and English.
Instructor(s): S. Rhee
Area: Humanities.

AS.300.415. Law of the Cannibal: Trans-American Poetics. 3 Credits.
In this seminar on 20th-c. poetry of the Americas, we will explore the relations between land, language, and identity. Our point of departure, informed by de Andrade’s “Cannibal Manifesto,” will be the idea that all literary texts form a body upon which writers may feast when they compose new works. Devouring, plundering, and appropriating will be central concepts for our seminar. We’ll debate the politics of literary transculturation (hybridity/mestizaje/métissage), and discuss diasporic and multilingual U.S. American poetry (Luisiana Creole poetry, Nuyorican Poets Café, etc.). We will also investigate issues of authorship and originality; constraint, sampling, and parody; and poetic hoaxes and frauds. Readings may include theoretical texts from Édouard Glissant, Ángel Rama, Néstor García Canclini, and Roberto Schwarz, as well as Deleuze, Foucault, Kristeva, and Barthes. Poetry may be drawn from Caribbean writers Césaire, Senghor, Walcott, Brathwaite, Martí, Palés Mato; Brazilians Haroldo and Augusto de Campos; and North Americans Langston Hughes, Claude McKay, Myung-Mi Kim, Kenneth Goldsmith, Susan Howe, and Christian Bök.
Instructor(s): R. Galvin
Area: Humanities
Writing Intensive.
**AS.300.601. Philosophy of Tragedy.**

Since the late eighteenth century, philosophers have repeatedly been drawn to investigations of tragedy and the tragic. In this course we will study some of the most important thinkers in this tradition, and examine the different implications (philosophical, historical, political, existential, aesthetic, etc.) that these concepts carry in their works. Authors to be read will include Schiller, Hegel, Kierkegaard, Nietzsche, Unamuno, Benjamin and Cavell. Cross-listed with: English, German & Romance Languages & Literatures, Philosophy

Instructor(s): L. Lisi.

**Interdepartmental**

**AS.360.133. Great Books at Hopkins. 3 Credits.**

Students attend lectures by an interdepartmental group of Hopkins faculty and meet for discussion in smaller seminar groups; each of these seminars is led by one of the course faculty. In lectures, panels, multimedia presentations, and curatorial sessions among the University’s rare book holdings, we will explore some of the greatest works of the literary and philosophical traditions in Europe and the Americas. Close reading and intensive writing instruction are hallmarks of this course; authors for Fall 2014 include Homer, Plato, Boccaccio, Shakespeare, Madame de Lafayette, Flaubert, Dostoevsky, Chekhov, and Joyce.

Instructor(s): A. Eakin Moss; E. Patton; J. McGarry; J. Neefs; W. Stephens

Area: Humanities Writing Intensive.

**AS.360.246. Islamic Literature, Beloved of Western Thinkers. 3 Credits.**

This course examines political, erotic, aesthetic, and religious aspects of attraction between Western thinkers in a Christian milieu (e.g. Gide, Emerson, Thoreau) and classical works of Islamic literature (Rumi, Hafiz, Abu Nuwas, Arabian Nights).

Instructor(s): J. Bush

Area: Humanities, Social and Behavioral Sciences Writing Intensive.

**Program in Latin American Studies**

**AS.361.316. Caribbean Writing in Shakespeare, V. S. Naipaul, and Alejo Carpentier. 3 Credits.**

Readings and polemics concerned with Shakespeare’s play The Tempest (1610-1611) and its postcolonial afterlives; V. S. Naipaul’s novel A House for Mr. Biswas (1961); and Alejo Carpentier’s El siglo de las luces (1962). The socio historical and political contexts of each work and authorship will be considered in depth in terms of dominant notions of writing in current critical theory. Cross-listed with GRLL, English, and Writing Seminars.

Instructor(s): E. Gonzalez

Area: Humanities, Social and Behavioral Sciences.

**Center for Africana Studies**

**AS.362.200. African American Poetry and Poetics. 3 Credits.**

This course will explore the history and development of African American poetry from 1750 to the present (blues, rap, and hip-hop) examining the role of race, art, and cultural identity.

Instructor(s): H. Robbins

Area: Humanities, Social and Behavioral Sciences Writing Intensive.

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**Program in Museums and Society**

**AS.389.355. Reading Culture in the Nineteenth-Century Library. 3 Credits.**

Students reconstruct the culture of reading in nineteenth-century America through an investigation of the Peabody Library (founded 1856) as a space and collection. Meets at Peabody. M & S practicum course. Cross-listed with English.

Area: Humanities Writing Intensive.

**AS.389.359. Literary Archive. 3 Credits.**

This course invites students to grapple with the theory and practice of building literary archives in 19th- and 20th-century American culture. For the final project students will work collaboratively to build a digital archive and exhibit of selected materials from the JHU rare book and manuscript collections. Meets in Special Collections. Cross-listed with English. M&S practicum course.

Area: Humanities.

**AS.389.360. American Literature on Display, 3 Credits.**

Focusing on late 19th and early 20th c American literature, course examines representations of “display” within different literary genres and track how display simultaneously shapes print culture and social concerns of the period. Course culminates in the creation of a student-curated digital exhibit using archival and rare book materials to contextualize the work of the journalist, poet and fiction writer Stephen Crane. M&S practicum course.

Instructor(s): G. Dean

Area: Humanities.

**Film and Media Studies**

Film and Media Studies is an undergraduate program incorporating courses in film history, aesthetics, and theory; theory and practice in television, popular culture, and new media; and all aspects of 16mm film and digital video production: screenwriting, animation, narrative, television, popular culture, and new media; and all aspects of 16mm film and digital video production: screenwriting, animation, narrative, documentary, and experimental film. Our mission is to give our students comprehensive preparation in film and media, enabling them to realize their scholarly and professional goals by offering excellent instruction in small classes, intensive hands-on experience, and individual mentoring. In addition, we encourage students to take a broad range of courses in the arts and humanities, in the belief that their creativity will be informed by a deep knowledge of history, the arts, and culture. Upon graduation, many of our students pursue careers in the film and media industry, or attend graduate film school before entering the profession. Others pursue careers in a wide variety of professions, including music or drama, journalism, entertainment law, or business.

**Requirements for the B.A. Degree**

(See also Requirements for a Bachelor’s Degree (p. 24).)

The major in film and media studies is designed to enable students to understand the history of film and media forms, to think critically about them, and to gain hands-on experience in how they are made.

Majors often participate in the Hopkins Film Society, including the planning and organization of regular film series and the Hopkins Film Festival; Hopkins Cinematics, our student-run film blog; and Frame of Reference, our journal of film and media. Students are encouraged to pursue a variety of internship opportunities in the film and media industries.
In addition to core required courses, each student must complete either a critical studies or production track for the major. All courses applied toward the major must be taken for a letter grade and a grade of C- or better must be earned. The following courses are required for completion of the film and media studies major:

**Core Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.061.140</td>
<td>Introduction to Cinema, 1892-1941</td>
<td>3</td>
</tr>
<tr>
<td>AS.061.141</td>
<td>Introduction to Cinema, 1941-present</td>
<td>3</td>
</tr>
</tbody>
</table>

One writing course:

- AS.060.113 Expository Writing
- AS.060.114 Expository Writing
- AS.060.100 Introduction to Expository Writing
- AS.360.133 Great Books at Hopkins

Foreign language (two semesters at elements level or demonstrated proficiency equivalent to one year of elements) 6-9

**Completion of Critical Studies or Production Track**

**Critical Studies Track**

One (1) of the following introductory production/visual theory courses:

- AS.061.145 Introduction to Visual Language
- AS.061.150 Introduction to Film Production: Rediscovering Early Cinema
- AS.061.152 Introduction to Digital Film

Two (2) 200-level film courses

Seven (7) courses at 300- or 400-level courses (only one cross-listed course may count toward this requirement)

One (1) 500-level course, either an internship or independent study

**Production Track**

One (1) 200-level course

Four (4) 300- or 400-level non-production courses (only one cross-listed course may count toward this requirement)

One (1) 200-300 level screenwriting course:

- AS.061.270 Writing for the Screen
- AS.061.314 Sketching the Scene: Image as Narrative Tool
- AS.061.315 Screenwriting By Genre
- AS.061.316 Characters for the Screenplay
- AS.220.204 Introduction to Dramatic Writing: Film
- AS.220.337 Intermediate Dramatic Writing: Film

Intermediate Film Production (061.2xx) or at least one (1) other production course at the 200-300 level

One (1) Advanced Film Production Course:

- AS.061.301 Advanced Film Production
- AS.061.356 Narrative Productions

One (1) 500-level Senior Capstone course comprising a film or digital production project

**Film and Media Studies Minor**

Students pursuing the minor selects either the critical studies or production track. All courses applied toward the minor must be taken for a letter grade and a grade of C- or better must be earned. The minor requirements are as follows:

**Critical Studies Track**

AS.061.140 Introduction to Cinema, 1892-1941 3

or AS.061.141 Introduction to Cinema, 1941-present 3

AS.061.145 Introduction to Visual Language 3

One (1) 200-level course in the program 3

Four (4) 300-level courses. Only one cross-listed course may count toward this requirement. Note: Students are strongly encouraged to take one course focusing on cinema outside the United States.

**Production Track**

AS.061.140 Introduction to Cinema, 1892-1941 3

or AS.061.141 Introduction to Cinema, 1941-present 3

AS.061.145 Introduction to Visual Language 3

One (1) 200-level course in the program 3

Three (3) 300-level film studies courses excluding production-oriented courses (only one cross-listed course may count toward this requirement)

One introductory film production course:

- AS.061.150 Introduction to Film Production: Rediscovering Early Cinema
- AS.061.152 Introduction to Digital Film

One intermediate film production course (061.2xx) or a screenwriting course at the 200-300 level 3

One advanced film production course:

- AS.061.301 Advanced Film Production
- AS.061.356 Narrative Productions

For current faculty and contact information go to http://krieger.jhu.edu/film-media/directory/

**Faculty**

**Director**

Linda DeLibero
(Film and Media Studies): American film, film history, cultural criticism

**Adjunct Assistant Professor**

Anne Eakin Moss
(The Humanities Center): Soviet and Russian cinema, film theory

**Professor Emeritus**

Richard A. Macksey
(Humanities Center, Writing Seminars, History of Science, Medicine, and Technology): film studies, critical theory

**Lecturers**

Lucy Bucknell
Senior Lecturer: literature and film, film genres, screenwriting, American film

Roberto Buso-Garcia
Lecturer: screenwriting, Latin American film

Thomas Dolby
Professor of the Arts: sound design, film composition

John Mann
Senior Lecturer: film production, documentary film theory, experimental film

Laura Mason
Senior Lecturer (Film and Media Studies; History): history and film, cultural history and media, French film
AS.061.140. Introduction to Cinema, 1892-1941. 3 Credits.
This course teaches students the fundamentals of film analysis and leads them through the first half of our first century of movies. We will focus on the basic elements of film form, as well as their manipulation and use in films across the globe from the turn of the century until the start of World War II. Movements discussed include the silent comedy of Charles Chaplin and Buster Keaton, German Expressionism, Surrealism, Soviet Montage, French poetic realism, Pre-Production Code cinema, and, of course, classical Hollywood. Screenings are required for this course. Lab fee: $40
Instructor(s): M. Ward
Area: Humanities.

AS.061.141. Introduction to Cinema, 1941-present. 3 Credits.
Introduction to Cinema provides an overview of American and international cinema from the post World War II era to the present. Through lectures and discussion, weekly screenings, and intensive visual analysis of individual films, we will explore the aesthetic, cultural, political, and economic forces that have shaped the art and industry of film over the past 70 years. Regular quizzes, writing assignments, class participation required.
Instructor(s): K. Yasinsky
Area: Humanities.

AS.061.145. Introduction to Visual Language. 3 Credits.
This course is a study of the visual language used to create a moving picture. Through screenings and discussion of films, videos, and related readings, students will develop a visual critical facility and will demonstrate this facility in weekly response papers to screenings and a final independent video project. The course will focus on image construction, including composition, framing, movement inside the frame and use of light. Students will learn to be attentive to rhythm and tempo in picture editing and sound. In-class video assignments included, which students will work on in small groups of three. Lab fee: $40
Instructor(s): K. Yasinsky
Area: Humanities.

AS.061.150. Introduction to Film Production: Rediscovering Early Cinema. 3 Credits.
This course introduces students to basic considerations of shooting 16mm film. Through lectures and practice, the course approaches the basics of light meter readings, basic camera operations and shot composition. The course also highlights specific readings from classical film theory to augment weekly shooting exercises. Each week students, working in groups, shoot film exercises, providing a general overview of film production. For the final project, each group shoots and edits (physical edits) a short (3-5 minutes) film on 16mm black and white reversal film stock. Lab fee: $125
Instructor(s): J. Mann
Area: Humanities.

AS.061.151. Introduction to Animation. 3 Credits.
Students will produce several animations using hand-made, stop-motion techniques, including drawing animation, collage-based and puppet animation. Work will be shot digitally. Screenings and readings will provide a historical and conceptual context.
Area: Humanities.

AS.061.152. Introduction to Digital Film. 3 Credits.
This course introduces students to the world of digital filmmaking. Through screenings, production assignments, and in-class labs, students will develop proficiency in digital cameras, sound recording devices, and software. Students will work individually and in groups to produce several video projects. For their final projects students will pitch an idea and develop a more complex film. Lab fee: $100
Instructor(s): J. Roche
Area: Humanities.

AS.061.160. Lights, Camera, Action: Hollywood Film. 1 Credit.
An introduction to Hollywood film and the basics of film analysis. Classic and contemporary films considered. Emphasis on discussion over lecture. Not prior experience in film studies required. The course will meet on Sept. 21, Sept. 28, Oct. 5, and Oct. 12 and will be graded pass/fail. For more information, please see the Film and Media Studies Program website.
Instructor(s): L. Bucknell
Area: Humanities.

AS.061.161. Auteur 101: Short Filmmaking Laboratory. 3 Credits.
Students write and direct short films using digital camera equipment, sound recording devices and film editing software programs. We will watch a variety of films in class; hold readings and discussions based on assigned text, take technical workshops on sound, lighting and 16mm. We will take trips to film screenings outside of class and have the opportunity to meet with visiting Baltimore filmmakers in class. We will study the history of filmmaking, with a strong focus on the avant-garde and experimental genres. We will also learn about the current film and media movements and trends that have developed throughout the world. Students will finish the course with a greater understanding of the lineage of cinema and will have learned a range of techniques to create, discover and develop their own language of visual storytelling. We will discuss, engage, explore and most of all have fun! No prior experience with film or video required.
Instructor(s): M. Rorison
Area: Humanities.
AS.061.162. Lights, Camera, Action: Independent Film. 1 Credit.
An introduction to the basics of film analysis, focusing on independent crime films. In-class screenings and emphasis on discussion over lecture. This one-credit course will meet on Sept. 19, Sept. 26, Oct. 3, and Oct. 10 and will be graded pass/fail.
Instructor(s): L. Bucknell
Area: Humanities.

AS.061.163. Lights, Camera, Action: Screwball Comedy. 1 Credit.
An introduction to the basics of film analysis through a sampling of Hollywood screwball comedies from the thirties. In-class screenings and short written assignments. Emphasis on discussion over lecture. No prior experience in film studies required. This 1-credit course will meet September 17, 24, October 8 & 15, and be graded pass/fail. Perfect attendance is required.
Instructor(s): L. Bucknell
Area: Humanities.

AS.061.164. Lights, Camera, Action: Woody Allen. 1 Credit.
An introduction to the basics of film analysis, focusing on the work of the highly individual independent filmmaker Woody Allen. Short weekly written responses, in-class screenings, and emphasis on discussion over lecture. No prior experience in film studies required. This one-credit course will meet on Sept. 18, Sept. 25, Oct. 2, and Oct. 9 and will be graded pass/fail.
Instructor(s): L. Bucknell.

AS.061.202. Intermediate Film Production: Personal Essay Film. 3 Credits.
In this course students will consider variations of the personal essay film, wherein filmmakers explore their own experiences, both real and imagined. These films constitute dialogues between filmmaker and world using subjective approaches, including but not limited to first person narration. Students will make a short (4-6 minutes) 16mm film from original and possibly archival footage; their own filmic essays based upon personal experiences. We will look at the works of several essay filmmakers including Ross McElwee, Jean Luc Godard, Chris Marker, and Su Friedrich.
Prerequisites: Pre or Co-Requisite: AS.061.150
Instructor(s): J. Mann
Area: Humanities
Writing Intensive.

AS.061.203. American Contemporary Classics. 3 Credits.
An introduction to the basics of film analysis through the close examination of notable American films from 1980 to the present, including works by Woody Allen, the Coen Brothers, Courtney Hunt, Spike Lee, and Martin Scorsese. No prior experience in film studies required. In-class screenings and emphasis on discussion over lecture. Each student will write regular film responses, give an oral presentation, and write a short essay, 8-10pp., with an optional revision.
Instructor(s): L. Bucknell
Area: Humanities
Writing Intensive.

AS.061.204. Intermediate Digital Film Production. 3 Credits.
This course is designed to further the filmmaking skills students have begun to develop in previous production courses. Students will acquire a more robust proficiency in directing, editing, and cinematography. During the first part of the semester, students will be presented with several “challenges” designed to allow them to hone their creative vision while also solving problems behind the camera and in editing. The second half of the course will allow each student time to produce a 6 - 12min digital film project that is either narrative, documentary, or experimental.
Prerequisites: AS.061.145 OR AS.061.150 OR AS.061.152
Instructor(s): J. Roche
Area: Humanities.

AS.061.205. Introduction to Dramatic Writing: Film. 3 Credits.
We will explore the basic principles of visual storytelling in narrative film as they apply to the design and execution of a screenplay. During the course of the semester, each student will work on different writing exercises as they search for their specific story and the best way to approach it and execute it. We will study different narrative tools and methods of screenwriting by analyzing specific films to ascertain how they work or fail to do so at script level. Through in-class critiques, group discussions and one-on-one sessions, students will apply these techniques to their own work as they undergo the process of designing, breaking down, outlining and writing a screenplay for a short film. In-class analysis and debate on the strengths and challenges posed by the students’ work will help shape the thematic emphasis of the second half of the course.
Instructor(s): R. Buso-garcia
Area: Humanities
Writing Intensive.

AS.061.208. (Special Topics) Experimental Video. 3 Credits.
This course has been modified to fall under the FMS major's "special topics" 200-level requirement. An introduction to experimental video from the 1960s to present. Understanding "experimental" as an operative to change existing forms of video using aesthetic and ideological innovation. With four video projects. Lab fee: $40
Prerequisites: AS.061.145 OR AS.061.150
Instructor(s): K. Yasinsky
Area: Humanities.

AS.061.209. Special Topics: Surrealism and Film. 3 Credits.
We will define Surrealism through readings, including those of Andre Breton and Rene Daumal and texts that influenced the movement in the early part of the 20th c. Using an understanding of the practice of surrealism found in the readings as well as surrealist games and writing, we'll study a diverse group of filmmakers influenced by the practice including Joseph Cornell, Rene Clair, Luis Bunuel and contemporary artists such as Jack Chambers and David Lynch. Assignments include weekly papers and one final creative project. Lab fee: $40
Instructor(s): K. Yasinsky
Area: Humanities.

AS.061.220. Special Topics: Silent Classics. 3 Credits.
A survey of silent era masterpieces. From Murnau’s horror film Nosferatu to Keaton’s slapstick comedy Sherlock Jr to Dreyer’s great tragedy The Passion of Joan of Arc, these are films of exceptional beauty and artistry. Chaplin, Eisenstein, von Sternberg, and others also considered. Recommended course background: AS.061.140 or AS.061.141 or AS.061.145.
Instructor(s): L. Bucknell
Area: Humanities
Writing Intensive.
AS.061.221. Special Topics—Producing the Independent Film. 3 Credits.
This class will guide students through the process of producing an independent film in the United States. The chronology of lectures and coursework will follow the life of a project, from conception through financing and development, production, postproduction, marketing, and exhibition. Students will learn how to package and pitch projects, budget and schedule a screenplay, develop a financing plan, supervise production and post-production, and mount a viable festival and distribution strategy. Lab Fee: $40
Prerequisites: AS.061.150 OR AS.061.145 OR AS.061.151 OR AS.061.152
Instructor(s): M. Porterfield.

AS.061.222. Analyzing Popular Culture. 3 Credits.
This course provides an introduction to the critical analysis of popular culture through the major theoretical paradigms of media and cultural theory. The teaching method uses a combination of media studies and sociology to explore popular culture and is designed to encourage students to become more active critics. The course presents a range of media from contemporary popular music to film and television. Smaller subjects include the teen “pop” love song, the politics of representation, and the forming of subcultures.
Instructor(s): M. Ward
Area: Humanities.

AS.061.223. Special Topics: Performance Art and Video. 3 Credits.
This course will explore the history and current state of video and performance art, two of the most important movements in contemporary art. How have they influenced each other and how have they affected mainstream media and cultural notions of art? Students will view significant works and their presentation in galleries, museums, and public spaces, and will create individual and collaborative performance pieces of their own.
Instructor(s): S. Barber
Area: Humanities.

AS.061.224. Special Topics: The Business of Film. 3 Credits.
Law and economics shape the movie business. This course will survey the legal doctrine and financial concepts of film production and distribution, providing both an overview of one particular industry (i.e., Hollywood) as well as an introduction to fundamental principles applicable to any industry. $40 Lab fee
Instructor(s): J. Tyler
Area: Humanities.

AS.061.225. Special Topics: Introduction to Animation. 3 Credits.
Students will produce several animations using hand-made, stop-motion techniques, including drawing animation, collage-based and puppet animation. Work will be shot digitally. Screenings and readings will provide a historical and conceptual context.
Instructor(s): K. Yasinsky
Area: Humanities.

AS.061.226. Special Topics: Writing About Film. 3 Credits.
A workshop focusing on the critical analysis of film, with particular attention to the writing of short analytical and critical essays on a range of movies—recent and classic—using a variety of approaches. Students are required to participate in weekly critiques and discussions of each other’s writings.
Prerequisites: AS.061.140 OR AS.061.141
Area: Humanities
Writing Intensive.

AS.061.227. Going “On the Road”: The Road Movie and American Cultural Identity. 3 Credits.
This course explores the road film, one of the most popular thematic constructs in American film. Although the journey narrative has its roots in literature, the road film presents a unique variation of stories of wanderlust. Perhaps this is because cinema’s very nature lends itself to the form; the art form entails the creation of space and motion in time. We will follow the road movie from classical cinema to the present, concentrating on its position as a central trope in American mythology but also looking at the ways filmmakers in other cultures have made use of it. Lab fee: $40
Prerequisites: AS.061.140 OR AS.061.141
Area: Humanities.

AS.061.230. Intermediate Film Production. 3 Credits.
This course continues the work of the Introduction to Film Production course. The course also introduces the use and design of sound through the incorporation of non-sync voice(s) and effects. Each student is responsible for the complete production of a short (4-6 minutes) film, from treatment to shooting script to final edit. The films are shot on 16mm color and/or black and white negative film stock and transferred to digital video. All editing for the films is with non-linear software, generally Final Cut Pro. $100 Lab fee
Prerequisites: AS.061.150 or permission
Instructor(s): J. Mann
Area: Humanities.

AS.061.244. Film Genres. 3 Credits.
$40 lab fee A survey of American genres: the Western, the Gangster Film, Science Fiction, Horror, Comedy, Melodrama, and others. Twice-weekly screenings. Short film responses and a final paper, 10pp.
Instructor(s): L. Bucknell
Area: Humanities.

AS.061.245. Introduction to Film Theory. 3 Credits.
This course offers an introduction to the major paradigms of film theory, with work ranging from Andre Bazin to Sergei Eisenstein. Frequent film screenings are designed to help illustrate film theory concepts. Designed around one operative question, “What is cinema?” the course explores the varied and divergent answers provided by the great thinkers of the cinema in the past century. Students are expected to enter the course ready to engage in discussion.
Prerequisites: AS.061.140 OR AS.061.141
Instructor(s): M. Mann
Area: Humanities.

AS.061.248. American Masterpieces. 3 Credits.
An introduction to Hollywood cinema and the basics of film analysis through the close reading of selected 20th century American classics including Citizen Kane, On the Waterfront, Annie Hall, and others. Emphasis on discussion over lecture. Several short film responses and an essay with optional revision.
Instructor(s): L. Bucknell
Area: Humanities
Writing Intensive.
**AS.061.251. American Comedy Classics. 3 Credits.**
A survey of 20th century American comedy from the films of Charlie Chaplin and the Marx Brothers to Dr. Strangelove and Annie Hall. The course will provide an introduction to the basics of film analysis. No prior experience in film studies required. In-class screenings and emphasis on discussion over lecture. Each student will write regular film responses, give an oral presentation, and write a short essay, 8-10 pp., with an optional revision. 
Instructor(s): L. Bucknell 
Area: Humanities 
Writing Intensive.

**AS.061.252. School Daze. 3 Credits.**
Teen angst and togas in comedies of American youth from The Graduate to Animal House to Lost in Translation. Course will provide an introduction to the basics of film analysis with an emphasis on discussion over lecture. Several short film responses and an essay with optional revision. No prior experience in the subject required. 
Instructor(s): L. Bucknell 
Area: Humanities 
Writing Intensive.

**AS.061.254. Watching the Detectives. 3 Credits.**
Films of surveillance and detection from the Humphrey Bogart/Howard Hawks classic The Big Sleep, to Polanski's Chinatown with Jack Nicholson, and David Simon's HBO series The Wire. The course will offer an introduction to the basics of film analysis. No prior experience in film studies required. In-class screenings and emphasis on discussion over lecture. Each student will write regular film responses, give an oral presentation, and write a short essay, 8-10 pp., with an optional revision. 
Instructor(s): L. Bucknell 
Area: Humanities 
Writing Intensive.

**AS.061.255. Special Topics: Theorizing Popular Culture. 3 Credits.**
This course explores the changing role of popular culture via the major paradigms through which it has been considered. Presents a range of media from contemporary popular music to film and television. Lab fee: $40 
**Prerequisites:** AS.061.140 or Instructor Permission 
Area: Humanities 
Writing Intensive.

**AS.061.257. I Want To Be Humphrey Bogart. 1 Credit.**
A close look at the Hollywood titan Humphrey Bogart in classics including Casablanca, To Have and Have Not, and The Big Sleep. In-class screenings and discussions are emphasized over lecture. No prior experience in film studies required. 
Area: Humanities.

**AS.061.259. Baltimore Filmmakers. 3 Credits.**
Baltimore Filmmakers seeks to explore the unique personal narrative of the Media Artist within contemporary society, fourteen Filmmakers/Video Artists from Baltimore will visit the class room to give talks. 
Instructor(s): J. Roche 
Area: Humanities.

**AS.061.261. Moving Pictures: Looney Toons and Beyond. 3 Credits.**
This course offers an overview of American and European animated films These films range from Looney Toons and early Warner Brothers films to European films including the works of the Brothers Quay and Jan Svankmayer. Along with in-class screenings, each student will create a very short animated 16mm. film. Using permanent markers, dyes, and bleach, students will work with black and clear 16mm. leader to create these films. Absolutely no drawing skills are required for this course. 
Area: Humanities.

**AS.061.270. Writing for the Screen. 3 Credits.**
An Introduction to dramatic writing for film. Weekly film screenings. Several short, written exercises in story, scene, and character design, and a final complete script for a short film. Introduction to Fiction and Poetry recommended. 
Instructor(s): L. Bucknell 
Area: Humanities 
Writing Intensive.

**AS.061.301. Advanced Film Production. 3 Credits.**
In this course each student creates a short (3-10 minutes) film using color and/or black and white negative film. The project may include synchronized as well as non-synchronized sound. The projects are not limited by genre. Any one or a combination of genres is allowed, from conventional narrative to experimental to documentary. The projects will be shot in Super 16 format. 
**Prerequisites:** AS.061.202 OR AS.061.230 
Instructor(s): J. Mann 
Area: Humanities.

**AS.061.307. In the City. 3 Credits.**
Glittering or gritty, rich with opportunity or "pestilential to the morals, the health, and the liberties of man": the city in popular film from the silent era to the present. Lab fee: $40 
**Prerequisites:** AS.061.140 AND AS.061.141 OR instructor permission 
Instructor(s): L. Bucknell 
Area: Humanities.

**AS.061.308. Experimental Video. 3 Credits.**
An introduction to experimental video from the 1960s to present. Understanding "experimental" as an operative to change existing forms of video using aesthetic and ideological innovation. With four video projects. Lab fee: $40. Recommended Course Background: AS.061.145 or AS.061.150 
Area: Humanities.

**AS.061.314. Sketching the Scene: Image as Narrative Tool. 3 Credits.**
In the first half of the semester, students will be presented with prompts from a variety of media – photography, literature, popular music, et al. - intended to stimulate the imagination and spark ideas. These ideas will be explored, cultivated, and mined for their visual information, with emphasis on information that might appear in their filmic representation. In the second half of the semester, students will search independently for cinematic ideas with an eye toward the details of a scene. As students identify scenic elements, their ideas will be developed independently for cinematic ideas with an eye toward the details of a scene. As students identify scenic elements, their ideas will be developed independently for cinematic ideas with an eye toward the details of a scene. As students identify scenic elements, their ideas will be developed independently for cinematic ideas with an eye toward the details of a scene. 
**Prerequisites:** AS.061.140 AND AS.061.141 OR instructor permission 
Instructor(s): M. Porterfield 
Area: Humanities 
Writing Intensive.
AS.061.315. Screenwriting By Genre. 3 Credits.
Story design for the screenplay with special attention to the genres of comedy, horror, melodrama, and adventure. Regular workshops, short written exercises, and a longer final project.
Prerequisites: AS.061.313 or AS.220.342 or instructor’s permission
Instructor(s): L. Bucknell
Area: Humanities
Writing Intensive.

AS.061.316. Characters for the Screenplay. 3 Credits.
A workshop devoted to creating complex characters for the screen. Students will examine memorable film characters from the silent era to the present, with attention to how these characters are revealed through both the drama and the mise en scène. Weekly screenings. Short critical and creative written exercises and a longer, creative final project.
Prerequisites: (AS.061.270 OR AS.220.204 OR AS.220.337) or instructor permission.
Instructor(s): L. Bucknell
Area: Humanities
Writing Intensive.

AS.061.317. Anti-Cinema: Topics in Film Poetics and Theory. 3 Credits.
This course will focus on the aesthetic, ideological and philosophical objections raised against the make-believe ontology of traditional storytelling in the movies. We will discuss the visionary art of Buster Keaton, the transcendentalist empiricism of auteurs like Tarkovsky and Bresson, and will not stop at the mind boggling experiments by Lars van Trier and Abbas Kiarostami, to name but a few. Our analysis of complex film art will be accompanied by reading relevant cultural and film theories, ranging from Walter Benjamin and Bertold Brecht to Roland Barthes and Gilles Deleuze. Juniors and Seniors Only.
Prerequisites: AS.061.140 OR AS.061.141
Area: Humanities.

AS.061.318. Noir Film, Noir Culture: American Film and Its Contexts, 1946-1959. 3 Credits.
Emerging from the profound changes wrought by World War II, American noir film in the postwar period shared a sensibility with a number of contemporaneous aesthetic movements in art, photography, music, and literature. This course will explore the concerns and themes common to both film noir and the art and popular culture of its time: engagement with extremes of subjectivity and psychological dissonance; existentialism and the crisis of meaning; the malleability of identity; the impact of mass forms of culture on selfhood; the use of visceral and explicit imagery. Artists whose work will be considered include Orson Welles, Fritz Lang, Otto Preminger, Robert Aldrich, Nicholas Ray, Robert Frank, William Klein, Jackson Pollock, Robert Rauschenberg, Mark Rothko, Allen Ginsburg, Norman Mailer, Art Pepper, and Miles Davis.
Prerequisites: AS.061.140 or AS.061.141 or instructor’s permission
Area: Humanities.

AS.061.321. The Uses Of Difference: Race in Hollywood. 3 Credits.
Area: Humanities.

AS.061.322. Women in Hollywood Film. 3 Credits.
Female beauty, villany, and humanity in popular film from the silent era to the present.
Instructor(s): L. Bucknell
Area: Humanities.

AS.061.323. Masculinities. 3 Credits.
Prereq: One Core Course Or Permission From tap dancer to gangster, assassin to anguished teen, versions of the male in film from the silent era to the present. Cross-listed with Studies of Women, Gender, and Sexuality
Instructor(s): L. Bucknell
Area: Humanities.

AS.061.325. The Westerns of Ford, Leone, & Peckinpah. 3 Credits.
A study of three masters - John Ford, Sergio Leone, and Sam Peckinpah - their impact on the genre and on each other. Lab fee: $40
Prerequisites: AS.061.140 or AS.061.141 or Permission
Instructor(s): L. Bucknell
Area: Humanities.

AS.061.326. The Western. 3 Credits.
Prerequisites: AS.061.140 or AS.061.141 or instructor permission
Instructor(s): L. Bucknell
Area: Humanities.

AS.061.328. Gangster Films. 3 Credits.
The bad guy as hero from Little Caesar to Goodfellas. Lab fee: $40. Recommended Course Background: one core course or permission required.
Area: Humanities.

AS.061.335. Monster Films. 3 Credits.
$40 and one core course or permission required. Monstrous others and monstrous selves in classic 20th century horror.
Instructor(s): L. Bucknell
Area: Humanities.

AS.061.339. A Cinema Of Anxiety: Film Noir. 3 Credits.
Postwar film noir: Fuller, Huston, Lang, Mann, Tourneur, and others.
Instructor(s): L. Bucknell
Area: Humanities.

AS.061.342. Going "On the Road": The Road Movie. 3 Credits.
This course explores the road film, one of the most popular thematic constructs in American film. Although the journey narrative has its roots in literature, the road film presents a unique variation of stories of wanderlust. Perhaps this is because cinema’s very nature lends itself to the form; the art form entails the creation of space and motion in time. We will follow the road movie from classical cinema to the present, concentrating on its position as a central trope in American mythology but also looking at the ways filmmakers in other cultures have made use of it. Lab fee: $40
Prerequisites: Prereqs: AS.061.140 OR AS.061.141
Instructor(s): L. DeLibero; M. Ward
Area: Humanities.

AS.061.343. Deadwood and American Justice. 3 Credits.
The course aims at generating well-grounded discussion on issues of justice and social fairness in the wilderness of American westward colonization and spoliation. Issues such as the rule of foul language, chattel sex work, grassroots democracy, gun justice, and other basic elements of the American ethos of conquest and populist sovereignty.
Prerequisites: AS.061.140 OR AS.061.141
Instructor(s): E. Gonzalez
Writing Intensive.
AS.061.344. The Viewers in the Dark: One Hundred Years of Cinephilia, from Lumière to Tsai Ming-Liang. 3 Credits.
The movies have attracted a devoted following in their first hundred and twenty years. Here, we discuss the act of moviegoing itself, exploring the ways that film fans have traditionally considered themselves in relation to the silver screen, the movie house, and film culture, from the silent era, with its first moments of illuminated wonder at moving pictures, through early cine-clubs in the 1920s and the enthusiastic movements of film critics-turned-filmmakers with the French New Wave in the 1960s, up through the video store boom and bust. How does the way we literally engage with cinema affect the way that we love movies? With our culture now engaging with the rise of the home theater, we consider where we have come from as moviegoers as part of a genealogy of watchers in the dark, and how theorists have positioned themselves as regards the activity. This course also involves a practicum to enable students to think through questions of moviegoing in acts of moviegoing itself, and reflection on the experience. Thinking through how we have felt and thought about movies, we come to some conclusions about both the nature of film art and its most loyal spectator, the cinephile.
Prerequisites: AS.061.140 OR AS.061.141
Instructor(s): M. Ward.

AS.061.347. Writing with Light. 3 Credits.
Writing with Light explores the stylistic applications of lighting for film. The course will include readings and class projects emphasizing various lighting modes.
Instructor(s): B. Plow
Area: Humanities.

AS.061.350. Practicum in Online Media/Journalism. 3 Credits.
In conjunction with visiting professionals/faculty, students will get real world experience helping to create the regional online arts journal, RADAR REDUX. Involves critical writing, video, webcasings, and podcasting. This course is cross-listed with and will meet at MICA.
Instructor(s): J. Livingston
Area: Humanities.

AS.061.351. Camera-less Filmmaking. 3 Credits.
Camera-less Filmmaking will use various filmmaking techniques that do not involve the camera. Using 16mm clear leader and black leader students will make films with permanent markers, bleach and other ingredients. We will also view films from this genre and discuss how this approach provides a unique opportunity to explore the filmic frame. Drawing skills are not a prerequisite for the course.
Area: Humanities.

AS.061.352. Media Workshop. 3 Credits.
Media Workshop mixes the theory and practice of media-making in a workshop environment that allows upper-level students to hone their craft as filmmakers. Based upon the idea of a creative community, the workshop is an advanced lab designed to give students a place to share ideas, create new work, and receive intensive and supportive critique. Work produced in this class will consist of non-narrative experimental exercises, exploring issues of the image, editing, perception, and sound. Students will read filmmaker-theorists like Sergei Eisenstein, Robert Bresson, Stan Brakhage, Maya Deren and Wim Wenders and will produce creative work inspired by the texts.
Instructor(s): M. Porterfield; M. Ward
Area: Humanities.

AS.061.353. Documentary Film Production: Cities and Fields. 3 Credits.
Prerequisites: AS.061.150 and instructor permission - $100 Lab Fee
Area: Humanities.

AS.061.354. Wien-Baltimore: Holocaust Education and Documentary Films. 3 Credits.
This documentary production class accompanies the production of the documentary Wien-Baltimore between January and April 2010. The film relives the experiences of Holocaust-survivor Leo Bretholz focusing on Leo’s efforts to tell his story to the Baltimore school community and beyond. Wednesday production meetings and Tuesday screenings.
First class/meeting will be held on Tuesday, February 2nd at 7:30 pm. Recommended Course Background: AS.061.145, AS.061.150, or with instructor permission.

AS.061.355. Influence and Interpretation. 3 Credits.
Short stories, poetry, novels and films will provide a starting point for students’ original short video productions. We’ll study video artists’ and filmmakers’ work inspired by other artists, filmmakers’ and writers’ works. Texts will include Harold Bloom’s Anxiety of Influence.
Area: Humanities.

AS.061.356. Narrative Productions. 6 Credits.
This course is designed to immerse students in the creative and practical challenges of narrative production. It is our hope that you will emerge with a greater understanding of the professional structure of a film crew, as well as with an understanding of the collaborative creativity necessary to make a narrative short. We will work hard, but if you are interested in video, film and filmmaking, we guarantee you will learn a great deal. In this course students will be divided into teams, each of which will produce a short narrative film based upon a script written by a fellow student. All films will be fully student produced.
From script to casting, production to direction, design, shooting and sound recording, music and editing, students will fill all principal roles.
Throughout the course, instructors will expose students to relevant films and film professionals in order to illuminate the key creative roles necessary in the making of any film. Instructors will serve a guiding role in the production of student projects, offering technical information and guidance as to the creative, collaborative nature of the filmmaking process. Students will be evaluated not only on the films they produce, but also on their ability to create and contribute within a team to the collaborative art of filmmaking. Lab fee: $100
Prerequisites: AS.061.150 OR AS.061.145 OR AS.061.152
Instructor(s): M. Porterfield
Area: Humanities.

AS.061.357. Seminar on Narrative Productions. 3 Credits.
Through a series of workshops and lectures on production design, directing, cinematography, and art direction, students will be guided through the process of making a feature film for Narrative Production (061.356). The art and craft of fiction filmmaking—how and why we tell stories through cinema—will be the underlying theme of the course. We will also discuss effective strategies for completing a successful film. Required screenings and workshops with visiting filmmakers, as well as regular readings and assignments, will augment class lectures and discussions.
Prerequisites: AS.061.145 or AS.061.150 or instructor permission
Instructor(s): M. Porterfield
Area: Humanities.
AS.061.358. Directing Actors. 3 Credits.
This class, intended for students of film, will explore the theory, practice, and ethics of directing actors for the screen. Texts, screenings, production, and performance exercises will be combined over the course of the semester. The goal of this workshop is to inspire young directors and enhance their ability to communicate with their cast with confidence and empathy.
Prerequisites: AS.061.140 OR AS.061.141
Instructor(s): M. Porterfield
Area: Humanities.

AS.061.359. Documentary Film. 3 Credits.
This overview of the history of the documentary film format and its attempt to tell the "truth" examines documentaries from different historical moments and cultures, and asks theoretical and philosophical questions about the construction of argument, and the use of reality, ethnography, and storytelling.
Instructor(s): B. Wegenstein
Area: Humanities.

AS.061.360. Documentary Film Theory. 3 Credits.
Prerequisites: AS.061.140 OR AS.061.141
Instructor(s): J. Mann
Area: Humanities.

AS.061.361. American & European Experimental Film. 3 Credits.
Examines an eclectic group of experimental filmmakers including Stan Brakhage, Trin T. Mihn-ha, Leslie Thornton, and Michael Snow. Includes screenings of filmmakers’ works and their writings on the subject.
Area: Humanities.

AS.061.362. American & European Experimental Film. 3 Credits.
Examines an eclectic group of experimental filmmakers including Stan Brakhage, Trin T. Mihn-ha, Leslie Thornton, and Michael Snow. Includes screenings of filmmakers’ works and their writings on the subject.
Area: Humanities.

AS.061.363. Hitchcock & Film Theory. 3 Credits.
Close examinations of Hitchcock’s films from the Lodger to Frenzy. Special attention given to the vast array of theoretical and critical responses that his work has provoked.
Prerequisites: [AS.061.140 OR AS.061.141] AND AS.061.245
Instructor(s): L. DeLibero
Area: Humanities.

AS.061.364. The New Hollywood: American Films of the Seventies. 3 Credits.
Films of Altman, Peckinpah, Coppola, Penn, Scorsese, and others. Intensive examination of the films and their cultural/political context.
Instructor(s): L. DeLibero
Area: Humanities
Writing Intensive.

AS.061.365. The New Hollywood: American Films of the Seventies. 3 Credits.
Films of Altman, Peckinpah, Coppola, Penn, Scorsese, and others. Intensive examination of the films and their cultural/political context.
Instructor(s): L. DeLibero
Area: Humanities
Writing Intensive.

AS.061.366. French Crime Films, Thrillers, and Noirs. 3 Credits.
This exploration of French films about crime with a particular focus on the French tradition of poetic realism influence the American film noir—and why is our name for the genre one invented by French critics? How did French directors respond to American genre movies, and to the films of Hitchcock? Screenings will include films by Melville, Godard, Clément, Clouzot, Audiar, and Haneke.
Prerequisites: AS.061.140 OR AS.061.141
Instructor(s): S. Roos.

AS.061.367. Intermediate Dramatic Writing: Film. 3 Credits.
We will explore different approaches towards understanding the fabric of story as it pertains to film. Students will be exposed to key challenges in conceiving, designing, structuring and executing a compelling, original, memorable and vibrant feature-length screenplay. By studying key examples we will discuss possible solutions to these issues. In every class, students will share their work in progress and will help each other find approaches or solutions to their specific challenges and issues. We will analyze films with screenplays that effectively play with the form to create lasting, thought-provoking and affecting stories. Through in-class critiques, group discussions and one-on-one sessions, students will apply new tools and approaches to their own work as they undergo the process of designing, breaking down, outlining and writing a full step outline, a beat sheet and the first ten pages of a feature length screenplay. As the semester progresses, in-class analysis and debate on the strengths and challenges posed by the students’ work will shape the thematic emphasis of each class.
Prerequisites: AS.220.204 OR AS.061.205
Instructor(s): R. Buso-garcia
Area: Humanities
Writing Intensive.

AS.061.368. Sound on Film. 3 Credits.
This 3-credit upper-level course, sponsored by the Film and Media Studies Program at JHU and the program in Recording Arts and Sciences at the Peabody Institute, will offer undergraduates and faculty/staff from both institutions an unprecedented opportunity to collaborate on all aspects of designing soundtracks for film. Utilizing in-progress works, student filmmakers from the Film and Media Studies program will work with Peabody students to create soundtracks, from the initial phases of composition and scoring to the final stages of recording and sound syncing. Students will work in small teams in a lab setting to create their soundtracks, exploring a variety of scenarios, including the implications of image-driven music vs music-driven images, and the various uses of acoustic and electronic sound. Lab work will be supplemented by guest lectures and faculty presentations on various aspects—practical, theoretical, and historical—of applying sound to film. Guest lecturers will include sound designers and engineers, composers, editors, historians of film sound, and filmmakers working in both live action and animated film. Screenings are provided on Wednesdays from 7:30pm-10pm.
Prerequisites: [AS.061.204 OR AS.061.356 OR AS.061.413]
Instructor(s): K. Yasinsky; T. Dolby
Area: Humanities.
AS.061.387. Practicum in Advanced Documentary Filmmaking. 3 Credits.
In this course, film students from JHU and MICA will research, shoot, and edit a 30-minute documentary on JHU's Baltimore Scholars Program under the supervision of professional filmmakers. Students will learn the techniques of filmmaking and of building a narrative for documentary film. In the process of conducting interviews and research for the film, they will also explore the historical and current relationship between Johns Hopkins University and the Baltimore community.
Instructor(s): L. DeLibero
Area: Humanities.

AS.061.389. Women Making Movies (Europe). 3 Credits.
Whether speaking of short narratives by Alice Guy Blaché, Leni Riefenstahl's propaganda for Hitler, or the films of Agnes Varda, Lina Wertmuller, Sally Potter, Margarethe von Trotta, Agnieszka Holland and Marjane Satrapi– to name but a few– women have been a dynamic and integral presence in European film history from its earliest days. What has gender meant to them? Does that category, alone or in combination with feminist film criticism, illuminate how we understand their films? Does the fact of being female shape a director’s choice of subject, how she represents it, or how she works? How has a particular director’s work been shaped by other political, social, and historical circumstances? Does an enhanced appreciation of films directed by women change our sense of the canon or of what it means to be an auteur? We will address these and similar questions as we explore a few of the movies made by women over the past 100+ years.
Prerequisites: AS.061.140 OR AS.061.141
Instructor(s): L. Mason
Area: Humanities.

AS.061.390. The Actor in Hollywood. 3 Credits.
This course examines the intersection of performance, stardom, and masculinity in the films of actors whose work reflects changing approaches to acting, from the studio era to the present.
Instructor(s): L. DeLibero
Area: Humanities.

AS.061.391. Love and Film. 3 Credits.
In this course, we explore different understandings of “love” and the way that film has dealt with the concept as a medium. We explore a variety of approaches to the question of “love” - from the agapic to the romantic - through a series of interdisciplinary readings ranging from philosophy to anthropology. We will also equally explore the question of how film has engaged with the question of love as a concept, and what depictions of human affection - from the general to the personal - it has offered us. Screenings are required for this course.
$40 Lab fee. Cross-listed with Study of Women, Gender and Sexuality
Prerequisites: AS.061.140 or AS.060.141
Instructor(s): M. Ward
Area: Humanities.

AS.061.392. Cinematic Truth Value: Traditions of Realism. 3 Credits.
Matthew Porterfield From the films of Robert Flaherty, Luchino Visconti and Robert Bresson, through the work of the Dardenne brothers and contemporary neo-realists, Pedro Costa, Abbas Kiarostami, Robert Gardner, and Kelly Reichardt, this course will explore the dominant techniques, the aberrations, and the virtues and limitations of cinematic realism. Lab fee: $40. Recommended Course Background: AS.061.140 or AS.061.141
Instructor(s): M. Porterfield
Area: Humanities
Writing Intensive.

AS.061.393. Violent Attractions. 3 Credits.
Violence, ritualized and anarchic, celebrated and deplored in popular film from silent era melodrama and slapstick comedy to contemporary sports, crime, and combat films. Twice-weekly screenings; oral presentation; two essays, 6 & 12 pp. Lecture Wednesday 4:30-7pm, Screenings Monday/Tuesday 7:30-10pm. Lab fee: $40
Prerequisites: AS.061.140 OR AS.061.141 OR Instructor Permission
Instructor(s): L. Bucknell
Area: Humanities.

AS.061.394. Renoir, Vigo, Carne: French Cinema of the 1930s. 3 Credits.
Conducted in English. An exploration of French cinema of the 1930s and the movement that produced some of the most influential masterworks of world cinema; focus on close analysis of films. Lecture Tuesday 1:30-4pm, Screening Monday 7:30-10pm. $40 Lab fee
Instructor(s): S. Roos
Area: Humanities.

AS.061.395. Film Programming. 3 Credits.
This course is run in close conjunction with the Johns Hopkins Film Society. Half of the work you will be doing in this class will be geared toward the Film Society’s 2011 Film Festival in its programming, marketing, budgeting, organization, scheduling, and interaction with both filmmakers and the community. In this class, you will learn to program, execute, and run a film series and gain the tools to create and run a Film Festival. You will, then, learn how to do historical and aesthetic research to craft a project proposal, hone it so it is the best possible version of your idea, market it so that it succeeds, project its films on 35mm, introduce its films with short lectures to an audience, answer a Q&A about your films, interact with audiences, make connections with filmmakers and “curate” a film of your choice, and, essentially make the entire thing come off without a hitch. We focus, then, on a set of interlocking skill sets: film programming and projection, series organization and planning, and audience outreach as well as event management.
Instructor(s): M. Ward
Area: Humanities.

AS.061.396. Modern Paris on Film. 3 Credits.
This course uses French film to examine the history of twentieth-century Paris. We will consider how filmmakers interpreted the social, political, and technological transformations that shaped Paris in the modern era, treating movies as expressions of change and means by which filmmakers comment on it. Taught in English. Cross-listed with History
Instructor(s): L. Mason
Area: Humanities.

AS.061.397. French Masculinities. 3 Credits.
Examines changing ideals of masculinity in France after 1960 as they found expression on film, rooting the work of iconic stars and directors in their cultural, political and historical contexts.
Prerequisites: AS.061.140 OR AS.061.141 OR INSTRUCTOR PERMISSION
Instructor(s): L. Mason
Area: Humanities
Writing Intensive.

AS.061.398. Godard. 3 Credits.
An intensive study of the most important films of this seminal and influential director.
Prerequisites: AS.061.140 or AS.061.141
Area: Humanities.
AS.061.399. Stop-Motion Puppet Animation. 3 Credits.
Students will create their own stop-motion models (puppets) based on a wire armature model. In small groups, students will design and create a simple set and make a short stop-motion movie using a DSLR camera. The question of “why animate” will be explored in student projects and responses to screenings. We will study the history of stop-motion puppet animation from Starewicz to Svankmajer to Nick Park.
Prequisites: AS.061.140 OR AS.061.141 OR AS.061.150
Instructor(s): K. Yasinsky
Area: Humanities.

AS.061.401. Dance for the Camera. 3 Credits.
Dance for the Camera is a collaborative course taught with dance majors from Towson University. Film students from Film and Media Studies will work with choreographers from Towson to produce a short 16mm dance for the camera film. Lab fee: $100
Prequisites: AS.061.230 and Instructor permission.
Instructor(s): J. Mann
Area: Humanities.

AS.061.402. Critical Approaches to Contemporary Film. 3 Credits.
Area: Humanities
Writing Intensive.

AS.061.413. Lost & Found Film. 3 Credits.
This course explores various elements of film production and filmic expression through a somewhat nebulous field typically described as lost films. Lost films (or as they are sometimes called “orphan” films) can be generally described as films that have, for a variety of reasons, fallen out of the public view. They frequently come from educational, scientific, medical, or industrial films from the 1950s and 1960s. Using these films as source materials, lost film filmmakers explore and expose cultural conventions, visual icons, and historical value materials. Each week, students are responsible for re-editing sources found on an internet archive site. The assignments follow thematic concerns related to film editing. Students complete a final project (4-8 minutes). All editing for the course is accomplished with non-linear software, generally Adobe Premiere or Final Cut.
Instructor(s): J. Mann
Area: Humanities.

AS.061.420. The French New Wave. 3 Credits.
Conducted in English Study of the major films of the French New Wave, their origins, context, and afterlife.
Instructor(s): S. Roos
Area: Humanities.

AS.061.421. History & Film. 3 Credits.
This course explores the intersection between historiography – that is, the theory of history – and its relationship to the moving image. How does film as a medium relate to history as a concept? How does film express its own form of an idea of history? How is film, perhaps, itself historical in the way it works? In this course, we will read the work of Walter Benjamin, Friedrich Nietzsche, and Jeffrey Skoller, among others. Students are expected to enter the course ready to engage in discussion. $40 Lab fee
Area: Humanities
Writing Intensive.

AS.061.440. Sr Project-Film. 3 Credits.
Prequisites: AS.061.240, AS.061.301, AND AS.061.304
Instructor(s): J. Mann; M. Porterfield
Area: Humanities.

AS.061.441. Sen Proj-Film Production. 3 Credits.
Instructor(s): J. Mann
Area: Humanities.

AS.061.443. Sen Proj-Digital Video Prod. 3 Credits.
Instructor(s): J. Mann; M. Porterfield
Area: Humanities.

AS.061.501. Independent Study - Film. 0 - 3 Credit.
Instructor(s): Staff.

AS.061.502. Independent Study:Film & Media. 3 Credits.
For students who wish to explore an aspect of film studies not covered by existing courses. The course may be used for research or directed readings/viewings and should include one lengthy essay or several short ones as well as regular meetings with the adviser. Permanently required: Lab Fee: $100 (if production related)
Instructor(s): J. Mann; L. Bucknell; L. DeLibero; M. Porterfield.

AS.061.503. Independent Study-Film/Media. 0 - 3 Credit.
Permission required
Instructor(s): J. Mann; L. DeLibero; M. Porterfield.

AS.061.504. Independent Study-Film. 3 Credits.
Instructor(s): J. Mann; L. DeLibero.

AS.061.505. Internship-Film/Media. 0 - 3 Credit.
Instructor(s): B. Wegenstein; J. Mann; L. Bucknell; L. DeLibero.

AS.061.506. Internship-Film & Media. 1 Credit.
Instructor(s): L. Bucknell; L. DeLibero; M. Ward.

AS.061.596. Ind Stdy-Film & Media. 3 Credits.
Instructor(s): J. Mann; K. Yasinsky; L. Bucknell; L. DeLibero; M. Ward.

AS.061.599. Internship-Film & Media. 1 Credit.
Instructor(s): J. Mann; L. Bucknell; L. DeLibero; M. Ward.

Cross Listed Courses

Classics

AS.040.220. Representing Ancient Greece and Rome in Film and Television. 3 Credits.
This course examines modern representations of ancient Greece and Rome in film. Students will analyze films in both ancient and modern contexts, distinguishing historical fact from artistic choice. Screenings on Monday evenings. Cross-listed with Film and Media Studies.
Instructor(s): A. Ibarra
Area: Humanities.

English

AS.060.118. Asian American Literature and Film. 3 Credits.
This course offers students a survey of Asian American literature, film and cultural politics. Throughout the course we will evaluate the literary and filmic productions of Asian Americans in order to ask a series of questions: Who is American? Who is Asian American? How does “Asian American” work as a category that uncovers contestations over the meaning of ethnic, sexual, and national identity? We will look at a diverse array of Asian American groups while paying attention to the formation of Asian American subjectivities across differences and the intersections of ethnicity, sexuality, class and gender. Cross-listed with Film and Media Studies
Instructor(s): R. Neutill
Area: Humanities
Writing Intensive.
Anthropology

AS.070.132. Invitation to Anthropology. 3 Credits.
The course examines the relationship between intellectuals and the Cuban state, focusing on how cinema and other arts have been mobilized both as propaganda and as sites for social criticism. Screenings are required for this course and will take place on Tuesdays from 7 pm to 9:30 pm. Cross-list: Film and Media Studies, PLAS, Romance Languages.
Instructor(s): L. Humphreys
Area: Humanities, Social and Behavioral Sciences.

AS.070.265. Anthropology of Media. 3 Credits.
We will examine the mediation of contemporary cultural life through technologies such as cinema, television, radio, design, and the Internet, investigating questions of desire, power, identity, and belonging. Student coursework will center on the development of an ethnographic video project.
Area: Humanities, Social and Behavioral Sciences.

AS.070.309. Anthropology of Media. 3 Credits.
We will examine the profound mediation of contemporary human life through technologies like film, television, radio, mobile phones, ipods, and the Internet, investigating questions of desire, politics, production, and the virtual. SPECIAL NOTE: There will be a $30 lab fee for the course.
Instructor(s): A. Pandian
Area: Humanities, Social and Behavioral Sciences.

AS.070.337. Digital Media, Democracy, and Control. 3 Credits.
This course examines how digital technologies enable new publics that circumvent state and social controls as well as how they are mobilized to confirm existing racial, gendered, and political hierarchies.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.346. Cinema and Ethnography. 3 Credits.
Films, like ethnographies, stage encounters with foreign worlds. We will investigate this parallel by examining, side-by-side, cinematic and anthropological representations of subjects like environmental conflict, urban poverty, religious pilgrimage and media culture.
Instructor(s): A. Pandian
Area: Humanities, Social and Behavioral Sciences

History

AS.100.499. Film and Propaganda in Nazi Germany. 3 Credits.
By examining a range of cinematic works—from explicitly ideological pseudo-documentaries to less overtly tendentious entertainment films—this course will explore the transmission of propaganda into the everyday culture of Nazi Germany.
Instructor(s): H. Balz
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

German Romance Languages Literatures

AS.211.174. Media of Propaganda. 3 Credits.
Today, promoting a particular political or personal point of view is not viewed as "propaganda," but rather as building a community of equally minded people. But where do we draw the line, and when does the use of a medium in service of a certain message become intrusive and misleading? What role do democracy and cultural values play in this use or abuse of media? In this class the term "propaganda" will be evaluated carefully and applied to such historical media case studies as the informational use of the radio in World War One, Leni Riefenstahl's Nazi propaganda films, the legendary success of advertisement campaigns in the 1950s and 1960s, the AIDS movement and other mobilization strategies from the 1980s to the 1990s, and the new values of friendship and propaganda in our current facebook nation.
Instructor(s): B. Wegenstein
Area: Humanities.

AS.211.212. Holocaust and Film. 3 Credits.
Taught in English. This class will examine the history of Holocaust films in regard to the possibilities of genre (documentary versus feature), the use of historical and archival materials, as well as general questions of representation and trauma. I CINEMA OF THE VICTIMS II CINEMA OF THE PERPETRATORS III CINEMA OF THE SECOND AND THIRD GENERATIONS WITNESSES Students will be writing weekly response papers to all screenings, and will choose to work with films in the original languages German, English, Italian, and French. This class will be writing-intensive. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies.
Area: Humanities
Writing Intensive.

AS.211.330. Curating Media Artists in Residence at JHU. 3 Credits.
Curating Media Artists in Residence at JHU: students will be closely involved with JHU's Program in Museum & Society. JHU's Center for Advanced Media Studies (CAMS), and the Baltimore Museum of Art (curator Kristen Hileman) in efforts to research and propose new media artists in residence as well as prepare the residency for 2015. This process will include examining cutting-edge media artists whose work will be discussed both in the classroom as well as on sponsored class trips to media art exhibits in DC and NYC. Students will also assist with the CAMS media art residency of acclaimed French artist Camille Henrot in March 2014.
Instructor(s): B. Wegenstein
Area: Humanities

AS.211.344. Holocaust and Film. 3 Credits.
Taught in English. This class will examine the history of Holocaust films in regard to the possibilities of genre (documentary versus feature), the use of historical and archival materials, as well as general questions of representation and trauma. I CINEMA OF THE VICTIMS II CINEMA OF THE PERPETRATORS III CINEMA OF THE SECOND AND THIRD GENERATIONS WITNESSES Students will be writing weekly response papers to all screenings, and will choose to work with films in the original languages German, English, Italian, and French. This class will be writing-intensive. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies.
Instructor(s): B. Wegenstein
Area: Humanities
Writing Intensive.
AS.211.375. Community Based Learning - Documentary Production Practicum: "The Cure:" the History and Culture of Breast Cancer. 3 Credits.
This class will accompany Bernadette Wegenstein during some months of producing her feature documentary "The Cure" on the history and culture of breast cancer. It will be a hands on experience with director/producer Bernadette Wegenstein, editor/producer Patrick Wright and cinematographer Allen Moore filming at the GBMC’s Breast Care clinic, the Halsted Medical Archives, and some other Baltimore locations. This class will meet once a week, but some weeks the class will consist in the hands-on experience on the field rather than the actual class meeting. Instructor(s): B. Wegenstein
Area: Humanities.

AS.211.412. Temps et recit dans le cinema francais. 3 Credits.
In what ways does the narrative cinema condense, expand, fracture, reverse, or otherwise complicate our perception of time? What formal and stylistic means allow filmmakers to manipulate spectators’ desire for narrative coherence and closure? Based on a range of films drawn from the silent era, the classic cinema of the 1930s to 1950s (costume dramas, literary adaptations, thrillers), and the freely inspired works of the French New Wave and its inheritors, this course will provide students with the critical concepts and vocabulary needed to speak in French about film as an aesthetic object. Course in French.
Prerequisites: AS.210.301 AND AS.210.302
Instructor(s): D. Schilling
Area: Humanities.

AS.211.416. Visual Languages in Medical Knowledge. 3 Credits.
This interdisciplinary course, co-taught by professor Veena Das (Anthropology) and Research professor and filmmaker Bernadette Wegenstein (German and Romance Languages and Literatures) will track the mediation of images in the making of medical knowledge and show how sensory knowledge is incorporated or transformed in the process. Co-listed with 214.616 and 070.416
Instructor(s): B. Wegenstein; V. Das
Area: Humanities.

AS.211.446. Contemporary Italy: A Visual and Literary History. 3 Credits.
Taught in English. This introductory course will explore the main features of Italian society, culture, politics from 1945 to the present. Our discussions will be based upon a critical analysis of both visual and literary sources (in translation): excerpts of movies, videos, pictures, novels, short stories, etc. By the end of this journey through the past you will have better understanding of today’s Italy. Topics include: the Cold War and the division between Catholics and Communists, the economic miracle, the ‘68 student revolt, political terrorism in the 70s, the second Republic and Berlusconi. Attention will be paid to issues such as the condition of women and the youth, organized crime, political corruption, migration, the Southern question.
Instructor(s): M. Caplan
Area: Humanities.

AS.212.309. Forever Godard. 3 Credits.
This course will explore the dynamic relationship between music, literature, philosophy and politics in the most provocative of Jean-Luc Godard’s films.
Area: Humanities.

AS.212.601. Word and Image: An Introduction to the Languages of Literature and Cinema.
Taught in English, this course is a primer in the linguistics and the rhetoric of literary and cinematic texts. Students will familiarize themselves with the notion of the literary language’s exceptionality by studying Aristotle, Plato, Viktor Sklovskij and Roman Jakobson among others. They will then compare the power of the literary with the language of cinema by studying Andre Bazin’s take of New Realism, Christian Metz’s structuralist approach to cinema and psychoanalysis, Gilles Deleuze’s theory of the moving image and the time-image, a feminist approach to cinema by E.Ann Kaplan and others, as well as theories of digital cinema from Peter Weibel to Lev Manovich, among others. We will place the language of literature and film within a context that includes religion music, magic, prophecy and medicine. Cross-listed with Film and Media Studies and English (This course is offered as AS.212.601, 213.601, 214.601, and 215.601. Please check other course numbers for open seats.)
Instructor(s): B. Wegenstein; P. Forni.

AS.213.317. Berlin at the Crossroads of the 20th Century. 3 Credits.
This course will examine the location of Berlin at the heart of European and global culture over the course of the 20th century. In addition to its centrality to German national identity and political culture, Berlin between the World Wars was a weigh station and meeting ground for a variety of languages, cultures, and artistic trends—whether expatriates, refugees, nomads, touring companies, or vagabonds. In what ways did these travelers to Berlin change German popular or intellectual culture? In what ways did Berlin function as a center for avant-garde culture, and in what sense did it remain a peripheral space, in the shadow of grander culture centers such as Moscow, Paris, New York, or Hollywood? What lessons might be taken from the supposed glamour of Berlin between the World Wars and the continued attraction of that period for post-Holocaust adaptation and contemplation? These questions, among others, will be considered with reference to a variety of narratives, dramas, and films taken from German, English, Hebrew, Russian, and Yiddish sources. Authors to be considered will include Walter Benjamin, Joseph Roth, Irmgard Keun, Erich Kästner, Bertolt Brecht, Christopher Isherwood, Sh. Y. Agnon, Vladimir Nabokov, Viktor Shklovsky, and David Bergelson. All readings and discussions in English.
Instructor(s): M. Caplan
Area: Humanities.

AS.213.330. “What is an Image?” - Technology, Art and Visual Culture around 1900. 3 Credits.
Taught in English. This course is an interdisciplinary introduction to the theory of the image with an emphasis on its material and conceptual transformations in the modern period.
Instructor(s): J. Schade
Area: Humanities.
AS.213.344. Holocaust and Film. 3 Credits.
Taught in English. This class will examine the history of Holocaust films in regard to the possibilities of genre (documentary versus feature), the use of historical and archival materials, as well as general questions of representation and trauma. I CINEMA OF THE VICTIMS II CINEMA OF THE PERPETRATORS III CINEMA OF THE SECOND AND THIRD GENERATIONS WITNESSES Students will be writing weekly response papers to all screenings, and will choose to work with films in the original languages German, English, Italian, and French. This class will be writing-intensive. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies.
Instructor(s): B. Wegenstein
Area: Humanities
Writing Intensive.

AS.213.349. Weimar Cinema: The Golden Age of German Film. 3 Credits.
Taught in German. German cinema of the 1920s is regarded as one of the “golden ages” of world cinema. The course centers on close readings of works which belong to the canon of German film, including The Cabinet of Dr. Caligari, Nosferatu, Metropolis, The Blue Angel, The Last Laugh, and M. Focusing on the question of cinema and modernity, we will discuss topics like modern aesthetics and visual perception; Expressionism in film; technology and the metropolis; the emergence of film genres (e.g. horror film, film noir, science-fiction film, and melodrama). The film analyses will be accompanied by a discussion of the varied scholarly approaches to Weimar Cinema.
Prerequisites: AS.210.361 AND AS.210.362
Instructor(s): E. Strowick.

AS.213.367. Contemporary German Film. 3 Credits.
After almost a quarter century of neglect, German cinema is on the map again. The many awards German films have been granted over the last 10 years speak to the renaissance of German Cinema since 2000. Among these movies are Florian Henckel von Donnersmarck’s “The Lives of Others” (Academy Award for Best Foreign Language Film, 2006), Caroline Link’s “Nowhere in Africa” (Academy Award for Best Foreign Language Film, 2002), Fatih Akin’s “Head-On” (Golden Bear at the Berlin International Film Festival, 2004; European Film Award 2004), Oliver Hirschbiegel’s "Downfall" (ominated for Academy Award for Best Foreign Language Film, 2004) or Wolfgang Becker’s “Goodbye, Lenin!” (European Film Award, 2003). Nazi Germany, the Stasi, or the Reunification are prominent topics of this internationally acclaimed Contemporary German Cinema. Parallel to these mainstream productions, an aesthetically far more adventurous cinema has developed known as "Berlin School" or "Nouvelle Vague Allemande". Dissecting the everyday reality of post-wall Germany, this ‘counter-cinema’ draws on the New German Cinema of the 1970s (among other influences) to develop radical notions of realism and challenge narrative conventions. This course will offer a survey on German Film since 2000 – discussing the historical and cultural context of selected movies as well as analyzing aesthetic strategies and concepts of realism in Contemporary German Cinema. Taught in German.
Prerequisites: AS.210.362
Instructor(s): E. Strowick
Area: Humanities.

AS.213.601. Word and Image: An Introduction to the Languages of Literature and Cinema.
Taught in English, this course is a primer in the linguistics and the rhetoric of literary and cinematic texts. Students will familiarize themselves with the notion of the literary language’s exceptionality by studying Aristotle, Plato, Viktor Sklovskij and Roman Jakobson among others. They will then compare the power of the literary with the language of cinema by studying Andre Bazin’s take of New Realism, Christian Metz’s structuralist approach to cinema and psychoanalysis, Gilles Deleuze’s theory of the moving-image and the time-image, a feminist approach to cinema by E Ann Kaplan and others, as well as theories of digital cinema from Peter Weibel to Lev Manovich, among others. We will place the language of literature and film within a context that includes religion music, magic, prophecy and medicine. Cross-listed with Film and Media Studies and English (This course is offered as AS.212.601, 213.601, 214.601, and 215.601. Please check other course numbers for open seats.)
Instructor(s): B. Wegenstein; P. Forni.

AS.214.340. Holocaust & Film. 3 Credits.
Taught in English. This course examines the question of the Holocaust and its representation in the filmic media. We will analyze such themes as post-traumatic documentary (e.g., Night and Fog, Alain Resnais 1955), the resistance to representation (Shoah, Claude Lanzmann 1985), Holocaust drama and the ethics of entertainment (e.g., Schindler’s List, Steven Spielberg 1993), the question of filmic adaptation (e.g., The Grey Zone, Tim Blake Nelson 2002—based on Primo Levi’s The Drowned and the Saved 1986), and the new genre of confessional first person video-diary (e.g., Two or Three Things I know About him, Malte Ludin 2005). On this last theme we will also host the two-day symposium “The Holocaust: Children of the Perpetrators Confront Their Parents’ Nazi Past through Documentary Film,” in March 09. The symposium will feature three international documentary filmmakers and their recent films The End of the Neubacher Project, Marcus Carney 2007, Fatherland, Manfred Becker 2006, and Two or Three Things I know About him, Malte Ludin 2005, in which the filmmakers—children of Nazi perpetrators—are asking the question “who am I in relation to my father’s deeds?” The symposium will further include a number of experts on the topic of Holocaust, commemoration, and documentary film. Students will be involved in the preparation and, if interested, in the panel-discussions of the symposium. All films will be screened with English subtitles; this class is reading-intensive and writing-intensive; weekly response papers will be written about the films and the course topic at large. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies Writing Intensive.

AS.214.375. Documentary Production Practicum: “The Cure:” the History and Culture of Breast Cancer. 3 Credits.
This class will accompany Bernadette Wegenstein during some months of producing her feature documentary “The Cure” on the history and culture of breast cancer. It will be a hands on experience with director/producer Bernadette Wegenstein, editor/producer Patrick Wright and cinematographer Allen Moore filming at the GBMC’s Breast Care clinic, the Halsted Medical Archives, and some other Baltimore locations. This class will meet once a week, but some weeks the class will consist in the hands-on experience on the field rather than the actual class meeting. Area: Humanities.
AS.214.601. Word and Image: An Introduction to the Languages of Literature and Cinema.

Taught in English, this course is a primer in the linguistics and the rhetoric of literary and cinematic texts. Students will familiarize themselves with the notion of the literary language’s exceptionality by studying Aristotle, Plato, Viktor Sklovskij and Roman Jakobson among others. They will then compare the power of the literary with the language of cinema by studying Andre Bazin’s take of New Realism, Christian Metz’s structuralist approach to cinema and psychoanalysis, Gilles Deleuze’s theory of the moving-image and the time-image, a feminist approach to cinema by E.Ann Kaplan and others, as well as theories of digital cinema from Peter Weibel to Lev Manovich, among others. We will place the language of literature and film within a context that includes religion music, magic, prophecy and medicine. Cross-listed with Film and Media Studies and English (This course is offered as AS.212.601, 213.601, 214.601, and 215.601. Please check other course numbers for open seats.)
Instructor(s): B. Wegenstein; P. Forni.

AS.214.616. Visual Languages in Medical Knowledge.

This interdisciplinary course, co-taught by professor Veena Das (Anthropology) and Research professor and filmmaker Bernadette Wegenstein (German and Romance Languages and Literatures) will track the mediation of images in the making of medical knowledge and show how sensory knowledge is incorporated or transformed in the process. Co-listed with 211.416 and 070.416
Instructor(s): B. Wegenstein; V. Das
Area: Humanities.

AS.215.451. El Cine de Pedro Almodovar. 3 Credits.

El arte cinematográfico del gran cineasta español será estudiado a través de su obra, vista en partes selectas, obras enteras y dentro del marco escénico provisto por otras películas del cine español. Recommended Course Background: AS.210.326 or demonstrated proficiency in the language.
Instructor(s): E. Gonzalez
Area: Humanities.

AS.215.452. Che Guevara and Magical Realism. 3 Credits.

His detractors often compare him to Hitler while many of his admirers see him in a saint and a martyr like Jesus Christ. Cuban school children are taught to be like him. Che was killed in 1967, the same year in which Gabriel García Márquez published Cien años de soledad (One Hundred Years of Solitude). We will study Guevara’s life as a militant revolutionary through his own writings and the exorbitant style known as realismo mágico, crafted by García Márquez, one of Che’s great admirers. Four movies will anchor our visual take on the myth and the man: Los diarios de motocicleta (Walter Salles, 2004), Che I and Che II (Steven Soderbergh, 2008), and Wall Street (Oliver Stone, 1987). The nineteen-eighties narcotraffic boom in Colombia and the cocaine-driven financial high times during the late Reagan years will frame our study.
Area: Humanities.


Taught in English, this course is a primer in the linguistics and the rhetoric of literary and cinematic texts. Students will familiarize themselves with the notion of the literary language’s exceptionality by studying Aristotle, Plato, Viktor Sklovskij and Roman Jakobson among others. They will then compare the power of the literary with the language of cinema by studying Andre Bazin’s take of New Realism, Christian Metz’s structuralist approach to cinema and psychoanalysis, Gilles Deleuze’s theory of the moving-image and the time-image, a feminist approach to cinema by E.Ann Kaplan and others, as well as theories of digital cinema from Peter Weibel to Lev Manovich, among others. We will place the language of literature and film within a context that includes religion music, magic, prophecy and medicine. Cross-listed with Film and Media Studies and English (This course is offered as AS.212.601, 213.601, 214.601, and 215.601. Please check other course numbers for open seats.)
Instructor(s): B. Wegenstein; P. Forni.

AS.216.307. Reflective Mirrors: Israeli and Palestinian Cinema. 3 Credits.

Palestinian and Israeli cinemas have emerged side by side, each depicting its Other as a deceiving mirror of its own self. This course will analyze the different images of these Others in both cinemas.
Instructor(s): N. Stahl; Z. Cohen
Area: Humanities
Writing Intensive.

AS.216.412. The Divine in Literature and Cinema. 3 Credits.

This course studies various issues concerning literary and cinematic representations of the divine. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and will familiarize ourselves with the general problem of the relation between religion, literature and cinema. Among the topics to be discussed are, negative theology in literature and film, theodicy and anti-theodicy, the question of religion and literary modernism, providence and narratology in the modern novel and in contemporary cinema.
Instructor(s): N. Stahl.

AS.216.612. The Divine in Literature and Cinema.

This course studies various issues concerning literary and cinematic representations of the divine. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and will familiarize ourselves with the general problem of the relation between religion, literature and cinema. Among the topics to be discussed are, negative theology in literature and film, theodicy and anti-theodicy, the question of religion and literary modernism, providence and narratology in the modern novel and in contemporary cinema.
Instructor(s): N. Stahl.

Writing Seminars

AS.220.204. Introduction to Dramatic Writing: Film. 3 Credits.

An examination of the screenplay as a literary text and blueprint for production. Professional screenplays will be critically analyzed, with focus on character, dialogue, plot development, conflict, pacing, dramatic foreshadowing, the element of surprise, text and subtext, and visual story-telling. Students write one complete script. Formerly AS.220.342.
Area: Humanities
Writing Intensive.
AS.220.337. Intermediate Dramatic Writing: Film. 3 Credits.
An intensive workshop focusing on methodology: enhancing original characterization, plot development, conflict, story, pacing, dramatic foreshadowing, the element of surprise, text and subtext, act structure, and visual storytelling. Each student is expected to present sections of his/her "screenplay-in-progress" to the class for discussion. The screenplay Chinatown will be used as a basic text.
Area: Humanities
Writing Intensive.

AS.220.406. Readings in Fiction: Hard-Boiled Fiction and Film Noir. 3 Credits.
Students read six novels by Hammett, Chandler, Cain, Burnett, and Woolrich and view seven films made from these novels by Huston, Hawks, Wilder, Dmytryk, Richards, Walsh, and Farrow. Cross-listed with Film and Media Studies.
Area: Humanities
Writing Intensive.

Theatre Arts Studies
AS.225.375. Critical Moments in American Radical Theatre. 3 Credits.
Area: Humanities.

Earth Planetary Sciences
AS.270.115. Environmental Photojournalism and Filmmaking in the Era of New Media. 3 Credits.
Students will review critical literature focusing on new media, visual representation theory, the relationship between images and social change, the history and typology of environmental photography and film, and an overview of modern environmental history, sustainability issues and environmental problems. Over the course of the semester, students will blend these conceptual frameworks with new media production. Based in Baltimore, students will identify an environmental narrative, document their particular story through photography or film, develop a new media platform through which to communicate that narrative effectively, and write a final paper analyzing their images, narrative and communication strategies using the theoretical frameworks covered throughout the course. The course is designed with an emphasis on independent research and practice, interdisciplinary analysis and application. One hour class time, plus two hours per week of independent field work and media production (times TBD by student groups)
Prerequisites: Not open if you have taken AS.270.115
Area: Natural Sciences.

Humanities Center
AS.300.302. New American Cinema. 3 Credits.
This course offers a historical, critical, and theoretical approach to American avant-garde and independent film from the 1940s till the present. Filmmakers include Stan Brakhage, Michael Snow, Andy Warhol, Jim Jarmusch, Quentin Tarantino, and David Lynch.
Instructor(s): J. Gerrits
Area: Humanities.

AS.300.312. Imagining Revolution and Utopia. 3 Credits.
Examines theories of revolution and utopia and responses in literature, art and film. Primary case study is Russia and the Soviet Union, with comparative look at influential European works and contemporary politics. Topics include gender and the family, terror, communism and communalism, and the avant-garde in art and film. Cross listed with Studies of Women and Gender, and Sexuality, and Film & Media Studies
Instructor(s): A. Eakin Moss
Area: Humanities
Writing Intensive.

AS.300.313. Contemporary Israeli Cinema. 3 Credits.
This course examines Israeli cinema of the last two decades. Among the films to be discussed are: Oscar nominees Adjami and Waltz with Bashir, Late Marriage, A Matter of Size, Year Zero, Lemon Tree, Sweet Mud, and Lebanon. We will study the different influences and the innovative use of style and genres in these films, as well as the new themes and agendas that they offer.
Instructor(s): N. Stahl
Area: Humanities

AS.300.324. Cinema of the 1930s: Communist and Capitalist Fantasies. 3 Credits.
Comedy and musical comedy film flourished in the USA during the Great Depression as well as in the USSR during the Stalinist Great Terror. This course will compare American and Soviet films of this era, examining the intersections between politics and aesthetics as well as the lasting implications of the films themselves in light of theoretical works on film as a medium, ethics and gender (including Benjamin, Kracauer, Cavell).
Instructor(s): A. Eakin Moss
Area: Humanities
Writing Intensive.
AS.300.341. East Asian Cinema. 3 Credits.
A study of select films across East Asia in their aesthetic and institutional contexts. Highlighted directors will include Yasujiro Ozu and Akira Kurosawa, Chen Kaige, Wong Kar-wai, Im Kwon-Taek, and Gen Sekiguchi, Bong Joon-ho. Cross-listed with East Asian Studies and Film and Media Studies
Instructor(s): S. Rhee
Area: Humanities
Writing Intensive.

AS.300.349. The Cinema of Andrei Tarkovsky. 3 Credits.
Course examines the films and theoretical writing of Andrei Tarkovsky, director of Andrei Rublev, Solaris, and Stalker.
Instructor(s): A. Eakin Moss
Area: Humanities
Writing Intensive.

AS.300.356. From Literature to Film - the case of Israeli Cinema. 3 Credits.
This course explores the differences and similarities between two artistic mediums: literature and cinema. Our case study will be the interesting transformation of Hebrew fiction into Israeli films--a dominant phenomenon in Israeli cinema since its very beginning. Our main framework will be narrative theories, but we will also consider the specific historical, ideological and geo-political aspects involved in this transformation. By comparing the two artistic modes and studying the transformation of 5 literary works into films, students will become familiar with the history of modern Hebrew literature, contemporary Israeli cinema, and the relationship between these two artistic mediums. Cross-listed with Jewish Studies, Film and Media Studies, and Writing Seminars
Instructor(s): N. Stahl
Area: Humanities
Writing Intensive.

AS.300.358. Modern Korean Culture and Film. 3 Credits.
This course examines modern Korean culture through film and literature in translation. Emphasis will be on the politics of representation, especially in light of the many collective and personal traumas (caused by poverty and factionalism, colonial rule, war, and an accelerated pace of modernization) that mark twentieth century Korean history.
Instructor(s): S. Rhee
Area: Humanities

AS.300.366. Russian Avant-Garde Cinema. 3 Credits.
Russian cinema was born out of the intense artistic experimentation of the fin-de-siècle avant-garde and developed in a climate of dramatic political and cultural change in the twenties and thirties. While subject to draconian censorship in the Soviet period, it nonetheless engaged in active dialogue with the film industries of Western Europe and America and had a lasting impact on world cinema. This course examines the extraordinary flourishing of avant-garde cinema in the Soviet Union in the 1920s and 30s including films by Eisenstein, Vertov, Pudovkin, and Dovzhenko, their theoretical writings, and their far-reaching influence on film and film theory. All readings in English, films subtitled in English.
Instructor(s): A. Eakin Moss
Area: Humanities
Writing Intensive.

AS.300.367. Seeing Like a Woman. 3 Credits.
This seminar examines the problems of female desire, subjectivity, spectatorship and performance in fiction, poetry, memoir and film from a variety of cultures and theoretical perspectives. Readings include: de Beauvoir, Riley, Butler, Cixous, Tolstoy’s “Family Happiness,” Woolf’s Orlando, Larsen’s Passing; Poetry by Moore, Bishop, Plath, Akhmatova, Tsvetaeva and Szymborska. Films by Deren, Ophuls, Hitchcock, Potter, Campion, Akerman, Varda, Denis.
Instructor(s): A. Eakin Moss
Area: Humanities
Writing Intensive.

AS.300.374. The Other in Israeli Culture. 3 Credits.
This course examines the representations of the Other in Israeli society and culture. Relying on Self-Other theories we will study the role of the Other in contemporary Israeli cinema, prose, poetry, theater and visual art, and will investigate the political, social and cultural context of its representations. Cross-listed with Jewish Studies and Film and Media Studies
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.300.389. Post-Soviet Cinema. 3 Credits.
After the fall of the Soviet Union, Russian filmmakers grappled with the legacy of Soviet power and the nature of the new democracy. This course examines the concept of sovereignty in philosophy and art through the lens of popular films and art cinema from this context. Cross-listed with Film and Media Studies
Area: Humanities.

AS.300.391. Home and Exile. 3 Credits.
This course examines the concept of home and the condition of exile primarily through the case of 20th century Russian literature, film, art and essay, with comparative texts from other cultures. Attention will be paid to the aesthetic, philosophical and historical implications of home and exile as well as consideration of notions of diaspora and transnational literature and film. All texts will be read in English translation.
Instructor(s): A. Eakin Moss
Area: Humanities.

AS.300.399. Cinema and Philosophy. 3 Credits.
Do movies have anything to say about philosophical problems? Why is contemporary philosophy so interested in cinema? What are the most productive ways of bringing films and philosophy into conversation? Why is contemporary philosophy so interested in cinema?
Instructor(s): P. Marrati
Area: Humanities.

Program in Latin American Studies

AS.361.271. Media Representation of Violence and Poverty in Latin America. 3 Credits.
This course focuses on the ways in which contemporary Latin American societies are depicted and represented in international media and films. Special attention will be given to the representation of the region under the lenses of violence and poverty as presented in media reports, documentary and fiction films made by Latin American and non-Latin American directors. Cross-listed with Film and Media Studies and Anthropology.
Area: Humanities, Social and Behavioral Sciences.
Center for Africana Studies
AS.362.374. Black Cinema. 3 Credits.
Close examination of films directed by African American filmmakers as well as a focus on historical and cultural representation of African Americans in American film.
Instructor(s): H. Robbins; L. DeLibero
Area: Humanities.

German and Romance Languages and Literatures
The Department of German and Romance Languages and Literatures offers graduate and undergraduate courses in the languages, literatures, and cultures of France, Germany, Italy, Portugal, Latin America, and Spain. The language program includes a wide range of courses from introductory through conversation and composition to civilization. The literature program treats all periods of literature from both historical and critical-theoretical perspectives. These courses emphasize the close reading of texts and modern theories of literary criticism, particularly those based on contemporary philosophy, psychoanalysis, anthropology, and linguistics. In addition, an active program of visiting professors and lecturers complements the core program offered by the faculty-in-residence.

Facilities
The Milton S. Eisenhower Library has collections that provide an ample basis for advanced research in the German and Romance languages and literatures. With the Peabody Library of The Johns Hopkins University in Baltimore and the Library of Congress and other libraries in nearby Washington, a variety of excellent research resources are available to students and faculty.

Requirements for the B.A.
Also see Requirements for a Bachelor’s Degree (p. 24).

Currently, the B.A. degree is offered in French, German, Italian, Romance Languages, or Spanish. A candidate for the B.A. degree in the Department of German and Romance Languages and Literatures should have a good command of the spoken language of his or her specialization, and a general familiarity with the literature written in that language. Each major requires a minimum of 24 hours (or eight courses) beyond the first two years of language instruction; please see specific details for each individual major below. The department also recommends that majors take courses in other literatures, history, philosophy, and anthropology.

The student who has had four years of German or a Romance language in high school or two years of German or a Romance language in college normally begins the major with Conversation and Composition (provided they have results commensurate with that level on the placement test) and (where offered) the undergraduate survey of literature. It is recommended that any student majoring in German or a Romance language spend at least one semester of junior year taking university courses in the country of study. Study abroad credit transfer is arranged by the student in consultation with the director of undergraduate studies and/or the relevant undergraduate language program director, and the Office of Study Abroad. In the senior year, a major may be permitted to take courses in the department at the graduate level.

A minor in German or one of the Romance languages is available to undergraduate students in any major. Like the various majors, the minors allow students to develop competence in German or a Romance language while receiving grounding in the culture and literature of that language. Five or six courses in the department beyond the first two years of language study are required for each minor option (see below for details).

French (p. 283)
German (p. )
Italian (p. 284)
Portuguese (p. 284)
Romance Languages (p. )
Spanish (p. 283)

French Major
All major requirements must be completed with a grade of C or better and may not be taken satisfactory/unsatisfactory. Requirements are:

Required Courses
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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AS.210.301</td>
<td>Advanced Writing and Speaking in French</td>
<td>3</td>
</tr>
<tr>
<td>AS.210.302</td>
<td>Advanced Writing and Speaking in French II</td>
<td>3</td>
</tr>
<tr>
<td>AS.212.333</td>
<td>Introduction à la littérature française</td>
<td>3</td>
</tr>
<tr>
<td>AS.212.334</td>
<td>Introduction à la littérature française II</td>
<td>3</td>
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<tr>
<td>AS.210.417</td>
<td>Eloquent French (no later than fall of senior year)</td>
<td>3</td>
</tr>
<tr>
<td>AS.212.429</td>
<td>Thesis Prep (fall of senior year)</td>
<td>1</td>
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<tr>
<td>AS.212.430</td>
<td>Senior Seminar (spring of senior year)</td>
<td>3</td>
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Elective Courses *
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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Two courses from the AS.211.3xx-AS.211.4xx or AS.212.3xx-AS.212.4xx series</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Three courses from the AS.212.3xx-AS.212.4xx series</td>
<td></td>
<td>9</td>
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</tbody>
</table>

Total Credits 34

* No more than one course may be taught in English.

For the definitive description of the French Major requirements, please visit http://grll.jhu.edu/french/undergrad and click on the link to the chart of requirements referenced under French Major.

Please note that the final authority concerning the structure of the French major rests with the French section of GRLL. Besides fulfilling the generic requirements on the French major checklist from Academic Advising, students must choose their literature courses in consultation with their major advisor to ensure coherent and adequate coverage of the corpus of French cultural and literary works. The decision as to which courses may count for a particular student’s major is the
responsibility of the student’s French major advisor or, in his or her absence, that of the DUS of French. Honors in French will be granted to students whose course work for the French major is completed at a GPA of 3.7 or higher.

**Note about courses taken in study abroad programs:**
A maximum of two courses in the upper-level culture or literature fields can count toward the minimum requirements for the major. Other courses can count only as additional transfer credits or as the equivalent of either Introduction à la littérature I or II. In other words, beyond Introduction à la littérature I and II, a minimum of three more upper-level literature or culture courses must be taken in the department, at least two of which must be upper-level literature courses. Any course that a student wishes to substitute for a JHU course must be pre-approved by the student’s French advisor or the DUS of French before departure for the study abroad program and re-approved by their French advisor or the French DUS upon return to JHU and upon submission of ALL materials from the course. As courses for which students have obtained pre-approval the semester before leaving for study abroad are often not offered once the student enrolls in France, students must keep in contact with their French advisor or the DUS of French during the initial weeks of their stay to ensure pre-approval for their final program. For further information about study abroad credits, please see the study abroad page on the GRLL website ([http://grll.jhu.edu/french/study-abroad](http://grll.jhu.edu/french/study-abroad)).

**Minor in French Literature**
All minor requirements must be completed with a grade of C or better and may not be taken satisfactory/unsatisfactory. Please see the GRLL department website study abroad page for restrictions concerning counting study abroad courses for minor credit. Students are expected to consult with either the director of undergraduate studies or their assigned French faculty advisor to review elective course selections. Requirements are:

| Required Courses | AS.210.301 Advanced Writing and Speaking in French (or equivalent placement) | 3 |
| AS.210.302 Advanced Writing and Speaking in French II (or equivalent placement) | 3 |
| AS.212.333 Introduction à la littérature française | 3 |
| AS.212.334 Introduction à la littérature française II | 3 |

| Elective Courses | Two courses from the AS.211.3xx-4xx series | 6 |
| One course from the AS.212.3xx-4xx series or AS.210.417 | 3 |

**Total Credits** 21

**Minor in French Cultural Studies**
All minor requirements must be completed with a grade of C or better and may not be taken satisfactory/unsatisfactory. Please see the GRLL department website study abroad page for restrictions concerning counting study abroad courses for minor credit. Requirements are:

| Required Courses | AS.210.301 Advanced Writing and Speaking in French | 3 |
| AS.210.302 Advanced Writing and Speaking in French II | 3 |
| AS.211.401 La France Contemporaine I | 3 |
| AS.211.402 La France Contemporaine II | 3 |

| Elective Courses | AS.210.417 Eloquent French | 3 |
| or AS.211.420 Real French: From Slang to Sophistication | |

**Total Credits** 21

*Eloquent French and Real French cannot both count toward the minor.

**German**

**German Major**
Students are encouraged to declare their intent to major or minor in German in their sophomore year and to make an advising appointment with the Director of Undergraduate Studies to discuss their academic plans, including options for a study abroad semester or year.

Students must complete a minimum of 27 credit hours in German beyond AS.210.262 Intermediate German II.

Majors are required to complete the Advanced German sequence (AS.210.361 Advanced German I: Cultural Topics of the Modern German-speaking World) and AS.210.362 Advanced German II: Contemporary Issues in the German Speaking World, which counts for 6 credits and is a prerequisite for upper level 213.xxx seminars taught in German. Of the remaining 21 credit hours, majors choose courses designated as 210.xxx; 211.xxx (with approval) and 213.xxx. A minimum of 12 credits must be completed in German literature, culture and thought in courses designated as 213.xxx. No more than 6 credit hours of translation courses may be used to fulfill major requirements. All major requirements must be completed with a grade of C- or better and may not be taken satisfactory/unsatisfactory.

The department strongly advises its majors to gain a knowledge of a second foreign language.

Major requirements are as follows:

| AS.210.361 Advanced German I: Cultural Topics of the Modern German-speaking World | 3 |
| AS.210.362 Advanced German II: Contemporary Issues in the German Speaking World | 3 |

12 credits of AS.213.xxx courses 12
9 credits of additional German courses * 9

**Total Credits** 27

* Additional German language above the advanced level and literature, culture and thought courses apply.

**Honors in German**
The Department of German offers an Honors Program for highly qualified undergraduates. Students must have a minimum GPA of 3.5 to qualify for the program. Students will work on a project in German literature and thought under the guidance of a faculty advisor. The program is completed by a senior essay more comprehensive in scope than a seminar paper. Students interested in the honors program should meet with the Director of Undergraduate Studies no later than the spring semester of their junior year to discuss the requirements and outline the research project to be conducted the following year.
German Minor

Students are encouraged to declare their intent to major or minor in German in their sophomore year and to make an advising appointment with the Director of Undergraduate Studies to discuss their academic plans, including options for a study abroad semester or year.

Students must complete a minimum of 18 credit hours in German beyond Elementary German (210.161-162) and Intermediate German (210.261-262).

Minors are required to complete the Advanced German sequence (210.361-362), which counts for 6 credits and is a prerequisite for upper-level 213.xxx seminars taught in German. Of the remaining twelve (12) credits, minors choose courses designated as 210.3xx; 211.xxx (with approval) and 213.xxx. A minimum of three (3) credits must be completed in German literature, culture and thought courses designated as 213.xxx and taught in German. No more than three (3) credits of translation courses may be used to fulfill minor requirements. All minor requirements must be completed with a grade of C- or better and may not be taken satisfactory/unsatisfactory.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.210.361</td>
<td>Advanced German I: Cultural Topics of the Modern German-speaking World</td>
<td>3</td>
</tr>
<tr>
<td>AS.210.362</td>
<td>Advanced German II: Contemporary Issues in the German Speaking World</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Three credits of AS.213.xxx courses (taught in German)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>9 credits of additional German courses *</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credits</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

* Additional German language above the advanced level and literature, culture, and thought courses apply.

German B.A./M.A. Degree

The department offers highly qualified students the option to complete a combined degree in five years. To receive the B.A./M.A. degree, the student must complete advanced courses in German literature and pass the departmental written and oral master’s examinations. Students interested in this option should make an appointment with the Director of Undergraduate Studies no later than the spring of their junior year to discuss the options available to them.

Italian

Italian Major

A minimum of eight semester courses (210.3xx-4xx or 214.2xx-4xx) beyond the first two years (four semesters) of language instruction (AS.210.252 Intermediate Italian II) are required for graduation with a major in Italian. Two courses in Italian films or film-making, Italian history, or art history are acceptable toward the minimum eight semester courses required for the major. Two independent studies are acceptable toward the requirements and they must be taken after a literature course in Italian. At least six of the eight courses must be taught in Italian. Any language requirement waived by exam must be documented n the student’s exam by the end of sophomore year. All major requirements must be completed with a grade of C- or better and may not be taken satisfactory/unsatisfactory.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.210.311</td>
<td>Advanced Writing and Speaking in French</td>
<td>3</td>
</tr>
<tr>
<td>AS.210.312</td>
<td>Advanced Spanish I</td>
<td>3</td>
</tr>
<tr>
<td>AS.215.231</td>
<td>Introduction to Literature in Spanish</td>
<td>3</td>
</tr>
<tr>
<td>or AS.215.232</td>
<td>Spain and Its Literature from Modern to Medieval Times</td>
<td></td>
</tr>
</tbody>
</table>

Italian Minor

The minor requirements consist of successful completion of language courses through AS.210.252 Intermediate Italian II equivalent placement. Six courses beyond the first two years of language instruction must include 210.351-352 (Advanced Italian Conversation and Composition I and II). At least three of these six courses must be in Italian. No more than one independent study is permitted to count for the minor. The independent study must be taken after a literature course in Italian and have the approval of the advisor and written consent from the Director of Undergraduate Studies. All minor requirements must be completed with a grade of C- or better and may not be taken satisfactory/unsatisfactory.

Portuguese

The study of Portuguese gives you access to the diverse cultural and literary worlds of Brazil, Portugal and the Portuguese-speaking African and Asian countries. In fact, Portuguese is the third most spoken European language, and the most widely spoken language in South America. Today, there are more than 200 million native Portuguese speakers throughout the world from Angola to Brazil and from Portugal to the distant island nation of East Timor in the Pacific. The Portuguese program in the Department of German and Romance Languages and Literatures offers not only the three levels of language training, but also a growing number of courses on literature as well as the culture and civilization of Brazil. We do not currently offer a major or minor in Portuguese but Portuguese may be used as the third language in the three-language option of the Romance Languages major.

Romance Languages Major

Students may complete a Romance language major in one of two configurations: by specializing in two of the Romance languages offered by the department, or by focusing in two Romance languages and exploring a third language. All major requirements must be completed with a grade of C- or better and may not be taken satisfactory/unsatisfactory.

The options are configured as follows:

Dual Language Options

Students must complete the requirements listed below for two languages (French, Italian, or Spanish).

French

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.210.301</td>
<td>Advanced Writing and Speaking in French</td>
<td>3</td>
</tr>
<tr>
<td>AS.210.302</td>
<td>Advanced Writing and Speaking in French II</td>
<td>3</td>
</tr>
<tr>
<td>AS.212.333</td>
<td>Introduction à la littérature française</td>
<td>3</td>
</tr>
<tr>
<td>or AS.212.334</td>
<td>Introduction à la littérature française II</td>
<td>3</td>
</tr>
<tr>
<td>AS.212.429</td>
<td>Thesis Prep (by fall of Senior year)</td>
<td>1</td>
</tr>
<tr>
<td>AS.212.430</td>
<td>Senior Seminar</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>One French course from the AS.211.3xx-4xx or AS.212.3xx-4xx series</td>
<td>3</td>
</tr>
<tr>
<td>Two French courses from the AS.212.3xx-AS.212.4xx series</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

Spanish

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.210.311</td>
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<td>Advanced Spanish II</td>
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</tr>
<tr>
<td>AS.215.231</td>
<td>Introduction to Literature in Spanish</td>
<td>3</td>
</tr>
<tr>
<td>or AS.215.232</td>
<td>Spain and Its Literature from Modern to Medieval Times</td>
<td></td>
</tr>
</tbody>
</table>
Four Spanish courses from the AS.211.3xx-4xx or 215.3xx-4xx series. One course may be an independent study.  
Total Credits 12

### Italian

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.210.351</td>
<td>Advanced Italian I</td>
<td>3</td>
</tr>
<tr>
<td>AS.210.352</td>
<td>Advanced Italian II</td>
<td>3</td>
</tr>
<tr>
<td>Four Italian courses from the AS.211.3xx-4xx or 214.3xx-4xx series</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>One independent study (214.5xx)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td>21</td>
</tr>
</tbody>
</table>

### Total Credits

18

### Three Language Options

Students must complete the requirements of two languages (French, Italian, or Spanish) as described in the Languages 1 and 2 section and also complete the requirements of an additional language (French, Italian, Portuguese, or Spanish) as described in the Language 3 section.

### Languages 1 and 2

#### French

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.210.301</td>
<td>Advanced Writing and Speaking in French</td>
<td>3</td>
</tr>
<tr>
<td>AS.210.302</td>
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<tr>
<td>AS.212.333</td>
<td>Introduction à la littérature française</td>
<td>3</td>
</tr>
<tr>
<td>or AS.212.334</td>
<td>Introduction à la littérature française II</td>
<td>3</td>
</tr>
<tr>
<td>One French course from the AS.212.3xx-4xx series</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>One French course from the AS.211.3xx-4xx or AS.212.3xx-4xx series</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

#### Spanish

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.210.311</td>
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<td>Advanced Spanish II</td>
<td>3</td>
</tr>
<tr>
<td>AS.215.231</td>
<td>Introduction to Literature in Spanish</td>
<td>3</td>
</tr>
<tr>
<td>or AS.215.232</td>
<td>Spain and its Literature from Modern to Medieval Times</td>
<td>3</td>
</tr>
<tr>
<td>Two Spanish courses from the AS.211.3xx-4xx or AS.215.3xx-4xx series</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

#### Italian

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AS.210.351</td>
<td>Advanced Italian I</td>
<td>3</td>
</tr>
<tr>
<td>AS.210.352</td>
<td>Advanced Italian II</td>
<td>3</td>
</tr>
<tr>
<td>Three Italian courses from the AS.211.3xx-4xx or AS.214.3xx-4xx series</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

### Language 3

The student must satisfy their third language requirement as described below:

#### French

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.210.301</td>
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<td>3</td>
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<td>3</td>
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<td>AS.212.333</td>
<td>Introduction à la littérature française</td>
<td>3</td>
</tr>
<tr>
<td>or AS.212.334</td>
<td>Introduction à la littérature française II</td>
<td>3</td>
</tr>
<tr>
<td>One French course from the AS.212.3xx-4xx series</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

#### Spanish

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.210.311</td>
<td>Advanced Spanish I</td>
<td>3</td>
</tr>
<tr>
<td>AS.210.312</td>
<td>Advanced Spanish II</td>
<td>3</td>
</tr>
<tr>
<td>or AS.210.317</td>
<td>Adv Spanish Composition</td>
<td>3</td>
</tr>
<tr>
<td>One course about Latin America or Spain taken in another department</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

#### Portuguese

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.210.391</td>
<td>Advanced Portuguese Language &amp; Literature I</td>
<td>3</td>
</tr>
<tr>
<td>AS.210.392</td>
<td>Advanced Portuguese: Language and Literature II</td>
<td>3</td>
</tr>
<tr>
<td>AS.211.394</td>
<td>Brazilian Cult &amp; Civ</td>
<td>3</td>
</tr>
<tr>
<td>AS.210.551</td>
<td>Portuguese Independent Study (with Prof. Castro-Klaren and approved by the Portuguese Language Director)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

#### Spanish

Student need to have received a B- or better in AS.210.212 Intermediate Spanish II to proceed into a Spanish major or minor.

### Spanish Major

All major requirements must be completed with a grade of C- or better and may not be taken satisfactory/unsatisfactory.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.210.311</td>
<td>Advanced Spanish I *</td>
<td>3</td>
</tr>
<tr>
<td>or one course from the AS.215.3xx-4xx series if AS.210.311 waived with placement score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AS.210.312</td>
<td>Advanced Spanish II *</td>
<td>3</td>
</tr>
<tr>
<td>or AS.210.317</td>
<td>Adv Spanish Composition</td>
<td>3</td>
</tr>
<tr>
<td>or one course from the AS.215.3xx-4xx series if AS.210.312 waived with placement score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AS.215.231</td>
<td>Introduction to Literature in Spanish</td>
<td>3</td>
</tr>
<tr>
<td>Choose one from the following list:</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AS.210.413</td>
<td>Curso de Perfeccionamiento</td>
<td></td>
</tr>
<tr>
<td>AS.211.280</td>
<td>Modern Latin American Culture</td>
<td></td>
</tr>
<tr>
<td>AS.211.380</td>
<td>Modern Latin American Culture</td>
<td></td>
</tr>
<tr>
<td>AS.211.390</td>
<td>Modern Spanish Culture</td>
<td></td>
</tr>
</tbody>
</table>

* One course about Latin America or Spain taken in another department
Spanish for the Professions Minor

Four courses from the 215.2xx-4xx series, distributed between the cultures and literatures of Spain and Latin America.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.210.311</td>
<td>Advanced Spanish I *</td>
<td>3</td>
</tr>
<tr>
<td>or AS.210.312</td>
<td>Advanced Spanish II **</td>
<td>3</td>
</tr>
<tr>
<td>or AS.210.313</td>
<td>Conversational Spanish</td>
<td>3</td>
</tr>
<tr>
<td>or AS.210.314</td>
<td>Adv Spanish Composition</td>
<td>3</td>
</tr>
<tr>
<td>or AS.210.315</td>
<td>Medical Spanish</td>
<td>3</td>
</tr>
<tr>
<td>or AS.210.316</td>
<td>Spanish for International Commerce</td>
<td>3</td>
</tr>
<tr>
<td>or AS.210.317</td>
<td>Spanish for International Relations</td>
<td>3</td>
</tr>
<tr>
<td>or AS.210.411</td>
<td>Translation for the Professions</td>
<td>3</td>
</tr>
<tr>
<td>or AS.210.412</td>
<td>Community Based Learning - Spanish</td>
<td>3</td>
</tr>
<tr>
<td>or AS.210.413</td>
<td>Curso de Perfeccionamiento</td>
<td>3</td>
</tr>
<tr>
<td>or AS.211.380</td>
<td>Modern Latin American Culture</td>
<td>3</td>
</tr>
<tr>
<td>or AS.211.390</td>
<td>Modern Spanish Culture</td>
<td>3</td>
</tr>
<tr>
<td>or any course from the AS.215.200-400 Spanish Literature series</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Credits 24

* Prerequisites through AS.210.312 may be satisfied by taking a placement examination. Native speakers should consult with the department. Any language requirement waived by exam must be documented on the transcript before the end of the sophomore year.

Spanish Study Abroad

It is strongly recommended that majors spend one semester abroad and/or attend summer or intersession programs. Currently, the department offers a fall program in Madrid, Spain, as well as the Argentina and Peru summer programs organized by the Program in Latin American Studies. Students are expected to consult with the Director of Undergraduate Studies, their department advisor, and the Office of Study Abroad prior to studying abroad. With the approval of the Director of Undergraduate Studies, up to two (2) Spanish courses taken abroad in non-JHU programs or at another institution may be used toward the major.

Spanish Minors

Students may choose one of these two specialized minors: Spanish for the Professions or Spanish Language and Hispanic Cultures. It is also recommended that Spanish minors study abroad for a semester, a summer, or an intersession. With the approval of the Director of the Spanish Language Program, only two Spanish language courses taken abroad (in programs other than Johns Hopkins programs) or at another accredited institution may be applied toward the minor, and only one additional Spanish language course will be approved for credit (but this course will not count toward the minor). For both minors, all minor requirements must be completed with a grade of C- or better and may not be taken satisfactory/unsatisfactory.

Spanish Language and Hispanic Cultures Minor

AS.210.311 Advanced Spanish I * 3

AS.210.312 Advanced Spanish II ** 3
or AS.210.317 Adv Spanish Composition 3

AS.215.231 Introduction to Literature in Spanish 3

AS.210.413 Curso de Perfeccionamiento 3
or AS.211.380 Modern Latin American Culture 3
or AS.211.390 Modern Spanish Culture 3

One course from the AS.215.2xx-4xx series

Total Credits 18

* If a waiver was provided for Advanced Spanish I, students must take one Spanish course from the following: AS.210.4xx or AS.211.xxx or AS.215.2xx-4xx series.

** If a waiver was provided for Advanced Spanish II, students must take one Spanish course from the following: AS.210.317 Advanced Spanish Composition or AS.215.2xx-4xx series.

Study Abroad in Madrid, Spain

The Department offers the following courses as part of the study abroad program in Madrid, Spain (Universidad Carlos 3):

215.340 Modern Spanish Literature

This course covers some representative Spanish literary works of the 20th century, and is divided into four sections: pre-Civil War texts (1900–1939), post-Civil War texts (1939–1975), the literature of the Transition (1975–1982), and contemporary literature (1982–2008). Ramón de Valle-Inclán, Miguel de Unamuno, Federico García Lorca, Antonio Buero Vallejo and Adelaida García Morales are some of the authors whose work will be studied. Three exams and a short research paper in addition to class attendance and participation are required.

215.342 Twentieth-century Latin American Literature

The object of this course is to familiarize students with representative literary works of authors such as Horacio Quiroga, Juan Rufó, Ernesto Sábato, Jorge Luis Borges, Pablo Neruda and Gabrriel García Márques, among others. Discussions of literary historical tendencies, esthetic conceptions and narrative techniques will be based on close reading of assigned works. Two exams and two papers in addition to class attendance and participation are required.

215.412 Spanish Theater

This course will cover the development of the history of Spanish theater: authors, aesthetic tendencies and historical and cultural contexts. From the early period, the reading of Calderón de la Barca’s La vida es sueño introduces the student to Golden Age Spanish Theater, which will be discussed in the context of the corales de comedias, Spanish society and culture. The emphasis of the course, however, is placed on more recent Spanish theatrical works by authors such as Ramón de Valle-Inclán, Alfonzo Sastre, Sanchis Sinisterra and Alonso de Santos. A short essay is required on the Golden Age section of the course; a second (voluntary) paper will analyze Valle Inclán’s Luces de bohemia. There will be a final exam. Attendance and participation are required.
215.305 Spanish Art

Spanish Art covers architecture and art from earliest times. The course is divided into three sections: architecture and urbanism in Spain from antiquity to the 20th century, Spanish painting from Mannerism to the 19th century, and contemporary painting and sculpture. Visits to various museums in Madrid—The Prado, Reina Sofia, Sorolla—are included and required. Class assignments, attendance, demonstrated interest and class participation count heavily toward the final grade. There is also a final exam.

211.290 Modern Spanish Culture

Spanish culture will be studied in its historical and social contexts between 1931 and 1982. Movies, textbooks, popular music, photography, posters, literary works and censorship and the Movida Madrileña will constitute the material studied before and after Franco’s dictatorship. Visits to museums (Reina Sofia) and monuments (Valle de los caídos) are an integral part of the course. A final paper and exam are required, as is class attendance and participation.

In addition to general university requirements for the Ph.D., the following regulations apply to graduate students in the Department of German and Romance Languages and Literatures.

To be accepted into the Ph.D. program, students must demonstrate by an exceptionally strong academic record that they are capable of advanced study in literature. They will choose French, German, Italian, Latin American, or Spanish literature as the major field of interest. The student will normally take three years of graduate courses and devote the fourth year to study in the country on which the student’s study concentrates. The well-prepared student can expect to receive the Ph.D. after five years of study. The graduate program in German and Romance Languages and Literatures emphasizes work in three complementary areas: literary history, close textual analysis (including explication de texte), and theory of interpretation. By way of preparing students in a variety of critical schools, the faculty and the visiting professors offer training in the different disciplines pertaining to critical theory, including philosophy, theory of language, psychoanalytic theory, intellectual history, and cultural anthropology.

In addition to the major language, the Ph.D. candidate must demonstrate proficiency in one or two other languages besides English, depending on the specialization. (See below for further information.)

A dissertation proposal, presented to the Department Seminar, is required before official admittance to candidacy for the Ph.D.

Requirements for the M.A. degree

The department does not accept applications for the M.A. degree as a terminal degree.

French

For students who choose to specialize in an early modern period (medieval, Renaissance, or 17th century), proficiency in Latin is required by the end of the third semester. Students may also choose a minor field: another Romance literature, modern criticism, comparative literature, medieval studies, or some other field connected with the student’s major field.

German

In addition to fulfilling the general university requirements for advanced degrees, candidates for the M.A. must demonstrate fluency in spoken German, be able to write German reasonably well, have a good knowledge of the history of German language and literature, be familiar with the general cultural background, and have read extensively in German literature, particularly in the periods after 1700. During their first two years at Hopkins, candidates for the M.A. degree must pass a series of three topical examinations. After the M.A., two major qualifying papers are required under the supervision of two advisors, chosen by the candidate, before work on the dissertation can be undertaken.

Italian

In addition to the major language, the student must demonstrate proficiency in French and in one other foreign language. The student must take a minimum of five semesters of graduate courses. After this period, normally in the third year, the student will take examinations which, if completed successfully, will lead to candidacy for the Ph.D.

Spanish

In addition to the major language, the student must demonstrate proficiency in French and in one other foreign language. The student must take a minimum of five semesters of graduate courses. After this period, normally in the third year, the student will take four field examinations which, if completed successfully, will lead to candidacy for the Ph.D.

Graduate Study Abroad

The Department encourages and expects graduates student to do research abroad during their program of study. In the French section, an exchange program with the École Normale Superieure offers the opportunity for graduate students to study in Paris, where they are encouraged to participate to research programs at ENS, EHESS, and other Universities; an exchange program with University Paris-Diderot-Paris 7 offers the opportunity for graduate or post-graduate students in French to study and teach in Paris; and the University of Geneva offers a fellowship each year for a grad student in the French section. Ph.D. students in the French section are also encouraged to apply for the Chateaubriand scholarship offered by the Embassy of France. Exchange programs with the FU Berlin (Friedrich Schlegel Graduate School of Literary Studies), the University of Hamburg, and the Humboldt University, offer the opportunity for graduate students in the German section to study in Germany. In addition, the German section offers Max Kade travel grants for research in a German-speaking country. Italian graduate students can take advantage of a wealth of formal and informal contacts with Italian scholars, archives, and institutes. Spanish students may elect to make their fourth year a non-teaching year. After presenting a research proposal to their advisor, with the approval of that advisor and the head of section, they may elect to go abroad for a semester or the entire academic year in order to conduct research essential to their dissertation.

Financial Aid

The department has a number of fellowships for graduate students. Awards include university fellowships, which carry stipends and teaching fellowships currently set at $23,000 per academic year for teaching one section of an undergraduate language course each semester, in addition to remission of tuition fees. All graduate students are expected to do four years of apprentice teaching of elementary and
intermediate level undergraduate courses as part of their professional preparation. The amount of classroom teaching required is usually three to four hours a week. Students are admitted for five years, fully funded, subject to annual review to assure satisfactory progress. In addition, stipends (equivalent to that year’s teaching fellowship) are available for study abroad during the third or fourth year.

Fourth-year graduate students may also compete for Dean’s Teaching Fellowships, which provide opportunities for the design and teaching of undergraduate courses in literature, cultural studies, or intellectual history.

Graduate students conducting research in Italian studies compete each year for two Charles S. Singleton Travel Grants for study in Italy. This program is administered by the department and is open to graduate students from other departments.

**Application Procedures**

Prospective graduate students may visit the departmental website at [http://grll.jhu.edu](http://grll.jhu.edu) for further information on programs and faculty. All questions regarding the programs offered by the department should be emailed to grll@jhu.edu. Prospective students are encouraged to apply online through the secure Graduate Admissions website ([https://app.applyyourself.com/?id=jhu-grad](https://app.applyyourself.com/?id=jhu-grad)).

For current faculty and contact information go to [http://grll.jhu.edu/directory/](http://grll.jhu.edu/directory/)

**Faculty**

**Chair**

Elisabeth Strowick
Professor: German

**Professors**

Wilda Anderson
French Enlightenment literature, science and literature.

Sara Castro-Klarén
Latin-American literature, colonial studies, contemporary novel.

Christopher Celenza
Italian literature, Director, Charles Singleton Center for the Study of Pre-Modern Europe.

William Egginton
Andrew W. Mellon Professor in the Humanities: Spanish and Latin American literatures.

Pier Massimo Forni
Italian literature and culture.

Eduardo González
Latin American literature, film and media studies.

Jacques Neefs
James M. Beall Professor: Genetic criticism, 19th- and 20th-century literature, theory of the novel.

Elena Russo
Interrelations of Enlightenment philosophy and literature.

Derek Schilling
French, 20th- and 21st-century literature and film.

Harry Sieber
Renaissance and Baroque literature of Spain.

Walter Stephens

Rochelle Tobias
German.

**Associate Professor**

Katrin Pahl
German.

**Assistant Professors**

Nadia Altschul
Assistant Professor: Spanish medieval literature.

Andrea Krauss
German.

Eugenio Refini
Italian Literature, Culture & Music

Neta Stahl
Seminitic Languages and Literatures

**Faculty Emeriti**

Richard L. Kagan

Lieselotte E. Kurth
Professor Emerita.

Stephen G. Nichols
James M. Beall Professor Emeritus of French and Research Professor: medieval language, literature, and culture, interrelation of literature with history, philosophy, and art history.

Paul Olson
Professor Emeritus.

**Research Professor**

Bernadette Wegenstein
Media theorist; Director: Center for Advanced Media Studies.

**Language Program Directors**

Flavia Azeredo Cerqueira
Portuguese Language Program Director, Lecturer: Portuguese

Kristin Cook-Gailloud
French Language Program Director, Senior Lecturer: French.

Deborah McGee Mifflin
German Language Program Director, Associate Teaching Professor: German

Loreto Sánchez-Serrano
Spanish Language Program Director, CALL Specialist, Assistant Teaching Professor: Spanish

Alessandro Zannirato
Italian Language Program Director, Associate Teaching Professor: Italian

Senior lecturer
Bruce Anderson
Senior Lecturer: French language and culture.

Claude Guillemard
French.

Aranzazu Moreno Hubbard
Advanced Spanish Course Coordinator.

Maria del Rosario Ramos
Superior Spanish Course Coordinator.

Suzanne Roos
Intermediate French Course Coordinator, Senior Lecturer, MLN
Managing Editor: French cinema and theory.

Michelle Tracy
Spanish Elements Course Coordinator

Barry Weingarten
Intermediate Spanish Course Coordinator.

Heidi Wheeler
Intermediate & Professional German Course Coordinator.

April Wuensch
French.

Lecturers
Beatrice Caplan
Yiddish Language and culture.

Naiara Martínez Vélez
Spanish language.

Paula Gefaell Borrás
Spanish Language.

Sergio Ruiz-Perez
Spanish Language.

Michelle Tracy
Spanish Elements Course Coordinator, Lecturer.

Sara Urruticoechea Romero
Spanish Language.

Sue Waterman
Research methods.

Joint Appointments
Hent de Vries
Professor of Humanities.

Eckart Förster
Professor of Philosophy.

Earle Havens
Adjunct Assistant Professor of History.

Peter Jelavich
Professor of History.

Margaret Keck
Professor of Political Science.

Gianna Pomata
Professor (School of Medicine)

Todd Shepard
Associate Professor of History.

Susan Weiss
Professor of Musicology.

Recent and Current Visiting Faculty
Alejandra Guzmán Almagro
Researcher, University of Barcelona

Leslie Arthur
Associate Professor, Baltimore Hebrew University

Leonard Barkan
Professor (Princeton University).

Maurizio Campanelli
Lecturer, Department of Greek, Latin, and Italian Studies, University of Rome La Sapienza.

Anna Celenza
Professor, Georgetown University

Roger Chartier
Professor (école des Hautes Études en Sciences Sociales): history of the book and print culture in early modern Europe.

Juliette Cherbuliez
Professor of French (University of Minnesota).

Francesco Ciabuttoni
Associate Professor, Georgetown University

Rip Cohen
Professor (Universidade Nova de Lisboa).

James Coleman
Visiting Assistant Professor, University of Pittsburgh

Robert Davidson
Associate Professor (University of Toronto).

Uwe Hebekus
Professor (University of Konstanz).

Daniel Heller-Roazen
Professor (Princeton).

Johanna Langmaack
Researcher, Hamburg University

Giuseppe Mazzotta
Professor (Yale).

Christophe Menke
Professor (Universität Potsdam).

Claude Mouchard
Professor Emeritus (University of Paris 8 Vincennes-Saint-Denis).

François Noudelman
For current course information and registration go to https://isis.jhu.edu/classes/

**Courses**

**AS.210.101. French Elements I. 4 Credits.**
Provides a multi-faceted approach to teaching language and culture to the novice French student. The emphasis of the course is an aural-oral proficiency without neglecting the other skills of grammar structure, phonetics, reading, and writing; must complete both semesters successfully in order to receive credit. No previous knowledge of French necessary, or Webcape score of 0-200 (online placement exam link available at grll.jhu.edu). May not be taken on a satisfactory/unsatisfactory basis.
Instructor(s): C. Guillemard; Staff.

**AS.210.102. French Elements II. 4 Credits.**
Provides a multi-faceted approach to teaching language and culture to the novice French student. The emphasis of the course is an aural-oral proficiency without neglecting the other basic skills of grammar structure, phonetics, reading, and writing. May not be taken Satisfactory/Unsatisfactory. Recommended course background: AS.210.101 or AS.210.103.
Instructor(s): C. Guillemard; Staff.

**AS.210.103. Learner Managed French Elements I. 3 Credits.**
This course is designed for students with limited French background (online Webcape score between 100 and 300 -http://www.advising.jhu.edu/placement_french.php.) It covers the material of the first semester of French Elements at a fast pace and more independently than the regular course. Not recommended for true beginners unless fluent in another Romance language. Major online component supplements in-class instruction. Must complete the second semester of Learner Managed or regular French Elements in order to receive credit. May not be taken on a Satisfactory/Unsatisfactory basis. Please contact the Language Program Director if you have any questions: KACG@mac.com
Instructor(s): B. Anderson
Area: Humanities.

**AS.210.111. Spanish Elements I. 4 Credits.**
This is an introductory Spanish language course. On completion of this course, the students will have acquired the basic communication and grammatical skills necessary for speaking, writing, listening and reading in Spanish. Students will demonstrate these skills through their performance in class, and by completing several online assignments, in addition to three comprehensive exams which focus on the following thematic topics: Greetings, University Life, Family and Leisure. Students will also be introduced to the culture, history and geography of various Spanish and Latin American countries. The content covered in Spanish Elements I is the foundation for all consecutive Spanish courses. There are no prerequisites for this course. A placement exam is often required to ensure the appropriate level.
Instructor(s): M. Tracy; Staff.

**AS.210.112. Spanish Elements II. 4 Credits.**
Continuation of Spanish Elements I. Further development of the four basic language skills of reading, writing, listening, and speaking. Extensive use of an online component delivered via Blackboard, sustained class participation, and three hourly exams (no mid-term and no final). May not be taken Satisfactory/Unsatisfactory. Language Program Director: Loreto Sanchez-Serrano
Prerequisites: AS.210.111 or appropriate placement exam (S-Cape) score
Instructor(s): M. Tracy; Staff.

**AS.210.151. Italian Elements I. 4 Credits.**
This is a three-credit course, and Italian Elements II (AS210.152) must be completed in the Spring 2014 to receive credit. No Satisfactory/Unsatisfactory option. The aim of the course is to provide students with basic listening, reading, writing, speaking and interactional skills in the language. All classes are conducted in Italian; oral participation is strongly encouraged from the beginning.
Instructor(s): A. Zannirato; Staff.

**AS.210.152. Italian Elements II. 4 Credits.**
Course helps students develop basic listening, reading, writing, speaking, and interactional skills in Italian. The content of the course is highly communicative, and students are constantly presented with real-life, task-based activities. Course adopts a continuous assessment system (no mid-term and no final).
Prerequisites: AS.210.151 or Placement Exam Part 1.
Instructor(s): A. Zannirato; Staff.

**AS.210.161. German Elements I. 4 Credits.**
Four skills introduction to German language and culture. Develops proficiency in speaking, writing, reading, and listening skills through the use of basic texts, multi-media, and communicative language activities. Online tools required. Both semesters must be completed with passing grades to receive credit. May not be taken on a Satisfactory/Unsatisfactory basis. Tuesday section is a mandatory hour; choose your section based on the MWF time. Conflicts with Tuesday hour can be resolved after start of semester. Language Program Director: Deborah Mifflin
Instructor(s): D. Mifflin; Staff.
AS.210.162. German Elements II. 4 Credits.
Continuation to the introduction to the German language and a development of reading, speaking, writing & listening through the use of basic texts and communicative activities. The content of German-language countries is also incorporated into the curriculum. May not be taken on a Satisfactory/Unsatisfactory basis. Choose your section based on MWF schedule. Tuesday hour is mandatory but flexible and conflicts with Tuesday hour can be resolved after the start of the semester. Prerequisites: AS.210.161 or appropriate score on placement exam.
Instructor(s): D. Mifflin; Staff.

AS.210.163. Elementary Yiddish I. 3 Credits.
Year-long course. Includes the four language skills, reading, writing, listening, and speaking, and introduces students to Yiddish culture through text, song, and film. Emphasis is placed both on the acquisition of Yiddish as a tool for the study of Yiddish literature and Ashkenazic history and culture, and on the active use of the language in oral and written communication. Both semesters must be taken with a passing grade to receive credit. Instructor(s): B. Caplan; E. Niborski; Staff.

AS.210.164. Elementary Yiddish II. 3 Credits.
Year-long course that includes the four language skills—reading, writing, listening, and speaking—and introduces students to Yiddish culture through text, song, and film. Emphasis is placed both on the acquisition of Yiddish as a tool for the study of Yiddish literature and Ashkenazic history and culture, and on the active use of the language in oral and written communication. Both semesters must be taken with a passing grade to receive credit. Recommended Course Background: AS.210.163 or instructor permission.
Area: Humanities.

AS.210.171. Italian Elements I for Advanced Spanish Speakers. 4 Credits.
Course draws on the many similarities between Spanish and Italian to help students develop basic listening, reading, writing, speaking, and interactional skills in Italian in an accelerated fashion. The content of the course is highly communicative, and students are constantly presented with real-life, task-based activities. Course is taught in Spanish and Italian. Students successfully completing both semesters will be able to place into Advanced Italian I (AS210.351)
Instructor(s): A. Zannirato
Area: Humanities.

AS.210.177. Portuguese Elements. 4 Credits.
This one-year course introduces students to the basic skills in reading, writing, and speaking the language. Emphasis is placed on oral communication with extensive training in written and listening skills. Class participation is encouraged from the very beginning. All classes are conducted in Portuguese. Extensive language lab is required. Students must complete both semesters with passing grades to receive credit. May not be taken on a Satisfactory/Unsatisfactory basis. No previous knowledge of Portuguese is required.
Instructor(s): F. Azeredo Cerqueira.

AS.210.178. Portuguese Elements II. 4 Credits.
This course expands students knowledge of the basic language skills: reading, writing, listening, speaking. It uses a multifaceted approach to immerse students in the cultures of Brazil, Portugal, and Portuguese-speaking Africa. The focus of the course is on oral communication with, however, extensive training in grammar. The course is conducted entirely in Portuguese. Lab work required. Students must complete both semesters with passing grades to receive credit. Prerequisites: AS.210.177 or equivalent score on placement test.
Instructor(s): M. Bensabat Ott.

AS.210.201. Intermediate French I. 3 Credits.
A two-semester course conducted entirely in French, this course develops skills in speaking, listening comprehension, reading, and writing. Systematic review of language structures with focus on oral communication and acquisition of vocabulary; extensive practice in writing, readings and films from French-speaking countries. Language Program Director: Kristin Cook-Gailloud
Prerequisites: Students who have taken AS.210.203 [ High Intermediate French ] are ineligible to register for AS.210.201
Instructor(s): S. Roos; Staff
Area: Humanities.

Focus on oral communication; develops skills in oral and written expression, listening comprehension, and reading, with extensive study of films and readings from French-speaking countries. Online component via Blackboard. Continuation of AS.210.201. Recommended course background: AS.210.201 or AS.210.203.
Instructor(s): S. Roos; Staff
Area: Humanities.

AS.210.203. High Intermediate French I. 3 Credits.
A two-semester course offering a systematic review of language structures, conducted exclusively in French. This course is for students who can express themselves more fluently in both their written and oral work and can analyze more difficult texts than in Intermediate French. Students will study authentic texts, including film "text," and focus on their written and oral skills. Extensive reading and writing is required. Credit will not be given if previously enrolled in 210.201-202 or the equivalent. Recommended Course Background: AS.210.102 or appropriate score on Webcape exam.
Prerequisites: Students who have taken AS.210.201 [ Intermediate French I ] are ineligible to take AS.210.203
Instructor(s): A. Wuensch
Area: Humanities.

AS.210.204. High Intermediate French II. 3 Credits.
This course is for students who can express themselves more fluently in both their written and oral work and can analyze more difficult texts than in Intermediate French. Students will study authentic texts, including film "text", and focus on their written and oral skills. Taught exclusively in French. Credit will not be given if previously enrolled in AS.210.201-AS.210.202 or the equivalent. Recommended Course Background: AS.210.201, AS.210.203, or Webcape score between 420 and 480.
Prerequisites: Students who have taken AS.210.202 [ Intermediate French II ] are ineligible to register for AS.210.204
Instructor(s): A. Wuensch
Area: Humanities.
**AS.210.205. French: Introduction To Phonetics. 3 Credits.**
This course is designed for intermediate – advanced students seeking to improve their pronunciation in French. The focus of the course is improvement through awareness of the sounds of standard spoken French, through extensive monitored practice, and through phonetic transcription (the International Phonetic Alphabet). The course will address the particular challenges facing adult speakers of English who are learning French for the first time and assumes no previous instruction in Phonetics. Students will explore the different accents of French through film, audiocassette, CD's and personal recordings. The textbook for the course is Facile à dire: Les Sons du français.

**Recommended Course Background:** AS.210.201 or equivalent.

**Prerequisites:** AS.210.101 OR AS.210.102 (French Elements I - II)

**Area:** Humanities.

**AS.210.207. German Pronunciation & Diction Practice. 1 Credit.**
One-credit course focusing on pronunciation and diction. Students will improve their accent, intonation, sentence melody, and will gain confidence while speaking and reading aloud. Individual feedback and strategies for improvement through regular audio recordings. May be taken Satisfactory/Unsatisfactory. Not for major/minor credit.

**Prerequisites:** AS.210.161 or above

**Instructor(s):** D. Mifflin; Staff

**Area:** Humanities.

**AS.210.208. Intermediate French II Through Acting. 3 Credits.**
This 5-week intensive course will cover the material of Intermediate French II. Through examining excerpts of popular French theater plays (by Camus, Sartre, Feydeau, Ionesco, and others), this class proposes to:

1. improve French speaking and writing skills (pronunciation, intonation, vocabulary, syntax, argumentative reasoning, creative writing)
2. understand the linguistic nuances and socio-cultural practices expressed in the texts
3. learn the basic tools of acting (body language, vocal projection, physical expressivity, emotional expression, stage direction, improvisation, etc.). The course will include watching filmed representations of plays, as well as performance at the end of the term. The daily hour overlapping with the Advanced class will focus on personalized, interactive, and level-based exercises.

**Prerequisites:** AS.210.201 OR AS.210.205 or appropriate placement.

**Instructor(s):** K. Haklin

**Area:** Humanities.

**AS.210.209. The Sounds of French. 3 Credits.**
This course introduces students to the sound system of French: its development over centuries, its standardized Parisian form versus regional and international dialects and accents, and the popularity of “word games” (abbreviations, acronyms, and verlai). The course will include extensive practice in perceiving, articulating, and transcribing sounds, words, and intonation groups through viewing film clips, listening to songs, and completing in-class lab assignments. Recorded speech samples obtained at the beginning, middle, and end of the semester will allow students to track their progress in moving toward more native pronunciation and intonation. May be taken concurrently with AS.210.205 or AS.210.305.

**Instructor(s):** B. Anderson; Staff

**Area:** Humanities.

This 5-week intensive course will cover the material of Intermediate French I with an emphasis on listening comprehension and speaking: an attractive selection of classic and contemporary French movies (Les Intouchables, Manon des Sources, La Vie en rose, Sugar Cane Alley, among others) will enhance students’ acquisition of the language and will deepen their understanding of French and francophone cultures. The daily hour overlapping with the Advanced class will focus on personalized, interactive, and level-based grammar followed by group discussion on the movies. Creative role-play activities will develop students’ fluency.

**Prerequisites:** AS.210.102 or appropriate placement; placement exam link available at grfl.jhu.edu

**Instructor(s):** C. Guillemard

**Area:** Humanities.

**AS.210.211. Intermediate Spanish I. 3 Credits.**
Intermediate Spanish I is a comprehensive study of Spanish designed for students who have attained an advanced elementary level in the language. The course is organized around a thematic approach to topics relevant to contemporary Hispanic culture. Students will practice the four language skills in the classroom through guided grammatical and creative conversational activities and through the completion of three comprehensive exams. Outside of class, students will complete extensive online assignments and write three major compositions (as part of the three exams). In addition, students will broaden their knowledge of Hispanic culture by viewing a Spanish-language film and by reading several literary selections. Successful completion of Intermediate Spanish I will prepare students for the next level of Spanish (Intermediate Spanish II).

**Prerequisites:** AS.210.112 or appropriate placement exam (S-Cape) score

**Instructor(s):** B. Weingarten; Staff

**Area:** Humanities.

**AS.210.212. Intermediate Spanish II. 3 Credits.**
Continues building on the four essential skills for communication presented in Spanish Elements courses and in Intermediate Spanish I. Extensive use of an online component delivered via Blackboard, sustained class participation, and three hourly exams (no midterm and no final). May not be taken Satisfactory/Unsatisfactory. Continues building on the four essential skills for communication presented in Spanish Elements courses and in Intermediate Spanish I. Extensive use of an online component delivered via Blackboard, sustained class participation, and three hourly exams (no midterm and no final). May not be taken Satisfactory/Unsatisfactory. Language Program Director: Loreto Sanchez-Serrano

**Prerequisites:** AS.210.211 or appropriate S-Cape score

**Instructor(s):** B. Weingarten; Staff

**Area:** Humanities.
AS.210.251. Intermediate Italian I. 3 Credits.
Course continues building on the four essential skills for communication presented in Italian Elements courses. Improvement of reading and composition skills through the use of contemporary texts, reinforcement of the student’s knowledge of the language through weekly oral and written presentations on predetermined subjects. Class participation is essential. All classes are conducted in Italian. Course adopts a continuous assessment system (no mid-term and no final). No Satisfactory/Unsatisfactory option. Language Program Director: Alessandro Zannirato
Prerequisites: AS.210.152 or placement exam
Instructor(s): A. Zannirato; Staff
Area: Humanities.

AS.210.252. Intermediate Italian II. 3 Credits.
Taught in Italian. Course provides further development of students’ language skills through intensive listening, speaking, reading, writing and interactional activities on topics of increasing complexity. Course adopts a continuous assessment system (no mid-term and no final). Instructor(s): A. Zannirato
Area: Humanities.

AS.210.261. Intermediate German I. 3 Credits.
Taught in German. This course continues the same four-skills approach (speaking, writing, reading, and listening) from the first-year sequence, introducing and practicing more advanced topics and structures. Expansion and extension through topical readings and discussion and multi-media materials. Online tools required. Language Program Director: Deborah Mifflin
Prerequisites: AS.210.162 or placement by exam.
Instructor(s): H. Wheeler; Staff
Area: Humanities.

AS.210.262. Intermediate German II. 3 Credits.
Taught in German. This course is designed to continue the four skills (reading, writing, speaking and listening) approach to learning German. Readings and discussions are topically based and include fairy tales, poems, art and film, as well as readings on contemporary themes such as Germany’s green movement. Students will also review and deepen their understanding of the grammatical concepts of German.
Prerequisites: AS.210.261 or placement exam.
Instructor(s): H. Wheeler; Staff
Area: Humanities.

AS.210.263. Intermediate Yiddish I. 3 Credits.
This course will focus on understanding the Yiddish language as a key to understanding the culture of Yiddish-speaking Jews. Emphasis will be placed on reading literary texts and historical documents. These primary sources will be used as a springboard for work on the other language skills: writing, listening, and speaking. Recommended Course Background: AS.210.264 or instructor permission.
Instructor(s): B. Caplan
Area: Humanities.

AS.210.264. Intermediate Yiddish II. 3 Credits.
Continuation to Intermediate Yiddish I. This course will focus on understanding the Yiddish language as a key to understanding the culture of Yiddish-speaking Jews. Emphasis will be placed on reading literary texts and historical documents. These primary sources will be used as a springboard for work on the other language skills: writing, listening, and speaking. Recommended Course Background: AS.210.263 or instructor permission.
Instructor(s): B. Caplan
Area: Humanities.

AS.210.265. German Conversation. 1 Credit.
This course is designed for intermediate and above students who wish to improve their conversational and oral presentational language skills. The syllabus aims to provide useful, relevant language and necessary discourse structures to hold conversations and presentations on varied topics of an everyday, as well as academic nature. Students will practice German to build confidence, develop fluency, and improve pronunciation and accuracy. Short texts, audio and films will provide the basis for discussion. Students’ fields of study and interests will be incorporated into the syllabus and tasks will be matched to the ability level of the students enrolled. Recommended Course Background: AS.210.262 or two years of college German or equivalent. May be taken concurrently with other courses in German. May be taken Pass/Fail. Not for major or minor credit.
Instructor(s): D. Mifflin; H. Wheeler.

AS.210.266. German Conversation. 1 Credit.
This course is designed for intermediate and above students who wish to improve their conversational and oral presentational language skills. The syllabus aims to provide useful, relevant language and necessary discourse structures to hold conversations and presentations on varied topics of an everyday, as well as academic nature. Students will practice German to build confidence, develop fluency, and improve pronunciation and accuracy. Short texts, audio and films will provide the basis for discussion. Students’ fields of study and interests will be incorporated into the syllabus and tasks will be matched to the ability level of the students enrolled. Recommended Course Background: AS.210.262 or two years of college German or equivalent. May be taken concurrently with other courses in German. May be taken Pass/Fail. Not for major or minor credit.
Instructor(s): D. Mifflin; H. Wheeler.

AS.210.267. Intermediate/ Advanced Portuguese. 3 Credits.
More advanced training in the skills of the language with emphasis on vocabulary building, ease and fluency in the language through the use of a multifaceted approach. Materials used immerse students in the cultures of Brazil, Portugal, and Portuguese-speaking Africa, and reflect the mix of cultures at work in the contemporary Lusophone world. All classes are conducted in Portuguese. Extensive language lab is required. May not be taken on a Satisfactory/Unsatisfactory basis.
Prerequisites: AS.210.178 or instructor approval.
Instructor(s): F. Azeredo Cerqueira
Area: Humanities.

AS.210.268. Intermediate/ Advanced Portuguese. 3 Credits.
This course is conducted entirely in Portuguese. Emphasis is placed on vocabulary building, ease and fluency in the language through the use of a multifaceted approach. Materials used immerse students in the cultures of Brazil, Portugal, and Portuguese-speaking Africa, and reflect the mix of cultures at work in the contemporary Lusophone world. Lab work required.
Prerequisites: Prerequisite: AS.210.177 AND AS.210.178 or placement test.
Instructor(s): M. Bensabat Ott
Area: Humanities.

AS.210.301. Advanced Writing and Speaking in French. 3 Credits.
This very interactive third-year language course proposes, in the shape of animated class discussions, to 1) read fictional and non fictional texts through the French explication de textes approach 2) review and develop grammar and conjugation skills and 3) learn an array of new vocabulary as well as idiomatic expressions used in everyday speech. Focus will be placed on improving language skills through an individualized review of grammar and vocabulary. Language Program Director: Kristin Cook-Gailloud
Instructor(s): A. Wuensch; B. Anderson; Staff
Area: Humanities
Writing Intensive.
AS.210.302. Advanced Writing and Speaking in French II. 3 Credits.
Taught in French. This is a third-year language course intended to bridge the intermediate level and more advanced levels in French literature and cultural studies. Students will be given the opportunity to continue strengthening their linguistic skills. Individualized review of grammar based on the students’ written work. Students will be presented with a diversity of texts from current newspaper articles covering key national and international issues to a diversity of literary texts. Recommended course background: AS.210.301.
Instructor(s): B. Anderson; R. Powers; Staff
Area: Humanities
Writing Intensive.

AS.210.306. Medical French. 3 Credits.
Medical French is designed to provide students with specific vocabulary and conversational skills used by medical and health administration professions in the French and francophone world. This course is particularly beneficial for students engaged in a health-related major, and prepares (optional) for the University certificate diplôme de français médical (DFM) delivered by the Chambre de Commerce et d’Industrie de Paris. Recommended Course Background: AS.210.301-AS.210.302 or equivalent placement, or permission required (kacg@mac.com).
Instructor(s): C. Guillemand
Area: Humanities.

AS.210.307. Legal French. 3 Credits.
Prerequisites: Prereq: AS.210.302 or supplementary test...

AS.210.308. Advanced French II Through Acting. 3 Credits.
This 5-week intensive course will cover the material of Advanced Writing and Speaking in French II. Through examining excerpts of popular French theater plays (by Camus, Sartre, Feydeau, Ionesco, and others), this class proposes to 1) improve French speaking and writing skills (pronunciation, intonation, vocabulary, syntax, argumentative reasoning, creative writing) 2) understand the linguistic nuances and socio-cultural practices expressed in the texts 3) learn the basic tools of acting (body language, vocal projection, physical expressivity, emotional expression, stage direction, improvisation, etc.). The course will include watching filmed representations of plays, as well as a performance at the end of the term. The daily hour overlapping with the Intermediate class will focus on personalized, interactive, and level-based exercises.
Prerequisites: AS.210.202 OR AS.210.305 or appropriate placement.
Area: Humanities.

AS.210.309. The Sounds of French. 3 Credits.
This course introduces students to the sound system of French: its development over centuries, its standardized Parisian form versus regional and international dialects and accents, and the popularity of “word games” (abbreviations, acronyms, and verlan). The course will include extensive practice in perceiving, articulating, and transcribing sounds, words, and intonation groups through viewing film clips, listening to songs, and completing in-class lab assignments. Recorded speech samples obtained at the beginning, middle, and end of the semester will allow students to track their progress in moving toward more native pronunciation and intonation. Recommended Course Background: AS.340.101-AS.340.102 or equivalent; AS.210.301 (may be taken concurrently).
Instructor(s): B. Anderson; Staff
Area: Humanities.

AS.210.310. Advanced French I Through Cinema. 3 Credits.
This 5-week intensive course will cover the material of Advanced Writing and Speaking in French I. An attractive selection of classic and contemporary French movies (Les Intouchables, Manon des Sources, La Vie en rose, Sugar Cane Alley, among others) will enhance students’ vocabulary, as well as their listening and speaking proficiency. Creative role-playing will develop their fluency. A writing intensive course, it will also emphasize reading (fictional and non-fictional texts) through the French explication de textes approach. The daily hour overlapping with the Intermediate class will focus on personalized, interactive, and level-based grammar followed by group discussion on the movies.
Prerequisites: AS.210.102 or appropriate placement; placement exam link available at grtl.jhu.edu
Area: Humanities.

AS.210.311. Advanced Spanish I. 3 Credits.
A review and expansion of Spanish communicative skills. Students will be able to express opinions, narrate, and describe in a variety of personal and professional contexts. Students will continue to improve linguistic proficiency while increasing cultural awareness. Students will also engage in more formal levels of written communication. This course also focuses on refinement of grammar. Extensive use of an online component delivered via Blackboard, sustained class participation, and three hourly exams (no midterm and no final). May not be taken Satisfactory/Unsatisfactory. Language Program Director: Loreto Sanchez-Serrano
Prerequisites: AS.210.212 OR AS.210.213 or appropriate S-Cape score
Instructor(s): A. Hubbard; Staff
Area: Humanities.

AS.210.312. Advanced Spanish II. 3 Credits.
An in-depth review and expansion of Spanish communicative skills which focuses on the use of standard, spoken Spanish with an emphasis on colloquial and idiomatic expressions. Students will continue to improve linguistic proficiency while increasing cultural awareness, as well as engage in more formal levels of communication by discussing assigned literary and non-literary topics. They will increase their listening skills through movies and other listening comprehension exercises. The course will also focus on vocabulary acquisition. Extensive use of an online component delivered via Blackboard, sustained class participation, and three hourly exams (no midterm and no final). Language Program Director: Loreto Sanchez-Serrano
Prerequisites: AS.210.311 or appropriate S-Cape score
Instructor(s): A. Hubbard; Staff
Area: Humanities.

AS.210.313. Medical Spanish. 3 Credits.
This course also focuses on refinement of grammar. Extensive use of an online component delivered via Blackboard, sustained class participation, and three hourly exams (no midterm and no final). Language Program Director: Loreto Sanchez-Serrano
Prerequisites: AS.210.311 or appropriate S-Cape score
Instructor(s): M. Ramos; Staff
Area: Humanities.
AS.210.314. Spanish for International Commerce. 3 Credits.
Students will increase their vocabulary and practice grammar structures closely related to trade and business practices in the public and private sectors. All language skills are equally emphasized. Highly recommended to students majoring in Business and International Relations. There will be an intensive online component. No Satisfactory/Unsatisfactory option. Students will increase their vocabulary and practice grammar structures closely related to trade and business practices in the public and private sectors. All language skills are equally emphasized. Highly recommended to students majoring in Business and International Relations. There will be an intensive online component. No Satisfactory/Unsatisfactory option. Language Program Director: Loreto Sanchez-Serrano

Prerequisites: AS.210.311 or appropriate S-Cape score
Instructor(s): M. Ramos; Staff
Area: Humanities.

AS.210.315. Spanish for International Relations. 3 Credits.
Spanish for international relations is an advanced examination of grammar and an analysis of international relations’ topics in Spanish. By completion of this course the student will have developed the ability to read, critically discuss and demonstrate mastery of political and socio-economic issues in Spanish-speaking environments. Potential topics include a survey of the professions in international relations, NGOs in Latin America, intellectual property, cultural diplomacy, remesas, regional coalitions and treaties, and the environment. Class presentations and final projects will allow students to apply, synthesize, and reflect on what has been learned in the class by participating in a global simulation that will include a written exercise individualized to their professional interests.

Prerequisites: AS.210.311 or appropriate placement exam score.
Instructor(s): M. Ramos
Area: Humanities.

AS.210.316. Conversational Spanish. 3 Credits.
This course is designed for students who have attained an advanced level of proficiency in Spanish AS.210.312 and wish to improve their oral skills by focusing on the use of standard, spoken Spanish with an emphasis on colloquial and idiomatic expressions. Students are exposed to a deeper understanding of the cultures of the Spanish-speaking world through movies and other listening comprehension exercises. The course will mainly focus on conversation and vocabulary acquisition. This course is highly recommended for students going to JHU study abroad programs. May not be taken Satisfactory/Unsatisfactory. Language Program Director: Loreto Sanchez-Serrano

Prerequisites: AS.210.311 or appropriate Web-Cape score
Instructor(s): M. Ramos; Staff
Area: Humanities.

AS.210.317. Adv Spanish Composition. 3 Credits.
This third-year course is a hands-on and process-oriented introduction to discussion and compositional analysis. On completion of this course, students will have improved their Spanish writing skills in various types of compositions they might be expected to write in academic settings and in real-life formats such as film reviews, letters to the editor, cover letters, etc. The course also focuses on refinement of grammar and vocabulary use.

Prerequisites: AS.210.312 or appropriate placement exam score.
Instructor(s): S. Urruticoechea Romero; Staff
Area: Humanities
Writing Intensive.

AS.210.318. Spanish for the engineering fields. 3 Credits.
Spanish for the engineering fields is a comprehensive examination of vocabulary and grammar for students who either work or intend to work in engineering and its related fields in Spanish-speaking environments. On completion of this course the student will be able to participate in conversations that include the fostering of the engineering mind, gender differences in the field, the lives of famous engineers, engineering ethics, the environment, and labor relations at the construction site. By completing the course’s final project students will apply, synthesize, and reflect on what has been learned in the class by creating a professional dossier individualized to their professional interests.

Prerequisites: AS.210.311, or appropriate placement exam score.
Area: Humanities.

AS.210.319. ¡Salsa! The Afro-Antillean song. 3 Credits.
¡Salsa! The Afro-Antillean song surveys Caribbean music in an international Spanish-speaking context. As a language course, it reviews grammar and instils vocabulary acquisition through the close analysis of the biggest hits of salsa from the past one hundred years. In completing the course’s final project students will apply, synthesize, and reflect on what has been covered in the class by creating a professional dossier individualized to their own personal musical interests. On completion of this course the student will have developed the ability to read and critically discuss music and its history in the Spanish-speaking Caribbean and will have examined cultural roots, market dominance, and media crossovers in the musical universe of the Spanish-speaking archipelago of the Antilles. May not be taken satisfactory/unsatisfactory. Not open to native speakers of Spanish. No new enrollments permitted after the third class session. Co-listed with AS.211.319

Prerequisites: AS.210.311 or appropriate placement exam score.
Instructor(s): M. Ramos
Area: Humanities.

AS.210.327. Mise et remise en scene: Performing in the 18th Century. 3 Credits.
An introduction to texts and performance practices of the eighteenth century French theater, and an exploration of challenges and creative approaches to its restaging today. Course has a performance requirement.

Prerequisites: Advanced French (210.301 and 210.302)
Area: Humanities
Writing Intensive.

AS.210.351. Advanced Italian I. 3 Credits.
Course presents a systematic introduction to a variety of complex cultural and historical topics related to present-day Italy, emphasizing intercultural comparisons and interdisciplinarity, and encouraging a personal exploration of such topics. Course adopts a continuous assessment system (no mid-term and no final), and is conducted entirely in Italian. Parts 1 and 2 - Year course; must complete both semesters for credit. No Satisfactory/Unsatisfactory option. Language Program Director: Alessandro Zannirato

Prerequisites: AS.210.252 or placement exam
Instructor(s): A. Zannirato; Staff
Area: Humanities
Writing Intensive.
AS.210.352. Advanced Italian II. 3 Credits.
Course presents a systematic introduction to a variety of complex cultural and historical topics related to present-day Italy, emphasizing intercultural comparisons, interdisciplinarity, and encouraging a personal exploration of such topics. Course adopts a continuous assessment system (no mid-term and no final).
Prerequisites: AS.210.351 or appropriate placement exam scores (Parts I, II and III).
Instructor(s): A. Zannirato; Staff
Area: Humanities
Writing Intensive.

AS.210.361. Advanced German I: Cultural Topics of the Modern German-speaking World. 3 Credits.
Taught in German. Topically, this course focuses on defining moments in cultural history in German speaking countries in the 2nd half of the 20th century. Films, texts and other media provide a basis for discussing events in post-war Germany from 1945 to 1989. A review and expansion of advanced grammatical concepts and vocabulary underlies the course. Focus on improving expression in writing and speaking. Language Program Director: Deborah Mifflin
Prerequisites: AS.210.262 or placement exam.
Instructor(s): D. Mifflin; Staff
Area: Humanities
Writing Intensive.

AS.210.362. Advanced German II: Contemporary Issues in the German Speaking World. 3 Credits.
Taught in German. Topically, this course focuses on contemporary issues such as national identity, multiculturalism and the lingering social consequences of major 20th century historical events. Readings include literary and journalistic texts, as well as radio broadcasts, internet sites, music and film. Students read a full-length novel. Emphasis is placed on improving mastery of German grammar, development of self-editing skills and practice in spoken German for academic use. Introduction/Review of advanced grammar.
Prerequisites: AS.210.361 or equivalent score on placement test.
Instructor(s): D. Mifflin; Staff
Area: Humanities
Writing Intensive.

AS.210.363. Business German. 3 Credits.
Taught in German. Course is designed to familiarize students with the vocabulary and standards for doing business in Germany. Taking a cultural approach, students read texts and engage in discussion that elucidate the works of business, commerce & industry in Germany, the world’s third largest economy. Emphasis is placed on vocabulary expansion and writing as it relates to business.
Prerequisites: AS.210.262
Instructor(s): H. Wheeler
Area: Humanities.

AS.210.365. German for Science and Engineering. 3 Credits.
This course is designed to provide language training in German tailored to students of science & engineering. Germany has long been a world leader in engineering, most notably in chemical and mechanical engineering. Over the past decades, Germany has also taken a lead in environmental sciences and information technology. In addition, Germany is now becoming an increasingly attractive place to pursue degrees in the technical fields. This course will provide practice and expansion in all language skill areas: analysis of texts, hands-on-activities, preparation of presentations, and discussion of topics. Specific areas of interest to the course members will be taken into consideration for the selection of materials. Recommended Course Background: AS.210.261-AS.210.262 or equivalent or placement exam.
Instructor(s): D. Mifflin; Staff
Area: Humanities.

AS.210.367. Advanced Yiddish. 3 Credits.
This course will provide students who have completed at least two years of Yiddish with the opportunity to hone their skills in all four language areas: reading, writing, listening, and speaking. In addition to advanced grammar study and readings in Yiddish literature, the course will take into account the interests of each individual student, allowing time for students to read Yiddish texts pertinent to their own research and writing.
Instructor(s): B. Caplan
Area: Humanities.

AS.210.368. Advanced Yiddish II. 3 Credits.
Continuation of Advanced Yiddish I (AS.210.367). Students will continue to hone their skills in all four language areas: reading, writing, listening, and speaking. In addition to advanced grammar study and readings in Yiddish literature, the course will take into account the interests of each individual student, allowing time for students to read Yiddish texts pertinent to their own research and writing.
Prerequisites: AS.210.367
Instructor(s): B. Caplan
Area: Humanities.

AS.210.369. Advanced Yiddish Texts. 3 Credits.
This course will give students who have completed Advanced Yiddish the chance to improve their proficiency. The curriculum will be determined according to the research interests of the students with an emphasis placed on reading primary texts fluently. Since the course is taught in Yiddish, students will also have ample opportunity to practice the other language skills (listening, speaking, writing).
Prerequisites: AS.210.368 or permission of instructor.
Instructor(s): B. Caplan
Area: Humanities.

AS.210.391. Advanced Portuguese Language & Literature I. 3 Credits.
This third-year course focuses on reading, writing, and oral expression. Under the supervision of the instructor, students will read one or two complete works by major Brazilian, Portuguese, and/or Afro-Portuguese writers each semester, followed by intense writing and oral discussion on the topics covered. Grammar will be reviewed as necessary. Lab work is required. All classes are conducted in Portuguese.
Prerequisites: AS.210.278 or instructor approval.
Instructor(s): F. Azeredo Cerqueira
Area: Humanities
Writing Intensive.
AS.210.392. Advanced Portuguese: Language and Literature II. 3 Credits.
This course focuses on reading, writing, and oral expression. Under the supervision of the instructor, students will read several works by major Brazilian, Portuguese, and/or Afro-Portuguese writers, followed by intensive writing and oral discussion on the topics covered. Grammar will be reviewed as necessary. Lab work required. The course is conducted entirely in Portuguese.
Prerequisites: AS.210.391 or equivalent score on placement test.
Instructor(s): M. Bensabat Ott
Area: Humanities
Writing Intensive.

AS.210.401. French Translation. 3 Credits.
Did you know that "collège" refers to a "middle school" in French culture? And that a "préservatif" is not a food preservative but $ a condom? This course aims to help students acquire skills in the area of translation from English to French and, to a lesser extent, French to English. A great variety of texts - newspaper articles, literary excerpts, films, comic strips, song lyrics and more - will provide the basis for perfecting writing and grammar skills, as well as the understanding of linguistic and cultural nuances.
Area: Humanities.

AS.210.405. Community Based Learning - Teaching French in Public School. 3 Credits.
A Community-Based Learning (CBL) language course for upperclass students that: 1) establishes a mutually beneficial relationship between JHU students, a neighboring Elementary School, and their common community; 2) combines academic components (linguistic, pedagogical and social) with the experiential work with the community partner as a way to reinforce learning. Students participate in weekly meetings in French on campus to prepare for their classes and teach twice a week to 2nd, 3rd, or 4th graders at the Elementary school. Recommended course background: AS.210.301 or AS.210.302.
Prerequisites: AS.211.401 or AS.211.402 or AS.212.201 or AS.212.202 or appropriate Webcape Score
Area: Humanities.

AS.210.411. Translation for the Professions. 3 Credits.
Spanish Translation for the Professions surveys the field of contemporary translation theory and provides practice of translation from English to Spanish. Translation exercises may include comparing and contrasting texts of literature, medicine, health, law, technology, politics, and journalism. Students will identify and differentiate terminology specific to these various fields and will focus on practicing correct uses of the grammatical structures relevant to the translation of both English and Spanish. In the course's final projects students will apply, synthesize, and reflect on what has been learned in the class by completing a translation exercise individualized to their professional interests. Strategies of communication mastered in this course will help students of Spanish throughout their careers, in that achievement of the course objectives will help students discern, translate, and evaluate the usefulness of translations in different professional settings.
Prerequisites: AS.210.313 or AS.210.314 or AS.210.315
Instructor(s): M. Ramos
Area: Humanities.

AS.210.412. Community Based Learning - Spanish Language Practicum. 3 Credits.
This fourth-year course involves a specially designed project related to the student's minor concentration. On completion of this course, the student will be able to use the Spanish language in real-world contexts. The student-designed project may be related to each student's current employment context or developed in agencies or organizations that complement student's research and experimental background while contributing to the improvement of his/her language proficiency.
Prerequisites: AS.210.411
Instructor(s): L. Sanchez
Area: Humanities
Writing Intensive.

AS.210.413. Curso de Perfeccionamiento. 3 Credits.
This fourth-year course is an in-depth examination of the Spanish grammar, including a wider range of idiomatic expressions and usages than students might have previously encountered. On completion of this course, students will be able to achieve the ACTFL Advanced-Mid to high level in oral and written expression as well as in reading and listening skills. The course will also help to prepare students for the DELE Intermediate or Superior levels, offered by the Instituto Cervantes.
Instructor(s): L. Sanchez
Area: Humanities
Writing Intensive.

AS.210.417. Eloquent French. 3 Credits.
This interactive, writing intensive course places emphasis on: 1. Building linguistic tools that will help students reach the highest level of proficiency (advanced lexical, stylistic and idiomatic expressions, linking expressions used in complex sentences, stylistic and grammatical differences between French and English) 2. Enhancing analytical skills through French “Explication de textes” (close reading method) 3. Developing individual style through creative writing.
Prerequisites: AS.210.301 and AS.210.302 or supplementary test or permission of instructor
Instructor(s): K. Cook-Gailloud
Area: Humanities
Writing Intensive.

AS.210.451. Corso di Perfezionamento. 0 - 3 Credit.
This task-based course is designed to prepare students to acquire Effective Operational Proficiency in Italian (C1 level of the Common European Framework). By the end of the course, successful students will be able to 1) understand a wide range of demanding, longer texts, and recognize implicit meaning, 2) produce clear, well-constructed, detailed texts on complex subjects 3) express themselves fluently and spontaneously without much obvious searching for expressions, and 4) use language flexibly and effectively for social, academic, and professional purposes. Extensive independent work required. Course adopts a continuous assessment system (no mid-term and no final), and is conducted entirely in Italian. No Satisfactory/Unsatisfactory option. Recommended Course Background: AS.210.352 with a grade of B+ or higher, or appropriate placement exam score and interview with Language Program Director.
Instructor(s): A. Zannirato
Writing Intensive.
AS.210.461. Introduction to Literary Genres & Movements: 1650-1890. 3 Credits.
Readings, discussion and written assignments in German. Students will read and discuss texts of various genres from 17th-19th century German literature (Gryphius, Claudius, Goethe, Lessing, Meyer, Storm, Hoffmann, Keller). Students will develop critical, interpretive reading skills through the analysis of genre-specific language and form, as well as improve written and spoken German.
Area: Humanities.

AS.210.462. Introduction to German Literature & Culture, 1900 - 1945. 3 Credits.
This course is designed to introduce students to the analysis literary and cultural topics. A variety of 20th century texts and visual media will form the basis for discussion of literature and cultural phenomena specific to the time period. This semester will focus on the European capitals of Zurich, Vienna, and Berlin, thereby offering a “European” perspective on literary, cultural, and political events after 1900. Continuities between and differences amongst the three German speaking countries will be investigated. Attention is given to improving student writing. Readings, discussion, and written assignments in German. Recommended Course Background: AS.210.361-AS.210.362 Area: Humanities.

AS.210.463. Reading and Translating German for Academic Purposes. 3 Credits.
Seniors & Graduate students only. This is the first semester of a year-long course designed for graduate students in other fields who wish to gain a reading knowledge of the German language. Seniors who intend to do graduate study in other disciplines are also welcome. Instruction includes an introduction to German vocabulary and grammatical structures as well as discussion of relevant translation practices. The goal of the course is for students to gain confidence in reading a variety of texts, including those in their own fields of study. No knowledge of German is assumed.
Instructor(s): V. Jincinska
Area: Humanities.

AS.210.501. French Independent Study/Language. 3 Credits.
Instructor(s): K. Cook-Gailloud; Staff.

Instructor(s): K. Cook-Gailloud; S. Roos; Staff
Area: Humanities.

AS.210.531. Independent study of Spanish. 3 - 4 Credit.
This course is geared towards the student's independent completion of requirements for courses in Spanish. You may complete 210.111-112 Spanish Elements, 210.211-212 Intermediate Spanish or 210.311 Advanced Spanish through this independent study. Students are responsible for completing all work assigned for his/her individual level. Please see individual course description for more information. Independent study of Spanish is taught online.
Writing Intensive.

AS.210.541. Italian Independent Study-Language. 0 - 3 Credit.
Prerequisites: AS.210.252 or higher or placement exam score Parts 1 and II.
Instructor(s): A. Zannirato
Area: Humanities.

AS.210.551. Portuguese Independent Study. 3 Credits.
Area: Humanities.

AS.210.561. German Independent Study - Language. 0 - 3 Credit.
Instructor(s): D. Mifflin
Area: Humanities.

AS.210.601. French Reading &Translation.
Intensive study of French grammar structure plus experience in reading and translating expository prose. Students do independent work (vocabulary acquisition and translation) in their particular field of study. Designed for graduate students in other departments who need to complete a language requirement in French. Open to undergraduates only with the permission of the language coordinator.

AS.210.603. Cours de Perfectionnement.

Required for all in-coming teaching assistants in the Department of German and Romance Languages, this course involves a series of workshops which will focus on an overview of the tenets of second language acquisition (SLA) and the research which informs current teaching practice. Students will both study the current state of the L2L profession and look at different methods and techniques for effective second language teaching and learning. The focus of the course will be on the practical applications of the theoretical foundation. This is a full year course meeting 6 times per semester.
Instructor(s): A. Zannirato; D. Mifflin; L. Sanchez
Area: Humanities.

AS.210.611. Methodology and Instructional Practices in Foreign Language Teaching II.
Second half of year-long course required for all in-coming teaching assistants in the Department of German and Romance Languages, this course involves a series of workshops which will focus on an overview of the tenets of second language acquisition (SLA) and the research which informs current teaching practice. Students will both study the current state of the second language acquisition profession and look at different methods and techniques for effective second language teaching and learning. The focus of the course will be on the practical applications of the theoretical foundations of SLA. The course will encourage the students to become critical observers of their own language teaching.
Grading: course is pass/fail
Instructor(s): A. Zannirato; D. Mifflin; L. Sanchez.

The goal of this course is 1) to familiarize students with different theoretical and practical approaches of language teaching and learning and 2) to understand how these approaches can be used to create a rich learning environment. Participants are expected to engage actively in classroom discussions based on assigned readings, as well as observe classes taught by other instructors in their department. Required for all in-coming teaching assistants in the French section.
Instructor(s): K. Cook-Gailloud
Area: Humanities.

AS.210.614. Curso de Perfeccionamiento II.
Grad students only. This course is designed for students who, having attained an advanced high level of proficiency, wish to master Spanish grammar in addition to oral and written expression. The course seeks both to acquaint the students with a wider range of idiomatic expressions and usages than they might have previously encountered and to help them achieve the ACTFL Superior level. The course also will help to prepare students for the DELE Advanced level, offered by the Instituto Cervantes.
Instructor(s): L. Sanchez.
AS.210.615. Adquisición del español como segunda lengua.
This course will aim to clarify for future teachers the important aspect of the Spanish language syntax, related to cultural aspects, second language acquisition, issues of technology and assessment to prepare them for the task they will face in their own language classes. The course will include a review of several topics of Spanish grammar, concepts of second language acquisition and applied linguistics. The course also will help to prepare students for the DELE Superior level offered by the Instituto Cervantes if they opt to take it.
Instructor(s): L. Sanchez
Area: Humanities.

This task-based course is designed to prepare students to acquire Effective Operational Proficiency in Italian (C1 level of the Common European Framework). By the end of the course, successful students will be able to 1) understand a wide range of demanding, longer texts and recognize implicit meaning, 2) produce clear, well-constructed, detailed texts on complex subjects, 3) express themselves fluently and spontaneously without much obvious searching for expressions, and 4) use language flexibly and effectively for social, academic, and professional purposes. Extensive independent work required. Course adopts a continuous assessment system (no mid-term and no final), and is conducted entirely in Italian. No Satisfactory/Unsatisfactory option. Students should have a satisfactory GTA language diagnostic exam score
Instructor(s): A. Zannirato
Writing Intensive.

AS.210.661. Reading and Translating German for Academic Purposes.
Taught in English. This is the first semester of a year-long course designed for graduate students in other fields who wish to gain a reading knowledge of the German language. Seniors who intend to do graduate study in other disciplines are also welcome. Instruction includes an introduction to German vocabulary and grammatical structures as well as discussion of relevant translation practices. The goal of the course is for students to gain confidence in reading a variety of texts, including those in their own fields of study. No knowledge of German is assumed. Seniors & Graduate students only.
Instructor(s): H. Wheeler; Staff
Area: Humanities.

AS.210.662. Reading & Translating German for Academic Purposes II.
Taught in English. Seniors & Graduate students only. This course is designed for graduate students in other departments who wish to gain reading knowledge of the German language and translation practice from German to English. This course is a continuation of the Fall semester. Focus on advanced grammatical structures and vocabulary. For certification or credit.
Prerequisites: AS.210.661 or permission of instructor.
Instructor(s): H. Wheeler
Area: Humanities.

AS.210.700. German Language Teaching Practicum I.
Provides methodological and practical support and oversight for graduate student instructors teaching Deutsch als Fremdsprache in the American university context. Two-semester sequence, includes orientation during the week before semester begins. Required for German Graduate Teaching Assistants in the first year of their teaching in the program.
Instructor(s): D. Mifflin.

AS.210.701. German Language Teaching Practicum II.
Required for German Graduate Teaching Assistants in the first year of their teaching in the program. Two-semester sequence, with AS.210.700 includes orientation during the week before semester begins. Regular meeting time will be arranged at start of semester.
Instructor(s): D. Mifflin.

AS.211.104. Freshman Seminar: Weimar on the Pacific: German Exile Culture in the United States. 3 Credits.
Freshmen seminar. After Hitler’s seizure of power in 1933, the number of artists and intellectuals who fled the Nazi regime soon rose into the thousands. Many of these German expatriates ultimately settled in the United States (e.g. Los Angeles, New York), where, simultaneously attracted and alienated by their new surroundings, they made a significant impact on American culture. The seminar will explore German Exile Culture in the U.S. in its broad variety spanning a spectrum from film to architecture, literature, and philosophy. Based on the aesthetic and conceptual specificities of the artifacts, class discussions will focus on the relations between art and politics, modernist and mass culture, art and capitalism, culture and democracy. The seminar will close with a look at postwar America and the McCarthy era, when European emigrants became the target of suspicion as left-wing intellectuals.
Instructor(s): A. Krauss
Area: Humanities.

AS.211.174. Media of Propaganda. 3 Credits.
Today, promoting a particular political or personal point of view is not viewed as “propaganda,” but rather as building a community of equally minded people. But where do we draw the line, and when does the use of a medium in service of a certain message become intrusive and misleading? What role do democracy and cultural values play in this use or abuse of media? In this class the term “propaganda” will be evaluated carefully and applied to such historical media case studies as the informational use of the radio in World War One, Leni Riefenstahl’s Nazi propaganda films, the legendary success of advertisement campaigns in the 1950s and 1960s, the AIDS movement and other mobilization strategies from the 1980s to the 1990s, and the new values of friendship and propaganda in our current facebook nation.
Instructor(s): B. Wegenstein
Area: Humanities.

AS.211.201. Case Studies: Law in Literature. 3 Credits.
In law and literature, words and stories play a crucial role. Indeed, the courtroom is often inherently theatrical. What happens when legal trials and questions of law and justice are transformed into literature? What are the possibilities—and risks—of following the long tradition that combines the fields of law and literature as social and cultural forces? Why has this dynamic connection intrigued many writers of modern literature and how do they represent legal issues? This course explores the representation of law and trials in 19th and 20th century German-language literature as well as larger ethical concerns around justice and revenge. Following a theoretical overview, we will discuss drama and prose by, among others, Heinrich von Kleist, Franz Kafka, Bertolt Brecht and Peter Weiss—as well as selected stage and filmic adaptations of their works—as “case studies.” (Taught in English)
Area: Humanities.
AS.211.202. Freshman Seminar: A Thousand Years of Jewish Culture. 3 Credits.
This course will introduce students to the history and culture of Ashkenazi Jews through their vernacular, Yiddish, from the settlement of Jews in German-speaking lands in medieval times to the present day. Particular emphasis will be placed on the responses of Yiddish-speaking Jews to the challenges posed by modernity to a traditional society. In addition to studying a wide range of texts—including fiction, poetry, memoir, song, and film—students will learn how to read the Yiddish alphabet, and will prepare a meal of traditional Ashkenazi dishes. No prior knowledge of Yiddish is necessary for this course.
Instructor(s): B. Wegenstein
Area: Humanities.

AS.211.205. Cosmic Imagination from Dante to Borges. 3 Credits.
Since time immemorial humankind has looked to the skies for clues as to our origins, our destiny, and the nature of existence itself. In some ways, one of the hallmarks of western science has been a story of viewing the cosmos in ever greater clarity and detail. Yet the very nature of the universe—its massive size, the distance and obscurity of its farthest reaches—requires the active intervention of our imaginations to picture it, no matter how powerful the technologies we use. In this course we will look at how western cultures from the middle ages to the present have deployed the imaginative tool of literature to try to grasp the ungraspable, and how those attempts in some cases helped prepare intellectuals and scientists to make very real advances in understanding the universe.
Instructor(s): W. Egginton
Area: Humanities.

AS.211.212. Holocaust and Film. 3 Credits.
Taught in English. This class will examine the history of Holocaust films in regard to the possibilities of genre (documentary versus feature), the use of historical and archival materials, as well as general questions of representation and trauma. I CINEMA OF THE VICTIMS II CINEMA OF THE PERPETRATORS III CINEMA OF THE SECOND AND THIRD GENERATIONS WITNESSES Students will be writing weekly response papers to all screenings, and will choose to work with films in the original languages German, English, Italian, and French. This class will be writing-intensive. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies.
Area: Humanities
Writing Intensive.

AS.211.213. Breast Cancer: A Cultural-Theoretical Approach to an Illness and its Meaning. 3 Credits.
Among the organs of the human body the breast has a special place. A marker of sex, of eroticism, of life, motherhood, even the distinction of the mammalian class of vertebrates, the breast carries as much meaning for humanity as it does vital function. The breast, in other words, is a sign and site where Western culture believes life as such to be situated. Sadly, it is also vulnerable to its virulent and deadly form of what has been recently termed “the emperor of all maladies”: cancer. The loss of the breast can provoke a form of “castration anxiety.” This course will explore the history of the breast as symbol of sex and life, along with the cancer that affects it not merely as a medical condition, but as a powerful symbol in culture, art, and literature.
Instructor(s): B. Wegenstein
Area: Humanities.

AS.211.221. Italian Matters Italian Manners. 3 Credits.
This is an introductory course to Italian culture relying on a tradition of books of conduct including the Middle Ages, the Renaissance, and today.
Instructor(s): P. Forni
Area: Humanities.

AS.211.223. Freshman Seminar - A History of Reading: from Gutenberg to Kindle. 3 Credits.
Freshmen only. This course investigates the 18th-century revolution in reading—the pedagogical and aesthetic debates about the virtues and dangers of reading, idealizations and critiques of print culture, books as material objects, and the shifting concepts of both author and reader, and to what extent this historical period anticipates our own present day revolution in reading technologies.
Area: Humanities.

AS.211.235. Panorama of German Thought I. 3 Credits.
Taught in English. German thought is a broad intellectual tradition that encompasses works in an astonishing number of fields including philosophy, aesthetics, sociology, epistemology, psychology, anthropology, history, religious studies, and cultural analysis. The most prominent representatives of this tradition are Luther, Kant, Humboldt, Hegel, Nietzsche, Marx, Warburg, Freud, Benjamin, Kracauer, Weber, Simmel, Cassirer, Auerbach, Adorno, Arendt, Heidegger, and Luhmann. Indeed the study of cultural, historical, and social phenomena as well as of literary and artistic forms would not have been possible without the German intellectual tradition which, beginning with the Enlightenment, emphasized the role of the subject in constituting objects of knowledge and experience. This two-semester survey course will highlight important topics of German Thought, e.g., the subject, consciousness and unconsciousness, Bildung and the idea of the university, the sublime and the uncanny, irony, hermeneutics and translation, the desire for knowledge, tragedy and repetition, civilization, symbolic forms and medial reproduction, memory, and authority in a historical scope. While the first semester (Fall) covers until 1850 (from Luther to Hegel/Kierkegaard), the second (Spring) focuses on Modern German Thought after 1850 (from Marx to Luhmann). Meets with AS.213.235
Instructor(s): E. Strowick
Area: Humanities.

AS.211.236. Panorama of German Thought II. 3 Credits.
Panorama of German Thought from Nietzsche to Habermas. Course will examine major thinkers in nineteenth and twentieth-century German thought with emphasis on the response to Enlightenment philosophy, the critique of reason, the questions about the autonomy of the subject and the search for new individual and collective identities. Reading will include traditional philosophical texts (Nietzsche, Cassirer, Heidegger, Adorno, Habermas) as well as works in anthropology (Gehlen, Scheler), sociology (Simmel, Weber), psychology (Mach, Freud), political theory (Marx, Schmitt) and aesthetics (Benjamin, Warburg, Panofsky). This course is a continuation of Panorama of German Thought I, though the first semester is not a prerequisite for the second. Taught in English.
Instructor(s): R. Tobias
Area: Humanities.
AS.211.237. Literature and Medicine. 3 Credits.
Taught in English. The course will analyze literary representations of illness as well as explore interfaces between literary and medical knowledge in more general ways. Both literature and medicine can be considered semiotics as they deal with the study of signs; further, both are invested in interpretation. We will analyze the relation between literature and madness, explore “illness as metaphor” (Susan Sontag) and discuss case studies in relation to literary genres (for example, Freud is surprised to notice that his studies on hysteria read like novellas). As prominently depicted in Thomas Bernhard’s “In the Cold” and theoretically analyzed by Michel Foucault, the course will further address the nexus between medical institutions and power. Readings will include: Antonin Artaud, Thomas Bernhard, Georg Büchner, Michel Foucault, Sigmund Freud, Henry James, Franz Kafka, Thomas Mann, Daniel Paul Schreber, Susan Sontag, etc. Films: “Philadelphia” (Jonathan Demme, 1993), “Melancholia” (Lars von Trier, 2011).
Instructor(s): E. Strowick
Area: Humanities.

AS.211.253. Freshman Seminar: Why is the Fiddler on the Roof?: The Shtetl in Modern Jewish Culture. 3 Credits.
The most familiar portrayal of the shtetl for an American audience is the setting of the Broadway musical Fiddler on the Roof, where the shtetl, or market town, is a bastion of traditional Jewish life. But what exactly was a shtetl? How did traditional Jews live there, and how were their lives affected by the sweep of modernity? How was the Yiddish language, spoken by all shtetl Jews, both a repository of tradition and an agent of change? How do representations of the shtetl—from corrupt backwater to pious haven—reflect the concerns of Jews from the nineteenth century up to our own day? Through memoir, literature, film and painting, this course will examine actual lives lived in the shtetl, as well as a selection of the many artistic representations of it. All readings will be in English.
Instructor(s): B. Caplan
Area: Humanities.

AS.211.265. Panorama of German Thought. 3 Credits.
German thought is a broad intellectual tradition that encompasses works in an astonishing number of fields including philosophy, aesthetics, sociology, epistemology, psychology, anthropology, history, religious studies, and cultural analysis. The most prominent representatives of this tradition include Luther, Leibniz, Kant, Humboldt, Hegel, Nietzsche, Marx, Warburg, Freud, Benjamin, Kraus, Weber, Simmel, Cassirer, Auerbach, Adorno, Arendt, Heidegger, and Luhmann. Indeed, current approaches to understanding cultural, historical, and social phenomena as well as literary and artistic forms would not have been possible without the German intellectual tradition which, beginning with the Enlightenment, emphasized the role of the subject in constituting objects of knowledge and experience. This survey course will highlight important topics in German thought, which may include the subject, consciousness and unconsciousness, Bildung and the idea of the university, the sublime and the uncanny, irony, hermeneutics and translation, the desire for knowledge, tragedy and repetition, civilization, symbolic forms and medial reproduction, memory, and authority in a historical scope. Taught in English.
Instructor(s): R. Tobias; Staff
Area: Humanities.

AS.211.280. Modern Latin American Culture. 3 Credits.
Taught in Spanish. This course will explore the fundamental aspects of Latin-American culture from the formation of independent states through the present—in light of the social, political, and economic histories of the region. The course will offer a general survey of history of Latin-America, and will discuss texts, movies, songs, pictures, and paintings, in relation to their social, political, and cultural contexts. May not be taken satisfactory/unsatisfactory.
Prerequisites: AS.210.311 or appropriate S-Cape score
Area: Humanities.

AS.211.290. Modern Spanish Culture. 3 Credits.
This course will explore the fundamental aspects of Spanish culture from the nineteenth to the twenty-first centuries. The course will offer a general survey of the history of Spain, and will discuss texts, movies, songs, pictures, and paintings, in relation to their social, political, and cultural contexts. This course will be of particular interest for students planning in spending a semester abroad in Spain—specially for those students going to the JHU Fall Semester in Madrid, at Carlos III University. Taught in Spanish. May not be taken Satisfactory/Unsatisfactory.
Prerequisites: AS.210.311 or appropriate S-Cape score.
Instructor(s): L. Sanchez
Area: Humanities.

AS.211.291. Introduction to Literature in Spain. 3 Credits.
This course will explore the fundamental aspects of Spanish Peninsular literature in reverse chronological order from the twentieth to the tenth centuries. The course will offer a general survey of the literature of Spain. Students will be asked to read, analyze and comment on representative texts from the Spanish canon.
Area: Humanities.

AS.211.301. French in the Scientific World. 3 Credits.
This course offers students the opportunity to consider science from an alternative perspective while developing written and oral language skills used in major French scientific fields (engineering, medicine, mathematics, environmental studies, psychology). By analyzing seminal works by French scientists such as Pascal, Bernard, Pasteur, Lévi-Strauss, Foucault, Canguilhem, and Poincaré, as well as films based on scientific topics and themes (Mon oncle d’Amérique, The Diving Bell and the Butterfly), we will learn to assess the relevance and validity of data, to question hidden assumptions, and to recognize an author’s ethical stance. In an interactive setting, students will learn to share their field knowledge in accessible terms and to approach it more creatively. Recommended course background: AS.210.301 or AS.210.302
Area: Humanities.

AS.211.304. Paris Souterrain: Paris Underground. 3 Credits.
This course will track uses of “the underground” in major canonical and peripheral literary works in the nineteenth century. Readings will include works by Balzac, Baudelaire, Hugo, and Zola.
Prerequisites: AS.211.402 OR HA.211.402
Instructor(s): R. Powers
Area: Humanities.
AS.211.312. Acting French: learning about French language and culture through theater. 3 Credits.
Performing a play in a foreign language not only improves language skills, but develops the ability to express oneself through the body and to communicate both efficiently and elegantly. Using excerpts from popular French stage plays by Camus, Sartre, Feydeau, Ionesco, Pagnol and Rostand among others, this course aims to help students to 1) improve French pronunciation, intonation, syntax, and vocabulary; 2) appreciate and understand linguistic nuance and socio-cultural practices; 3) learn fundamentals of acting that carry over into everyday communication, from body language and vocal projection to the expression of emotion and improvisation. Students will view filmed representations of select plays as well as present an end-of-semester staging. Recommended course background: AS.210.301.
Instructor(s): K. Cook-Gailloud
Area: Humanities

AS.211.318. Women in Pre-Modern French Literature. 3 Credits.
This course will examine the changes in the relationship of women to literature in France up to the French Revolution from several points of view: (1) What were the social and intellectual contexts of gender distinctions? (2) How did men writing about women differ from women writing about women? (3) How were these questions affected by the changing norms of literary production? Texts by Marguerite de Valois, Mme. de Sévigné, Molière, Mme. de Lafayette, Prévost, Diderot, Rousseau, Mme d’Epinay and Revolutionary memorialists
Instructor(s): W. Anderson
Area: Humanities
Writing Intensive.

AS.211.319. ¡Salsa! The Afro-Antillean song. 3 Credits.
¡Salsa! The Afro-Antillean song surveys Caribbean music in an international Spanish-speaking context. As a language course, it reviews grammar and instills vocabulary acquisition through the close analysis of the biggest hits of salsa from the past one hundred years. In completing the course’s final project students will apply, synthesize, and reflect on what has been covered in the class by creating a professional dossier individualized to their own personal musical interests. On completion of this course the student will have developed the ability to read and critically discuss music and its history in the Spanish-speaking Caribbean and will have examined cultural roots, market dominance, and media crossovers in the musical universe of the Spanish-speaking archipelago of the Antilles. May not be taken satisfactory/unsatisfactory. Not open to native speakers of Spanish. No new enrollments permitted after the third class session. Co-listed with AS.210.319
Prerequisites: AS.210.311 or appropriate placement exam score.
Instructor(s): M. Ramos
Area: Humanities

AS.211.329. Contemporary Society on Stage: Koltès, Lagarce, Mouawad. 3 Credits.
This course proposes to examine six plays by three leading figures in contemporary French theater to see how the social changes that occurred in the last three decades are viewed and expressed in the French-speaking world. We will closely read two plays by each author as well as excerpts by these and other major playwrights. Works by Jean-Luc Lagarce (Derniers remords avant l’oubli ) and Bernard-Marie Koltès (Combat de nègre et de chiens) will enable us to see how issues such as homosexuality, new family relationships and urban violence deeply transformed French society in the 80s and 90s, while Incendies and Forêts by Wajdi Mouawad will allow us to ask how these issues, along with immigration, decisively shape today’s global society. Using literary analysis to reflect upon the contemporary moment and its institutions, the course will incorporate to the extent possible performance recordings and films based on the plays. Course taught in French. Scenes from the plays can be performed at the end of the term.
Prerequisites: AS.210.302
Instructor(s): F. Champy
Area: Humanities
Writing Intensive.

AS.211.330. Curating Media Artists in Residence at JHU. 3 Credits.
Curating Media Artists in Residence at JHU: students will be closely involved with JHU’s Program in Museum & Society, JHU’s Center for Advanced Media Studies (CAMS), and the Baltimore Museum of Art (curator KristenHileman) in efforts to research and propose new media artists in residence as well as prepare the residency for 2015. This process will include examining cutting-edge media artists whose work will be discussed both in the classroom as well as on sponsored class trips to media art exhibits in DC and NYC. Students will also assist with the CAMS media art residency of acclaimed French artist Camille Henrot in March 2014.
Instructor(s): B. Wegenstein
Area: Humanities

AS.211.340. Topics in French Cinema: “Immigration, identité, différence culturelle”. 3 Credits.
Through the study of selected movies, this series emphasizes discussion and oral presentations. This semester the course will focus on the ever changing adaptations to the screen of the fascinating figure of Joan of Arc. Since the dawn of cinema (40-second documentary by the Lumière brothers, 10-minute color representation by Melies) to the most recent full-length features in 2012 (year of the 600th anniversary of her birth), the movie interpretations of Joan of Arc have always reflected the issues and crises of their own times. We will explore both the historical background of her life and the contemporary meanings of her representations on the big screen. Movies may give us a key to understanding why Joan of Arc is still as relevant today in French society, historically and symbolically, as she was six centuries ago.
Prerequisites: AS.210.301 AND AS.210.302 or equivalent score on the Webcape placement test
Instructor(s): S. Roos
Area: Humanities.
AS.211.344. Holocaust and Film. 3 Credits.
Taufed in English. This class will examine the history of Holocaust films in regard to the possibilities of genre (documentary versus feature), the use of historical and archival materials, as well as general questions of representation and trauma. I CINEMA OF THE VICTIMS II CINEMA OF THE PERPETRATORS III CINEMA OF THE SECOND AND THIRD GENERATIONS WITNESSES Students will be writing weekly response papers to all screenings, and will choose to work with films in the original languages German, English, Italian, and French. This class will be writing-intensive. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies.
Instructor(s): B. Wegenstein
Area: Humanities
Writing Intensive.

AS.211.345. The Representation of the French Countryside in Contemporary Arts and Literature. 3 Credits.
Through the analysis of literary texts (Pierre Bergounioux, Pierre Michon, graphic novels (Manu Larcenet), as well as articles and sociological essays (Jeanne Favret-Saada), through movies (Bruno Dumont) and documentaries (Raymond Depardon) and the analysis of contemporary works of art (Didier Marcel, Tixador et Poincheval), we will study how current French artists view the French countryside. We will focus on two generations. The first one, born in the 1940s, witnessed the rural exodus and attempts to retain traces of a lost world. The second one, whose members were born twenty years later, presents rurality as a field of exploration. As such, rurality is depicted either as an utopian, or a disenchanted universe. Both approaches will enable us to consider central issues in contemporary France, such as the notion of terroir and Political Ecology.
Prerequisites: AS.210.301 AND AS.210.302
Area: Humanities
Writing Intensive.

AS.211.346. 20th Century French Theater and Performance. 3 Credits.
Taught in English. In this course, we will survey the themes and techniques that marked the theory and practice of theater in France in the 20th century. As we make our way from the early century avant-garde movements such as Futurism and Surrealism to Antonin Artaud’s Theater of Cruelty, from the Theater of the Absurd and mid-century existentialists to the post-1968 turn to collective authorship, our goal will be twofold: First, we will examine the prominent plays of the era as literary products, generated from within specific socio-political contexts. Second, we will attempt to re-construct their three-dimensional lives in performance, how they looked, sounded and felt to those watching.
In addition, we will examine how French theater went from being a playwright-centered institution to a director-centered one, and how acting styles transitioned from psychological realism to a focus on the human body. Course materials will include plays, theatrical texts on the theater, as well as directors’ manifestos, rehearsal notes, set and costume designs and filmed recordings of theatrical events. Cross-listed with Theatre Arts and Studies THIS COURSE CAN COUNT EITHER AS A 212 (LITERATURE--AS.212.346) OR AS A 211 (CULTURE) COURSE FOR THE FRENCH MAJOR AND MINORS.
Instructor(s): E. Fisek
Area: Humanities.

AS.211.358. Bodyworks: Body, Medicine and Technology in the 21st Century. 3 Credits.
Area: Humanities.

AS.211.371. Kafka and the Kafkaesque. 3 Credits.
Franz Kafka is regarded as one of the most influential writers of the 20th century. To this day, his lucid and subtle prose continues to intrigue literary critics, writers of fiction, and readers with observations that create a fictive world at once strange and familiar, hopelessly tragic and hilariously comical. The related term “kafkaesque” refers to the unique character of a literary universe that is perceived as both eerie and resistant to any classification. In this course, we will analyze texts by Franz Kafka from a variety of perspectives: as investigations into modern institutions and bureaucracy, law, punishment and family structures. Special emphasis will be given to the exploration of Kafka’s poetic practice, i.e. to the material, rhetorical and performative quality of his writing. In addition to reading a selection of Kafka’s prose and analyzing several film adaptations, we will also discuss some influential commentaries on his work and discuss Kafka’s impact on the conceptualization of modernity. Students will gain an in-depth understanding of Kafka’s oeuvre while developing skills in critical analysis and literary close reading.
Instructor(s): A. Krauss
Area: Humanities.

AS.211.375. Community Based Learning - Documentary Production Practicum: "The Cure:" the History and Culture of Breast Cancer. 3 Credits.
This class will accompany Bernadette Wegenstein during some months of producing her feature documentary "The Cure" on the history and culture of breast cancer. It will be a hands on experience with director/producer Bernadette Wegenstein, editor/producer Patrick Wright and cinematographer Allen Moore filming at the GBMC’s Breast Care clinic, the Halsted Medical Archives, and some other Baltimore locations. This class will meet once a week, but some weeks the class will consist in the hands-on experience on the field rather than the actual class meeting.
Instructor(s): B. Wegenstein
Area: Humanities.

AS.211.380. Modern Latin American Culture. 3 Credits.
Taught in Spanish. This course will explore the fundamental aspects of Latin-American culture from the formation of independent states through the present—in light of the social, political, and economic histories of the region. The course will offer a general survey of history of Latin-America, and will discuss texts, movies, songs, pictures, and paintings, in relation to their social, political, and cultural contexts. May not be taken satisfactory/unsatisfactory.
Instructor(s): S. Castro-Klaren; Staff
Area: Humanities.

AS.211.385. Documentary Production Practicum: Community Based Learning: Raqs Media Artists in Residence. 3 Credits.
This course accompanies the New Delhi based media art collective raqs, consisting of 3 artists, during their first residency in Baltimore during Spring 2013. Students will be helping prepare the media artists’ solo exhibition opening at the BMA on February 20, and be involved in a production workshop offered through the JHU Digital Media Center.
Instructor(s): B. Wegenstein
Area: Humanities.
AS.211.390. Modern Spanish Culture. 3 Credits.
This course will explore the fundamental aspects of Spanish culture from the nineteenth to the twenty-first centuries. The course will offer a general survey of the history of Spain and will discuss texts, movies, songs, pictures, and paintings in relation to their social, political, and cultural contexts. This course will be of particular interest for students planning on spending a semester abroad in Spain—specially for those students going to the JHU Fall Semester in Madrid, at Carlos III University. Taught in Spanish. Recommended Course Background: AS.210.311 or appropriate Webcape score.
Instructor(s): A. Wuensch; Staff
Area: Humanities.

AS.211.394. Brazilian Cult & Civ. 3 Credits.
This course is intended as an introduction to the culture and civilization of Brazil. It is designed to provide students with basic information about Brazilian history, art, literature, popular culture, theater, cinema, and music. The course will focus on how indigenous Asian, African, and European cultural influences have interacted to create the new and unique civilization that is Brazil today. The course is taught in English, but ONE extra credit will be given to students who wish to do the course work in Portuguese. Those wishing to do the course work in English for 3 credits should register for section 01. Those wishing to earn 4 credits by doing the course work in Portuguese should register for section 02. The sections will be taught simultaneously. Section 01: 3 credits Section 02: 4 credits (instructor’s permission required)
Instructor(s): L. Sanchez; N. Altschul; Staff
Area: Humanities

Writing Intensive.

AS.211.401. La France Contemporaine I. 3 Credits.
Students will explore contemporary French society and culture through a wide variety of media: fiction and non-fiction readings (graphic novels, news periodicals, popular magazines), films, music, art, websites, and podcasts. A diverse range of hands-on activities in addition to guided readings will help students develop cultural awareness as we discuss topics such as education, politics, humor, sports, cuisine, immigration, slang, and national identity, as well as the historical factors that have influenced these facets of French and francophone culture. Course coordinator: April Wuensch. Recommended Course Background: AS.210.301 or AS.210.302 or permission of instructor.
Instructor(s): A. Wuensch; Staff
Area: Humanities

AS.211.402. La France Contemporaine II. 3 Credits.
Students will explore contemporary French society and culture through a wide variety of media: fiction and non-fiction readings (graphic novels, news periodicals, popular magazines), films, music, art, websites and podcasts. A diverse range of hands-on activities in addition to guided readings will help students develop cultural awareness as we discuss topics such as education, politics, humor, sports, cuisine, immigration, slang, and national identity, as well as the historical factors that have influenced these facets of French and francophone culture. Recommended Course Background: AS.210.301-AS.210.302 or AS.210.301 or permission of instructor.
Instructor(s): A. Wuensch; Staff
Area: Humanities

AS.211.405. French Doctors: Insights on 19th and 20th Medicine in France. 3 Credits.
The course presents past and present interactions between society and medicine in France. From Pasteur’s discoveries to the development of humanitarian medicine, we will consider historical and political contexts of the 19th and 20th century France. We will discuss a broad range of readings, from Claude Bernard to Bruno Latour, and films, whenever appropriate. The course raises critical questions of how the evolution of medicine takes part in political issues and social change.
Area: Humanities.

AS.211.406. The City in Early Modern French Literature. 3 Credits.
Prerequisites: AS.212.333 OR AS.212.334 or permission
Instructor(s): W. Anderson
Area: Humanities

Writing Intensive.

AS.211.410. Toward Modernity: France 1848-1885. 3 Credits.
The second half of the Nineteenth Century in France is a period of dramatic political, social, historical, and technical experiments and profound changes. It is as well a fascinating period of artistic creativity in Literature and Art, considered as the rise of Modernity. We’ll read texts by Hugo, Flaubert, Zola, Jules Verne, Baldauf, Vari, Mallarmé, Tocqueville, Michelet, and study works by Courbet, Manet, Monet, Berloz, Saint-Saëns, Fauré.
Instructor(s): J. Neefs
Area: Humanities

Writing Intensive.

AS.211.412. Temps et recit dans le cinema francais. 3 Credits.
In what ways does the narrative cinema condense, expand, fracture, reverse, or otherwise complicate our perception of time? What formal and stylistic means allow filmmakers to manipulate spectators’ desire for narrative coherence and closure? Based on a range of films drawn from the silent era, the classic cinema of the 1930s to 1950s (costume dramas, literary adaptations, thrillers), and the freely inspired works of the French New Wave and its inheritors, this course will provide students with the critical concepts and vocabulary needed to speak in French about film as an aesthetic object. Course in French.
Prerequisites: AS.210.301 AND AS.210.302
Instructor(s): D. Schilling
Area: Humanities

AS.211.414. Body as Vehicle: The French 20th Century Approach to Theatrical Performance. 3 Credits.
From Greek tragedy to postmodern stage productions: 20th century theater practitioners revisit performance through the ritual and emotional experience of physical action on the stage. Hence, the actor’s body operates as a bridge relating traditional forms of expression to theatrical performance, as well as a creative — and sensitive — source of emotions. This vehicle becomes in the hands of some 20th century practitioners an object of experimentation, initiating the concepts and practices of an Anthropology of the Theater. A thorough study of theoretical texts, music, as well as videos showing contemporary performances in France, will explore the variety of this theatrical approach and the way some revolutionary theories influenced theater practice in France and worldwide.
Area: Humanities.
AS.211.416. Visual Languages in Medical Knowledge. 3 Credits.
This interdisciplinary course, co-taught by professor Veena Das (Anthropology) and Research professor and filmmaker Bernadette Wegenstein (German and Romance Languages and Literatures) will track the mediation of images in the making of medical knowledge and show how sensory knowledge is incorporated or transformed in the process. Co-listed with 214.616 and 070.416
Instructor(s): B. Wegenstein; V. Das
Area: Humanities.

AS.211.420. Real French: From Slang to Sophistication. 3 Credits.
This class will teach the realities of the French language, ranging from slang to the most sophisticated forms of expression. We will study excerpts of films, literary works, essays, political speeches, etc., in order to examine which level of speech is at work. Course also provides students with linguistic tools that will help them reach the highest level of written proficiency, as well as develop their personal stylistic voice.
Instructor(s): K. Cook-Gailloud
Area: Humanities Writing Intensive.

AS.211.422. Laughter and Thought in Molière’s Comedies. 3 Credits.
Laughter and thought in Molière’s comedies. Through a close reading of Molière’s most famous plays, “Le Misanthrope,” “Dom Juan,” “Le malade imaginaire” and “Tartuffe,” this course will study how laughter can make us think deeply about questions such as passion, morality, religious belief and medicine. What is the link between comedy and philosophy? And how do Molière’s plays reflect the evolution of philosophical thought in France in the seventeenth century? To answer these questions we will have a thematic reading of the plays. The themes will be reason and passion, morality, medicine and religious belief. By watching some stagings or some movies based on Molière’s plays we will study how performing can be a philosophical interpretation of the play. Taught in French. Recommended Course Background: AS.210.301 and AS.210.302
Area: Humanities.

AS.211.426. Paris 1900: the Great World Exhibition and the Beginning of Modernism. 3 Credits.
This course proposes to examine the momentous world exhibition organized in Paris in the year 1900 along with the new technologies and concepts it introduced into the modern world: the first subway line in Paris, talking films on giant screens, escalators, moving walkways, the first large-scale exhibit of the rising Art Nouveau, the first display of Picasso’s painting on French territory, and even a presentation on the idea of television at the Palais de l’électricité. Our discussions will include the social, political, cultural, and artistic events that led to this pivotal moment which constituted an emblematic stepping stone between the old world and the new.
Instructor(s): K. Cook-Gailloud
Area: Humanities.

AS.211.427. Libertins, Athées, Imposteurs. 3 Credits.
An exploration of the clandestine culture of free-thinkers, hedonists and rakes in France in the 17th and the 18th centuries and their strategies for undermining the theological grounding of morality, politics, sexuality and gender. Readings from Descartes, Cyrano de Bergerac, Molière, Diderot, Sade, Laclos and others. Meets with AS.212.427
Instructor(s): E. Russo
Area: Humanities Writing Intensive.

AS.211.428. Eloquent French. 3 Credits.
This highly interactive, writing intensive course places emphasis on: 1) providing students with linguistic tools that will help them reach a high level of written proficiency (advanced lexical, stylistic and idiomatic expressions, linking words used to develop and enrich complex sentences, stylistic and grammatical differences between French and English) 2) enhancing students’ analytical skills by introducing them to the French method of Explication de textes 3) teaching students to develop an academic style of writing by studying the different components of the dissertation française (introduction, problématique, argumentation, conclusion, utilisation de sources) 4) teaching students to develop their own style of writing. To that effect, we will study excerpts of French literary texts that deal with themes likely to enhance their own creative writing (lieux imaginaires, mémoire et autobiographie, création d’un personnage de roman, for example) THIS COURSE CAN COUNT AS A 211 (CULTURE) COURSE ONLY FOR THE STUDENTS WHO ALREADY HAVE DECLARED THEIR FRENCH MAJOR AND MINORS BEFORE FALL 2010.
Instructor(s): K. Cook-Gailloud
Area: Humanities Writing Intensive.

AS.211.429. French in America. 3 Credits.
Did you know that Johnny Depp’s family in the United States originated with a French Huguenot immigrant who settled in Virginia around 1700? And imagine if the British had not won the French and Indian War: odds are that our country would be entirely French-speaking. This course will study the different French communities that developed in North America from their early settlement to the present day (Louisiana, New England, Missouri, Québec, Acadia). In a more global context, students will be invited to study representations of French culture in developing countries (central Africa, western Africa, the Maghreb, Southeast Asia, and Haiti), while considering the political, social, economic and cultural implications of the notion of Francophonie. Recommended Course Background: AS.210.301-AS.210.302 or supplementary test or permission of instructor.
Area: Humanities.

AS.211.430. L’Affaire Dreyfus. 3 Credits.
This course proposes to look at persuasive strategies that were engaged during the Dreyfus Affair in order to either incriminate or discriminate the Jewish captain falsely accused of having betrayed the French army. Course will focus on the socio-political events that framed the Dreyfus Affair (anti-Semitism in 19th-century France, caricatures and polemical writings in the press, the consequences of the Franco-Prussian War and of the Commune, the bipolar division that split French society into Dreyfusards and anti-Dreyfusards), as well as its long-term effects (the rise of the extreme right, the creation of the “intellectual”, the consolidation of Zionism which ultimately led to the creation of a Jewish state). Recommended Course Background: AS.210.301-AS.210.302 or AS.210.301 or permission of instructor.
Instructor(s): K. Cook-Gailloud
Area: Humanities.
AS.211.431. Desecrating the Sacred Heart: Science, Religion and Art in Fin-de-Siècle France. 3 Credits.
This interactive course analyzes the stakes underlying the construction of Paris’ controversial Sacré-Coeur Basilica in Montmartre. In the light of heated 19th-century debates on moral authority that opposed religious believers and partisans of a secular state inspired by a scientific ethos, we will consider how the advocates of both sides use specific rhetorical techniques in the public domain (newspaper articles, caricatures, speeches) and artistic devices (paintings, literary writings) to convince their audience of the validity of their claims. The course will open onto contemporary debates that show similar ethical conflicts.
Instructor(s): K. Cook-Gailloud.

AS.211.446. Contemporary Italy: A Visual and Literary History. 3 Credits.
Taught in English. This introductory course will explore the main features of Italian society, culture, politics from 1945 to the present. Our discussions will be based upon a critical analysis of both visual and literary sources (in translation): excerpts of movies, videos, pictures, novels, short stories, etc. By the end of this journey through the past you will have better understanding of today’s Italy. Topics include: the Cold War and the division between Catholics and Communists, the economic miracle, the ’68 student revolt, political terrorism in the 70s, the second Republic and Berlusconi. Attention will be paid to issues such as the condition of women and the youth, organized crime, political corruption, migration, the Southern question. Instructor(s): M. Rossi; W. Stephens.

AS.211.469. Limit-Experience, Limit-Texts. 3 Credits.
Among the many functions of literary narrative is that of describing and domesticating extreme experience, from the horrors of war and incarceration to religious ecstasy, madness, and acute illness. Writers have long exploited the extreme to probe the reaches of human consciousness and the social pacts that differentiate transgressive from normal behaviors. Drawing on the work of 20th century French-language authors of novels, short stories, and witness accounts (Breton, Camus, Chraïbi, Delbo, Duras, Guibert, Le Clézio, Volodine), this course will explore how narrative strategies relate to extreme states, situations, and conditions. At the same time, through excerpts from experimental writers from Surrealism to l’écriture féminine, we will also consider how language itself can create a manner of limit-experience by questioning the boundaries of the readable. Course in French.
Instructor(s): D. Schilling
Area: Humanities.

AS.211.470. French Debate Series: Joan of Arc - Past & Present Interpretation. 3 Credits.
In 2012, we celebrated the 600th anniversary of the birth of French heroine Joan of Arc. Through close readings of primary sources such as the proceedings of her trial (which led to her burning at the stake at 19), as well as animated discussions around her representations in the arts (painting, sculpture, literature, music, and cinema), this course proposes to explore past and present implications of her heroic feats in the political, religious, and cultural realms of French society. We will consider in particular how Joan of Arc has been recuperated as an emblem of French nationalism since the Revolution (and for example during WWII, where both the Vichy regime and the Resistance brandished her as their national heroin), as well as in the context of the upcoming French 2012 presidential elections. This class strongly emphasizes the acquisition of oral linguistic skills and vocabulary through discussion and debate. Recommended Course Background: AS.210.301 or AS.210.302 or special permission from Kristin Cook-Gailloud (kacg@mac.com) or Claude Guillemard (claude@jhu.edu)
Instructor(s): C. Guillemard
Area: Humanities.

AS.211.471. Jules Verne. 3 Credits.
An overview of the corpus of the author of the "Voyages extraordinaire". The patron saint of steampunk authors explored through his novels the transformation of the modern world resulting from the explosion of technological advances in the industrial age. Yet he was also an astute and erudite historical thinker, an amateur anthropologist whose work reflected many of the prejudices and challenges of his exploring or colonizing contemporaries, a dabbler in the new human sciences and their relationship to the development of cultural models. A disabused, even pessimistic thinker, he provides a unique entryway into the fin-de-siècle French mind set. Works to be read will include "Cinq semaines en ballon", "Voyage au centre de la terre", "De la terre à la lune", "20,000 lieues sous les mers" and "L’Île mystérieuse", "Le Tour du monde en quatre-vingt jours", "Robur le conquérant" and "Le Maître du monde", "le Sphinx des glaces", "Le Château des Carpathes", and "Paris au XXe siècle". Class will be taught in French. This course can be taken either as a 211 Culture course or 212 Literature course 212.
Prerequisites: AS.212.334
Instructor(s): W. Anderson
Area: Humanities
Writing Intensive.

AS.211.501. Independent Study-French Culture. 0 - 3 Credit.
Independent research in topics bearing on the cultures of France and the Francophone world. Instructor permission required before registration. E-mail Dr.Kristin Cook-Gailloud @ kacg@mac.com for permission.
Instructor(s): K. Cook-Gailloud; Staff
Area: Humanities.

AS.212.127. Freshman Seminar: 18th Century Theater. 3 Credits.
An introduction to 18th century theater and performance. Using philosophical and critical texts by Aristotle, Chapelain, Diderot, and others, we will examine a series of plays and other works for theatrical performance. Course has a performance requirement. Taught in English.
Dean’s Prize Freshman Seminar
Instructor(s): O. Sabee
Area: Humanities.
AS.212.201. Introduction à la littérature française. 3 Credits.
Readings and discussion of texts of various genres from the Middle Ages to the 20th century. The two semesters may be taken in either order. This sequence is a prerequisite to all further literature courses. Students may co-register with an upper-level course during their second semester.
Prerequisites: Both semesters of AS.212.301 AND AS.212.302 or at least one semester of 210.301 and 210.302 with a grade of A and permission of instructor
Area: Humanities
Writing Intensive.

AS.212.202. Introduction to French Literature. 3 Credits.
Readings and discussion of texts of various genres from the Middle Ages to the 20th century. The two semesters may be taken in either order. This sequence is a prerequisite to all further literature courses. Students may co-register with an upper-level course during their second semester. Recommended Course Background: AS.210.301-AS.210.302, or at least one semester of AS.210.301-AS.210.302 with a grade of “A” and written permission of the instructor
Instructor(s): K. Cook-Gailloud
Area: Humanities
Writing Intensive.

AS.212.301. Evil in French Literature. 3 Credits.
In his book, Literature and Evil, Georges Bataille points out that “a rigorous morality results from the complicity in the knowledge of Evil, which is the basis of intense communication”. But what is Evil? What is the nature of this communication? What forms of knowledge does Evil elicit? How is Evil represented? Are there any changes in the representation of Evil throughout centuries? How does it pervade the structures of our daily life? How does literature encompass the idea of Evil? Through a close reading of a variety of French literary texts ranging from medieval (La Chanson de Roland, Tristan et Yseut), Renaissance (Gargantua et Pantagruel), early-modern (Médecé, Candide) up to 19th century (Flaubert, Baudelaire) and 20th century (Proust, Ionesco) fiction, we will explore various facets of Evil and its emotional, ethical, cultural, religious, and political impact on the human self and body.
Instructor(s): A. Marculescu
Area: Humanities

AS.212.303. Performing Madness: from Tristan to King Lear. 3 Credits.
For minors/majors in French, advanced level of French (AS.210.302) is required. For all other students, reading knowledge of French is recommended. The class explores the facets of madness in the medieval and Renaissance imaginary. Readings will include Tristan and Yseut, Play of Madness, The Praise of Folly, King Lear. The class will be taught in English. French majors/minors will have to write all assignments in French. Cross-listed with History of Science, Medicine and Technology Dean’s Teaching Fellowship
Instructor(s): A. Marculescu
Area: Humanities
Writing Intensive.

AS.212.304. Paris Souterrain: Paris Underground. 3 Credits.
This course will track uses of “the underground” in major canonical and peripheral literary works in the nineteenth century. Readings will include works by Balzac, Baudelaire, Hugo, and Zola.
Prerequisites: AS.212.334 OR HA.212.334
Instructor(s): R. Powers
Area: Humanities

AS.212.305. Introduction to Francophone Caribbean Literature and Postcolonial Studies. 3 Credits.
This course is designed to introduce students to the history and cultural contexts of Francophone Caribbean writings. It offers a panorama of twentieth-century Francophone Caribbean Literature from the négritude movement to the contemporary period. It introduces to various texts by Aimé Césaire, Marie Chauvet, Maryse Condé, Patrick Chamoiseau, René Depestre, Frantz Fanon, Edouard Glissant, Dany Laferrière, Jean Mélèlous, and Jacques Roumain. We will explore these writings of various literary genres in relation with topics such as memories of slavery, re-writings of history, representations of sexuality, exile, exoticism, métissage and créolité. Great emphasis will be laid on the specific historical and cultural background of Guadeloupe, Martinique and Haiti. Another significant component of this module will be the constant oscillation between theories and fictions, contexts and contents. More generally, this course will provide students with an insight into the French-language contribution to postcolonialism, and an examination of Francophone postcolonial thought and culture. Challenges will also be made with American and British literature (with authors such as James Baldwin and Graham Greene) and with Anglophone Caribbean literature (with authors such as Edward Danticat). Key notions of postcolonial theory such as exoticism, hybridity and métissage will be examined and, hopefully, challenged.
Prerequisites: AS.212.201 OR AS.212.202 or permission
Area: Humanities.

AS.212.306. Gender Issues in the Maghrebian Novel. 3 Credits.
A survey of francophone Moroccan and Algerian novels produced in the wake of those countries’ struggles for independence. We will investigate the intertwining of historical context, gender issues, and formal experimentation.
Area: Humanities.

AS.212.307. Tales on Trial: Storytelling in the Middle Ages. 3 Credits.
Area: Humanities.

AS.212.309. Forever Godard. 3 Credits.
This course will explore the dynamic relationship between music, literature, philosophy and politics in the most provocative of Jean-Luc Godard’s films.
Area: Humanities.

AS.212.314. Rivalry, Complementarity, Emulation: Writers and Artists in Contemporary French Fiction. 2 Credits.
How does modern French literature deal with its traditional rival, painting, in an age where both text and image have been wholly redefined? By what means, and to what end, do writers pay homage to specific artists (Giacometti, Gentilèschi) or integrate historic masterworks in their fiction? Whether real, re-imagined, or forged, the artwork becomes an alluring and often deceitful means of questioning the powers and purposes of literature as well as of inventing new modes of reading.
Prerequisites: AS.212.333 AND AS.212.334
Area: Humanities.
AS.212.317. Thousand Faces: Rousseau's Literary and Philosophical Writings. 3 Credits.
Jean-Jacques Rousseau is not only responsible for the romantic discovery of Self (Les Confessions) or one of the ideological fathers of the French Revolution (Le Contrat Social), or the author of passionate, best-selling novels (La Nouvelle Héloïse). He was also a musician, a playwright, a theorist of education and a botanist. The class will explore various tracks, using Rousseau’s works as an opportunity to understand the century to which he belongs and to explore such topics as: autobiography, Revolutionary ideology, musical forms. This course will be taught in French.
Instructor(s): A. De Chaisemartin.
Area: Humanities.

AS.212.318. Women in Pre-Modern French Literature. 3 Credits.
This course will examine the changes in the relationship of women to literature in France up to the French Revolution from several points of view: (1) What were the social and intellectual contexts of gender distinctions? (2) How did men writing about women differ from women writing about women? (3) How were these questions affected by the changing norms of literary production? Texts by Marguerite de Valois, Mme. de Sévigné, Molière, Mme. de Lafaytette, Prévost, Diderot, Rousseau, Mme d’Épinay and Revolutionary memorialists
Instructor(s): W. Anderson
Area: Humanities
Writing Intensive.

AS.212.321. Women in War. Heroines in Italian and French Epic (16th-18th century) Between Fiction and Reality. 3 Credits.
Did women warriors exist or are they just a (sexual) fantasy? Did men and women writers represent female warriors differently? Can women warriors be considered as women from a philosophical and biological point of view or does warfare diminish their femininity? In this course we will analyze the representation of these heroines based on Italian and French epics, e.g. Ariosto's “Orlando furioso” (1532), Voltaire’s ‘La pucelle d’Orleans’ (1578), and on iconography and French and Italian opera. Philosophical and historical texts from the Antiquity (e.g. Diodorus of Sicily) and from Queer and Gender studies (e.g. J. Butler) will help us analyze the function of women warriors in these literary texts. The course is based on interactive discussions and can be held in English.
Instructor(s): V. Denzel
Area: Humanities
Writing Intensive.

AS.212.322. Laughter and Thought in Molière's Comedies. 3 Credits.
This course will be taught in French. Laughter and thought in Molière’s comedies. Through a close reading of Molière’s most famous plays, “Le Misanthrope,” “Dom Juan,” “Le malade imaginaire” and “Tartuffe,” this course will study how laughter can make us think deeply about questions such as passion, morality, religious belief and medicine. What is the link between comedy and philosophy? And how do Molière’s plays reflect the evolution of philosophical thought in France in the seventeenth century? To answer these questions we will have a thematic reading of the plays. The themes will be reason and passion, morality, medicine and religious belief. By watching some stagings or some movies based on Molière’s plays we will study how performing can be a philosophical interpretation of the play. Recommended Course Background: AS.210.301 and AS.210.302. THIS COURSE CAN COUNT EITHER AS A 212 (LITERATURE) OR AS A 211 (CULTURE–AS.211.422) COURSE FOR THE FRENCH MAJOR AND MINORS.
Instructor(s): A. De Chaisemartin.

AS.212.324. Vive la Difference!: Belonging and Difference in Contemporary France. 3 Credits.
This course studies the impact that globalization and mass migration have had on France’s cultural identity by focusing on how recent developments in the arts illuminate the multiethnic nature of French society. Although France has been a “melting pot” in historian Gérard Noirel’s words for over a century, the official culture of the nation remains skeptical of multiculturalism, highlighting instead an abstract image of the French citizen, shorn of cultural, ethnic, racial or religious differences. In this course, we will examine novels, performance pieces, plays, films and documentaries that challenge, live with and explore this norm, allowing us to ask: What is the relationship between diversity and political community? How do different aesthetic forms imagine belonging, citizenship and diaspora? The syllabus may include work by Mehdi Charef, Yamina Benguigui, Nasser Djemai, Leila Sebbar, Merzak Allouache, Laurent Cantet and Abdellatif Kechiche as well as theoretical readings from Pierre Nora, Dominique Schnapper and Pierre Tévanian. Recommended Course Background: AS.212.333-AS.212.334 or permission of instructor.
Instructor(s): E. Fisek
Area: Humanities.

AS.212.326. Paris in Literature from Surrealism to the Present. 3 Credits.
This course will investigate the representations and images of Paris in French and Francophone literature from the interwar years to the present days. Drawing from various theoretical perspectives (by Freud, Benjamin, Barthes, Lefebvre, Certeau, Augé), we will study a wide range of texts. The syllabus will comprise seminal surrealist texts (Nadja by Breton, Le Paysan de Paris by Aragon), Beauvoir’s autobiography Mémoires d’une jeune fille rangée, extracts from novels by Modiano, Simenon, Queneau, Green’s essay Paris, narratives by Perec, Rolin, Bon, Manchette, recent poetry by Réda and Roubaud, and francophone writings (such as Boudjera, Yacine and Glissant). During our exploration of the material and imaginary geography of Paris, we will make excursions into the interstitial spaces of the city, from the hidden arcades to the ‘banlieue parisienne,’ across its ‘quarteriers’ and through the ‘non-lieux’ of modernity. Our ‘traversée de Paris’ will also include films and photographs.
Area: Humanities
Writing Intensive.

AS.212.327. Mise et remise en scene: Performing in the 18th Century. 3 Credits.
An introduction to texts and performance practices of the eighteenth century French theater, and an exploration of challenges and creative approaches to its restaging today. Course has a performance requirement.
Instructor(s): O. Sabee
Area: Humanities
Writing Intensive.
AS.212.329. Contemporary Society on Stage: Koltès, Lagarce, Mouawad. 3 Credits.
This course proposes to examine six plays by three leading figures in contemporary French theater to see how the social changes that occurred in the last three decades are viewed and expressed in the French-speaking world. We will closely read two plays by each author as well as excerpts by these and other major playwrights. Works by Jean-Luc Lagarce (Derniers remords avant l’oubli) and Bernard-Marie Koltès (Combat de nègre et de chiens) will enable us to see how issues such as homosexuality, new family relationships and urban violence deeply transformed French society in the 80s and 90s, while Incendies and Forêts by Wajdi Mouawad will allow us to ask how these issues, along with immigration, decisively shape today’s global society. Using literary analysis to reflect upon the contemporary moment and its institutions, the course will incorporate to the extent possible performance recordings and films based on the plays. Course taught in French. Scenes from the plays can be performed at the end of the term.
Prerequisites: AS.210.302
Instructor(s): F. Champy
Area: Humanities
Writing Intensive.

AS.212.333. Introduction à la littérature française I. 3 Credits.
Introduction à la Littérature française I and II propose reading and discussion of texts of various genres from the Middle Ages to the 21st century. The two semesters may be taken in either order. This sequence is a pre-requisite to all further literature courses. Students may co-register with an upper-level course during their second semester. Recommended Course Background: AS.210.301-AS.210.302 or at least one semester of AS.210.301-AS.210.302 with a grade of A and written permission of the instructor. Introduction à la littérature française I will cover readings and discussion of texts of various genres from the 14th to the 18th century.
Instructor(s): E. Russo; J. Neefs
Area: Humanities
Writing Intensive.

AS.212.334. Introduction à la littérature française II. 3 Credits.
This second part of the introductory course will cover readings and discussion of texts of various genres from the French Revolution to the 20th century. The two semesters may be taken in either order. This sequence is a prerequisite to all further literature courses. Students may co-register with an upper-level course during their second semester.
Prerequisites: AS.210.301 OR AS.210.302 or at least one semester of AS.210.301 or AS.210.302 with a grade of A and written permission of the instructor.
Instructor(s): H. Roman
Area: Humanities
Writing Intensive.

AS.212.335. Universal” Theater?: Staging Human Rights in France and Beyond. 3 Credits.
Although today the phrase “human rights” refers to a set of values that are universally recognized, France nevertheless occupies a significant place in the international imagination as its “homeland”, exemplified in Jacques Chirac’s statement that France has “for a very long time… been passionate about human rights”. In this course, we will examine the relationship between French identity and discourses of human rights by focusing on how they are articulated in theater practice. Drawing primarily on plays but also films, documentaries, photography and ethnographies, we will trace how human rights are “performed” in an array of French and Francophone works. We will then broaden our lens, turn our attention to similar theater practices from Latin America, Africa and the Middle East and ask: what are the different meanings that can be attached to the words “human” and “right” and what do human rights performances teach us about both international justice and theater?
Instructor(s): E. Fisek
Area: Humanities.

AS.212.343. Literature and Science in France 1750-1880. 3 Credits.
This course will investigate changes in the meaning and function of the literature of science and of the natural world during the period 1750-1850 (N.B. All course readings, assignments, and discussions will be conducted in French). Dean’s Teaching Fellowship.
Prerequisites: Advanced French I and II (AS 210.301-302), Introduction to French Literature I or II (AS 212.333 or 334)
Instructor(s): H. Roman
Area: Humanities
Writing Intensive.

AS.212.346. 20th Century French Theater and Performance. 3 Credits.
Taught in English. In this course, we will survey the themes and techniques that marked the theory and practice of theater in France in the 20th century. As we make our way from the early century avant-garde movements such as Futurism and Surrealism to Antonin Artaud’s Theater of Cruelty, from the Theater of the Absurd and mid-century existentialists to the post-1968 turn to collective authorship, our goal will be twofold: First, we will examine the prominent plays of the era as literary products, generated from within specific socio-political contexts. Second, we will attempt to re-construct their three-dimensional lives in performance, how they looked, sounded and felt to those watching. In addition, we will examine how French theater went from being a playwright-centered institution to a director-centered one, and how acting styles transitioned from psychological realism to a focus on the human body. Course materials will include plays, theoretical texts on the theater, as well as directors’ manifestos, rehearsal notes, set and costume designs and filmed recordings of theatrical events. Cross-listed with Theatre Arts and Studies. THIS COURSE CAN COUNT EITHER AS A 212 (LITERATURE—AS.212.346) OR AS A 211 (CULTURE) COURSE FOR THE FRENCH MAJOR AND MINORS.
Instructor(s): E. Fisek
Area: Humanities.
AS.212.353. Love and Learning in Medieval French Literature. 3 Credits.
The High Middle Ages in France witnessed both a re-birth of learning, with the rise of the universities, and a re-invention of love, as expressed in the courtly love lyric and the new literary genre of romance. This course will examine the relation between love and learning as it developed in the pages of the age’s literature across a variety of genres: courtly lyric; Arthurian romance; the roman antique; devotional literature; literary quarrel; and autobiographical confession. Texts in modern French translation. Recommended Course Background: AS.210.302 or Webcape score and a supplementary test.
Instructor(s): B. Reilly
Area: Humanities
Writing Intensive.

AS.212.355. Literature and Opera. 3 Credits.
In this course we will look at the relation between some of the great opera’s of the 18th and 19th centuries and their literary sources. We will also discuss some recent philosophical interpretations of opera. At stake will be the question of how literature is translated into music and stagecraft, and what these translations say about the times and cultures in which they were produced. Each week we will view and listen to an opera, and read its source materials as well as critical works about both. The course will be conducted in English, and will be writing intensive. (This course is offered as AS.212.355, 213.355, 214.355, and 215.355. Please check other course numbers for open seats.)
Instructor(s): W. Egginton
Area: Humanities
Writing Intensive.

AS.212.394. Renoir, Vigo, Carne: French Cinema of the 1930’s. 3 Credits.
Conducted in English. An exploration of French cinema of the 1930s and the movement that produced some of the most influential masterworks of world cinema; focus on close analysis of films. Lecture Tuesday 1:30-4pm, Screening Monday 7:30-10pm. $40 Lab fee
Instructor(s): S. Roos
Area: Humanities

AS.212.400. Flaubert’s L’Éducation sentimentale, a Prose Novel for Modern Time. 3 Credits.
Undergrads need instructor permission. Through a close reading of Flaubert’s novel, selective consideration of the drafts and of the historical, political and artistic context, we shall examine the making of that masterpiece of narrative prose, which Flaubert himself conceived under the sign of modernity. Our central concern, in other words, is with L’Éducation sentimentale as a second crucial event in aesthetic modernity, twenty years after Madame Bovary. Seminar will be taught in French and English. L’Éducation sentimentale edition required: GF Flammarion, 2003.
Instructor(s): J. Neefs; M. Fried
Area: Humanities
Writing Intensive.

AS.212.401. The Literature of Medieval Cathedrals. 3 Credits.
To understand medieval cathedrals we must “read” them through the literature of the age. This course will examine the medieval literature that illuminates some of the great cathedrals of twelfth- and thirteenth-century France. The texts studied will be in modern French translation and will come from a variety of genres: lyric poetry; romance; epic; devotional literature; biography and autobiographical confession. Cannot be taken Satisfactory/Unsatisfactory. Taught in French. Recommended Course Background: AS.210.302
Instructor(s): B. Reilly
Area: Humanities.

AS.212.403. Flaubert’s Madame Bovary, Prose as a Modern Art. 3 Credits.
AS.212.403 for advanced undergrads. Through a close reading of Flaubert’s novel and selective consideration of the drafts, we shall examine the making of that masterpiece of narrative prose, which Flaubert himself conceived under the sign of modern art. Our central concern, in other words, is with Madame Bovary as a crucial event in aesthetic modernity, one that has had a prodigious afterlife in both literature and visual arts. Seminar will be taught in French and English. Madame Bovary edition required: Le Livre de Poche Classique, 1999. Meets with AS.212.623 Cross-listed with Humanities Center
Area: Humanities

AS.212.404. The City in Early-Modern French Literature. 3 Credits.
The city is an integral theme, even a privileged character, in the literary and speculative texts of the 17th and 18th century. It is often understood to stand opposition to the royal court and embodies the spirit of the people in a way related to the modern notion of “solidarity”. This course will look at a number of examples of the peculiar status of the French city (especially Paris) from the late Renaissance to the First Empire. Selections from Marguerite de Valois, Mme de Sévigné, Montesquieu, Diderot, Rousseau, Turgot, Ruault, Réifié de la Bretonne, Mercier, Saint-Just, Robespierre, Napoléon Bonaparte, with perhaps a coda from Balzac or Michelet. Recommended Course Background: AS.212.333-AS.212.334 or permission of instructor.
Instructor(s): W. Anderson
Area: Humanities
Writing Intensive.

AS.212.406. Monsters in the 16th and 17th Centuries. 3 Credits.
Area: Humanities
Writing Intensive.

AS.212.410. Toward Modernity: France 1848-1885. 3 Credits.
The second half of the Nineteenth Century in France is a period of dramatic political, social, historical, and technical experiments and profound changes. It is as well a fascinating period of artistic creativity in Literature and Art, considered as the rise of Modernity. We’ll read texts by Hugo, Flaubert, Zola, Jules Verne, Baudelaire, Rimbaud, Mallarmé, Tocqueville, Michelet, and study works by Courbet, Manet, Monet, Berloz, Saint-Saëns, Fauré. Co-listed with AS.211.410
Instructor(s): J. Neefs
Area: Humanities
Writing Intensive.

AS.212.412. Temps et recit dans le cinema francais. 3 Credits.
In what ways does the narrative cinema condense, expand, fracture, reverse, or otherwise complicate our perception of time? What formal and stylistic means allow filmmakers to manipulate spectators’ desire for narrative coherence and closure? Based on a range of films drawn from the silent era, the classic cinema of the 1930s to 1950s (costume dramas, literary adaptations, thrillers), and the freely inspired works of the French New Wave and its inheritors, this course will provide students with the critical concepts and vocabulary needed to speak in French about film as an aesthetic object. Course in French.
Prerequisites: AS.210.301 AND AS.210.302
Instructor(s): D. Schilling
Area: Humanities.
AS.212.414. Body as Vehicle: The French 20th Century Approach to Theatrical Performance. 3 Credits.
From Greek tragedy to postmodern stage productions: 20th century theater practitioners revisit performance through the ritual and emotional experience of physical action on the stage. Hence, the actor's body operates as a bridge relating traditional forms of expression to theatrical performance, as well as a creative — and sensitive — source of emotions. This vehicle becomes in the hands of some 20th century practitioners an object of experimentation, initiating the concepts and practices of an Anthropology of the Theater. A thorough study of theoretical texts, music, as well as videos showing contemporary performances in France, will explore the variety of this theatrical approach and the way some revolutionary theories influenced theater practice in France and worldwide.
Area: Humanities.

AS.212.415. Dumas & Verne: The Spirit of a New Age. 3 Credits.
Instructor(s): W. Anderson
Area: Humanities.

AS.212.417. Texts of/on the Terror from the French Revolution. 3 Credits.
Taught in French. During the first half of the semester we will take advantage of the renewed interest in scholarship on the Terror to deal with some of the most famous examples of Revolutionary rhetoric, focusing especially on the trial of Louis XVI and the late voices of Robespierre. During the second half of the semester we will read literary works produced during the Terror and accounts of the Terror from authors such as Balzac, Dumas, and Michelet. We will be asking questions such as: What was the Reign of Terror and to what extent was its project dependent on public discourse? Why and how does the nature of public oratory change? What happens to definitions of "the literary" and of authorship in a terroristic context?
Instructor(s): W. Anderson
Area: Humanities
Writing Intensive.

AS.212.418. Medieval French Lyric Poetry. 3 Credits.
Medieval French lyric poetry contains many powerful expressions of a poet’s relationship to society. This course will study the diversity of responses to the questions confronting any medieval poet writing about the world he (or sometimes she) lived in. Our readings over four centuries of medieval French literature will reveal the many worlds in which these poets lived and wrote. Close reading of texts in modern French translation, with emphasis on their social and cultural contexts.
Instructor(s): B. Reilly

AS.212.421. Textes et Performances: le théâtre français du 17e au 19e siècle. 3 Credits.
Area: Humanities.

AS.212.427. Libertins, Athées, Imposteurs. 3 Credits.
An exploration of the clandestine culture of free-thinkers, hedonists and rakes in France in the 17th and the 18th centuries and their strategies for undermining the theological grounding of morality, politics, sexuality and gender. Readings from Descartes, Cyrano de Bergerac, Molière, Diderot, Sade, Laclos and others. Meets with 211.427
Instructor(s): E. Russo
Area: Humanities.

AS.212.429. Thesis Prep. 1 Credit.
This course will meet three times during the Fall semester to enable all French majors to prepare their thesis subject, thesis bibliography, and abstract prior to the writing of the Senior Thesis (AS.212.430) in the Spring semester of their senior year. This course is required of all French majors and must be taken during the Fall semester of their senior year. Schedule TBA upon consultation with the class list, as there are only three group meetings. The rest of the meetings are in individual appointments with the DUS or another chosen French professor.
Instructor(s): J. Neefs; Staff
Area: Humanities.

AS.212.430. Senior Seminar. 3 Credits.
An in-depth and closely supervised initiation to research and thinking, oral and written expression, which leads to the composition of a senior thesis in French.
Instructor(s): J. Neefs; Staff
Area: Humanities
Writing Intensive.

AS.212.434. Reading Poetry. 3 Credits.
The course will offer a close reading and interpretation of prominent poems, from Early Modern to Contemporary, from Du Bellay and Ronsard to Ponge, Char, Roubaud and some of the most recent works. This course will present an opportunity to question the historical variations of Poetry, of it’s function and importance in Society. What mean the changes in poetic forms, how work the tensions between verse and prose in modern Poetry, what’s interesting in writing and reading Poetry will be some of the main topics of the course. The students will be asked to compose and comment their own “French Poetry Anthology.” Taught in French, but including researches on the poetical translatibility.
Prerequisites: AS.212.333 OR AS.212.334 OR AS.212.201 OR AS.212.202
Instructor(s): J. Neefs
Area: Humanities
Writing Intensive.

AS.212.438. Dream and Imagination in XXth century literature: French Surrealism and the Hispano-American “Boom. 3 Credits.
Taught in French. This course explores different uses of dreams and the imagination in contemporary narrative, working on both fictional and critical texts from the French surrealist corpus (“Manifeste du Surréalisme”, extracts from Breton, Crevel, Aragon's narratives) and the Latin American “boom” (preface to Carpenter’s “The Kingdom of this World”, Cortázar, Borges, García Márquez or Piñera's short stories). A comparative approach will allow us to discuss how fantasy in literature can enlighten and widen our perception of reality. The Latin American texts will be studied in the context of their reception in the French literary scene.
Instructor(s): Staff.

AS.212.443. Marcel Proust, Literature and Art. 3 Credits.
Proust’s great sequence of novels À la recherche du temps perdu is also a theory of the Novel and indeed of Art. A close reading of Du côté de chez Swann and Le Temps retrouvé, will put this to the test. Required editions: Proust’s Du côté de chez Swann, Gallimard, Folio, Le Temps retrouvé, Gallimard, Folio, Contre Sainte-Beuve, Gallimard, Folio. The seminar is open to advanced undergrads, with authorization of the instructor. Meets with 212.773, 300.406 and 300.684.
Instructor(s): J. Neefs; M. Fried
Area: Humanities
Writing Intensive.
AS.212.448. Baudelaire: Art, Poetry, Modernity. 3 Credits.
Seminar taught in French and English. Charles Baudelaire is widely regarded as the decisive figure in 19th Century literary and artistic Modernity. In this seminar we will read his magnificent Les Fleurs du mal and Spleen de Paris and his equally remarkable art criticism, as well as various critical discussions of his achievement. Cross-listed with Humanities Center
Instructor(s): J. Neefs; M. Fried
Area: Humanities.

AS.212.455. Order, Disorder, and the Passions in French Literature of the 16th and 17th Centuries. 3 Credits.
This course will examine how the passions became a defining issue in major French literary works during the sixteenth and seventeenth centuries. As a source of unpredictability and instability, the passions have always represented a potentially direct threat to the foundations of social collectivity. How and why did the passions become a central concern for literary thought during the Renaissance and Baroque periods? Under what conditions can the passions become socially and politically constructive, or destructive? How can examining passions in literature help us understand the shifting relations between the individual and society? Recommended Course Background: AS.210.301
Instructor(s): J. Vance
Area: Humanities.

AS.212.466. The Pleasures of Tragedy. 3 Credits.
Why do we experience pleasure in watching representations of bad things happening to people on stage? Are the emotions aroused by tragedy ethical or immoral? These are just some of tragedy’s many paradoxes, which have been explored by philosophers over time, from Plato to Augustine, to Rousseau, to Hume. This course proposes to explore some of the enigmas and conundrums raised by a genre which everybody agrees cannot be defined by common formal and thematic features, but which we all feel able to recognize when we see it. Is there an essence of tragedy that endures from 5th century Greece to today? Or are the things that make us call a play tragedy radically different according to time and place? How is tragedy related to philosophy, religion and politics? Tragedy has been declared in turn “dead” (killed by Christian notions of redemption, by political utopianism, by philosophical optimism, by the dissolution of language, etc.) and renewed, regenerated (through the sense of the absurd, postmodern immanence, irredeemable violence) – and indeed, there has been a flourishing of the genre in France in the late 20th century. Through readings of a selection of plays, both ancient and modern, and theoretical works, we’ll examine the metamorphosis of the tragic hero and heroine, the issues of gender, moral responsibility and the management of the spectator’s emotions. Readings from Sophocles, Aristotle, Corneille, Racine, Hegel, Kierkegaard, Anouilh, Sartre, Césaire, Koltès, Gably. Course in French.
Prerequisites: AS.210.301 AND AS.210.302
Instructor(s): E. Russo
Area: Humanities
Writing Intensive.

AS.212.469. Limit-Experience, Limit-Texts. 3 Credits.
Among the many functions of literary narrative is that of describing and domesticking extreme experience, from the horrors of war and incarceration to religious ecstasy, madness, and acute illness. Writers have long exploited the extreme to probe the reaches of human consciousness and the social pacts that differentiate transgressive from normal behaviors. Drawing on the work of 20th century French-language authors of novels, short stories, and witness accounts (Breton, Camus, Chraïbi, Delbo, Duras, Guibert, Le Clézio, Volodine), this course will explore how narrative strategies relate to extreme states, situations, and conditions. At the same time, through excerpts from experimental writers from Surrealism to l’écriture féminine, we will also consider how language itself can create a manner of limit-experience by questioning the boundaries of the readable. Course in French.
Instructor(s): D. Schilling
Area: Humanities.

AS.212.471. Jules Verne. 3 Credits.
An overview of the corpus of the author of the “Voyages extraordinaires”. The patron saint of steampunk authors explored through his novels the transformation of the modern world resulting from the explosion of technological advances in the industrial age. Yet he was also an astute and erudite historical thinker, an amateur anthropologist whose work reflected many of the prejudices and challenges of his exploring or colonizing contemporaries, a dabbler in the new human sciences and their relationship to the development of cultural models. A disabused, even pessimistic thinker, he provides a unique entryway into the fin-de-siècle French mind set. Works to be read will include “Cinq semaines en ballon”, “Voyage au centre de la terre”, “De la terre à la lune”, “20,000 lieues sous les mers” and “L’Île mystérieuse”, “Le Tour du monde en quatre-vingt jours”, “Robur le conquérant” and “Le Maître du monde”, “le Sphinx des glaces”, “Le Château des Carpathes”, and “Paris au XXe siècle”. Class will be taught in French. This course can either be taken as a 211 Culture course or a 212 Literature course.
Prerequisites: AS.212.334
Instructor(s): W. Anderson
Area: Humanities
Writing Intensive.

AS.212.478. Guillaume de Machaut: exploring medieval authorship in the digital age. 3 Credits.
Using new websites devoted to the lyrics and music of Guillaume de Machaut, the foremost poet and composer of the 14th-century French royal court, this seminar will explore the role of music and literature during the Hundred Years War. Students will learn to use digital tools to view and analyze original illustrated musical manuscripts of Machaut’s work.
Instructor(s): T. Rose-Steel
Area: Humanities
Writing Intensive.

AS.212.471. Jules Verne. 3 Credits.
An overview of the corpus of the author of the “Voyages extraordinaires”. The patron saint of steampunk authors explored through his novels the transformation of the modern world resulting from the explosion of technological advances in the industrial age. Yet he was also an astute and erudite historical thinker, an amateur anthropologist whose work reflected many of the prejudices and challenges of his exploring or colonizing contemporaries, a dabbler in the new human sciences and their relationship to the development of cultural models. A disabused, even pessimistic thinker, he provides a unique entryway into the fin-de-siècle French mind set. Works to be read will include “Cinq semaines en ballon”, “Voyage au centre de la terre”, “De la terre à la lune”, “20,000 lieues sous les mers” and “L’Île mystérieuse”, “Le Tour du monde en quatre-vingt jours”, “Robur le conquérant” and “Le Maître du monde”, “le Sphinx des glaces”, “Le Château des Carpathes”, and “Paris au XXe siècle”. Class will be taught in French. This course can either be taken as a 211 Culture course or a 212 Literature course.
Prerequisites: AS.212.334
Instructor(s): W. Anderson
Area: Humanities
Writing Intensive.

AS.212.481. The 18th-Century French Novel. 3 Credits.
Key novels will be studied from a variety of approaches. Authors to include Marivaux, Montesquieu, Prévost, Diderot, Crébillon, Rousseau, and Voltaire. Recommended Course Background: AS.212.333 and AS.212.334 or AS.212.333 and permission of the instructor.
Instructor(s): W. Anderson
Area: Humanities
Writing Intensive.

AS.212.501. French Independent Study. 3 Credits.
Instructor(s): D. Schilling; E. Russo; J. Neefs; W. Anderson.
AS.212.502. French Indep Study-Lit. 3 Credits.
Instructor(s): E. Gonzalez; J. Neefs
Area: Humanities.

AS.212.596. Independent Study-Spanish. 3 Credits.
Instructor(s): E. Gonzalez.

AS.212.601. Word and Image: An Introduction to the Languages of Literature and Cinema.
Taught in English, this course is a primer in the linguistics and the rhetoric of literary and cinematic texts. Students will familiarize themselves with the notion of the literary language's exceptionality by studying Aristotle, Plato, Viktor Sklovskij and Roman Jakobson among others. They will then compare the power of the literary with the language of cinema by studying Andre Bazin's take of New Realism, Christian Metz's structuralist approach to cinema and psychoanalysis, Gilles Deleuze's theory of the moving-image and the time-image, a feminist approach to cinema by E. Ann Kaplan and others, as well as theories of digital cinema from Peter Weibel to Lev Manovich, among others. We will place the language of literature and film within a context that includes religion music, magic, prophecy and medicine. Cross-listed with Film and Media Studies and English (This course is offered as AS.212.601, 213.601, 214.601, and 215.601. Please check other course numbers for open seats.)
Instructor(s): B. Wegenstein; P. Forni.

AS.212.603. Senses of the Imagination in Medieval Thought and Lyric.

AS.212.604. Around Baudelaire.
Topics in Baudelaire's art and thought, and in that of various contemporaries (Courbet, Manet, Wagner) and successors (Mallarmé, Proust, Benjamin, Starobinski, Bonnefoy, Roubaud, Deguy). Readings and discussion will be mainly in French.
Instructor(s): J. Neefs; M. Fried.

AS.212.605. The Idea of Literature.
European languages document the evolution of the concept of literature from a generic term indicating the body of writings produced in a particular country or period to one that more particularly signifies works endowed with an aesthetic quality. The concept of literature thus seems to take form in connection with the emergence of a critical discourse, the search for a standard of taste. The dream of founding a "science littéraire" modeled on the principles of structural semiotics searching for an elusive "literariness", literature as a system, a set of formal features, not a collection of discrete, ineffable individuals; it thus involved a rejection of the aesthetic, or at least a reconsideration of its assumptions. This course will pursue the question of "The Idea of Literature" simultaneously from a philosophical and a historical perspective; in moving from formalist literariness to the rediscovery of categories like the ethical, the subject, the reader, the author, and the aesthetic, we will ask such questions as: Can there be a return to an aesthetic education, as some wish, and what would that be? Would such a move resuscitate the ghost of Hume's gentleman scholar, which the New Critics tried to do away with? Is there a way of formally distinguishing between literature and its various contexts? Authors will include Hume, Kant, Taine, Lanson, Sainte-Beuve, Brunetière, Arnold, Proust, Benjamin, Bréton, Sartre, Bourdieu, De Man, and Eco.

AS.212.607. Tragedy on Stage and in Theory.
Perhaps more than any other genre, tragedy tempts us to search for origins, to recover its previously pristine state, to lament its decadence, even its death. But is there an essence of tragedy? Is tragedy the product of a specific historical moment (sixth-century Greece) or is it a universal quality of human experience? Is it a philosophical notion or a strictly theatrical one? Through selected readings of plays and theories we shall explore some of the significant metamorphoses of tragedy, from Aeschylus to Corneille, Racine, Voltaire, Hegel, Nietzsche, Freud, Anouilh and others.
Instructor(s): E. Russo
Area: Humanities.

AS.212.611. Humanistes, Spirituels et Littéraires: Autour de Marguerite de Navarre.
Instructor(s): J. Vance.

AS.212.615. Encyclopedic narratives, 19th - 20th Century.
Novels use and give many kinds of knowledge. The seminar will examine how narratives consume and expose facts, notions, ideas, technical devices, highly complex learning, and present themselves as encyclopedic narratives. We’ll work on novels conceived as pedagogical instrument (Jules Verne), or allegorical epic (Victor Hugo), or deeply ironic and skeptical prose (Flaubert, Raymond Queneau), or intimate vivid historical memory (Pierre Michon). We’ll examine how narrative prose can build strong worlds of knowledge.
Instructor(s): J. Neefs.

The development of the drame bourgeois and the theater criticism of the French Enlightenment. Authors to be studied include Racine, Le Sage, Marivaux, Voltaire, Diderot, and Beaumarchais. <a href="http://www.wilda.org/Courses/CourseVault/Grad/Theater/ Syllabus.html">Course Syllabus</a>.

AS.212.618. Les Lumieres: reseaux de communication au 18e siecle.

AS.212.620. The Encyclopedie.
In its attempt to realize fully the potential of a group description of knowledge, the Encyclopédie of Diderot and d’Alembert displays the program of the philosophies in a particularly intense and idiosyncratic form. This intellectual conversation will be studied through the investigation of several different subjects treated in the Encyclopédie; for example, the theory of the encyclopedia itself, history, natural history, literature, medicine, and theories of language.
Instructor(s): W. Anderson.

AS.212.622. The Making of the Work: Introduction to Genetic Criticism.
AS.212.623. Flaubert's Madame Bovary, Prose as a Modern Art.
Through a close reading of Flaubert’s novel and selective consideration of the drafts, we shall examine the making of that masterpiece of narrative prose, which Flaubert himself conceived under the sign of modern art. Our central concern, in other words, is with Madame Bovary as a crucial event in aesthetic modernity, one that has had a prodigious afterlife in both literature and visual arts. Seminar will be taught in French and English. Madame Bovary edition required: Le Livre de Poche Classique, 1999.
Area: Humanities

AS.212.632. Utopias.
Reflecting on the genre of the Utopia which from the late 17th century through the late 19th century alludes to diverse ideological constructions, such as the Golden Age, the “Pays de Cocagne”, fantastic worlds, primitive societies, the state of nature, “robinsonnades”, science fiction. Instructor(s): W. Anderson.

Seminar taught in French and English. Charles Baudelaire is widely regarded as the decisive figure in 19th Century literary and artistic Modernity. In this seminar we will read his magnificent Les Fleurs du mal and Spleen de Paris and his equally remarkable art criticism, as well as various critical discussions of his achievement. Cross-listed with Humanities Center
Instructor(s): J. Neefs; M. Fried.

AS.212.640. Mercier.
Playwright, renowned essayist, philosophe of a sort and just plain observer of the late Parisian Enlightenment, Mercier’s literary career embodied the esthetic, political and conceptual changes that occurred in the move from the Ancien Régime to the Révolution française, the Terreur, the Thermidorean period and the Napoleonic movement of Paris. This course will cover some of his plays and other writings, especially his Tableau de Paris and its post-revolutionary continuation Le Nouveau Paris.
Instructor(s): W. Anderson.

AS.212.641. Actualités de la fiction.
Ce séminaire se voudrait à la fois traversée de la fiction française et francophone très contemporaine (années 1990-2000) et réflexion sur le contemporain en terme d’actualités. On entendra l’actualité à la fois dans le sens courant de ce qui est actuel parce que faisant partie d’un moment présent, et dans l’acception plus conceptuelle de tout ce que relève d’une performance directe et renouvelée, de ce qui est en acte et non en puissance mais qui est en meme temps une puissance en acte. Dynamis, energeia, l’actualité de la littérature est ainsi l’actualisation de ses puissance’s (par les lectures, les traductions). On se centra en particulier sur les relations entre littérature et pensée dans le fiction contemporaine.

AS.212.644. Libertinage: entre révolte et fantasme.
The prerevolutionary libertine novel, starring at its center the character of the libertine, is the one most iconically associated with the French novel and with notions of transgressive “Frenchness,” intended both for national use and for export. In the wake of the pioneering work of René Pintard (Le Libertinage érudit dans la première moitié du 17e siècle, 1943) libertinage was emancipated from the fictional realm and promoted to a category of intellectual and cultural history. Yet recent critics have contested the use of this label, arguing that the historical individuals who were so called were a heterogeneous collection who had nothing in common apart from their marginality, which was in turn stigmatized or valorized. The purpose of this course is to examine critically the relationship between fictional and historical libertines, the many overlaps between the “transgressive” and the “erudite” communities, the role they played in the emergence of the “radical” Enlightenment and scientific materialism, their subversive use of language, the fluctuation between protective strategies of equivocation and the audacity of parrésia. Readings from trial documents, pamphlets, correspondence, novels and essays, by G. C. Vanini, François Garasse, Antonio Rocco, Théophile de Viau, Descartes, Cyrano de Bergerac, Dassoucy, Bayle, Boyer d’Argens, Voltaire, Sade, Diderot, Laclos.
Instructor(s): E. Russo.

AS.212.655. Persistence of the City.
This course will address a number of problems derived from current ecological and sustainability concerns, via readings of classic texts of the French avant-garde and modernist tradition (early to mid-twentieth century: Romains, Breton, Le Corbusier, Debord), as well as films (Godard, Resnais) and reportages of more recent date. To be taught in English, this course will be of interest not only to students of French and comparative literature, but to students in urban planning, design, sustainability studies, and architecture. Dates of classes: 2/3, 2/17, 3/2, 3/16, 4/6, 4/20.
Instructor(s): A. Stoekl
Area: Humanities

AS.212.666. Writers Confront Time, Posterity and Survival.
This course will discuss various ways by which authors see time as shaping and inflecting the reception and the value of their works. I will focus on a select group of Enlightenment philosophers with some forays into classical antiquity and the Romantic period. The purpose of the seminar is to explore the existence of a relationship between models of transmission of aesthetic value and models of cultural, theological and biological "evolution." Works by Diderot, Voltaire, Charles Bonnet, Rousseau, Balanche and others.
Instructor(s): E. Russo
Area: Humanities
Writing Intensive.

AS.212.671. Light and Color in Medieval French Literature.
A study of medieval representations of light and sight. The literature of medieval France entered into dialogue with the science, theology, and art of the time to both reflect and create new ways of seeing. By examining what medieval thinkers wrote about how they saw, we shall come to understand on their own terms what they saw, including: manuscript illuminations; stained glass; secular and religious clothing.
Instructor(s): B. Reilly.

Taught by Visiting Professor Lydie Moudileno: The course will examine representation of Europe, mostly but not exclusively France and Paris in the fiction produced by writers from the former French colonies, from the 1950’s to the present.
AS.212.678. Guillaume de Machaut: exploring medieval authorship in the digital age.

Using new websites devoted to the lyrics and music of Guillaume de Machaut, the foremost poet and composer of the 14th-century French royal court, this seminar will explore the role of music and literature during the Hundred Years War. Students will learn to use digital tools to view and analyze original illustrated musical manuscripts of Machaut’s work.
Instructor(s): T. Rose-Steel.

AS.212.684. The Life and Works of Chrétien de Troyes.

A close study of the extant corpus written by Chrétien de Troyes, from his lyric poems to his last unfinished Arthurian romance. Active during the so-called “Twelfth-Century Renaissance,” Chrétien remains one of the founding authors of French literature. This seminar will explore the intellectual, social, and societal influences that shaped his works. It will also look to the contemporary debates which these works continue to inspire.
Instructor(s): B. Reilly.

AS.212.692. Research Methods.

Texts have lives. From handwritten manuscript to digital format, the various incarnations of the literary text have implications for literary scholarship. This course examines the many lives of a literary text and the issues of access, retrieval, and research. From online resources to the core printed reference works, this course acquaints graduate students with the range of scholarly apparatus in the field of literary studies.
Instructor(s): S. Waterman.

AS.212.696. Literature Confronts Science: Zola.

Zola worked with the theories of heredity of his time in the Rougon-Macquart novels. But he also attempted to use his understanding of biology and thermodynamics to reform the theory of the novel in general. This course will examine these two different effects of science on literature and try to see what leads an author to undertake such a project. For a more extended description, please see http://www.wilda.org/Courses/CourseVault/Grad/Zola/Syllabus.html. Advanced undergraduates with sufficient background may register for this course with permission of the instructor.
Instructor(s): W. Anderson.

AS.212.698. Esthétique et politique dans la France des années 50 et 60.


AS.212.700. Flaubert’s L’Éducation sentimentale, a Prose Novel for Modern Time.

Undergrads need instructor permission. Through a close reading of Flaubert’s novel, selective consideration of the drafts and of the historical, political and artistic context, we shall examine the making of that masterpiece of narrative prose, which Flaubert himself conceived under the sign of modernity. Our central concern, in other words, is with L’Education sentimentale as a second crucial event in aesthetic modernity, twenty two years after Madame Bovary. Seminar will be taught in French and English. L’Education sentimentale edition required: GF Flammarion, 2003.
Instructor(s): J. Neefs; M. Fried
Area: Humanities
Writing Intensive.

AS.212.703. Literary Renaissance of the 12th Century.

The High Middle Ages in France witnessed both a re-birth of learning and a re-invention of literature. This course examines the medieval French literature that flourished during this “Twelfth-Century Renaissance.” It considers texts across a variety of genres (the roman antique; courtly lyric; autobiography; lai; chronicle) in order to interrogate literature’s engagement with the surrounding intellectual currents. In particular this seminar asks how literature’s relation to the past changed during this time and how it came to create something new.
Instructor(s): B. Reilly
Area: Humanities.
AS.212.704. Violence & Tragedy.
This seminar traces the persistence of violence in tragedy. Working though traditional periodization insisting on an evolution away from spectacular baroque violence toward disembodied neoclassical purity, we will explore how violence continually shaped theater as a multi-sensorial, multi-medial practice. While the primary source of our discussion will be seventeenth-century France (Hardy, Rotrou, Corneille, Racine, et al.), ample opportunity will be made for students to present research from the literary traditions in which they work. Contemporary theorists and critics (Bersani, Benjamin, Biet, Chartier, Elsner, Greenberg, Loraux, Heller-Roazen, et al.) will be available in English. Taught in English. Dates of classes: 2/10, 2/24, 3/9, 3/30, 4/13, 4/27.
Instructor(s): Staff
Area: Humanities

AS.212.705. Fictions d’espace: géopoétique du roman de langue française.
Instructor(s): D. Schilling
Area: Humanities
Writing Intensive.

AS.212.710. Les religions du 19e Siècle.
Chateaubriand, Michelet, Quinet, Hugo, mais aussi bien Nerval, Baudelaire, Flaubert, Mallarmé, les œuvres du 19ème siècle se rapportent aux paradigmes religieux d’une manière particulièrement forte et problématique. De l’histoire des religions aux religions du Progrès, le fait religieux est interroger par la littérature, autant que la littérature se confronte à lui. Le séminaire s’appuiera sur la lecture précise de quelques textes déterminants en ce sens.
Instructor(s): J. Neefs

AS.212.717. Montesquieu.
The first half of the seminar is devoted to a close reading of some of Montesquieu’s major works in law, politics, fiction, history and the natural sciences, with an emphasis on the negotiations between nature, law and society. The second half will focus on selected interpretations and appropriations of Montesquieu’s thought from the 18th to the 20th century. In English, reading knowledge of French.
Instructor(s): E. Russo; W. Anderson
Area: Humanities.

AS.212.719. Enlightenment and Revolution.
Writing Equality: the French Revolution. Enlightenment authors whose work is relevant to the Revolution (Montesquieu, Rousseau, Condorcet, etc.), Revolutionary authors and orators, and 19th-century authors like Balzac and Stendhal or historians like Tocqueville and Michelet who use literary topoi to come to terms with the Revolution.
Instructor(s): W. Anderson
Area: Humanities
Writing Intensive.

AS.212.720. Diderot’s Fiction.
This course will focus on the idiosyncrasy of Diderot’s concept of the fictional and his complementary practices of authorship, anonymity and pseudonymy in the context of the middle years of the French Enlightenment. For more information, see http://www.wilda.org/Courses/CourseVault/Grad/DiderotFictions/Syllabus.html
Instructor(s): W. Anderson.

AS.212.743. Marcel Proust, Literature and Art.
Proust’s great sequence of novels À la recherche du temps perdu is also a theory of the Novel and indeed of Art. A close reading of Du côté de chez Swann and Le Temps retrouvé, will put this to the test. Required editions: Proust’s Du côté de chez Swann, Gallimard, Folio, Le Temps retrouvé, Gallimard, Folio, Contre Sainte-Beuve, Gallimard, Folio. The seminar is open to advanced undergrads, with authorization of the instructor. Meets with 212.443, 300.406 and 300.684.
Instructor(s): J. Neefs; M. Fried
Area: Humanities.

AS.212.748. French Poetry in the 16th Century.

AS.212.750. Récits de la marge dans la littérature française depuis 1950.
Examen de romans et récits modernes et contemporains où la marge (géographique, ethno-sociale, sexuée) apparaît comme un lieu de parole spécifique. L’histoire longue de la figure du ‘zonard’ et du ‘jeune de banlieue’ permettra d’interroger les processus de légitimation littéraire et l’émergence de subcultures qui suscitent des postures esthétiques novatrices. Textes de Begag, R. Camus, Charef, Chraïbi, Clébert, Collard, Djaidani, Queneau...
Instructor(s): D. Schilling
Area: Humanities
Writing Intensive.
AS.212.752. The Character Function.
What do we really mean when we talk about a "character" in a discursive work? What are the structuring, esthetic and heuristic functions of such devices? How has the concept of the character evolved from the early modern period to the present day? A sampling of the cases to be considered: Descartes, Leibniz, Marivaux, Racine, Diderot, Rousseau, Robespierre, Napoleon, Michelet, Zola, avatars and "digital angels". Instructor(s): W. Anderson
Area: Humanities
Writing Intensive.

AS.212.773. Marcel Proust, Literature and Art.
Proust's great sequence of novels À la recherche du temps perdu is also a theory of the Novel and indeed of Art. A close reading of Du côté de chez Swann and Le Temps retrouvé will put this to the test. Required editions: Proust's Du côté de chez Swann, Gallimard, Folio, Le Temps retrouvé, Gallimard, Folio, Contre Sainte-Beuve, Gallimard, Folio. The seminar is open to advanced undergrads, with authorization of the instructor. Meets with 212.443, 300.406 and 300.684.
Area: Humanities.

AS.212.778. Les écritures contemporaines aux confins des genres [Contemporary French Writing Beyond the Genres.
A critical survey of hybridized or mixed literary forms that have emerged in French-language writing since the postwar revolution of the New Novel and the materialist forays of the Tel Quel group circa 1968. What attitudes might be adopted toward texts that seemingly invent their own rules, refusing generic ascription even as they borrow freely from established narrative and poetic codes? How might we resist the temptation to view works of motivic reprise, pastiche, formal constraint, and intertextual weaving as symptoms or expressions of a disenfranchised "postmodern condition," and endeavor instead to situate these texts in the contemporary moment, as elements of a vital cultural critique? Authors to be considered include Bon, Cadiot, R. Camus, Gavarry, Levé, Perec, Quintane, Redonnet, J. Rolin, Simon, and Viel. Seminar in French. Instructor(s): D. Schilling
Area: Humanities.

The course will examine the transformation of Paris in the 14th century into the cultural capital of the West: a center for politics, music, art, literature, architecture, the making of beautiful books, and the site of the first national library. Translations from Greek and Latin spurred new music, new poetry, and new genres of thought. All combined to create a new "myth of Paris" that became a cornerstone for political thought, and artistic practice. Readings include Christine de Pizan, Oresme, Machaut, Froissart.
Area: Humanities
Writing Intensive.

AS.212.781. L’entre-deux-guerres en toutes lettres [French Literature Between the Wars].
This transversal approach to French literary culture between the wars (1919-1939) first asks to what extent the desire to “change life” came in response to the collective tragedy of the Great War, which left France with 1.5 million war dead. In contrast to the relative prosperity and bourgeois consensus of the Belle Époque, the 1920s and 1930s were marked by anxiety, class conflict, xenophobia, and the quest to forge new forms of liberation both collective and individual. In addition to the profound impact of war on a generation of writers and intellectuals, we will address the relationship these women and men entertained with emergent discourses on modernity, gender roles, revolution, nationalism and internationalism. Authors to be considered include Barbusse, Breton, Céline, Cocteau, Colette, Dabit, Gide, Giono, Malraux, Morand, Némirovsky, Nizan, Prévert, Sartre, and Simenon. Course in French.
Instructor(s): D. Schilling
Area: Humanities.

AS.212.782. Le Grand Siècle: Construction of a Myth.
A study in the politics of canon formation, in which categories such as “classicism,” “baroque,” “libertinage,” “préciosité” are not so much objective descriptions of the period in question as models for appropriating the past and embedding it into the dynamics and the conflicts of the present. Readings from the iconic works of this contested tradition (Perrault, Bossuet, Naudé, Racine, Corneille, Nicole, Fénelon) and from some of the historians who have appropriated and/or questioned it, from Voltaire to Alain Viala.
Instructor(s): E. Russo.

AS.212.783. Diderot, Power and Representation.
A reading of some of Diderot’s major works in light of his struggle to break out of imposed and self-imposed hierarchies of style and manner, and to reframe or reform radically the relationship between ethics, politics, sexuality, gender and the arts. Special emphasis on Diderot’s self-representation as arbiter of taste, mediator and mentor.
Instructor(s): E. Russo
Area: Humanities
Writing Intensive.

AS.212.789. Literature & Identity in the Age of Globalization.
In this seminar we will examine a selection of literary reflections on and engagements with globalization and its mounting failures and burdens, as it has emerged in Europe and the Americas from the mid-twentieth century to the present. From the economic, constitutional, and cultural politics around the unification of Europe, to the ideological and imperial misfortunes of the U.S. after the collapse of the “End-of-History” thesis, to the resurgence of state populism in Latin America in the wake of neoliberal exhaustion, literary fiction has been deployed to posit, explore, and contest national and post-national myths of identity. The seminar will interrogate how this engagement functions both as aesthetic and theoretical discourse. Readings may include novels by Albert Camus, W. G. Sebald, Leonardo Sciascia, Orhan Pamuk, Javier Marías, Roberto Bolaño, and Jonathan Franzen, along with theoretical writings by Gianni Vattimo, Jürgen Habermas, Rodolphe Gasché, and others.
Instructor(s): E. Gonzalez; W. Egginton
Area: Humanities.
AS.212.790. What is Philology?.
In recent years, philology has gained new attention as a field of methodological reflection which at the same time opens up Literary Criticism toward interdisciplinary research and media studies as it emphasizes the specific status of Literary Criticism in the humanities. The course will examine the changing field(s) of philology from the 18th century to the present in both historical and systematic scope. Including methods of textual criticism, edition philology, and hermeneutics, philology has been addressing questions of theory, methodology, and epistemology in various constellations. Precisely because philology’s interest lies in connecting languages and literatures to their historical contexts, one of its primary tasks is to account for the epistemic framework and limitations of such historicization, so as to ensure that the literary object not be confused with historical contexts but is perceived as a distinct phenomenon in itself. In addition to these questions, the course will discuss methods of edition philology, ranging from historical-critical edition to “material philology” and “genetic criticism” along with analyzing editions of Kafka, Joyce, and Flaubert. Further, we will examine the more recent discussion on philology and new media (e.g. digital editions). Readings will include Vico, Schlegel, Schleiermacher, Nietzsche, Auerbach, Szondi, Bollack, Nichols, Cerquiglini, and Ferrer among others. The course will be taught in English. Meets with AS.213.790, AS.214.790, and AS.215.790. Instructor(s): E. Strowick; J. Neefs.

AS.212.791. Film Theory and Critical Methods.
This survey of critical approaches to the study of film explores theoretical problems of representation and reality, film form and signification, authorship, spectatorship, and the digital frontier. Each week we examine a different narrative genre, historical period, or a given theoretical aspect through films that students will watch independently as well as at mandatory weekly screenings. Instructor(s): B. Wegenstein; D. Schilling.

AS.212.801. French Independent Study.
Instructor(s): D. Schilling; E. Russo; J. Neefs; W. Anderson.

AS.212.802. French Dissertation Research.
Instructor(s): D. Schilling; E. Russo; J. Neefs; W. Anderson.

Instructor(s): D. Schilling; E. Russo; J. Neefs; W. Anderson.

AS.213.104. Freshman Seminar: Weimar on the Pacific: German Exile Culture in the United States. 3 Credits.
Freshmen seminar. After Hitler's seizure of power in 1933, the number of artists and intellectuals who fled the Nazi regime soon rose into the thousands. Many of these German expatriates ultimately settled in the United States (e.g. Los Angeles, New York), where, simultaneously attracted and alienated by their new surroundings, they made a significant impact on American culture. The seminar will explore German Exile Culture in the U.S. in its broad variety spanning a spectrum from film (Fritz Lang, Billy Wilder) to architecture (Richard Neutra, Rudolf M. Schindler), literature (Thomas Mann, Berthold Brecht, Lion Feuchtwaneger), and philosophy (Theodor W. Adorno, Hannah Arendt). Based on the aesthetic and conceptual specificities of the artifacts, class discussions will focus on the relations between art and politics, modernist and mass culture, art and capitalism, culture and democracy. The seminar will close with a look at postwar America and the McCarthy era, when European emigrants became the target of suspicion as left-wing intellectuals.
Instructor(s): A. Krauss
Area: Humanities.

AS.213.229. Weimar on the Pacific: German Exile Culture in the United States. 3 Credits.
Taught in German. After Hitler’s seizure of power in 1933, the number of artists and intellectuals who fled the Nazi regime soon rose into the thousands. Many of these German expatriates ultimately settled in the United States (e.g. Los Angeles, New York), where, simultaneously attracted and alienated by their new surroundings, they made a significant impact on American culture. The seminar will explore German Exile Culture in the U.S. in its broad variety spanning a spectrum from film (Fritz Lang, Billy Wilder) to architecture (Richard Neutra, Rudolf M. Schindler), literature (Thomas Mann, Berthold Brecht, Lion Feuchtwaneger), and philosophy (Theodor W. Adorno, Hannah Arendt). Based on the aesthetic and conceptual specificities of the artifacts, class discussions will focus on the relations between art and politics, modernist and mass culture, art and capitalism, culture and democracy. The seminar will close with a look at postwar America and the McCarthy era, when European emigrants became the target of suspicion as left-wing intellectuals.
Prerequisites: AS.210.362
Instructor(s): A. Krauss
Area: Humanities.

AS.213.233. Freshman Seminar - A History of Reading: from Gutenberg to Kindle. 3 Credits.
Freshmen only. This course investigates the 18th-century revolution in reading – the pedagogical and aesthetic debates about the virtues and dangers of reading, idealizations and critiques of print culture, books as material objects, and the shifting concepts of both author and reader, and to what extent this historical period anticipates our own present day revolution in reading technologies.
Area: Humanities.

AS.213.235. Panorama of German Thought I. 3 Credits.
Taught in English. German thought is a broad intellectual tradition that encompasses works in an astonishing number of fields including philosophy, aesthetics, sociology, epistemology, psychology, anthropology, history, religious studies, and cultural analysis. The most prominent representatives of this tradition are Luther, Kant, Humboldt, Hegel, Nietzsche, Marx, Warburg, Freud, Benjamin, Kracauer, Weber, Simmel, Cassirer, Auerbach, Adorno, Arendt, Heidegger, and Luhmann. Indeed the study of cultural, historical, and social phenomena as well as of literary and artistic forms would not have been possible without the German intellectual tradition which, beginning with the Enlightenment, emphasized the role of the subject in constituting objects of knowledge and experience. This two-semester survey course will highlight important topics of German Thought, e.g. the subject, consciousness and unconsciousness, Bildung and the idea of the university, the sublime and the uncanny, irony, hermeneutics and translation, the desire for knowledge, tragedy and repetition, civilization, symbolic forms and medial reproduction, memory, and authority in a historical scope. While the first semester (Fall) covers until 1850 (from Luther to Hegel/Kierkegaard), the second (Spring) focuses on Modern German Thought after 1850 (from Marx to Luhmann).
Instructor(s): E. Strowick
Area: Humanities.
AS.213.236. Panorama of German Thought II. 3 Credits.
Panorama of German Thought from Nietzsche to Habermas. Course will examine major thinkers in nineteenth and twentieth-century German thought with emphasis on the response to Enlightenment philosophy, the critique of reason, the questions about the autonomy of the subject and the search for new individual and collective identities. Reading will include traditional philosophical texts (Nietzsche, Cassirer, Heidegger, Adorno, Habermas) as well as works in anthropology (Gehlen, Scheler), sociology (Simmel, Weber), psychology (Mach, Freud), political theory (Marx, Schmitt) and aesthetics (Benjamin, Warburg, Panofsky). This course is a continuation of Panorama of German Thought I, though the first semester is not a prerequisite for the second. Taught in English.
Instructor(s): R. Tobias
Area: Humanities.

AS.213.237. Literature and Medicine. 3 Credits.
Taught in English. The course will analyze literary representations of illness as well as explore interfaces between literary and medical knowledge in more general ways. Both literature and medicine can be considered semiotics as they deal with the study of signs; further, both are invested in interpretation. We will analyze the relation between literature and madness, explore “illness as metaphor” (Susan Sontag) and discuss case studies in relation to literary genres (for example, Freud is surprised to notice that his studies on hysteria read like novellas). As prominently depicted in Thomas Bernhard’s “In the Cold” and theoretically analyzed by Michel Foucault, the course will further address the nexus between medical institutions and power. Readings will include: Antonin Artaud, Thomas Bernhard, Georg Büchner, Michel Foucault, Sigmund Freud, Henry James, Franz Kafka, Thomas Mann, Daniel Paul Schreber, Susan Sontag, etc. Films: “Philadelphia” (Jonathan Demme, 1993), “Melancholia” (Lars von Trier, 2011).
Instructor(s): E. Strowick
Area: Humanities.

AS.213.251. Friedrich Nietzsche. 3 Credits.
Freshman Seminar: This seminar offers an introduction to Nietzsche’s work and a first journey into the world of German thought, culture, and literature. Friedrich Nietzsche continues to be one of the most radical and influential philosophers of the West. Famous and infamous for announcing the death of God and the advent of the superhuman, his reverence for philosophical tradition culminated in the call to “philosophize with a hammer” (so as to demolish the constructions of Western metaphysics). He embarrassed the old philosophers exposing their, as he put it, clumsy lovemaking with truth. And he stunned generations of intellectuals after him with his idea of the eternal return of the same. But Nietzsche was also a scintillatingly witty writer, a light-footed and poetic thinker, a bold defender of the experiences of the body, a tender human being, and a sharp critic of German narrow-mindedness.
Instructor(s): K. Pahl
Area: Humanities.

AS.213.252. The Idea of the University: Modern German Thought and the Hopkins' Experiment. 3 Credits.
Readings and discussion in English. Many of the issues we grapple with today regarding higher education have a long history dating back to the eighteenth and nineteenth centuries, when the first modern universities were founded in Germany. What is the relation of research to teaching? How do we define scholarship? What is the difference between professional training and academic study? How do we distinguish secondary education from higher learning? What obligations does the university have vis-à-vis the state, which often finances it in whole or in part? What protections does the state owe the university when it pursues research that runs counter to the interests of state? What purpose does the ivory tower serve in an age in which higher learning is no longer limited to the classroom but is widely available (via books, radio, television, the internet)? In this class we will explore the rich literature from the nineteenth century on the idea of the university and the value of learning. We will conclude the course with an examination of the German roots of Johns Hopkins. Cross-listed with History.
Instructor(s): R. Tobias
Area: Humanities.

AS.213.253. Freshman Seminar: Jewish Humor and the Construction of Cultural Discourse. 3 Credits.
With the fall of the Berlin Wall in 1989, one of the most powerful symbols of the Cold War came down. For decades, the division between East and West Germany had been a decisive factor in German literature and film from both states in several respects. Political censorship in the GDR and West German publishing policies determined the conditions for art production. They created specific audiences and shaped the role of the public intellectual. The Berlin Wall could also be said to have contributed to certain trends like the aesthetics of coldness and the poetics of observation. The course examines the relationship between aesthetics and politics in German-German literature and film from 1961 to the present. Readings include: Christa Wolf, Uwe Johnson, Reiner Kunze, Peter Schneider, Ingo Schulze, Anna Funder. Films: Wings of Desire (Wim Wenders, 1987), The Leading Role (Harun Farocki, 1994), The Tunnel (Roland Suso Richter, 2001), Good Bye, Lenin! (Wolfgang Becker, 2003), The Lives of Others (von Donnersmarck, 2007), Yella (Christian Petzold, 2007). The course will be taught in English.
Instructor(s): M. Caplan
Area: Humanities.

AS.213.260. Modern Jewish Literature in North America. 3 Credits.
Tought in English. This course will survey the major trends in Yiddish, Hebrew, and English literature published in the United States, Canada, and Mexico since the turn of the 20th century. Our discussions will consider the connections this literature maintains with other “ethnic” schools of writing; what connections, or disruptions, it signifies with Jewish literatures in other eras or locales; to what degree Jewish writing in languages other than English participate in major trends of American literature—or whether this writing could even be considered to anticipate innovations in the American “mainstream.” Topics in this literature will include the disruptions of immigrant life, the shadows of the Holocaust and anti-Semitism, aspirations for social justice, the lure and trauma of the American suburbs, the collapse of the Great Society, gender in American Jewish life, and the new Jewish immigrants of the former Soviet Union. All readings and discussions available in English.
Instructor(s): M. Caplan
Area: Humanities.
AS.213.265. Panorama of German Thought. 3 Credits.
German thought is a broad intellectual tradition that encompasses
works in an astonishing number of fields including philosophy,
aesthetics, sociology, epistemology, psychology, anthropology,
history, religious studies, and cultural analysis. The most prominent
representatives of this tradition include Luther, Leibniz, Kant, Humboldt,
Hegel, Nietzsche, Marx, Warburg, Freud, Benjamin, Kracauer,
Weber, Simmel, Cassirer, Auerbach, Adorno, Arendt, Heidegger, and
Luhmann. Indeed, current approaches to understanding cultural,
historical, and social phenomena as well as literary and artistic forms
would not have been possible without the German intellectual tradition
which, beginning with the Enlightenment, emphasized the role of the
subject in constituting objects of knowledge and experience. This
survey course will highlight important topics in German Thought,
which may include the subject, consciousness and unconsciousness,
Bildung and the idea of the university, the sublime and the uncanny,
irony, hermeneutics and translation, the desire for knowledge, tragedy
and repetition, civilization, symbolic forms, and material reproduction,
memory, and authority in a historical scope. Taught in English.
Instructor(s): A. Glazova; Staff
Area: Humanities.

AS.213.301. Franz Kafka. 3 Credits.
The course is an introduction to the life, work and milieu of Franz Kafka.
While reading Kafka’s short stories (e.g., Das Urteil, Die Verwandlung,
Ein Bericht für eine Akademie, along with diary entries and Letter to his
Father (Brief an den Vater), we will pay close attention to the author’s
understanding of writing, his relationship to his father, Jewish tradition,
history, and his fascination of the foreign and the exotic. We will also
focus on Kafka’s influences; critical reception; reader problems in
approaching Kafka’s works; Kafka’s situatedness in fin-de-siècle Prague;
and issues in translating Kafka into English. Taught in German.
Prerequisites: AS.210.362
Instructor(s): A. Glazova
Area: Humanities.

AS.213.302. Reality Effects: 19th Century German Prose. 3 Credits.
The course will examine how mid- and late-19th-century literature
creates so-called reality effects which make the text seem a
representation of the social world. The term “effect” intends to mark a
most decisive insight: that literature does not simply depict a pre-given
outer life but produces illusory impressions of ’authenticity’ by using
various aesthetic and rhetorical devices (e.g. modes of description,
frames, specific narrations of time and space). In reading Gottfried
Keller, Adalbert Stifter, Conrad Ferdinand Meyer, Theodor Storm and
Theodor Fontane we will analyze these aesthetic strategies in relation to
literary conventions and codes which readers have learned to interpret
as ‘realistic’. Given that these conventions change over time and are
situated in specific contexts, we will also be discussing the historicity
of reality effects with respect to the rise of photography and modern
historiography in the 19th century. Taught in German. Recommended
Course Background: AS.210.362
Prerequisites: AS.210.362
Area: Humanities.

AS.213.308. Gespenster: verschwiegen und doch weitergegeben. 3 Credits.
We will study the psychic afterlives of WWI, Nazism, and Stasi
experiences and involvements. These are stories that are often not
told in the family but nevertheless handed down across generations
in powerful, less-than-explicit, and often distorted ways. Drawing on
philosophy and psychoanalysis, we will discuss how the need for silence
meets the need to talk and to hear. We will read literature and analyze
films on the family lives of former political prisoners in the GDR, Stasi
informants, Nazi perpetrators, victims of the Holocaust, and soldiers of
the First World War. Reading and discussion in German. Recommended
Course Background: AS.210.361
Prerequisites: AS.210.361
Instructor(s): K. Pahl
Area: Humanities.

AS.213.309. Walter Benjamin and His World. 3 Credits.
All readings and class discussions in English. This course will provide
an introduction to the thought, writing, and world of Walter Benjamin
—one of the most interesting and influential German writers of the
early 20th century. Although he died in exile having published only
a single book in his lifetime, in the past three decades his ideas and
preoccupations have changed the way we think about Cultural Studies,
Media Studies, Literary Studies, German thought, Jewish mysticism,
and the philosophy of history. We will be examining some of his major
writings in tandem with precursors such as Charles Baudelaire and
Louis Aragon; contemporaries such as Theodor Adorno and Gershom
Scholem; and the legacy of his work among contemporary theorists,
critics, and artists.
Instructor(s): M. Caplan
Area: Humanities
Writing Intensive.

AS.213.310. Classic German Theater. 3 Credits.
Taught in German. In this seminar we will read some of the most
important plays of German literature, by Lessing, Goethe, Schiller,
Kleist, and Büchner. We will explore questions about the role of
the theater toward the education of mankind in the spirit of the
enlightenment. We will examine how tragedy is reconfigured around
the context of the bourgeois family. We will study historical practices
of stage production as well as modern filmic and theatrical productions.
Finally, we will prepare an informal staging of a play.
Prerequisites: AS.210.361
Instructor(s): K. Pahl
Area: Humanities.

AS.213.312. Contemporary German Literature (1970 to the present). 3 Credits.
The seminar examines the way cultural and historical topics are
presented in contemporary German literature. The selected texts
originate in different national contexts (Swiss, Austrian, German,
German-Turkish, German-Japanese) and deal with questions concerning
the representation of national, cultural, and individual identity. We will
explore how the texts (de)construct these identities through narrative
structures and will contextualize these structures with respect to recent
theories of (trans) cultural identities. Authors include: Eugen Ompromer,
Yoko Tawada, Terézia Mora, Thomas Hürlimann, Martin Suter, Christoph
Schlingensief, Max Frisch, Günter Grass, Thomas Bernhard, Maxim
Biller, and Thomas Meinecke. Taught in German.
Prerequisites: AS.210.362
Instructor(s): A. Krauss
Area: Humanities.
AS.213.317. Berlin at the Crossroads of the 20th Century. 3 Credits.
This course will examine the location of Berlin at the heart of European and global culture over the course of the 20th century. In addition to its centrality to German national identity and political culture, Berlin between the World Wars was a weigh station and meeting ground for a variety of languages, cultures, and artistic trends—whether expatriates, refugees, nomads, touring companies, or vagabonds. In what ways did these travelers to Berlin change German popular or intellectual culture? In what ways did Berlin function as a center for avant-garde culture, and in what sense did it remain a peripheral space, in the shadow of grander culture centers such as Moscow, Paris, New York, or Hollywood? What lessons might be taken from the supposed glamour of Berlin between the World Wars and the continued attraction of that period for post-Holocaust adaptation and contemplation? These questions, among others, will be considered with reference to a variety of narratives, dramas, and films taken from German, English, Hebrew, Russian, and Yiddish sources. Authors to be considered will include Walter Benjamin, Joseph Roth, Irmgard Keun, Erich Kästner, Bertolt Brecht, Christopher Isherwood, Sh. Y. Agnon, Vladimir Nabokov, Viktor Shklovsky, and David Bergelson. All readings and discussions in English.
Instructor(s): M. Caplan
Area: Humanities.

AS.213.318. The Making of Modern Gender. 3 Credits.
Taught in English. Gender as we know it is not timeless. Today, gender roles and the assumption that there are only two genders are diligently contested and debated. With the binary gender system thus perhaps nearing its end, we might wonder if it had a beginning. In fact, the idea that there are two sexes and that they not only assume different roles in society but also exhibit different character traits, has emerged historically around 1800. Early German Romanticism played a seminal role in the making of modern gender and sexuality. For the first time, woman was considered not a lesser version of man, but a different being with a value of her own. The idea of gender complementation emerged, and this idea, in turn, put more pressure than ever on heterosexuality. In this course, we will explore the role of literature and the other arts in the making and unmaking of gender.
Instructor(s): K. Pahl
Area: Humanities.

AS.213.319. The Making of Modern Gender - German Section. 1 Credit.
Instructor(s): K. Pahl; M. Wessels.

AS.213.321. Bodies and Pleasures. 3 Credits.
Taught in English. This course traces a literary history of sexuality from the Middle Ages to contemporary women's writing. We will analyze how sexual pleasure changed over time. In particular, we will discuss what role literature plays in the reproduction and transformation of bodily pleasures. The course explores how the pleasures of bodies are imagined in and through literature, but also whether words are bodies that give pleasure and perhaps even have their own pleasures. Authors discussed will include Boccaccio, Ciełand, Rousseau, Schlegel, Kleist, Hoffmann, Novalis, Arnim, Büchner, Freud, Rilke, Kafka, Rich, Foucault, Kristeva, Cixous, Giddens, and Winterson.
Instructor(s): K. Pahl
Area: Humanities.

AS.213.325. Johann Wolfgang von Goethe: Bridging Literature and Science. 3 Credits.
Open to Sophomores or higher standing. This course will examine the literary and scientific works of Goethe (1749-1832). We will explore the complex relations between literature and science at a point in history where the disciplinary boundaries were more porous than they are today. In this seminar, we will read those works, in which literature and science intersect, via style or subject matter, but most importantly, via their joint philosophical underpinnings, revealing that for Goethe science and literature are not two separate trains of thought but form a highly intricate discursive web. Goethe’s oeuvre offers the unique opportunity to discuss the relations between literature and science around 1800, the formation period of “modern” natural sciences and the beginning of their domination over literature and philosophy, by analyzing one author, who straddled both realms, and who reflects on the value of scientific and literary discourses. Cross-listed with History of Science and Technology Dean’s Teaching Fellowship - Taught in English
Instructor(s): C. Domenghino
Area: Humanities.

AS.213.330. “What is an Image?” - Technology, Art and Visual Culture around 1900. 3 Credits.
Taught in English. This course is an interdisciplinary introduction to the theory of the image with an emphasis on its material and conceptual transformations in the modern period.
Instructor(s): J. Schade
Area: Humanities.

AS.213.331. Detective Fiction in its Nascence. 3 Credits.
Although Edgar Allen Poe is often called the father of detective fiction, this assumption is not entirely correct. Sixty years before Poe published his “Murders in the Rue Morgue,” Schiller wrote the novella “Der Verbrecher aus verlorener Ehre,” which was decisive for the development of the genre in Germany. Schiller’s novella carried the subtitle, “Eine wahre Geschichte,” which underscored the tension between “true” events and “probable” circumstances which is characteristic of detective fiction in general. In this course we will examine the competing notions of truth (Wahrheit) and probability (Wahrscheinlichkeit) at play in German detective fiction from the eighteenth to nineteenth century. We will explore why the romantics emphasized truth as a defining feature of literature and how the realists replaced this notion with verisimilitude. Authors to include: Schiller, Kleist, Tieck, Hoffmann, Droste-Hülshoff, Fontane, Storm, Paul Heyse, Richard Alewyn. Reading and discussion in German.
Instructor(s): R. Tobias
Area: Humanities.
AS.213.332. Zionism in Modern Literature: Jewish or Israeli?. 3 Credits.
This course will be an examination of the themes of nationalism, Zionism, and the problems of the nation-state in modern Jewish literature of the past hundred years. Among the topics we will consider are the unique challenges of a diasporic culture relocating its national aspirations to an unfamiliar and often hostile environment, the controversies surrounding political nationalisms within modern Jewish culture, the competition between languages in the formation of Israeli society, the character of Israeli national culture, the relationship of Israel's Jewish majority with its minority population, and the relationship of Israeli culture to the Jewish culture of the diaspora. To what extent do Israeli literature constitute a continuation of themes and techniques found in previous Jewish writing, and to what extent does it represent a new beginning? To what extent can Israeli literature be compared with other varieties of Jewish writing and to what extent is this writing a unique cultural phenomenon? Although the majority of works discussed will be translated from Hebrew— including such leading figures of Israeli literature as S. Y. Agnon, S. Yizhar, Amos Oz, and Orly Castel-Bloom—we will also be considering works translated from Yiddish (Mendele Moykher-Sforim), German (Theodor Herzl), and Arabic (Emile Habibi), as well as contemporary American writers such as Philip Roth and Michael Chabon. All readings and discussions conducted in English. Cross-listed with Jewish Studies, English, and the Humanities Center.

Instructor(s): M. Caplan
Area: Humanities
Writing Intensive.

AS.213.336. Dancing About Architecture: Jewish Humor and the Construction of Cultural Discourse. 3 Credits.
Are all Jews funny, or only the ones from New York? This course will be an advanced-undergraduate, writing-intensive examination of literary, theatrical, cinematic, and televised representations of Jewish culture focusing on the construction of cultural discourse through comedy. Taking as a point of departure Sigmund Freud's Jokes and Their Relation to the Unconscious, we will consider the joke as a mode of narration and cultural coding with specific resonances for the Jewish encounter with modernity. Among the topics to be addressed in this course will be the origins of modern Jewish humor in traditional modes of storytelling and study; the problems of anxiety and otherness articulated and neutralized through humor; the significance of Jews in creating popular culture through mass mediums (particularly though not exclusively in the United States) as well as the role of these mediums in transmitting and translating Jewish references to the general culture; the status of the Yiddish language as a vehicle for satire and a vehicle of resistance between tradition and modernity; the uses and abuses of Jewish stereotypes and the relationship of Jewish humor to anti-Semitism; the connections between Jewish humor and other modes of minority discourse; and the question of translation of Jewish humor both from Yiddish into other languages and from the Jewish “in-group” to a “post-ethnic” audience. Authors and performers to be examined will include Avrom Goldfaden, Sholem Aleichem, Franz Kafka, Moshe Nadir, Dzigan and Schumacher, the Marx Brothers, Philip Roth, Woody Allen, Mel Brooks, Jerry Seinfeld, Larry David, and Sascha Baron Cohen. All readings and discussions conducted in English.

Instructor(s): M. Caplan
Area: Humanities.

AS.213.337. German Freshman Seminar: Jewish Humor and the Construction of Cultural Discourse. 3 Credits.
Are all jews funny, or only the ones from New York? This course will be an advanced-undergraduate, writing-intensive examination of literary, theatrical, cinematic, and televised representations of Jewish culture focusing on the construction of cultural discourse through comedy. Taking as a point of departure Sigmund Freud's Jokes and Their Relation to the Unconscious, we will consider the joke as a mode of narration and cultural coding with specific resonances for the Jewish encounter with modernity. Among the topics to be addressed in this course will be the origins of modern Jewish humor in traditional modes of storytelling and study; the problems of anxiety and otherness articulated and neutralized through humor; the significance of Jews in creating popular culture through mass mediums (particularly though not exclusively in the United States) as well as the role of these mediums in transmitting and translating Jewish references to the general culture; the status of the Yiddish language as a vehicle for satire and a vehicle of resistance between tradition and modernity; the uses and abuses of Jewish stereotypes and the relationship of Jewish humor to anti-Semitism; the connections between Jewish humor and other modes of minority discourse; and the question of translation of Jewish humor both from Yiddish into other languages and from the Jewish “in-group” to a “post-ethnic” audience. Authors and performers to be examined will include Aaron Halle-Wolfssohn, Sholem Aleichem, Franz Kafka, Moshe Nadir, Dzigan and Schumacher, the Marx Brothers, Philip Roth, Woody Allen, Mel Brooks, Jerry Seinfeld, Larry David, and Sascha Baron Cohen. All readings and discussions conducted in English.

Instructor(s): A. Krauss.

AS.213.341. Images of America in German Literature. 3 Credits.
Since the 18th century, European thinking and imagination has envisioned ‘America’ as a complex network of both positive and negative projections: With the ‘American dream’ laid down in the Declaration of Independence, the United States has represented the great model of individual freedom, democracy and modernization. At the same time, this ‘new world’ has been depicted as the epitome of alienation, human degradation, and (decaying) capitalism. As both a euphoric and dysphoric vision, America has been reflected in German literature, particularly in narrative accounts of travelling, novels, stories, and essays ranging from Goethe’s “Wilhelm Meisters Wanderjahre” to Kafka’s “Der Verschollene,” and beyond. The seminar will analyze the images of America in German literature of the 19th and 20th century in their historical contexts. We will further investigate concepts of identity and politics, perceptions of time and space and their aesthetic representation. Authors include: Johann Gottfried Herder, Goethe, Nikolaus Lenau, Novalis, Heinrich Heine, Karl May, Franz Kafka, Peter Handke, Max Frisch, Uwe Johnson, and others. Readings and discussions in German.

Instructor(s): A. Krauss.
AS.213.344. Holocaust and Film. 3 Credits.
Taught in English. This class will examine the history of Holocaust films in regard to the possibilities of genre (documentary versus feature), the use of historical and archival materials, as well as general questions of representation and trauma. I CINEMA OF THE VICTIMS II CINEMA OF THE PERPETRATORS III CINEMA OF THE SECOND AND THIRD GENERATIONS WITNESSES Students will be writing weekly response papers to all screenings, and will choose to work with films in the original languages German, English, Italian, and French. This class will be writing-intensive. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies. Instructor(s): B. Wegenstein Area: Humanities Writing Intensive.

AS.213.346. Faust Legends. 3 Credits.
The legendary figure of Faust, a man who sells his soul to the devil in exchange for knowledge, self-fulfillment, and power, has attracted continuous interest from writers, artists, composers, and thinkers over the last 400 years. This course will analyze the various transformations of the Faust legend as they emerged in German literature since the 18th century. It will focus especially on how the different treatments of the legend adapt the motif to its particular historical situation, and where exactly the elements of (dis)continuity lie. By means of close readings, the seminar will also investigate the multiple forms and genres by which the legends have been represented, as narrative texts, dramas, poems, or films. Authors include: Lessing, Klinger, Goethe, Grabbe, Heine, Hesse, Lasker-Schüler, Klaus Mann, Brecht. We will also consider F.W. Murnau’s and P. Gorski’s film versions of Faust, as well as I. Szabó’s movie Mephisto based on Klaus Mann’s novel of the same title. Readings and discussions in German.
Prerequisites: AS.210.362
Area: Humanities Writing Intensive.

AS.213.348. Picturing Jews: Representing Jewish Identity in Modern Art, Film & Literature. 3 Credits.
This course will consider the different ways Jewish identity has been represented in the 19th and 20th centuries, focusing primarily on Central and Eastern Europe. Race, nationalism, religion, language, geography, politics—all helped shape different ways of understanding just what it meant to be a Jew, and all found expression in art and literature by both Jews and non-Jews. Looking at texts originally written in German, Yiddish, and Hebrew, including prose, poetry, journalism and drama, as well as painting, photography, graphic design, architecture, and film we will gain an understanding of the range of ways that Jewish identity could be understood and expressed as well as of the ideological stakes and historical contexts of such representations. Writers and artists examined will include Chagall, Kafka, Sholem Aleichem, and Bialik. All readings will be in translation.
Instructor(s): S. Spinner Area: Humanities.

AS.213.349. Weimar Cinema: The Golden Age of German Film. 3 Credits.
Taught in German. German cinema of the 1920s is regarded as one of the “golden ages” of world cinema. The course centers on close readings of works which belong to the canon of German film, including The Cabinet of Dr. Caligari, Nosferatu, Metropolis, The Blue Angel, The Last Laugh, and M. Focusing on the question of cinema and modernity, we will discuss topics like modern aesthetics and visual perception; Expressionism in film; technology and the metropolis; the emergence of film genres (e.g. horror film, film noir, science-fiction film, and melodrama). The film analyses will be accompanied by a discussion of the varied scholarly approaches to Weimar Cinema.
Prerequisites: AS.210.361 AND AS.210.362
Instructor(s): E. Strowick
Area: Humanities.

AS.213.353. Introduction to German Thought. 3 Credits.
Area: Humanities.

AS.213.354. Introduction to German Poetry. 3 Credits.
This class will introduce students to German poetry from the eighteenth to the twentieth century. We will read selected poems by Goethe, Eichendorff, Mörike, George, Hofmannsthal, Rilke, Trakl, Celan, and Bachmann. In addition we will read several theoretical essays by poets and literary critics alike which examine the lyric form and the curious world that poetry constructs. Readings and discussion in German.
Instructor(s): R. Tobias
Area: Humanities.

AS.213.355. Literature and Opera. 3 Credits.
In this course we will look at the relation between some of the great opera’s of the 18th and 19th centuries and their literary sources. We will also discuss some recent philosophical interpretations of opera. At stake will be the question of how literature is translated into music and stagecraft, and what these translations say about the times and cultures in which they were produced. Each week we will view and listen to an opera, and read its source materials as well as critical works about both. The course will be conducted in English, and will be writing intensive. (This course is offered as AS.212.355, 213.355, 214.355, and 215.355. Please check other course numbers for open seats.)
Instructor(s): W. Egginton
Area: Humanities Writing Intensive.

AS.213.356. Goethe. 3 Credits.
This seminar offers an introduction to the work of Goethe (1749-1832) who is one of the most prominent figures in the history of German literature and thought and according to T.S. Eliot ‘one of the wisest of men’. Tracing this wisdom through selected poems, prose, plays and essays, we will closely analyze the fascinating complexity of an oeuvre that reflects Goethe’s interdisciplinary interests in the aesthetic, philosophical, and scientific discourses and controversies of his time. Readings will include: Prometheus, Goetz von Berlichingen, Faust I, The Sorrows of Young Werther, Iphigenia in Tauris, Novella, Metamorphosis of Plants, Theory of Colours etc. Taught in German.
Prerequisites: AS.210.362
Instructor(s): A. Krauss
Area: Humanities.
AS.213.359. Kleist. 3 Credits.
Heinrich von Kleist was one of the most intriguing literary figures of the early nineteenth century in Germany. Neither Classicist nor Romanticist, he developed a unique style that combines such different elements as complex rhetorical rhythm, drastic imagery, and philosophical precision. His novellas, plays, and nonfiction prose explore questions of gender, colonialism, the tragic, and of innocence and double dealing. Among the texts we will read together are "The Betrothal in St. Domingo" (Kleist's literary response to the Haitian revolution), "Penthesilea" (the play about lovers who can find each other only in war ends in a splatter scene), and "Marquise of O" (the story of a woman whose father rejects her because she finds herself pregnant, and yet she has no memory of the sexual intercourse that must have led to her current situation). 
Language of Instruction: German
Prerequisites: AS.210.362 OR AS.210.461 OR AS.210.462 OR
INSTRUCTOR PERMISSION
Instructor(s): K. Pahl
Area: Humanities.

AS.213.362. Sigmund Freud. 3 Credits.
The course will examine Freud's writings from a two-fold perspective: On the one hand, we will analyze the contributions of psychoanalysis to modern thought. Lining himself up with Copernicus and Darwin, Freud considers his concept of the "unconscious" a further insult to mankind's narcissism and revolution of thought. In this respect, psychoanalysis affects a vast array of concepts of modern thought such as subject, language, sexuality, morality, culture, history, religion and art which we will discuss alongside with key terms of psychoanalysis (unconscious, repetition, transference etc.). On the other hand, the course will address the specific relation between psychoanalysis and literature. Throughout Freud's writings, literature enjoys vivid interest. Not only are psychoanalytic concepts (e.g. Oedipus complex, narcissism, the uncanny) crucially informed by literary texts, but also Freud's "Interpretation of Dreams" proves to be a theory of representation and reading. We will investigate the ways in which literature and psychoanalysis are involved with each other considering narrative forms, performative aspects and aspects of the genre (novel, novella). Readings and discussions in English.
Area: Humanities.

AS.213.367. Contemporary German Film. 3 Credits.
After almost a quarter century of neglect, German cinema is on the map again. The many awards German films have been granted over the last 10 years speak to the renaissance of German Cinema since 2000. Among these movies are Florian Henckel von Donnersmark's "The Lives of Others" (Academy Award for Best Foreign Language Film, 2006), Caroline Link's "Nowhere in Africa" (Academy Award for Best Foreign Language Film, 2002), Fatih Akin's "Head-On" (Golden Bear at the Berlin International Film Festival, 2004; European Film Award 2004), Oliver Hirschbiegel's "Downfall" (nominated for Academy Award for Best Foreign Language Film, 2004) or Wolfgang Becker's "Goodbye, Lenin!" (European Film Award, 2003). Nazi Germany, the Stasi, or the Reunification are prominent topics of this internationally acclaimed Contemporary German Cinema. Parallel to these mainstream productions, an aesthetically far more adventurous cinema has developed known as "Berlin School" or "Nouvelle Vague Allemande". Dissecting the everyday reality of post-wall Germany, this 'counter-cinema' draws on the New German Cinema of the 1970s (among other influences) to develop radical notions of realism and challenge narrative conventions. This course will offer a survey on German Film since 2000 - discussing the historical and cultural context of selected movies as well as analyzing aesthetic strategies and concepts of realism in Contemporary German Cinema. Taught in German.
Prerequisites: AS.210.362
Instructor(s): E. Strowick
Area: Humanities.

AS.213.368. German Political Thought. 3 Credits.
This course will introduce students to major figures in German political thought from Martin Luther to Karl Marx and Immanuel Kant to Carl Schmitt. The class will explore such issues as the notion of sovereignty, the relationship between church and state, the theory of parliamentary democracy, and the political and economic ramifications of liberalism. Readings and discussion in English.
Instructor(s): R. Tobias
Area: Humanities.

AS.213.371. Kafka and the Kafkaesque. 3 Credits.
Taught in English. Franz Kafka is regarded as one of the most influential writers of the 20th century. To this day, his lucid and subtle prose continues to intrigue literary critics, writers of fiction, and readers with observations that create a fictive world at once strange and familiar, hopelessly tragic and hilariously comical. The related term "kafkaesque" refers to the unique character of a literary universe that is perceived as both eerie and resistant to any classification. In this course, we will analyze texts by Franz Kafka from a variety of perspectives: as investigations into modern institutions and bureaucracy, law, punishment and family structures. Special emphasis will be given to the exploration of Kafka's poetic practice, i.e. to the material, rhetorical and performative quality of his writing. In addition to reading a selection of Kafka's prose and analyzing several film adaptations, we will also discuss some influential commentaries on his work and discuss Kafka's impact on the conceptualization of modernity. Students will gain an in-depth understanding of Kafka's oeuvre while developing skills in critical analysis and literary close reading.
Instructor(s): A. Krauss
Area: Humanities.

AS.213.372. Literature and Dream. 3 Credits.
Area: Humanities.
AS.213.376. Art in Literature. 3 Credits.
Discussion in German. Since the Enlightenment, works of art have played a prominent role in literary texts, providing an occasion for texts to reflect on their status as art and to explore the possibilities and challenges unique to aesthetics. In this course we will examine novellas and poems that refer to paintings or other works of art to illuminate the nature of art and to reflect on phenomena that have no place in any other discourse. Readings to include works by Lessing, Eichendorff, Storm, Mörke, Adrian, Freud, and Hofmannsthall. 
Prerequisites: AS.210.361 AND AS.210.362
Instructor(s): R. Tobias
Area: Humanities.

AS.213.380. Ghost Stories, Haunted House and Other Occult Phenomena. 3 Credits.
Although the eighteenth century is often associated with the Enlightenment, the period also gave birth to the gothic novel with its lurid description of haunted houses, ghosts, phantoms, and diabolical forces in nature. This course will examine the modern obsession with occult phenomena from Chamisso to Bram Stoker and Freud, whose 1919 essay “The Uncanny” constitutes one of the most rigorous analyses of the irrationality of psychic life. We will consider the appearance of ghosts in literature as well as explore the status of literature as a play of appearances, of light and shadow. Why have ghost stories been so prevalent in the modern era, when science and reason are said to dominate our understanding of the world? Is the occult the dark side of science? What kind of knowledge does literature yield? And what can literature tell us about random, obscure, or inexplicable events? Readings in English and German; discussion in English. Additional hour for German discussion through AS.213.381.
Cross-listed with English
Instructor(s): R. Tobias
Area: Humanities.

AS.213.381. German Reading of Ghost Stories, Haunted House and Other Occult Phenomena. 1 Credit.
This is an additional one-hour course in reading and discussing the texts in German for AS.213.380 “Ghost Stories, Haunted Houses and Other Occult Phenomena.” Must also be registered for AS.213.380.
Corequisites: AS.213.380
Instructor(s): R. Tobias
Area: Humanities.

AS.213.379. Literary History of the Novel. 3 Credits.
The course will examine how mid- and late-19th-century literature creates so-called reality effects which make the text seem a representation of the social world. The term “effect” intends to mark a most decisive insight: that literature does not simply depict a pre-given outer life but produces illusionary impressions of ‘authenticity’ by using various aesthetic and rhetorical devices (e.g. modes of description, frames, specific narrations of time and space). In reading Gottfried Keller, Adalbert Stifter, Conrad Ferdinand Meyer, Theodor Storm and Theodor Fontane we will analyze these aesthetic strategies in relation to literary conventions and codes which readers have learned to interpret as ‘realistic’. Given that these conventions change over time and are situated in specific contexts, we will also be discussing the historicity of reality effects with respect to the rise of photography and modern historiography in the 19th century. Taught in German.
Prerequisites: AS.210.362
Instructor(s): A. Krauss
Area: Humanities.

AS.213.403. Women and Their Representation in Modern Jewish Literature. 3 Credits.
If the development of modern literary forms such as the novel, the short story, and the autobiography in Jewish languages commences at a much later date than in other European cultures, the participation of women in the cultivation of these literary forms in Yiddish or Hebrew begins even later: only at the very beginning of the 20th century. What are some of the cultural and historical factors that account for this belatedness? How were women depicted in Jewish literature prior to their entry into the literary marketplace? How does the late start of female writers in these languages affect the formal and political character of their writing? What do aesthetic differences between poetry and prose genres signify about this writing? How do cultural assumptions in Jewish languages differentiate women’s writing from similar forms and genres in other languages? These questions, among others, will be considered with reference to a variety of narratives and poems taken from Yiddish, Hebrew, German, and English sources. Authors to be considered will include Esther Singer Kreitman, Anna Margolin, Kadja Molodowsky, Chava Rosenfarb, Rachel Blustein, Leah Goldberg, Orly Castel-Bloom, Else Lasker-Schüller, and Gertrude Stein. All readings and discussions in English.
Area: Humanities.

AS.213.412. What is Enlightenment?. 3 Credits.
Readings and discussions in German. “Enlightenment”, a European intellectual and social reform movement of the 18th century, advocated reason as the primary basis of authority and the means to scrutinize previously accepted doctrines and traditions. Thinkers in England, France, and later in Germany began to question the authoritarian state, and the orthodoxy of the Church. They attacked intolerance, censorship, and social restraints and argued in favour of the emancipation of the bourgeois individual on the basis of universally valid principles. This course offers an introduction to German Enlightenment through close readings of philosophical and literary texts. The analysis will focus on concepts of freedom, humanity and education, the significance of feelings and emotions for the constitution of individuality, and the critique of reason in late Enlightenment. Authors include: Gottsched, Lessing, Herder, Goethe, Mendelssohn, Kant.
Instructor(s): A. Krauss.

AS.213.426. Thomas Mann. 3 Credits.
The course will be taught in German. In this course we will explore one of the most fascinating German authors of the 20th century. Exceptional in its stylistic elegance, its irony and coldness, Mann’s prose addresses major topics of modernism such as the tension between rationality and passion, between artistic and bourgeois existence, between modernity and myth. In close readings of selected novellas and novels (excerpts), we will analyze Mann’s rhetorical style, his narrative technique of leitmotif and the intertextuality of his prose; further we will examine the substantial relationship of Mann’s writing to philosophy (Schopenhauer, Nietzsche), medicine, psychoanalysis, and music (Wagner, Schönberg).
Instructor(s): E. Strowick.
AS.213.450. Decadence. 3 Credits.
Early twentieth-century literature has been variously characterized as nihilist, fascist, revolutionary, aristocratic, and anti-bourgeois. As this brief list indicates, the characterization has been anything but consistent. In this course, we will examine the artistic and political dimensions of the decadent movement, which sought to fashion life as an aesthetic phenomenon. Our explorations will take us from the turn-of-the-century in Vienna to the roaring twenties in Berlin. We will ask how the writers on the syllabus conceive of life and art and what distinction, if any, they draw between works of art and lived experience. Reading and discussion in German.
Area: Humanities.

AS.213.501. Independent Study - Literature. 0 - 3 Credit.
Instructor(s): A. Krauss; E. Strowick; K. Pahl; R. Tobias
Writing Intensive.

AS.213.502. German Independent Study - Literature. 0 - 3 Credit.
Instructor(s): E. Strowick; M. Caplan; R. Tobias.

AS.213.509. German Honors Program. 3 Credits.
Instructor(s): E. Strowick; K. Pahl; R. Tobias
Area: Humanities.

AS.213.510. German Honors Program. 0 - 3 Credit.
Instructor(s): E. Strowick; K. Pahl; R. Tobias

AS.213.597. German Lit Ind Stdy-Summer. 3 Credits.
Instructor(s): M. Caplan.

AS.213.601. Word and Image: An Introduction to the Languages of Literature and Cinema.
Taught in English, this course is a primer in the linguistics and the rhetoric of literary and cinematic texts. Students will familiarize themselves with the notion of the literary language’s exceptionality by studying Aristotle, Plato, Viktor Sklovskij and Roman Jakobson among others. They will then compare the power of the literary with the language of cinema by studying Andre Bazin’s take of New Realism, Christian Metz’s structuralist approach to cinema and psychoanalysis, Gilles Deleuze’s theory of the moving-image and the time-image, a feminist approach to cinema by E.Ann Kaplan and others, as well as theories of digital cinema from Peter Weibel to Lev Manovich, among others. We will place the language of literature and film within a context that includes religion music, magic, prophecy and medicine. Cross-listed with Film and Media Studies and English (This course is offered as AS.212.601, 213.601, 214.601, and 215.601. Please check other course numbers for open seats.)
Instructor(s): B. Wegenstein; P. Forni.

This graduate-level seminar will consider the theoretical problems and relationship between tragedy and comedy as modes of narration, methods of performance, and philosophical dispositions. Among the topics we will consider are the reciprocal relationship of comedy and tragedy; their respective derivation from myth, ritual, and philosophical dialogue; the relation of each to concepts of selfhood, society, the body, and the body politic. Along the way we will also examine questions such as why tragedy has attracted so much greater theoretical and philosophical interest than comedy, why comedy has been subdivided into various genres while tragedy has remained relatively indivisible, what political uses these modes of storytelling might signify, and how each serves as a mode of critique toward other narrative and dramatic conventions. Authors to be considered include Sophocles, Shakespeare, E.T.A. Hoffmann, Kafka, Brecht, Sholem Aleichem, Sh. Y. Agnon, Moyshe Kulbak, Ahmadou Kourouma, and the Coen Brothers. Theorists will include Aristotle, Hegel, Nietzsche, Freud, Lacan, and Zupancic. All readings and discussions in English.
Instructor(s): M. Caplan.

The course analyzes the transformations of the relationship between form – life – aesthetics with regard to Goethe’s morphological writings as well as the complex history of the reception in the philosophy of life (Spengler, Klages), in literary Modernism (Rilke, Einstein, Benn, Kafka) and in the early cultural studies of the 20th century (Simmel, Cassirer, Blumenberg). The “doctrine of the shape of formation (Bildung) and transformation (Umbildung) of organic bodies,” Goethe’s morphology considers shape (Gestalt) not as something static but in constant change, taking particular interest in the movable (“das Bewegliche”), ie, processes of transformation in their temporality: “Observing all shapes, particularly organic ones, nowhere do we find something established, something inactive, but rather everything oscillates in constant movement. Hence our language uses the word Bildung for both, the emerged as well as the emerging.” A nexus between life and form, Bildung raises the problem of representation: A force towards representation, it itself escapes representation. It is by way of metamorphosis and dynamization of representation that the relationship between life and form is arranged anew, again and again – imposing questions of Bildung, representability (Bildlichkeit), morphological methods and poetics on modern literature and the humanities. Taught in German. Recommended Course Background: AS.210.311-AS.210.312 or instructor permission.
Instructor(s): E. Strowick
Area: Humanities.
AS.213.604. Small Forms.
Small forms cover the broad field from aphorism, epigram, fable and riddle to anecdote, short story, novella, ... and treatise. In each of those ‘compressional arts’ the smallness unfolds in different and historically specific ways. Spanning a period from 1770 to 1940 and focusing (not exclusively) on aphorisms, the seminar will explore the manifold poetics of the small in literature and philosophy: What can small mean on the level of (literary) form? What (historically specific) kind of readings do small forms facilitate? What readings do they thwart? What happens to aphorisms when they become parts of a monstrously large overall composition? What distinguishes small forms from (e.g.) fragments? How do small forms relate to simple forms (Jolles) or minor literature (Deleuze)? To what extent do small forms gain epistemological impact, e.g. with respect to the critique of system and systematic philosophy since 1870? Readings include Lichtenberg, Schlegel, Novalis, Nietzsche, Kafka, Robert Walser, Benjamin, Adorno. Readings and discussions in German.
Instructor(s): A. Krauss
Area: Humanities.

AS.213.605. The Idea of Literature.
European languages document the evolution of the concept of literature from a generic term indicating the body of writings produced in a particular country or period to one that more particularly signifies works endowed with an aesthetic quality. The concept of literature thus seems to take form in connection with the emergence of a critical discourse, the search for a standard of taste. The dream of founding a “science littéraire” modeled on the principles of structural semiotics searching for an elusive “literariness”, literature as a system, a set of formal features, not a collection of discrete, ineffable individuals; it thus involved a rejection of the aesthetic, or at least a reconsideration of its assumptions. This course will pursue the question of “The Idea of Literature” simultaneously from a philosophical and a historical perspective; in moving from formalist litterariness to the rediscovery of categories like the ethical, the subject, the reader, the author, and the aesthetic, we will ask such questions as: Can there be a return to an aesthetic education, as some wish, and what would that be? Would such a move resuscitate the ghost of Hume’s gentleman scholar, which the New Critics tried to do away with? Is there a way of formally distinguishing between literature and its various contexts? Authors will include Hume, Kant, Taine, Lanson, Sainte-Beuve, Brunetiè re, Arnold, Proust, Benjamin, Bréton, Sartre, Bourdie u, De Man, and Eco.
Instructor(s): M. Caplan
Area: Humanities.

This course will consider the link between modern fiction and melancholia, which on the one hand seems obvious given the overriding mood of many modern narratives by Beckett, Sebald, Bernhard, Krolow, among others and which on the other hand poses numerous interpretative challenges given the sparing nature of representation in modern fiction and the attachment to things in melancholia. What is the aesthetic sensibility associated with melancholia? Is melancholia limited to baroque representation? How can we conceive of attachment in the absence of things? Readings to include Freud, Benjamin, Adorno, Heidegger, Sebald, Beckett, Bernhard, and Hofmannsthal.
Instructor(s): R. Tobias
Area: Humanities.

We will read texts by Freud, Klein, Lacan, and Laplanche that are of particular interest for literary and social theory. We will discuss recent literary theory and criticism (especially queer literary theory and criticism) that draws on psychoanalysis. In addition, we will consider psychoanalytically inflected thought on sexuality and conformism by members of the Frankfurt School.
Instructor(s): K. Pahl
Area: Humanities.

AS.213.610. The Idea of a University in Classical German Philosophy.
The role and function of a university in life and in society was a topic of considerable concern for some of the most prominent German philosophers of the late 18th and early 19th century. Their published (and unpublished) contributions led to a new understanding of what a university should be that proved to be very influential for the conception of the ‘modern’ university, as realized in Germany in the 19th century. The seminar will examine the writings of Kant, Fichte, Schelling, Schlieermacher, and Humboldt on the university with attention to the relation of the authors’ thoughts on education to their more general philosophical positions. The seminar will begin on March 22 and continue to the end of the term.

AS.213.611. The Baroque and Its Afterlives.
The status of the Baroque as defined and discussed by theorists such as Walter Benjamin and Gilles Deleuze, preeminently, manifests itself in a melancholic preoccupation with relics, ruins, and allegory. As such its aesthetic originates at a cosmological fault-line between life and death. Given these metaphysical characteristics, it should come as little surprise that its subsequent influence on literary modernism constitutes itself in echoes, spectrality, fragmentation, and the grotesque, all of which function as modes of critique working through and against technologies and ideologies of modernity. The fate of the Baroque, in an aptly non-Euclidean baroque figure, both parallels and intersects with the status of other proto-modern discourses such as the carnival in the articulation of the gothic, symbolism, expressionism, and several varieties of modern fantasy. This seminar will discuss one of many possible trajectories for this aesthetic in drama, narrative, and critical theory. Beginning with authors such as Shakespeare, Grim melshausen, and Calderón de la Barca, we will consider works such as Mozart’s Don Giovanni, the tales of Reb Nakhman and E.T.A. Hoffmann, the fiction of Gérard de Nerval and Der Nister, the critical writing of Theodor Adorno and Jacques Lacan, and films such as Fritz Lang’s Metropolis or the recent adaptation of Coriolanus. All readings and discussions in English.
Instructor(s): M. Caplan
Area: Humanities
Writing Intensive.
This course will explore the aesthetic-political practices of literatures and manifestos grouped under the term historical avant-garde. According to the most general understanding, avant-garde is considered the critique of bourgeois culture and ‘traditional’ art concepts, with this critique being related to a fundamental crisis of bourgeois society. The seminar aims at developing a more specific perspective by discussing the following aspects of avant-garde poetics: the self-reflection of aesthetic discourse in regard to the definition and hierarchization of styles and genres; a theory of language which draws on rhythm and materiality; an aesthetics of production which questions the notion of authorship and ‘organic work’ and stresses instead the constitutive role of repetition, (inter-medial) variation, and chance; the critical intervention in the concept of aesthetic autonomy and its institutions of reception; the “aporias of the avant-garde” (Enzensberger) inherent in its concept of radical innovation and exceptionality. In order to highlight the theoretical implications of avant-garde poetics we will analyze its literary strategies with respect to contemporary debates on modern technologies of art reproduction (Benjamin), the psychoanalytic reframing of the subject, and the advent of literary structuralism/formalism (Jakobson). In addition to that, we will discuss classics of avant-garde scholarship (e.g. Peter Bürger). Authors include: Paul Scheerbart, Hugo Ball, Tristan Tzara, Hans Arp, Carl Einstein, Else Lasker-Schüler, the ‘Sturm-Kreis’, and Arno Holz.
Instructor(s): A. Krauss
Area: Humanities
Writing Intensive.

AS.213.613. Hermeneutics around 1800 (from Hamann to Büchner).
With Schleiermacher, hermeneutics defined itself as a universal theory of understanding which no longer focuses only on biblical and juridical exegeses but on linguistic utterances in general. It thus became the matrix for subsequent Geisteswissenschaften and paved the way for various critical approaches which even today remain highly influential. The course examines the genesis of modern hermeneutics through the lens of its philological and philosophical precursors, contemporary commentators and literary authors. Key issues will be the underlying concepts of textuality and language, historicity and the subject. Authors include: Chladenius, Meier, Hamann, Herder, Kant, Schlegel, Schleiermacher, Goethe, Rahel Levin Varnhagen, Jean Paul, Büchner.
Instructor(s): A. Krauss
Area: Humanities
Writing Intensive.

Kleist’s novella “Michael Kohlhaas” (1811) is as much a political parable as it is a meditation on the power of art. In it the Prussian partisan considers the right of resistance as expressed in the struggles of Kohlhaas, whose battle against the House of Saxony would have been recognized by contemporary readers as an allegory for the Prussian struggle against Napoleon’s occupying army. Kant’s short treatise “Über den Gemeinspruch: Das mag in der Theorie richtig sein, taugt aber nicht in der Praxis” (1793) had revived the debate about whether a revolt could ever be justified, given that justice depends on the existence of a state. But “Michael Kohlhaas” is also concerned with another kind of revolt that is arguably more arbitrary, in that it does not serve any end. It is the revolt of art, which overturns existing norms and conventions by establishing a new law: the law of art or what could be called poetic justice. Kleist’s text makes a case for the autonomy of art in the literal sense. Art is self-legisitating, a law unto itself, and this feature points as much to the potential as to the danger of art. Readings to include works by Kleist, Martin Luther, Pufendorf, Breitinger, Kant, Goethe, Tieck, and Adorno.
Instructor(s): R. Tobias
Area: Humanities
Writing Intensive.

AS.213.617. Peripheral Modernisms.
This graduate-level seminar will consider the relation of centers to margins in the production of modern literature. The starting assumption of this inquiry will be the political, social, and linguistic role of literary modernism as a critique of modernity. If a centrifugal force disseminates the processes of modernization from the metropolis out, can one suggest that modernism, as a critique of modernity, originates at the periphery and works its way inward? When does the critique of modernity begin, and how can one characterize such a critique if in certain cultures it precedes the advent of modernization? How does a consideration of literature from the margins of the industrial and imperial centers of the modern world cause us to rethink the phenomenology— distinct from a taxonomy—of modernism? In what ways can the belatedness of a culture’s modernization lead it to anticipate subsequent crises in modernity? If modernism precedes modernization in the peripheral context, what, then, is post-modernity or post-modernism? Authors to be considered in this course include Reb Nakhman of Breslov, Machado de Assis, Mendele Moykher-Sforim, Gertrude Stein, Robert Walser, Franz Kafka, William Faulkner, Amos Tutuola, Clarice Lispector, and Yambo Oulogue. Theoretical perspectives will include Adorno, Bakhtin, Barthes, Benjamin, Deleuze and Guattari, and Derrida. All readings and discussions in English.
Instructor(s): M. Caplan
Area: Humanities.

AS.213.621. Theater: Drama, Performance, Theory.
We will study exemplary plays and theoretical texts about the aesthetics and poetics of drama and the function of theater in society from Lessing to Brecht and beyond – with excursions to Aristotle. We will explore the history of German thought on theater from illusion to Verfremdung to postdramatic multi-media formats, from the Bildung of the audience to the auto poiesis of the performance, and from the Nationaltheater to various forms of less than stehende Schaubühnen. We will be concerned with theories of performativity, with the issue of emotions on stage (does theater need emotions? do emotions need theater?), as well as with the close connection of theater, philosophy, and politics (Derrida, Badiou).
Instructor(s): K. Pahl
Area: Humanities.
AS.213.625. Life Worlds: Literature and Phenomenology.
This course will examine the notion of life-world or Lebenswelt, as it increasingly comes to define the nexus of relations that characterize not only human experience but also works of art. A particular interest of the course will be how phenomenology expands our understanding of literature and the critical methods used to approach it. While the reading for the course will be drawn primarily from philosophy, we will also consider poems by Georg Trakl and Rainer Maria Rilke with an eye toward the poetic space they open. To what degree is the space we inhabit with its network of meanings a literary space according to these poets? Readings to include excerpts from: Dilthey, Einleitung in die Geisteswissenschaften; Husserl, Ideen (1913); Krisis der europäischen Wissenschaft; Heidegger, Sein und Zeit; Merleau-Ponty, Phenomenology of Perception; The Visible and the Invisible; and Käte Hamburger, “Die phänomenologische Struktur der Dichtung Rilkes.”
Instructor(s): A. Krauss
Area: Humanities
Writing Intensive.

AS.213.628. Literary Hermeneutics.

Frames and Framings in art and literature are aesthetic means of creating focus. They draw a distinction between interiority and exteriority, foreground and surroundings; they cut out segments from space-time continuum and thus provide basic instruments of orientation, they constitute pictorial representation as well as the compositional structure of literature. From an epistemological perspective one can say that frames create a paradoxical threshold in-between which facilitates both the differentiation and transgression of spheres. It is further remarkable that frames while spectacularly making visible something specific at the same time expose the instances of their own ‘showing’: by implementing frames representation observes itself in the very process of representing. Through constellating systematic and historical readings the seminar will analyze theoretical concepts of frame and framing (Simmel, Genette, Marin, Derrida) and at the same time explore the transformation of frame forms and functions in literature and aesthetic discourse between 1720 and 1830 (Brookes, v. Haller, Wieland, Lessing, Herder, Lichtenberg, Goethe, Moritz, Jean Paul, Schlegel, Brentano, Tieck, Hoffmann). Among the topics to be discussed will be the conceptualization of subject-object relations as an analytical tool to reconstruct how the organizing principles of framing in Enlightenment (point of view, Guckastan, chain of pictures, landscape/camera obscura) drift into the twilight of epistemological reflection: Around 1800 frame structures (and its doublings/transgressions) present the “Produzierende mit dem Produkt” and thus articulate the insights of transcendental philosophy, they turn into a medium of romantic irony.
Instructor(s): A. Krauss
Area: Humanities.

AS.213.632. The Art of Framing.

The seminar will explore to what extent Hegel can be read as contributing to a feminist philosophy. We will focus on Hegelian openings onto the emotional in Phenomenology of Spirit. In addition, we will study feminist philosophers who have drawn on or offered critical readings of Hegel (Irigaray, Butler, Cavarero, Malabou, and others). Co-listed with AS.190.633
Instructor(s): J. Bennett; K. Pahl
Area: Humanities
Writing Intensive.

AS.213.634. Schiller’s Aesthetic Writings.
Schiller’s theoretical writings might be approached by the sentence ‘it is only through beauty that man makes his way to freedom’. Discussing the assumption that humans live in a condition of unfreedom resulting from social and economic divisions, Schiller’s notion of beauty crosses boundaries between ethics, politics and aesthetics to formulate a theory of modernity in which beauty functions as a medium to reconcile man’s sensuous nature and his capacity for reason. The course will examine Schiller’s concept of beauty in relation to the anthropological, political, ethical and aesthetic discourses of his time especially with respect to Kant’s view of aesthetic judgment which Schiller at the same time embraced and criticized. Particular attention will be paid to Schiller’s reflections on representation as well as to the poetics of his aesthetic discourse. Readings include: Kallias-Briefe (1793), Über Anmut und Würde (1793), Vom Erhabenen (1793), Über die ästhetische Erziehung des Menschen in einer Reihe von Briefen (1793), Über naive und sentimentalische Dichtung (1795/96). Readings and discussions in German.

AS.213.647. Jean Paul: Aesthetics of Finitude.
Introducing his selection from Jean Paul’s work, Stefan George characterizes Jean Paul’s (and Goethe’s) writing as follows: “Entgegen dem formend-antiken und begrifflichen der goetheschen erfüllung bietet er [J. P.] unserm schrifttum das farbige und klangliche das wir ohne ihn in der vollendung entbehren müssten.” George’s subtle chiasm has not yet accomplished a revision of literary canonization. As is generally known, it is the relation between Goethe and Schiller that forms the representative couple for the period around 1800. Jean Paul, a somehow “disconnected” contemporary of Classicism and Romanticism who never belonged to either one of these artistic directions, stands alone in literary history. In this seminar we will analyze Jean Paul’s literary phenomenology of what he calls the complex relation between finitude and the infinite, between the experience of a limited object-world such as human body and death on the one hand, and the notion of infinite reason and desire for transcendence on the other. We will explore, among other aspects, the conceptual and aesthetic elaboration of humor as “the inverted sublime” and investigate to what extent this (comic) inversion of transcendence into finitude might be described (against Kant) as a (not only) epistemological mode of skepticism and thus as a specific practice of modernity. Readings and discussion in German.

AS.213.650. Poetic Thought.
This course will examine essays and poems by Goethe, Hölderlin, and Rilke with an eye toward the ways in which their work addresses issues central to German idealism and modern German thought. These include the relation of subject to object; the problem of the representation of the whole; the reconciliation of science and art; and the role of consciousness in the construction of the world. Readings to include texts by Goethe, Hölderlin, and Rilke with commentary by Heidegger, Gadamer, Henrich, Husserl, Benjamin, Szondi, and Allemann.
Instructor(s): E. Forster; R. Tobias
Area: Humanities.
Taught in German. The course title marks a problem of translation which already Leo Spitzer in his “Prolegomena to an interpretation of the word ‘Stimmung’” underscores: “It is a fact that the German word Stimmung as such is untranslatable.” Mood, attunement, atmosphere are facets of an aesthetics of Stimmung as it developed in literature and philosophy from the 18th to the 20th century. Most recently, Stimmung has had a renaissance as a methodological term in a Literary Criticism which seeks to overcome the paradigm of post-structuralism. As David Wellbery has demonstrated, the linguistic usage of the word Stimmung comprises three aspects: a subjective mode of experience/perception, an atmospheric dimension and a communicative efficacy. It is along those lines that the course analyzes the poetics and aesthetics of Stimmung in German Literature and Thought from the 18th through the 20th century. Stimmung proves to be fertile ground for contagious forms of communication, specific modes of representation (i.e. coloring, nuance), and the dissolution of subject/object boundaries. Furthermore, we will discuss Stimmung as a term of Literary Criticism from the 20th century to the present. Readings will include: Kant, Schiller, Stifter, Fontane, Hofmannsthal, Hermann Bahr, Thomas Mann, Georg Simmel, Martin Heidegger, Leo Spitzer, Erich Auerbach, Gernot Böhme, Hans-Ulrich Gumbrecht.
Instructor(s): E. Strowick
Area: Humanities

AS.213.655. Thinking Emotionality with Hegel.
Instructor(s): K. Pahl

In the [eighteen-]forties,” Benjamin writes in “The Arcades Project,” “boredom began to felt on an epidemic scale”. It is, however, as early as in German Enlightenment that boredom (“Langeweile”) haunts aesthetics and discourses on sensitivity: The construction of the sensitive man is beleaguered by figures of insensitivity – boredom among others. In boredom, aesthetics encounters its anesthetic pendant. From the beginning of its discursive emergence, boredom combines an “existential and a temporal connotation” (Goodstein): an emotional emptiness/apathy with a particular experience of time. Against the backdrop of the discursive history of boredom from the 18th to the 20th century, the course addresses the specific connection between boredom and modern literature. How can we understand the “ecstasy glimpsed from the banks of desire”, the “warm gray muffle lined with glowing silk” in which “we wrap ourselves when we dream” – as Barthes and Benjamin describe boredom respectively – with regard to literary representation? How does modern literature transform boredom into the empty time of writing? We will analyze poetics of boredom with respect to their temporal structures, the monotony of the everyday, the loss of meaning, the differentiation of perception and the time of reading/reading time. Readings include: Kant, Herder, Tieck, Büchner, Kierkegaard, Schopenhauer, Stifter, Nietzsche, Hofmannsthal, Thomas Mann, Heidegger, Benjamin, Barthes, Max Frisch, Hans Blumenberg. Readings and discussions in German.

AS.213.660. Discourses of Dislocation.
Dislocation—travel, migration, exile, diaspora, immigration—is a preeminent symptom of the modern condition; as Jacques Derrida has suggested, it is one way of characterizing how language itself comes into being. To what extent does the relationship of various modes of mobility serve as a prerequisite for understanding modernity and literary modernism, and to what extent can one understand commonalities among these itinerant discourses? This seminar will consider several varieties of dislocated discourse (the picaresque, the pseudo-autobiography, the travelogue, as well as narratives of immigration, displacement, war and demobilization, and exile) in search of a means to discuss or consider all of them critically. Writers to be considered will include Sigmund Freud, Robert Walser, Yosef Haim Brenner, Walter Benjamin, Theodor Adorno, Jacques Derrida, Irmgard Keun, Israel Rabon, Joseph Roth, Flannery O’Connor, Yoel Hoffmann, Anton Shammas, and Salman Rushdie. All readings and discussions available in English. Undergraduates may register with instructor approval.
Instructor(s): M. Caplan
Area: Humanities
Writing Intensive.

In the [eighteen-]forties,” Benjamin writes in “The Arcades Project,” “boredom began to felt on an epidemic scale”. It is, however, as early as in German Enlightenment that boredom (“Langeweile”) haunts aesthetics and discourses on sensitivity: The construction of the sensitive man is beleaguered by figures of insensitivity – boredom among others. In boredom, aesthetics encounters its anesthetic pendant. From the beginning of its discursive emergence, boredom combines an “existential and a temporal connotation” (Goodstein): an emotional emptiness/apathy with a particular experience of time. Against the backdrop of the discursive history of boredom from the 18th to the 20th century, the course addresses the specific connection between boredom and modern literature. How can we understand the “ecstasy glimpsed from the banks of desire”, the “warm gray muffle lined with glowing silk” in which “we wrap ourselves when we dream” – as Barthes and Benjamin describe boredom respectively – with regard to literary representation? How does modern literature transform boredom into the empty time of writing? We will analyze poetics of boredom with respect to their temporal structures, the monotony of the everyday, the loss of meaning, the differentiation of perception and the time of reading/reading time. Readings include: Kant, Herder, Tieck, Büchner, Kierkegaard, Schopenhauer, Stifter, Nietzsche, Hofmannsthal, Thomas Mann, Heidegger, Benjamin, Barthes, Max Frisch, Hans Blumenberg. Readings and discussions in German.
Cross-listed with Philosophy
Instructor(s): E. Strowick.
AS.213.665. The Subject-Object Relation in Experimental Fiction: The Poetics of the Periphery.
Can experiments in narrative form—which have constituted one of the most dynamic and productive aspects of modern aesthetics—be traced grammatically, philosophically, and theoretically to an instability in subject-object relationships? This graduate seminar will examine these potentialities through a series of paired readings of bellettristic narratives with critical sources, from the beginnings of the modern novel to contemporary fiction and theory. Authors to be considered include Denis Diderot, Fyodor Dostoevsky, Sholem Aleichem, Gertrude Stein, Robert Walser, Der Nister, Mayshe Kulbak, and Thomas Bernhard. Theoretical readings will be taken from Hegel, Freud, Lacan, Deleuze, Butler, and Zupancic. All readings and discussions conducted in English.
(In Undergraduates Accepted, with Permission of the Instructor)
Instructor(s): M. Caplan.

AS.213.666. “To be continued”- Seriality in Literature and Other Media.
Taught in German. By ending with the words “(To be continued)” (“list fortzusetzen”), Goethe’s Wilhem Meisters Wanderjahre not only reflects on the open form of the modern novel but also points toward serialized formats of fiction as they emerge in the 19th century due to advances in printing technologies. The publication of fiction in periodical installments in magazines or newspapers brings about the development of new genres (serialized novel/Feuilletonroman) along with specific serial narrative techniques. The cliffhanger e.g. – although invented earlier – becomes a prominent technique to create suspense. The course analyzes seriality with respect to narrative forms and genres across various media (literature, theater, film, TV) from the 19th century to the present. It further discusses serial aesthetics, seriality in structuralist and poststructuralist theory as well as the ambivalent status of seriality in the arts between avantgarde and popular culture. The course material will include: Stifter, Fontane, excerpts from the magazine “Die Gartenlaube”, Wagner, Freud, Kafka, Lévi-Strauss, Deleuze, Eco, Iser, “The Perils of Pauline” (serial, 1914), “Copycat” (Jon Amiel, 1995), “Twin Peaks” and current US-American TV series.
Instructor(s): E. Strowick
Area: Humanities
Writing Intensive.

AS.213.668. Kleist.
This seminar will explore the narrative, dramatic, theoretical and quasi-journalistic work of Heinrich von Kleist along two lines of inquiry. We will read his literary experiments as reactions to the major shift in the sex-gender system and the new deployment of sexuality in the eighteenth century. We will discuss his unique role in the production, communication and interpretation of feeling across narrative and theater.
Instructor(s): K. Pahl.

AS.213.669. Heidegger and the Poets.
Heidegger’s interpretations of the poets Hölderlin, Trakl, Rilke, and George are more often maligned than praised. The philosopher ignored the specificity of each poet’s idiom in order to establish poetry as the consummate event in the history of being. This course will not seek to justify Heidegger’s idiosyncratic approach to individual poets and poems. Instead it will attend to the questions he raises about the relation of “Dichten” to “Denken” as well as the role that literature plays in defining the world we inhabit, the place we dwell. To what degree do Heidegger’s arguably reductive readings of lyric poems nonetheless address the essence of poetry and/or the poetic experience?
Instructor(s): R. Tobias.

AS.213.673. Adorno’s Aesthetic Theory.
The posthumously published Aesthetic Theory is arguably Adorno’s most important work. In it he traces the development of autonomous art and locates art’s critical potential in its freedom from all notions of utility or purpose that derive from other spheres of life that are themselves corrupted by instrumental reason. We will examine Adorno’s analysis of art’s unique capacity to challenge conventions and produce new, if ephemeral, configurations. Discussion to focus on such concepts as illusion (Schein), mimesis, non-identity, myth, and truth content.
Instructor(s): R. Tobias.

AS.213.674. Spiritual Poverty: Meister Eckart, Musil, and Benjamin on Experience in Modernity.
This course will take as its point of departure Meister Eckart’s paradoxical thought on spiritual poverty as a state of infinite richness and illumination. We will consider how Musil expands on this concept in his shorter fictional work, especially “Die Versuchung der stillen Veronika” which has proven all but resistant to interpretation. A key concern of the class will be what it means to have an experience when the one experience of truth is that of abandon, impoverishment. Benjamin’s reflections on experience in “Armut und Erfahrung” will be crucial to our investigations.
Instructor(s): R. Tobias.

AS.213.675. Paul Celan’s Poetry & Interpretation.
Paul Celan, arguably the most widely known poet writing in the German language after WWII, was once characterized by a hostile literary critic as the author of obscure, scandalously “hermetic” texts. Celan, however, insisted that his poems were open rather than hermetic. He believed his task to consist in speaking a language of witness: a language fit for preserving events that would acquire their shape in poems. This language, with its rigorous structure, compact imagery, and surprising inner logic, poses a challenge to understanding, as it is “open for interpretation.” Consequently, Celan’s poems motivated many prominent thinkers and critics to seek new paradigms of interpretation. In this class, we will read Celan’s poetic, prosaic, and theoretical texts in view of their literary, political, and historical significance. We will also read philosophical interpretations of Celan’s texts, such as Jacques Derrida’s “Shibboleth” and Maurice Blanchot’s “The Last to Speak.” Along with these thinkers, we will try, by way of reading Celan, to understand how we “understand” poetic texts. The language of writing and discussion in this seminar will be English but most readings will be in German.
Instructor(s): A. Glazova.

AS.213.676. Irony and the Beautiful Soul: Feeling, Gender, Theory.
One might be tempted to oppose the attitudes of Sensibility and Romanticism: one allegedly simpler and more conservative, complementing enlightened rationality by cultivating feeling, and the other playful and sophisticated, bending the Enlightenment’s firm stance with its complex theory and practice of irony. In this course, we will mix up the opposition between the Beautiful Soul and Irony (the two organizing figures of Sensibility and Romanticism)--and, since they tend to fall along gender lines, this will also be a way of troubling gender constructions. We will read literary and theoretical texts by Bettina von Arnim, Gisela von Arnim, Cleland, Goethe, Hegel, Hoffmann, Kleist, Laroche, Rousseau, Schiller, Schlegel, and others.
Instructor(s): K. Pahl.
The course will be taught in German. With Alexander Gottlieb Baumgarten’s thesis “Philosophical meditations pertaining to some matters concerning poetry” (1735) the term “aesthetics” was introduced to philosophical discourse. The new name for the discipline did not signify a complete break with previous philosophical positions, that is, with the perfectionist aesthetics of Leibniz and Wolff. However, by conceptualizing sensible cognition as “analogue of reason” (analogon rationis) Baumgarten depicted the aesthetic sense as a locus of perfection in its own right and, thus, did transform the Wolffian model and paved the way for much more radical revisions of aesthetic experience in Germany. The course will study the emergence and specificity of Baumgarten’s concept of aesthetics in relation to the Wolffian framework, Gottsched’s poetics, (Georg Friedrich) Meier’s adoptions of Baumgarten, and Herders response to Baumgarten. Readings include Baumgarten’s early Meditations on Poetry (Meditationes philosophicae de nonnullis ad poema pertinentibus, 1735), excerpts from his Metaphysics (Metaphysica, 1739) and Aesthetics (Aesthetica, 1750-58). Cross-listed with Philosophy Instructor(s): A. Krauss.

Modernity gives rise to various forms of suspicion, including modern forms of resentment and practices of self-discipline (a suspicion of oneself), as well as to an epistemology of suspicion as it is developed in the modern human sciences. The course starts out with an analysis of the detective genre and of the specific transformations it undergoes in modern German literature. In a next step, we will examine literary representations of suspicion within a broader cultural-historical frame: Nietzsche’s analysis of resentment serves as one point of reference; another is what Carlo Ginzburg has called the paradigm of clues. The modern human sciences, since the last third of the 19th century, have relied on a method that produces knowledge by way of interpreting clues. While suspicion in the human sciences is related to the production of truth, literature uses suspicion as a way to produce aesthetic and logical undecidabilities. We will analyze literary representations of suspicion with respect to the narrative structure (unreliable narration) and the mediality of suspicion. Finally, the course emphasizes the methodological relevance of suspicion: As a practice of deciphering, interpreting, and reading traces, suspicion calls for being reformulated literary-theoretically. Readings will include: Heinrich von Kleist, E.T.A. Hoffmann, Nietzsche, Theodor Fontane, Freud, Kafka, Thomas Mann, Heimito von Doderer, Peter Handke etc. Taught in German.
Instructor(s): E. Strowick
Area: Humanities.

Though every conventional description of modernist aesthetics dates its origins to the era preceding World War I—in some versions several decades before 1914—there has always been an understanding of the War’s “catalytic” influence on the aesthetic of chaos, madness, violence, and despair that comes to characterize at least one major strain of modernist art. Taking the after-effects of the First World War as well as the Russian Revolution(s) as its point of origin, this graduate-level seminar will consider such writers as Sigmund Freud, Walter Benjamin, Sh. Y. Agnon, Sh. Ansky, Guillaume Apollinaire, Isaac Babel, Georges Perec, Éric Maria Remarque, Joseph Roth, Virginia Woolf, and Stefan Zweig. All readings and discussions available in English.
Instructor(s): M. Caplan
Area: Humanities
Writing Intensive.

AS.213.683. Dilettantism.

AS.213.684. Aesthetics of Description.
Since the enduring disavowal of description by Lessing, characteristics commonly assigned to description include structural endlessness and exorbitance; the simple succession of elements; the „breakdown of composition“ (Lukács) in a proliferation of details; the parity of described details; its failed ability at illusion; also its tendency to mortify, insofar as it transforms its subject into something static, stagnant. The course will undertake a critical revision of these characteristics by analyzing aesthetical debates and literary descriptions from the 18th to the 20th centuries. Topics leading the discussion will be: text-image relations; description between literature and science; observation through description; dynamization of description; motion and motionlessness; poetics of perception; performativity of description; the boredom of reading. Readings include: Bodmer, Breitinger, von Haller, Winckelmann, Lessing, Alexander von Humboldt, Hebbel, Stifter, Darwin, Ossip Mandelstam, Aby Warburg, Lukács, Peter Weiss, Peter Handke. The course will be taught in German.

AS.213.686. Uncanny Realism: Theodor Storm.
Readings and discussions in German. Both Fontane und Lukács point to the spatial confinement in Storm’s world, though in different ways: Fontane sneeringly speaks of Storm’s “Husumerei” and “Provinzialsimpelei” (provincial simplicity); Storm – according to Fontane – seriously believes that it needs a Husum teapot to get a “real cup of tea.” Lukács states in his essay on Storm that only a “local eye” (“einhemische Augen”) is capable of seeing colors in the “grey monotony” of Storm’s world. Attentively observing the home-boundness of Storm’s fictional world, they neglect the importance of the uncanny for Storm’s Realism. It is precisely in the home that the uncanny resides: Storm’s poetics alienates the “local eye” rather than it produces perceptual knowledge. The course will examine various aspects of the uncanny in Storm and address the relation between Realism and the uncanny more generally. A passionate collector and teller of ghost stories himself, Storm is however not interested in any supernatural quality of the uncanny but rather in how it questions everyday perception. Thus the uncanny allows for an analysis of the conditions of the perception and representation of reality in the first place. We will discuss Storm’s modernity with respect to the form of the ‘novella’ which he famously called "the sister of the drama," the transgression of frames, image-text relations, elliptic narratives, elements of the grotesque, and the relation between literature and media technologies.
Instructor(s): E. Strowick

Readings and discussions in German. This course will be organized around a close reading of “Aus meinem Leben: Dichtung und Wahrheit,” one of the many works of Goethe that was enthroned as prototype of a genre: discourses on modern autobiography emerged in its context and have drawn on its unique performance of writing one’s own life until today. The seminar is devoted to develop a reading of the entire book emphasizing its theoretical implications (subject formation/Bildung, concepts of time/historicity, modes of representation, genre theory, theory of the ‘daemonic’) and its prolific discursive productivity. Meticulously analyzing this productivity along with its epistemological implications, the seminar will explore how “Dichtung und Wahrheit” both establishes and revokes a representative model of autobiography.
Instructor(s): A. Krauss
Area: Humanities.
AS.213.725. Proto-, Modern, and Post-: Locating the -ism in Modernism.
All discussions in English. This graduate seminar will seek to disentangle the interrelationship among “proto-modernism,” “modernism,” and “post-modernism” from the straightjacket of periodization and taxonomy by focusing instead on questions of temporality and phenomenology. When is the time of modernity? What precedes modernism? How is post-modernism a continuation of modernism and a break with modernity? What follows the “post” or precedes the “proto”? How does literature establish a dialogue not just across linguistic borders but temporal ones as well? And when do these processes repeat themselves due to historical and political factors? By way of complicating all of these questions we will be considering writers from “across” the 20th century, including Walter Abish, Thomas Bernhard, André Breton, Orly Castel-Bloom, Henry Dumas, Moyshe Kulbak, Machado de Assis, Mendele Moykher-Sforim, Joseph Roth, Anton Shammas, Gertrude Stein, and Robert Walser.
Instructor(s): M. Caplan.

Taught in German. Modernity gives rise to various forms of suspicion, including modern forms of resentment and practices of self-discipline (a suspicion of oneself), as well as to an epistemology of suspicion as it is developed in the modern human sciences. The course starts out with an analysis of the detective genre and of the specific transformations it undergoes in modern German literature. In a next step, we will examine literary representations of suspicion within a broader cultural-historical frame: Nietzsche’s analysis of resentment serves as one point of reference; another is what Carlo Ginzburg has called the paradigm of clues. The modern human sciences, since the last third of the 19th century, have relied on a method that produces knowledge by way of interpreting clues. While suspicion in the human sciences is related to the production of truth, literature uses suspicion as a way to produce aesthetic and logical undecidabilities. We will analyze literary representations of suspicion with respect to the narrative structure (unreliable narration) and the mediality of suspicion. Finally, the course emphasizes the methodological relevance of suspicion: As a practice of deciphering, interpreting and reading traces, suspicion calls for being reformulated literary-theoretically. Readings will include: Heinrich von Kleist, E.T.A. Hoffmann, Nietzsche, Theodor Fontane, Freud, Kafka, Thomas Mann, Heimito von Doderer, Peter Handke etc.
Area: Humanities
Writing Intensive.

An introduction to modern German poetry with emphasis on the fate of the lyric subject in twentieth-century verse. Of particular interest to the course will be the tension between lyric freedom on the one hand and poetic constraint on the other. How does modern poetry come to resist the traditional definition of the lyric as an expression of subjectivity and replace it with a concept of the poem as a vehicle for the dissolution of the self or the dispossession of the speaker? Authors to include Rilke, Trakl, George, Benn, and Celan.

Taught in German. The course analyzes the performative on the basis of the very field that John L. Austin’s speech act theory excludes: literature. What challenges Austin’s speech act theory indeed opens up the question of the performative towards iterability and theatricality and thus calls for the performative as a methodological category of literary criticism. According to Shoshana Felman’s readings of Austin, the performative act can be accentuated as an act of the “speaking body” in which the body is conceived of not as a means of linguistic expression but rather as a spillover of the act of utterance into the statement. How then is the corporeality or materiality of writing asserted in acts of narrating and reading? The course will examine theories of the performative from the perspective of literature and literary criticism as well as analyze literary speech acts (promises, pacts, etc.) in detail. Readings will include: Austin, Derrida, Felman, Freud, Nietzsche, de Man, Hamacher, Goethe, Büchner, Kafka, Henry James, Thomas Mann etc.
Instructor(s): E. Strowick
Area: Humanities.

AS.213.748. Drifters, Footprints, Telling Time.

AS.213.760. Break and Continuity: German Thought around the French Revolution.
The turn of the eighteenth century saw the political revolution of 1789 as well as interrelated revolutions in thought, symbolic system, value system, family structure, gender relations, etc. We will explore the discourse of revolution in its oscillation between two conceptions – as breakthrough and as return (to the golden age of Greek Antiquity, to a prelapsarian state). From providence to chance event, and between break with and continuity of the old order, German thinkers considered the revolution. We will read Kant, Rousseau, Hölderlin, Hegel, Goethe, Kleist, and others.
Instructor(s): K. Pahl.

This seminar addresses German-speaking exile literature from 1933 to 1950. On the basis of historical and political contextualization, readings and discussions will focus on literary theoretical and discourse analytical questions. In contrast to Nazi ideology and its totalitarian claim to constitute “Germanness”, numerous émigrés intended to represent the ‘other’ Germany from outside its national borders. This politicization of exile discourse which made ‘direct’ critical involvement with the regime appear imperative had a lasting effect on literature written in exile. The leitmotif of our analysis will be the question to what extent exile literature developed its critical reflection towards a specific aesthetics of exile; an aesthetics that articulates the reference to the historical-political situation, to Nazi Germany, expulsion, loss of language, dislocation and cultural transfer in form of a critique of representation. We will discuss topics such as the conceptualization of (German) tradition/transference, languages of (non-) identity, theories of (anti-)imimesis, discourse politics and aesthetics, or Avant-garde and exile. Authors include: Thomas Mann, Irmgard Keun, Else Lasker-Schüler, Hannah Arendt, Adorno, Benjamin, Brecht, Lukács, Anna Seghers.
Instructor(s): A. Krauss.
AS.213.789. Literature & Identity in the Age of Globalization. In this seminar we will examine a selection of literary reflections on and engagements with globalization and its mounting failures and burdens, as it has emerged in Europe and the Americas from the mid-twentieth century to the present. From the economic, constitutional, and cultural politics around the unification of Europe, to the ideological and imperial misfortunes of the U.S. after the collapse of the “End-of-History” thesis, to the resurgence of state populism in Latin America in the wake of neoliberal exhaustion, literary fiction has been deployed to posit, explore, and contest national and post-national myths of identity. The seminar will interrogate how this engagement functions both as aesthetic and theoretical discourse. Readings may include novels by Albert Camus, W. G. Sebald, Leonardo Sciascia, Orhan Pamuk, Javier Marías, Roberto Bolaño, and Jonathan Franzen, along with theoretical writings by Gianni Vattimo, Jürgen Habermas, Rodolphe Gasché, and others.
Instructor(s): E. Gonzalez; W. Egginton Area: Humanities.

AS.213.790. What is Philology?. In recent years, philology has gained new attention as a field of methodological reflection which at the same time opens up Literary Criticism towards interdisciplinary research and media studies as it emphasizes the specific status of Literary Criticism in the humanities. The course will examine the changing field(s) of philology from the 18th century to the present in both historical and systematic scope. Including methods of textual criticism, edition philology, and hermeneutics, philology has been addressing questions of theory, methodology and epistemology in various constellations. Precisely because philology’s interest lies in connecting languages and literatures to their historical contexts, one of its primary tasks is to account for the epistemic framework and limitations of such historicization, so as to ensure that the literary object not be confused with historical contexts but is perceived as a distinct phenomenon in itself. – In addition to these questions, the course will discuss methods of edition philology, ranging from historical-critical edition to “material philology” and “genetic criticism” along with analyzing editions of Kafka, Joyce and Flaubert. Further, we will examine the more recent discussion on philology and new media (e.g. digital editions). Readings will include Vico, Schlegel, Schleiermacher, Nietzsche, Auerbach, Szondi, Bollack, Nichols, Cerquiglini, and Ferrer among others. The course will be taught in English. Meets with 212.790, 214.790, and 215.790
Instructor(s): E. Strowick; J. Neefs Area: Humanities.

AS.213.791. Film Theory and Critical Methods. This survey of critical approaches to the study of film explores theoretical problems of representation and reality, film form and signification, authorship, spectatorship, and the digital frontier. Each week we examine a different narrative genre, historical period, or a given theoretical aspect through films that students will watch independently as well as at mandatory weekly screenings.
Instructor(s): B. Wegenstein; D. Schilling.

AS.213.800. Independent Study-German. Instructor(s): A. Krauss; E. Strowick; K. Pahl; R. Tobias.


AS.214.251. Survey of Italian Lit. 3 Credits. An overview of the key texts, authors, and movements in the Italian literary tradition, from the Middle Ages to the present. Recommended for all Italian majors and minors, and for Romance Languages majors who include Italian. Taught entirely in Italian. Completion of Italian 210.252 Intermediate recommended; the Survey of Italian Literature may be taken concurrently with Advanced Italian 210.352. Area: Humanities Writing Intensive.

AS.214.253. Perspectives on Islam in the Age of Dante. 3 Credits. This course examines portrayals of Islam in European literary works of the late 13th and early 14th centuries. Authors include Ibn ‘Arabi, Marco Polo, Boccaccio, and Dante. Course taught in English with Italian section for majors/minors. Cross-listed with History and WGS Dean’s Teaching Fellowship.
Area: Humanities.

AS.214.259. The World of Dante. 3 Credits. An Introduction to the Divine Comedy
Instructor(s): P. Forni Area: Humanities Writing Intensive.

AS.214.261. Boccaccio’s Decameron. 3 Credits. A close reading of Giovanni Boccaccio’s masterpiece will allow the students to become acquainted with the civilization of the European Middle Ages. Among the areas of interest are: medieval Italy as a mosaic of powers, faith and religion, women in society, nobles, commoners and the rise of the middle class, the rituals of love, and the purposes of literature.
Instructor(s): P. Forni Area: Humanities Writing Intensive.

AS.214.271. Italian Film. 3 Credits. This undergraduate seminar an overview of 100 years of Italian film history covering such pivotal moments as the early Futurist films, the creation of Cinecittà, the Italian Neorealist film movement, the legendary Commedia all’italiana films, as well as a discussion of classic Italian auteurs such as Fellini, Pasolini, Wertmüller, Bertolucci, and such contemporaries as Garrone and Sorrentino.
Instructor(s): B. Wegenstein Area: Humanities Writing Intensive.

AS.214.301. Survey of Italian Literature. 3 Credits. Taught entirely in Italian. An overview of the key texts, authors, and movements in the Italian literary tradition, from the Middle Ages to the present. Recommended for all Italian majors and minors, and for Romance Languages majors who include Italian. Recommended course background: Italian AS.210.252; AS.214.301 may be taken concurrently with Advanced Italian AS.210.352.
Instructor(s): Staff; W. Stephens Area: Humanities Writing Intensive.
**AS.214.317. Italian Theater from Commedia dell’arte to Dario Fo. 3 Credits.**

Students must have completed Intermediate Italian II (210.252) or equivalent. Italian writers and performers have created some of the world’s greatest theatrical works, particularly in the genres of comedy and opera. We will study the evolution of Italian theater from the improvisatory humor of the Commedia dell’arte, through the invention and development of Italian opera, to the zany and politically engaged satire of Dario Fo, winner of the 1997 Nobel Prize in Literature. Other major authors we will study include Carlo Goldoni and Luigi Pirandello. We will view film versions and live performances of plays and operas in Italian. The class will be conducted in Italian.

Instructor(s): J. Coleman  
Area: Humanities  
Writing Intensive.

**AS.214.330. Love and War in Italian Literature. 3 Credits.**

This course is based on a choice of narrative and poetic texts from several centuries of Italian narrative and poetry. We will examine the literary renditions of the personal stories of Italians caught within the tragic logic of the war. Our focus is going to be the effects of war on love relationships as they are presented by a number of authors including Dante, Tasso, Tomasi di Lampedusa, Berto, Calvino, Bassani and Morante.

Instructor(s): P. Forni  
Area: Humanities  
Writing Intensive.

**AS.214.340. Holocaust & Film. 3 Credits.**

Taught in English. This course examines the question of the Holocaust and its representation in the filmic media. We will analyze such themes as post-traumatic documentary (e.g., Night and Fog, Alain Resnais 1955), the resistance to representation (Shoah, Claude Lanzmann 1985), Holocaust drama and the ethics of entertainment (e.g., Schindler’s List, Steven Spielberg 1993), the question of filmic adaptation (e.g., The Grey Zone, Tim Blake Nelson 2002—based on Primo Levi’s The Drowned and the Saved 1986), and the new genre of confessional first person video-diary (e.g., Two or Three Things I know About him, Malte Ludin 2005). On this last theme we will also host the two-day symposium “The Holocaust: Children of the Perpetrators Confront Their Parents’ Nazi Past through Documentary Film,” in March 09. The symposium will feature three international documentary filmmakers and their recent films The End of the Neubacher Project, Marcus Carney 2007, Fatherland, Manfred Becker 2006, and Two or Three Things I know About him, Malte Ludin 2005, in which the filmmakers —children of Nazi perpetrators—are asking the question “who am I in relation to my father’s deeds?” The symposium will further include a number of experts on the topic of Holocaust, commemoration, and documentary film. Students will be involved in the preparation and, if interested, in the panel-discussions of the symposium. All films will be screened with English subtitles; this class is reading-intensive and writing-intensive; weekly response papers will be written about the films and the course topic at large. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies

Instructor(s): J. Coleman  
Area: Humanities  
Writing Intensive.

**AS.214.341. The Book of Nature, the Nature of Books: The Origins of Literary Ecology. 3 Credits.**

This course investigates how ecological factors inspired storytellers, influenced modes of literary publication, and determined reader responses in Europe before 1700. Students enrolling in section 2 will attend a supplementary one hour session at a time to be mutually decided and complete the work in Italian.

Instructor(s): T. Tower  
Area: Humanities  
Writing Intensive.

**AS.214.344. Love of Poetry and Poetry of Love. 3 Credits.**

This course examines love poems in which poetry is seen as an ally of love in the conquest of the object of desire. It is a course on the pleasure of writing and the pleasure of reading. Part of it is theoretical and part of it is an analysis of a number of outstanding poems in the Italian tradition—from the Middle Ages to the Novecento. Among the examined theorists are Aristotle, Foscolo, Freud and the Russian Formalists. Among the chosen poets are Dante, Petrarca, Cino da Pistoia, Leopardi, Pascoli, Gozzano and Saba. Class discussion is in English. Texts are read in the original and in English.

Instructor(s): T. Tower  
Area: Humanities.

**AS.214.345. Machiavelli’s World: Tyrants and Intellectuals in Renaissance Italy. 3 Credits.**

Italy during the Renaissance was politically fragmented, a hodge-podge of small states organized under a wide variety of political systems: ostensibly democratic republics, states ruled by warrior-tyrants, the temporal authority of the papacy, and more. The struggle for dominance between these various states and systems was fought not only by armies but also by humanist intellectuals—a class that flourished during this period. We will focus on the particularly interesting career of Niccolò Machiavelli, who authored theoretical justifications both for republicanism (especially in his Discourses) and for tyranny (in his most famous and enigmatic work, The Prince). With close attention to historical context, we will read these and other works by Machiavelli. We will also study other Italian Renaissance intellectuals who responded to the political upheavals of their day in a variety of ways, including Coluccio Salutati, Leonardo Bruni, Leon Battista Alberti, and Pietro Aretino. The class will be conducted in English, and a separate section will be offered for Italian majors (and others with a strong command of the language) in which we will read and discuss texts in Italian.

Instructor(s): J. Coleman  
Area: Humanities.
AS.214.346. The Short Story in Italy Across the Centuries. 3 Credits.
The genre of the short story was in many ways invented by the Italians. During the later Middle Ages, preachers adopted the short tale, cultivated by fireside storytellers for ages, to add interest to the morals of their sermons. By the late thirteenth century, Italian writers were collecting such stories for entertainment as well as edification. Boccaccio’s Decameron (1352) was the first classic collection and inspired other collections throughout the Renaissance. It and other Italian collections inspired writers in many genres and countries, including Shakespeare and other dramatists. In modern times, short stories have become one of the predominant genres of world literature. This seminar surveys Italian short fiction from the fourteenth through the twenty-first century. Emphasis is on the representation of Italian culture and history through storytelling, including in film. Course will have two full sections, one taught in Italian for majors, the other taught in English, with no prerequisites, for non-majors. Limited to fifteen students per section.
Instructor(s): P. Forni; W. Stephens
Area: Humanities
Writing Intensive.

AS.214.350. The Eternal City: Rome in Literature and Film. 3 Credits.
This class will be conducted in Italian. By studying the works of modern Italian writers and filmmakers, as well as ancient and medieval texts, we will explore the history and the enduring cultural importance of the city of Rome. We will consider the “myth of Rome” as a center of order and authority, and we will examine texts that subvert this myth by portraying the chaotic, joyous, and unseemly realities of life in Rome. Authors and filmmakers we will study include Virgil, Petrarch, Moravia, Ginzburg, Pasolini, Rossellini, and Fellini.
Instructor(s): J. Coleman
Area: Humanities

AS.214.351. The Eternal City: Rome in Literature and Film. 1 Credit.
This is the Italian section of 214.350. Students wishing to earn Italian credit for this course must register for both 214.350 and 214.351 simultaneously.
Area: Humanities
Writing Intensive.

AS.214.352. Writing and Wonder: Books, Libraries, and Discovery 1250-1550. 3 Credits.
The invention of printing occurred amid two centuries of intense development in the conduct and material means of European scholarship. The transition from writing by hand to movable type was accompanied by a revolution in scholarship that involved a new attitude to Classical and Biblical antiquity, the recovery of neglected and "lost" works, the formation of secular libraries, and the development of tools for the study of ancient handwriting, writing materials, and the history of language and of history itself. The revolution in attitudes to and uses of the book eventually transformed every discipline related to reading, writing, and the organization of knowledge. Topics to be covered include writing as an object of wonder, the transformation of a mythology of writing into a true history of books, writing, and libraries, the scientific study of writing and of language, and the representation of writing and books in the art and literature of the Middle Ages and Renaissance. Extensive use will be made of Johns Hopkins’ large collection of books published before 1600, and student projects will be oriented toward reliving the experiences of scholars in this period, including via computer-assisted means. Open to all undergraduates. Knowledge of a foreign language helpful but not required.
Area: Humanities.

AS.214.353. Travel & Fantasy Worlds in Italian Literature. 3 Credits.
This course examines important works of Italian literature that narrate journeys to exotic or imaginary places, blurring the boundaries between reportage and fantasy. We will consider topics including utopias, new worlds and exploration, allegorical and spiritual journeys, construction of identity, and the conceptualization of the “other.” Readings will span from the Middle Ages to the present day, including Marco Polo, Giovanni Boccaccio, and Italo Calvino. The class will be conducted in Italian. Recommended Course Background: AS.210.351 or AS.210.352 or equivalent.
Instructor(s): J. Coleman
Area: Humanities
Writing Intensive.

AS.214.355. Literature and Opera. 3 Credits.
In this course we will look at the relation between some of the great opera’s of the 18th and 19th centuries and their literary sources. We will also discuss some recent philosophical interpretations of opera. At stake will be the question of how literature is translated into music and stagecraft, and what these translations say about the times and cultures in which they were produced. Each week we will view and listen to an opera, and read its source materials as well as critical works about both. The course will be conducted in English, and will be writing intensive. (This course is offered as AS.212.355, 213.355, 214.355, and 215.355. Please check other course numbers for open seats.)
Instructor(s): W. Egginton
Writing Intensive.
AS.214.356. Science and Heresy in Galileo's Italy. 3 Credits.
The class will be conducted in English. In the wake of Copernicus, the still dominant geocentric model of the cosmos was challenged in Italy by two equally brilliant but very different thinkers: Giordano Bruno, iconoclastic philosopher and theorist of magic, and Galileo Galilei, who has been called the “father of modern science.” Both of these revolutionary intellectuals faced strong opposition from within the Catholic Church: Bruno was executed as a heretic, while Galileo was forced to formally recant his heliocentric views. We will study the principal writings of both thinkers, focusing on both the literary qualities and the historical context of their works. We will also examine the cosmological visions of earlier writers, including Dante. Additional section will be offered for Italian majors (and others with a strong command of the language) in which we will read and discuss texts in Italian.
Instructor(s): J. Coleman.

AS.214.358. Making Love Sacred: the Idolization of Desire in the Western Tradition. 3 Credits.
Spanning more than two thousand years of Western civilization, this course focuses on the elevation of the object of erotic desire to sacred heights. Texts include works by Plato, Virgil, St. Augustine, Dante, Goethe and Styrn. Area: Humanities Writing Intensive.

AS.214.361. Rome as Told by its Narrators: A Journey through History, Literature, Arts and Film. 3 Credits.
This course offers an intellectual and aesthetic experience of Rome through time. We will delve into its complex history as well as its tormented and vivacious present. Dean’s Teaching Fellowship course.
Instructor(s): T. Katinis
Area: Humanities Writing Intensive.

AS.214.366. Literature & Ethics. 3 Credits.
This course focuses on the moral implications of the acts of reading and writing literature. Aristotle, Horace, Dante, Boccaccio, and Freud are among the featured authors.
Instructor(s): P. Forni
Area: Humanities.

AS.214.367. Masterpieces of Italian Poetry. 3 Credits.
The goal of this course is to acquaint the students with themes and images recurring in the Italian poetic tradition from the Middle Ages to the Novecento.
Instructor(s): P. Forni
Area: Humanities Writing Intensive.

AS.214.368. Italian Novel of the 20th Century. 3 Credits.
Area: Humanities.

AS.214.369. Food and Culture in Italy. 3 Credits.
Throughout Italy's history, food traditions have been central to the formation of Italian identities, both national and regional. In this course we will study Italy's food traditions and explore the ways in which food has become a major theme of Italian literature, film, and music, from the Renaissance to the present day. The class will be conducted in Italian. Students must have completed Intermediate Italian II (AS.210.252) or equivalent.
Instructor(s): J. Coleman
Area: Humanities.

AS.214.370. Magic and Marvel of the Renaissance. 3 Credits.
Magic and Marvels or Wonders make us question what we see and experience: what is reality, what is illusion; what’s natural and what’s supernatural? What’s human and what’s more, or less, than human? During the Renaissance, ideas about the magical and the marvelous were bound up with questions and issues very different from those of our time. With the exact sciences still to be invented, the nature of the world was much less hard and fast for Renaissance people than it is for the modern educated person. The literary masterpieces of the Italian Renaissance, especially the romance and the theater, provide vivid illustrations of the early modern sense of wonder. Foremost among these are the theatrical comedies which Italian authors revived in imitation of the ancients, and the romances, especially Ariosto’s Orlando furioso (1532) and Tasso’s Gerusalemme liberata (1581). These works influenced ideas about magical and marvelous phenomena across Europe for centuries to come. Works will be read and discussed in English. Italian majors will attend a weekly supplemental discussion in Italian and compose their written work in Italian.
Instructor(s): W. Stephens
Area: Humanities Writing Intensive.

AS.214.373. Perspectives on Islam in the Age of Dante. 3 Credits.
This course examines portrayals of Islam in European literary works of the late 13th and early 14th centuries. Authors include Ibn ‘Arabi, Marco Polo, Boccaccio, and Dante. Course taught in English with Italian section for majors/minors.
Instructor(s): B. Neyarapally
Area: Humanities.

AS.214.374. Being Italian: Autobiography and Identity in Literature and Media. 3 Credits.
What does it mean to be Italian rather than French, American, or anything else? What’s the difference between being Tuscan, Milanese, or Sicilian? Between being Christian, Jewish, Muslim, or “other”? How does the reality of Being Italian differ from the clichés that prejudice, commercialism, or mass media fads help to spread? Considering these questions can be important whether you want to use your Italian in business, in academia, or for sheer pleasure, whether you want to watch films, read books, or see the sights.
Prerequisites: AS.210.251 AND AS.210.252
Instructor(s): W. Stephens
Area: Humanities Writing Intensive.

AS.214.375. Documentary Production Practicum: "The Cure:" the History and Culture of Breast Cancer. 3 Credits.
This class will accompany Bernadette Wegenstein during some months of producing her feature documentary “The Cure” on the history and culture of breast cancer. It will be a hands on experience with director/producer Bernadette Wegenstein, editor/producer Patrick Wright and cinematographer Allen Moore filming at the GBMC’s Breast Care clinic, the Halsted Medical Archives, and some other Baltimore locations. This class will meet once a week, but some weeks the class will consist in the hands-on experience on the field rather than the actual class meeting.
Area: Humanities.
**AS.214.377. Gendered Voices. 3 Credits.**
The course will explore the notion of ‘voice’ in order to show how poetry, literature, philosophy, and music have been dealing with it throughout the ages. In particular, by focusing on classical figures such as the Sirens, Circe and Echo, as well as by considering the seminal discussions of the ‘voice’ in Plato and Aristotle, the course will address the gendered nature of the voice as a tool to seduce and manipulate the human mind. More specifically, the course will discuss the ways in which male and female voices embody different functions. Examples to be analyzed include texts by Dante, Petrarch, Ariosto, and Tasso. The course will also consider later rewritings of myths concerned with the voice such as Giuseppe Tomasi di Lampedusa’s The Siren and Italo Calvino’s A King Listens.
Instructor(s): Staff
Area: Humanities
Writing Intensive.

**AS.214.380. Italian Short Fiction. 3 Credits.**
The genre of the “short story” can be said in many ways to have been invented by the Italians. During the later Middle Ages, the short tale, which fireside storytellers had cultivated for ages, was adopted by preachers to add color and emphasis to their sermons. By the late thirteenth century, such stories were being collected for entertainment as well as edification. Boccaccio’s Decameron (1352) was the first classic collection, and inspired others throughout the Renaissance; Italian collections inspired writers in many genres and countries, including Shakespeare. In modern times, short stories have become one of the predominant genres of world literature. The course surveys short fiction from the fourteenth through the twenty-first century. Taught in Italian. Writing intensive.
Area: Humanities
Writing Intensive.

**AS.214.381. ‘La commedia all’italiana:’ the films of Dino Risi, Mario Monicelli and other Italian filmmakers of the 1960s. 3 Credits.**
This class will be taught in English, but good knowledge of Italian will be a necessity. Films will be screened in Italian language.
Instructor(s): B. Wegenstein
Area: Humanities.

**AS.214.382. Dante and Aeneas in the Age of Google. 3 Credits.**
This course examines Dante’s Inferno and Virgil’s Aeneid with the goal of showcasing both enduring and new reasons of relevance in the two masterpieces.
Instructor(s): P. Forni.

**AS.214.393. Italian Opera and the Art of Adaptation. 3 Credits.**
Italian opera, from its very inception, has developed in close dialogue with other art forms. The pioneering operas of Peri and Monteverdi based on the figure of Orpheus are part of a larger cultural movement that saw Renaissance philosophers (Marsilio Ficino), visual artists (Bronzino) and humanists (Angelo Poliziano) resurrect and transform the ancient Orpheus myth. The subsequent evolution of opera was influenced by (and influenced) innovations in stage comedy, the novel, and other art forms. In this course, we will explore these connections between the development of opera and other facets of Italian culture. No knowledge of Italian is required. The course will be taught in English; an additional Italian language discussion section will be offered for majors.
Instructor(s): J. Coleman
Area: Humanities.

**AS.214.387. The Intellectual World of the Italian Renaissance. 3 Credits.**
This course is intended to familiarize students with the intellectual world of Renaissance Italy, or more specifically, the “lost” Italian Renaissance of the long fifteenth century, from the time when Petrarch (1304-74) was in full maturity to the 1520s. During this period, most Italian intellectuals wrote the majority of their work in Latin – not the Medieval Latin of the Church and the universities but in what they saw as a more authentic Latin, like that used in ancient Rome, in the time of Cicero, Virgil, Quintilian, and others. These Renaissance “humanists,” inspired by the example of Roman, and eventually Greek, antiquity, believed that they were carrying out a cultural renewal. Who were these humanists? Why then did they choose Latin (and a reformed Latin at that) instead of their “native” tongue as the language in which to effect this renewal? What did this choice afford them in terms of literature and philosophy? Why was this phase of literary and philosophical history undervalued in the evolution of modern scholarship? By the end of this course, you should be able to formulate answers to those questions. Some of the works of these authors still await editions, lying in manuscript libraries or difficult-to-access early printed editions. Many have now had their Latin texts edited, and a number have recently been translated into English. Students therefore have the chance to explore work in a field that is new and growing. A separate Renaissance Latin reading group will accompany the course for those who have studied Latin.
Instructor(s): C. Celenza
Area: Humanities
Writing Intensive.

**AS.214.479. Dante’s Journey through the Afterlife: The Divine Comedy. 3 Credits.**
Dante’s Divina commedia is universally recognized as the greatest long poem of the Middle Ages; many consider it the greatest poem of all time. We will study the entire Commedia critically in terms of broad categories: (1) What it reveals about the worldview of late-medieval Christian Europe; (2) its internal thematic cohesion and formal symmetries, or how it works as poetry; (3) its critique of the intellectual cultures of pagan antiquity and medieval Christianity; (4) its presentation of political and social issues; (5) its influence on European intellectual history; (6) the interpretive problems it presents to modern readers and translators; (7) the challenges Dante faced in understanding and summarizing the whole of cosmology, world history and culture. We will read and discuss Commedia in English, in editions containing the Italian text on facing pages: students will be expected to refer to the original Italian regularly and familiarize themselves with key terms and concepts even if they do not speak Italian. Italian majors will meet once a week for discussions in Italian and will submit all written work in Italian, for major credit.
Instructor(s): W. Stephens
Area: Humanities
Writing Intensive.

**AS.214.561. Italian Independent Study. 3 Credits.**
Instructor(s): B. Wegenstein; C. Celenza; Staff; W. Stephens.

**AS.214.562. Italian Independent Study. 0 - 3 Credit.**
Instructor(s): B. Wegenstein; C. Celenza; J. Coleman; P. Forni; W. Stephens
Area: Humanities.

**AS.214.597. Italian Lit Internship-Summer. 3 Credits.**
Instructor(s): J. Coleman; P. Forni.
AS.214.601. Word and Image: An Introduction to the Languages of Literature and Cinema.
Taught in English, this course is a primer in the linguistics and the rhetoric of literary and cinematic texts. Students will familiarize themselves with the notion of the literary language’s exceptionality by studying Aristotle, Plato, Viktor Sklovskiy and Roman Jakobson among others. They will then compare the power of the literary with the language of cinema by studying André Bazin’s take of New Realism, Christian Metz’s structuralist approach to cinema and psychoanalysis, Gilles Deleuze’s theory of the moving-image and the time-image, a feminist approach to cinema by E. Ann Kaplan and others, as well as theories of digital cinema from Peter Weibel to Lev Manovich, among others. We will place the language of literature and film within a context that includes religion music, magic, prophecy and medicine. Cross-listed with Film and Media Studies and English (This course is offered as AS.212.601, 213.601, 214.601, and 215.601. Please check other course numbers for open seats.)
Instructor(s): B. Wegenstein; P. Forni.

A seminar that considers how the early moderns encountered the (mostly material, mostly classical) remains of earlier cultures, in both visual and verbal realms. Survival and revival; manuscripts and art works; antiquarianism and the burden of the past; ephemerality and dreams of permanence. Some attention to the methodologies of historicism in both literary and art-historical study, including Burckhardt, Warburg, Panofsky, Greene, and recent work by Nagel and Wood; then a consideration of such figures as Dante, Petrarch, Ronsard, Mantegna, Francesco Colonna, Spenser, Shakespeare, and Milton.
Instructor(s): L. Barkan.

The course aims to outline the musical reception of Michelangelo’s poems from the 16th to the 21st century. Moving from a critical introduction to Michelangelo’s Rime, the course will address Michelangelo’s own ideas on music and the few musical settings of his poems by contemporary composers. The course will then turn to the Post-Romantic and postmodern history of Michelangelo’s myth as the context within which the main bulk of musical settings of the artist’s poems was produced. What did composers such as Wolf, Britten, Dallapiccola, Shostakovich and Reiman find in Michelangelo’s poetry? Through a close reading of the poems chosen by the composers, the course will explore the biographical, philosophical and socio-historical implications suggested by the different musical settings. No training in music performance or theory is required.
Instructor(s): Staff
Area: Humanities
Writing Intensive.

AS.214.604. # internet.
This seminar will address the history of the internet as participatory platform from such social media as facebook and twitter to blogs and forums of political or activist nature, as well as online gaming environments; the questions raised will regard the social change these platforms produce, the legal implications of sharing information, the political and economical issues around “digital labor” (Scholz), as well as the broader ethical questions about identity and the construction of self in participatory online environments. This class will include a hands-on dimension combining media theory & practice.
Instructor(s): B. Wegenstein
Area: Humanities.

European languages document the evolution of the concept of literature from a generic term indicating the body of writings produced in a particular country or period to one that more particularly signifies works endowed with an aesthetic quality. The concept of literature thus seems to take form in connection with the emergence of a critical discourse, the search for a standard of taste. The dream of founding a “science littéraire” modeled on the principles of structural semiotics searching for an elusive “literariness”, literature as a system, a set of formal features, not a collection of discrete, ineffable individuals; it thus involved a rejection of the aesthetic, or at least a reconsideration of its assumptions. This course will pursue the question of “The Idea of Literature” simultaneously from a philosophical and a historical perspective; in moving from formalist literariness to the rediscovery of categories like the ethical, the subject, the reader, the author, and the aesthetic, we will ask such questions as: Can there be a return to an aesthetic education, as some wish, and what would that be? Would such a move resuscitate the ghost of Hume’s gentleman scholar, which the New Critics tried to do away with? Is there a way of formally distinguishing between literature and its various contexts? Authors will include Hume, Kant, Taine, Lanson, Sainte-Beuve, Brunetière, Arnold, Proust, Benjamin, Bréton, Sartre, Bourdieu, De Man, and Eco.

The newly acquired “Bibliotheca Fictiva” collection of rare books contains over 1200 literary forgeries and related documents, and makes Johns Hopkins the only center in Europe or the Americas equipped to investigate the deep relations between literature (in the broad sense that includes historiography), literary forgery, and literary theory. We will trace the development of the concept of literary counterfeit in humanist scholarship, with its medieval and classical antecedents, and the growth of modern literary genres, particularly the historical novel, that depended on concepts of authenticity and probability or verisimilitude. Theoretical readings, from Lorenzo Valla through postmodern literary theory, will be matched with notorious forgeries and with metalinguistic fiction, from Rabelais and Cervantes to Borges, Eco, and their imitators. Elementary Latin will be helpful but not required; some paleographical skills will be taught; all sessions will be held in the Bibliotheca Fictiva collection in the rare book room of the new Brody Learning Center.
Instructor(s): E. Havens; W. Stephens
Area: Humanities.

AS.214.610. Latin and Vernacular Eloquence from Dante to Bembo.
This course will examine the coexistence of Latin and the Italian vernaculars as languages of literary expression in Italy between the thirteenth and sixteenth centuries. We will study theoretical works that articulate ideals of eloquence and style for Latin and the vernacular and that conceptualize the nature and relative roles of these languages. We will also consider the social, political, and intellectual factors that influenced how literary authors and translators employed Latin and the vernacular. Reading knowledge of Italian is required. While Latin works will be read primarily in translation, we will work with selected texts in Latin with the goal of better understanding medieval and Renaissance Latin style. Some prior study of Latin is assumed; advanced Latin is not a prerequisite.
Instructor(s): J. Coleman.
In this course we will consider how these developments shaped both the nature of poetic inspiration and “divine frenzy.” Contributions by thinkers like Marsilio Ficino and Giordano Bruno, who condemned poetry as mendacious and spiritually corrupting. These antiquity) to be replete with divine wisdom, and theologians who (Anthropology) and Research professor and filmmaker Bernadette Wegenstein (German and Romance Languages and Literatures) will track the mediation of images in the making of medical knowledge and show how sensory knowledge is incorporated or transformed in the process. Co-listed with 211.416 and 070.416

Instructor(s): B. Wegenstein
Area: Humanities
Writing Intensive.

AS.214.616. Visual Languages in Medical Knowledge.
This interdisciplinary course, co-taught by professor Veena Das (Anthropology) and Research professor and filmmaker Bernadette Wegenstein (German and Romance Languages and Literatures) will track the mediation of images in the making of medical knowledge and show how sensory knowledge is incorporated or transformed in the process. Co-listed with 211.416 and 070.416

Instructor(s): B. Wegenstein; V. Das
Area: Humanities.

AS.214.630. Rossellini-Fellini-Pasolini: Italian Cinema and its Meaning Beyond Italy.
The great triumvirate of the Italian cinema, Rossellini, Fellini, and Pasolini can be said without exaggerations to be the fathers of modern film. Through the poetry of their moving images, they lay the groundwork in some ways for almost every kind of cinema that has been made in their wake. This course will examine the breadth of their opus and writings in an effort to understand the source of their influence. Recommended Course Background: AS.210.311-AS.210.312 or instructor permission.
Instructor(s): B. Wegenstein.

AS.214.633. Poetry and Divinity in Medieval and Early-Modern Italy.
The late Middle Ages saw intense debates between humanists (like Petrarch and Mussato) who considered great poetry (even from pagan antiquity) to be replete with divine corruption. These debates intensified in the 15th and 16th centuries, leading to important contributions by thinkers like Marsilio Ficino and Giordano Bruno, who re-conceptualized the nature of poetic inspiration and “divine frenzy.” In this course we will consider how these developments shaped both the theory and practice of poetic composition and interpretation. Discussions will be in English. Ability to read Italian is required.
Instructor(s): J. Coleman
Area: Humanities.

AS.214.637. The Intellectual World of the Italian Renaissance.
This course is intended to familiarize students with the intellectual world of Renaissance Italy, or more specifically, the “lost” Italian Renaissance of the long fifteenth century, from the time when Petrarch (1304-74) was in full maturity to the 1520s. During this period, most Italian intellectuals wrote the majority of their work in Latin – not the Medieval Latin of the Church and the universities but in what they saw as a more authentic Latin, like that used in ancient Rome, in the time of Cicero, Virgil, Quintilian, and others. These Renaissance “humanists,” inspired by the example of Roman, and eventually Greek, antiquity, believed that they were carrying out a cultural revival. Who were these humanists? Why then did they choose Latin (and a reformed Latin at that) instead of their “native” tongue as the language in which to effect this renewal? What did this choice afford them in terms of literature and philosophy? Why was this phase of literary and philosophical history undervalued in the evolution of modern scholarship? By the end of this course, you should be able to formulate answers to those questions. Some of the works of these authors still await editions, lying in manuscript libraries or difficult-to-access early printed editions. Many have now had their Latin texts edited, and a number have recently been translated into English. Students therefore have the chance to explore work in a field that is new and growing. A separate Renaissance Latin reading group will accompany the course for those who have studied Latin.
Instructor(s): C. Celenza
Area: Humanities
Writing Intensive.

AS.214.640. Film Theory.
This class deals with film theory in its history and its current trends. We will examine structuralist, feminist, Marxist, psycho-analytic, Deleuzian, and other theoretical approaches to understanding and interpreting the cinematic medium. We will look at several different film samples from European film to Latin American Film, auteur-films to independent documentary collectives, animation films to blockbusters. We will invite at least one film theorist to class during the semester.
Instructor(s): B. Wegenstein
Area: Humanities.

Three of the most wildly inventive works of Renaissance literature are Luigi Pulci’s verse romance Morgante (1478/1483), Teofilo Folengo’s macaronic Baldus (1517/1521) and François Rabelais’ five prose tales known to posterity as Gargantua et Pantagruel (1532-1550’s)? Beginning from a template of mock epic, these three works unleash a tornado of linguistic and narrative tours de force, burlesquing and satirizing almost every aspect of literature, politics, and religion, with such reckless gusto that their authors were often accused of irreligion and even atheism. Their frenetic attacks on every conceivable norm of language, good taste, and decorum provide a fascinating “Dionysian” counterpoint to the dignified “Apollinian” works that are more easily assimilable to modern ideas about the essence of the Renaissance. A thorough familiarity with either early modern Italian or early modern French is absolutely essential for full appreciation of these works, as is a basic knowledge of Latin.
Instructor(s): W. Stephens.

**AS.214.653. Pleasure and Virtue in Renaissance Literature.**
This course will examine major literary and philosophical works from Renaissance Italy that dramatize pleasure, questioning (explicitly or implicitly) its place in the hierarchy of human values. We will consider the role that the Renaissance rediscovery of Epicurean and Neoplatonic thought played in shaping how pleasure in its various forms was conceptualized and represented. Authors we will read include Lorenzo Valla, Marsilio Ficino, and Niccolò Machiavelli. Reading knowledge of Italian is required.
Instructor(s): J. Coleman
Area: Humanities.

**AS.214.654. Creating and Teaching the Undergraduate Survey of Italian Literature.**
Materials for teaching the undergraduate survey are rarely entirely satisfactory "as is." This course will undertake the research and creation of an undergraduate Italian literature survey tailored to the needs of Johns Hopkins undergraduates, and fully integrated into the language and literature curriculum of the Italian program. Participants will observe and contribute to the instructor's undergraduate survey, Italian 214.251, and, at the end of their own course will have produced a textbook that will serve them in good stead in their future teaching career.
Area: Humanities.

**AS.214.655. The Invention of the Secular Theatre.**
Must read Italian, but not limited to Italian graduate students. Between late Antiquity and the fifteenth century, religious and cultural strictures on theatrical activity were enforced continuously, though not consistently. While spectacle (and, in the later Middle Ages, drama) remained important to medieval life, it was left to Italian humanists to reconstitute secular theater in the fullest sense, by reviving the ancient classical forms of comedy and tragedy, and by inventing new forms such as tragicomedy, commedia dell'arte, and opera. Sixteenth-century drama in Italian was the model for the development of dramatic literature in the other major Western European countries, including works of Shakespeare, Molière and other major authors. After reading several classic texts of the Italian sixteenth century in modern editions, students will produce editions and translations of other texts—both sixteenth-century imprints and the unpublished plays in a unique manuscript recently acquired by JHU—for planned publication. All sessions will be held in Special Collections in the Brody Learning Commons, and students will help prepare an exhibition of Renaissance editions.
Instructor(s): E. Havens; W. Stephens
Area: Humanities
Writing Intensive.

**AS.214.656. Media and Art Theory.**
This class will read basic texts in media theory, history, and philosophy—from Marshall McLuhan, and the school of French structuralists, to film semiotics and current approaches to media analysis within ubiquitous computing. We will look at some media artists from Nam June Paik to Cindy Sherman and ask the question of how their art-work incorporates a specific media-theoretical and -philosophical background. Readings from Mark Hansen, Tom Mitchell, Ulrik Ekman, Vivian Sobchack, Amelia Jones a.o.
Instructor(s): W. Stephens.
Area: Humanities
Writing Intensive.

**AS.214.657. Dante's Inferno: A Reading for Teaching.**
How to Teach the Divine Comedy to American Undergraduates.
Instructor(s): P. Forni.

**AS.214.658. Dante's Inferno: A Reading for Teaching.**
Instructor(s): P. Forni.

**AS.214.659. Italian Renaissance Humanism.**
In this course we will study representative works by the major figures of Italy's humanist movement, considering the significance of the movement as a whole and the many currents that scholars have identified within it. Topics and authors we will explore include early Paduan humanism (Lovato, Mussato), Florentine civic humanism (Salutati, Bruni), the birth of philology (Poliziano, Valla), vernacular humanism (Alberti, Landino), and the relationship between humanistic studies and Christian religion (Ficino, Sannazzaro, Erasmus). The class will be taught in English. The ability to read Italian is required. Some knowledge of Latin is desirable but is not required.
Instructor(s): J. Coleman
Area: Humanities
Writing Intensive.

**AS.214.660. Boccaccio I.**
Instructor(s): P. Forni.

**AS.214.661. Boccaccio II: The Decameron.**
A reading of Boccaccio's Decameron completes the unit of two-semester courses on the Florentine writer.
Instructor(s): P. Forni.

**AS.214.662. Tasso, the Epic & Tradition.**
Students will achieve deep familiarity with Tasso's Gerusalemme liberata and Aminta; read selections from Gerusalemme conquistata, Il mondo creato, Tasso's Dialogues, and his literary-theoretical treatises; survey important texts of Tasso criticism, and sample Tasso's legacy in poetry and figurative arts.
Instructor(s): W. Stephens.

**AS.214.663. The Invention of the Secular Theatre.**
Must read Italian, but not limited to Italian graduate students. Between late Antiquity and the fifteenth century, religious and cultural strictures on theatrical activity were enforced continuously, though not consistently. While spectacle (and, in the later Middle Ages, drama) remained important to medieval life, it was left to Italian humanists to reconstitute secular theater in the fullest sense, by reviving the ancient classical forms of comedy and tragedy, and by inventing new forms such as tragicomedy, commedia dell'arte, and opera. Sixteenth-century drama in Italian was the model for the development of dramatic literature in the other major Western European countries, including works of Shakespeare, Molière and other major authors. After reading several classic texts of the Italian sixteenth century in modern editions, students will produce editions and translations of other texts—both sixteenth-century imprints and the unpublished plays in a unique manuscript recently acquired by JHU—for planned publication. All sessions will be held in Special Collections in the Brody Learning Commons, and students will help prepare an exhibition of Renaissance editions.
Instructor(s): E. Havens; W. Stephens
Area: Humanities
Writing Intensive.
AS.214.676. The Renaissance Comic Romance.
In the second half of the fifteenth century, Italian poets transformed the medieval adventure stories of Charlemagne’s and Arthur’s knights. Luigi Pulci’s earthy, bourgeois Morgante and Matteo Maria Boiardo’s romantic, courtly Orlando innamorato created two variants of a genre that led from Ariosto’s Orlando furioso through Folengo’s Baldus to inspire Rabelais’s Gargantua and Pantagruel, Cervantes’ Don Quixote, and, eventually, the European novel. The course concentrates on the works of Pulci, Boiardo, and Folengo, combining close analysis of their linguistic and narrative fabric with examples of their influence on later comic masterpieces.
Instructor(s): W. Stephens
Area: Humanities
Writing Intensive.

AS.214.677. Umberto Eco’s Post-Modern Middle Ages.
Since the 1960’s, Umberto Eco has been at the forefront of European critical theory, and since 1980, one of the best-known European novelists. “The Name> of the Rose” and “Foucault’s Pendulum” revitalized “theory-rich” historical fiction in Europe and North America. Course will explore the relation of Eco’s fiction to his most characteristic contributions in literary and cultural theory.

AS.214.678. Ariosto’s Orlando Furioso.
Ludovico Ariosto (1474-1533) was one of the major poetic innovators of the European Renaissance. He is best known for Orlando Furioso, the long epic-romance that also bears traces of his innovations in other genres, especially theatrical comedy in the vernacular. Orlando Furioso is an encyclopedia of Renaissance genres and topics that was influential throughout European literature. Written as a continuation of Boiardo’s Orlando Innamorato (left unfinished in 1494), Ariosto’s poem overshadowed his competitors, including Giangiorgio Trissino and the Tassos, father and son. From L’Italia liberata dai goti and L’Amadigi to Gerusalemme conquistata (leaving aside the many poems now forgotten), only Gerusalemme liberata achieved anything comparable to the popularity and critical acclaim won by the Furioso. Aside from three complete redactions printed in 1516, 1521, and 1532, Ariosto left at his death five unfinished cantos that were never integrated into the poem, and that would have altered it considerably. Reading ability in Italian required.
Instructor(s): W. Stephens
Writing Intensive.

AS.214.679. The Orpheus Myth and Orphic Poetry from Antiquity to the Italian Renaissance.
The figure of Orpheus occupies a prominent place in the art and literature of the Italian Renaissance. In this period Orpheus did, figuratively speaking, return to the light from an underworld of obscurity. While many of the myths associated with Orpheus had remained popular throughout the Middle Ages, it was only in the fifteenth century that Italian humanists restored to circulation the Greek texts attributed to Orpheus, which had been unknown in Europe since late antiquity. The ancients (and Renaissance humanists after them) regarded Orpheus not as an exclusively mythical figure, but as a real poet and sage, whose writings demonstrated that poetry could serve as a powerful means of revealing transcendent truths. We will study some of the repercussions that the revival of these texts and ideas had on Renaissance culture, and especially on the late fifteenth-century Florentine milieu in which Marsilio Ficino, Lorenzo de’ Medici, Angelo Poliziano, and Giovanni Pico della Mirandola lived and worked. Our examination of the revival of Orpheus will lead into a broader exploration of the philosophical and literary achievements of this circle. Discussions will be in English. Ability to read Italian is required; some knowledge of Latin is desirable.
Instructor(s): J. Coleman.

This course examines love poems in which poetry is seen as an ally of love in the conquest of the object of desire. It is a course on the pleasure of writing and the pleasure of reading. Part of it is theoretical and part of it is an analysis of a number of outstanding poems in the Italian tradition—from the Middle Ages to the Novecento. Among the examined theorists are Aristotle, Foscolo, Freud and the Russian Formalists. Among the chosen poets are Dante, Petrarca, Cino da Pistoia, Leopardi, Pascoli, Gozzano and Saba. Class discussion is in English. Texts are read in the original and in English.

The course will examine Vico’s place in the debates of the modern world, his critical engagement with the “founders” of modernity, who for him are Machiavelli, Galileo, Descartes, Bacon, Campanella, and Hobbes. Vico understands modernity as an epoch of extraordinary crisis, as the time of scientific discoveries unsettling ancient systems of knowledge and values, of baroque theories of despotic political power, of challenges to traditional religious beliefs, and of vindications of the values of subjectivity and freedom. Interpreters of his thought, as is articulated especially in the <New Science>, --from Croce on-- cast Vico as an ‘anti-modern’, one who espouses ancient humanistic ideas and is essentially out of touch with the claims of the new age. To test the validity of these views, the course will focus on the following texts by Vico: 1) <Autobiography>; 2) <Study Methods of Our Time>; 3) <On Humanistic Education (Six Inaugural Orations)>; 4) The <New Science>.
Instructor(s): Staff.
AS.214.686. The Renaissance Dialogue with the Past: Humanism in Europe, 1300-1600.
Students will explore the conditions governing elite and popular modes of scholarly communication, and their implications for access to and interrogation of ancient and new forms of knowledge. We will focus on material culture as represented by holdings in the Department of Rare Books and Manuscripts of the Sheridan Libraries, and on the histories of reading, writing, and the accumulation of libraries. Ancient texts will be assigned alongside Renaissance texts reflecting their influence, appropriation, or imitation. Topics and texts will address theology, historiography, imaginative literature in prose and verse, natural philosophy (i.e., the forerunner of science), ethics and moral philosophy, rhetoric and language, art (including iconophilia and iconoclasm), political theory, mythography, literary and historical forgery, and other topics related to the craft of research between the eras of Dante and Galileo. Good reading ability in a Romance Language or German required; familiarity with Latin helpful.
Instructor(s): W. Stephens.

This class examines the areas of aesthetics, technology, and society critically in regard to media theory and practice following the 2010 anthology Critical Terms in Media Studies. The class also thematically accompanies the international conference Technologies of Meaning, March 3-4, 2011 with such speakers as Avital Ronell, Tom Gunning, and Sam Weber. Cross-listed with English, Political Science, and Anthropology
Instructor(s): B. Wegenstein.

AS.214.729. Petrarch and His Legacy.
In this seminar we will study Petrarch’s poetry, as well as selected prose works. We will consider the various facets of Petrarch’s profound influence on European literature and intellectual culture: his role in inaugurating humanism and the revival of classical learning; his new vision of historical change and human subjectivity; the immense impact of his Canzoniere on European lyric poetry and on the development of the Italian language itself. The conclusion of the course will be devoted to early modern authors who adapted the Petrarchan lyric mode in new ways, including Vittoria Colonna, Thomas Wyatt, and Shakespeare.
Instructor(s): J. Coleman
Area: Humanities
Writing Intensive.

An introduction to the Italian novel of the 20th Century
Instructor(s): P. Forni
Area: Humanities
Writing Intensive.

This seminal text of the late Middle Ages will be a point of departure for discussing the role of literature in forging the socio-political convictions of Western Civilization.
Instructor(s): P. Forni
Area: Humanities
Writing Intensive.

AS.214.761. Reading & Writing in Pre-Modern Europe.
This course has a fourfold aim: First, it is designed to familiarize participants with the basics of Latin paleography from Roman antiquity through the age of printing with moveable type; throughout, we will practice deciphering literary and documentary sources of various types, even as we concentrate on the evolution of different writing styles. Second, we will think about paleography’s status as a “discipline.” That is, the term “paleography” dates back to 1708 and Montfaucon’s classic work, Palaeographia Graeca. However, it was only in the late nineteenth century in the world of the German research university that paleography came into the orbit of the Geisteswissenschaften as a “Hilfswissenschaft.” Both implicitly and explicitly throughout the seminar we shall be asking what consequences that move entailed. Third, we will study the manner in which printing with moveable type changed western graphic culture: was printing “revolutionary” or “evolutionary”? Did printing and its radical graphic changes introduce new forms of consciousness in readers? Fourth, we will become familiar with certain aspects of “the history of the book,” discovering as we do what sorts of questions scholars in this broad field of scholarly endeavor have been asking recently.

AS.214.765. Casiglione and Della Casa.
The students will become acquainted with two of the most influential books of conduct written in the Renaissance: the Cortegiano and the Galateo.
Instructor(s): P. Forni.

AS.214.766. Impious Classics and their Reception in Renaissance Italy.
Lucretius, Plautus, and Lucian were among the classical authors whose works, largely unknown in medieval Europe, were rediscovered by Italian humanists in the fifteenth century. The rediscovery of these authors generated not only excitement but also suspicion and scandal: all three were criticized as “impious’ writers capable of corrupting the moral values or even the Christian orthodoxy of readers. This was particularly true of Lucretius, whose great poem of Epicurean philosophy declares that there is no afterlife, that no God cares about or influences human affairs, and that pleasure is the proper goal of life. We will study the ways in which these controversial classics influenced Renaissance authors, including Alberti, Valla, Erasmus, and Machiaveli. Discussions will be in English. Ability to read Italian is required; some knowledge of Latin is desirable.
Instructor(s): J. Coleman.

AS.214.767. Media Theories.
This seminar explores major media theories of the 20th and 21st centuries that have changed the way we think about media. From McLuhan’s Gutenberg Galaxy and Kittler’s Discourse Networks to the new media theories of Lev Manovich and Wendy Chun — the seminar examines such issues as media ownership, propaganda and persuasion, and media production and reception in light of these theories.
Instructor(s): B. Wegenstein
Area: Humanities.
AS.214.769. The Orpheus Myth and the Arts in Early Modern Italy.
The revival of the Orpheus myth in Early Modern Italy shaped some of the period’s most important developments in literature, music, and the visual arts: as the first Italian secular play, Angelo Poliziano’s Orfeo marked a new beginning for Italian theater in the late fifteenth century. Just over a century later, the composers and librettists who created Italian opera (Peri, Rinuccini, Monteverdi, Striggio, and others) made the Orpheus myth the most characteristic theme of this new art form. In this course we will study these and other Early Modern works based on the Orpheus myth, as well as their classical antecedents (including texts by Virgil, Ovid, Boethius). We will explore the literary, musical, and artistic repercussions of the rediscovery and reinterpretation of ancient Greek Orphic poetry by intellectuals and poets of Lorenzo de’ Medici’s circle, including Marsilio Ficino, Cristoforo Landino, and Giovanni Pico della Mirandola. Discussions will be conducted in English. Some knowledge of Italian is desirable, but advanced Italian is not a prerequisite.
Instructor(s): J. Coleman.

In this seminar we will examine a selection of literary reflections on and engagements with globalization and its mounting failures and burdens, as it has emerged in Europe and the Americas from the mid-twentieth century to the present. From the economic, constitutional, and cultural politics around the unification of Europe, to the ideological and imperial misfortunes of the U.S. after the collapse of the “End-of-History” thesis, to the resurgence of state populism in Latin America in the wake of neoliberal exhaustion, literary fiction has been deployed to posit, explore, and contest national and post-national myths of identity. The seminar will interrogate how this engagement functions both as aesthetic and theoretical discourse. Readings may include novels by Albert Camus, W. G. Sebald, Leonardo Sciascia, Orhan Pamuk, Javier Marías, Roberto Bolaño, and Jonathan Franzen, along with theoretical writings by Gianni Vattimo, Jürgen Habermas, Rodolphe Gasché, and others.
Instructor(s): E. Gonzalez; W. Egginton
Area: Humanities.

In this seminar we will examine a selection of literary reflections on and engagements with globalization and its mounting failures and burdens, as it has emerged in Europe and the Americas from the mid-twentieth century to the present. From the economic, constitutional, and cultural politics around the unification of Europe, to the ideological and imperial misfortunes of the U.S. after the collapse of the “End-of-History” thesis, to the resurgence of state populism in Latin America in the wake of neoliberal exhaustion, literary fiction has been deployed to posit, explore, and contest national and post-national myths of identity. The seminar will interrogate how this engagement functions both as aesthetic and theoretical discourse. Readings may include novels by Albert Camus, W. G. Sebald, Leonardo Sciascia, Orhan Pamuk, Javier Marías, Roberto Bolaño, and Jonathan Franzen, along with theoretical writings by Gianni Vattimo, Jürgen Habermas, Rodolphe Gasché, and others.
Instructor(s): E. Gonzalez; W. Egginton
Area: Humanities.

AS.214.790. What is Philology?.
In recent years, philology has gained new attention as a field of methodological reflection which at the same time opens up Literary Criticism towards interdisciplinary research and media studies as it emphasizes the specific status of Literary Criticism in the humanities. The course will examine the changing field(s) of philology from the 18th century to the present in both historical and systematic scope. Including methods of textual criticism, edition philology, and hermeneutics, philology has been addressing questions of theory, methodology and epistemology in various constellations. Precisely because philology’s interest lies in connecting languages and literatures to their historical contexts, one of its primary tasks is to account for the epistemic framework and limitations of such historicization, so as to ensure that the literary object not be confused with historical contexts but is perceived as a distinct phenomenon in itself. – In addition to these questions, the course will discuss methods of edition philology, ranging from historical-critical edition to “material philology” and “genetic criticism” along with analyzing editions of Kafka, Joyce and Flaubert. Further, we will examine the more recent discussion on philology and new media (e.g. digital editions). Readings will include Vico, Schlegel, Schleiermacher, Nietzsche, Auerbach, Szondi, Bolle, Nichols, Cerciuglini, and Ferrer among others. The course will be taught in English. Meets with 212.790, 213.790, and 215.790
Instructor(s): E. Strowick; J. Neefs
Area: Humanities.

This survey of critical approaches to the study of film explores theoretical problems of representation and reality, film form and signification, authorship, spectatorship, and the digital frontier. Each week we examine a different narrative genre, historical period, or a given theoretical aspect through films that students will watch independently as well as at mandatory weekly screenings.
Instructor(s): B. Wegenstein; D. Schilling.

AS.214.851. Italian Foreign Language Teaching Practicum I.
Required for first-year Italian Graduate Students. Must take Italian Foreign Language Teaching Practicum II (AS.214.852) to receive credit for this course. This course will not have a scheduled meeting time.
Instructor(s): A. Zannirato
Area: Humanities Writing Intensive.

AS.214.852. Italian Foreign Language Teaching Practicum II.
Required for First year Italian Graduate Students. This course will not have a scheduled meeting time.
Prerequisites: AS.214.851
Instructor(s): A. Zannirato
Area: Humanities Writing Intensive.

AS.214.861. Italian Independent Study.
Instructor(s): B. Wegenstein; C. Celenza; P. Forni; Staff; W. Stephens.

AS.214.862. Italian Dissertation Research.
Instructor(s): B. Wegenstein; C. Celenza; P. Forni; Staff; W. Stephens.

AS.214.863. Italian Proposal Preparation.
Instructor(s): B. Wegenstein; C. Celenza; P. Forni; Staff; W. Stephens.
AS.215.231. Introduction to Literature in Spanish. 3 Credits.
The main objective of this course is to examine and discuss specific authors and topics in literature in Spanish from the Middle Ages to the 20th century. The course is designed to cover a selection of Hispanic texts from Spain and Latin America. Literary genres to be studied will include narratives, poetry, and drama. The bulk of each class session will be dedicated to the discussion of the assigned readings. This course is taught in Spanish. This course is required for the major in Spanish.
Instructor(s): H. Sieber; Staff; W. Egginton
Area: Humanities.

AS.215.232. Spain and its Literature from Modern to Medieval Times. 3 Credits.
This course will explore the fundamental aspects of Spanish Peninsular literature in reverse chronological order from the twentieth to the tenth centuries. The course will offer a general survey of the literature of Spain. Students will be asked to read, analyze and comment on representative texts from the Spanish canon.
Instructor(s): B. Brown
Area: Humanities.

AS.215.243. Freshman Seminar: The Middle Ages in Film. 3 Credits.
The Middle Ages and medieval themes are ubiquitous in popular movies of our times. This course studies the Middle Ages as they have been portrayed in film, with a focus on Spain. Course materials include studies on the imaginative uses of the Middle Ages as well as films like The Cid, Tirante el Blanco, Ladyhawke, and Destiny, among others.
Instructor(s): N. Altschul
Area: Humanities.

AS.215.311. Radicalism, Film & Literature in Modern Latin America-Community Based Learning. 3 Credits.
This course will explore the cultural symbiosis of radical politics, film, and literature in modern Latin America. Beginning with Cuban revolutionary Jose Marti and the definitive end of the Spanish Empire and concluding with current socialist movements in South America, we will analyze key radical texts by the likes of Friedrich Engels and Ernesto "Che" Guevara, classic films like The Battle of Chile by Patricio Guzman, and important works of literature by authors such as Pablo Neruda and Rigoberta Menchu. Note: Class will be conducted in English and all assigned texts will also be in English in order to encourage interdisciplinary enrollment and participation.
Instructor(s): M. Strayer
Area: Humanities
Writing Intensive.

AS.215.321. Trips to the Other World: Heaven and Hell in Hispanic Literature. 3 Credits.
Area: Humanities.

AS.215.325. Muslim Spain: 711-1615. 3 Credits.
Desde la conquista musulmana hasta la expulsión de los moriscos la Península Ibérica fue una sociedad caracterizada por el multilingüismo y la presencia, muchas veces conflictiva, de habitantes de las tres religiones monoteístas. Este curso presenta un panorama de las literaturas y culturas hispano-musulmanas e hispano-judías, así como hispano-cristianas y de temática morisca, desde la conquista musulmana (711) hasta la segunda parte del Quijote (1615).
Recommended Course Background: AS.210.311-AS.210.312 or instructor permission.
Instructor(s): H. Sieber; N. Altschul
Area: Humanities.

AS.215.327. Modern Political Thought in Latin America. 3 Credits.
Sophomores, Juniors and Seniors only. The course is an introduction to modern political thought in Latin America. It draws on essays and novels written by major and influential political thinkers such as D.F. Sarmiento, Gonzalo Prada, J.C. Mariategui, Leopoldo Zea, J. E. Rodó, Octavio Paz, Jose Revueltas, Jose María Arguedas, Mario Vargas Llosa, Darcy Ribeiro, Enrique Dussel and the authors of the Sumac Kawsay as well as Liberation Theology central writings. The course will be taught in English. Students wishing to do work in the original Spanish or Portuguese will be encouraged to do so.
Instructor(s): S. Castro-Klaren
Area: Humanities
Writing Intensive.

AS.215.336. Don Quijote. 3 Credits.
A close reading and discussion primarily in Spanish of Cervantes’ masterpiece, with concentration on its major themes and contributions to the formation of the modern novel. We will use A. Murillo’s edition of the novel, Editorial Castalia.
Instructor(s): H. Sieber
Area: Humanities.

AS.215.337. Teatro Espanol del Siglo del Oro. 3 Credits.
Close reading of various Spanish authors, among them Lope de Vega, Calderón de la Barca, Moreto, and Zorilla. Students should have taken courses beyond intermediate level or advanced Spanish. This class will be conducted primarily in Spanish as a seminar and will require active participation and discussion. Papers will be written in Spanish.
Instructor(s): H. Sieber
Area: Humanities.

AS.215.338. Introduction to Argentine Literature. 3 Credits.
La literatura se enmarca en la realidad social y es una ventana hacia la cultura. En esta introducción consideraremos diferentes temas de especial importancia en la cultura y literatura argentina, como la separación entre la ciudad (puerto, civilización, contacto europeo) y el campo (provincias, barbarie, tradicionalismo rural) que empieza con el texto fundacional de Domingo F. Sarmiento, Facundo. Observaremos asimismo que esta influyente dicotomía que se establece con la independencia política es modificada con la llegada masiva de inmigrantes a fin de siglo y finalmente pierde su fuerza con la dictadura militar de los años ’70 y con el desencanto neoliberal que estalla con la crisis del 2001.
Instructor(s): N. Altschul
Area: Humanities.

AS.215.341. Perspectives on the Study of Latin America. 3 Credits.
An interdisciplinary approach to the study of Latin America since Independence. The course will reply on an historical approach to the study of literature, art and the formation of cultural epochs and periods.
Instructor(s): S. Castro-Klaren
Area: Humanities
Writing Intensive.
AS.215.343. Nación criolla: cultura y literatura en el siglo XIX. 3 Credits.
El curso examina la formación de nuevas identidades hispanoamericanas y la búsqueda de un pasado que las haga legítimas, especialmente en el Cono Sur (Chile, Argentina, Uruguay). Consideraremos en particular las relaciones con el pasado español y con el pasado amerindio en textos políticos, críticos y literarios de figuras clave del siglo diecinueve, e.g. Domingo Faustino Sarmiento, Andrés Bello, Simón Bolívar, Esteban Echeverría, y José Victorino Lastarria.
Instructor(s): N. Altschul
Area: Humanities.

AS.215.350. Mexico: An interdisciplinary approach to the construction of our image and understanding of Mexico. 3 Credits.
The course studies the accounts of the Mexica on the journey and foundation of Tenochtitlan. Later we move on to the clash of cultures with the Spanish conquest (1521). After studying the art of the colonial period, the course focuses of the Mexican Revolution of 1910 and ends with a consideration of the image of the nation in murals and writers such as Octavio Paz, Carlos Fuentes and Elena Garro. Taught in English.
Instructor(s): S. Castro-Klaren
Area: Humanities
Writing Intensive.

AS.215.355. Literature and Opera. 3 Credits.
In this course we will look at the relation between some of the great opera’s of the 18th and 19th centuries and their literary sources. We will also discuss some recent philosophical interpretations of opera. At stake will be the question of how literature is translated into music and stagecraft, and what these translations say about the times and cultures in which they were produced. Each week we will view and listen to an opera, and read its source materials as well as critical works about both. The course will be conducted in English, and will be writing intensive. (This course is offered as AS.212.355, 213.355, 214.355, and 215.355. Please check other course numbers for open seats.)
Instructor(s): W. Egginton
Area: Humanities
Writing Intensive.

AS.215.363. Film and Franquismo: Repression and Resistance in Spanish Cinema. 3 Credits.
This course will examine the cinema of Spain that was produced from the onset of the Spanish Civil War in 1936 until the death of dictator Francisco Franco in 1975. The films we will analyze include partisan documentaries, government propaganda shorts, escapist musicals, wry comedies, neo-realist thrillers, iconoclastic dramas, and meditations on national and personal trauma. In addition, we will contextualize our analyses by reading seminal works of Spanish cultural history, social criticism and film theory. This course is taught in English.
Instructor(s): C. Kozeq
Area: Humanities.

AS.215.371. Modern Spanish Literature. 3 Credits.
Prerequisites: AS.215.231
Area: Humanities.

AS.215.375. Cinema in Spain and Latin America. 3 Credits.
Offered in dual format with one classroom session linked to an online interactive component. We will study and discuss a selection of recent films from Spain, Argentina, Peru, Mexico and Cuba. We will concentrate on hot political and social issues in these countries as reflected in each film. Issues under discussion will be: gender and sexuality, national memory, themes and styles in film-making at the local and global levels, the imprint of social media networks. Taught in Spanish. Advanced Spanish is a prerequisite. The course counts as credit for the Major and Minor in Spanish.
Instructor(s): E. Gonzalez
Area: Humanities.

AS.215.381. Contemporary Latin American Narrative: From Machado de Assis to Garcia Marquez. 3 Credits.
The objective of this course is to introduce students to the idea of a Latin American narrative canon that includes both Brazil and Spanish American writers. Often, courses labeled Latin American Literature mainly focus on Spanish American writers because neither the students nor the Professors have language expertise. Course taught in English.
Cross-listed with PLAS
Instructor(s): S. Castro-Klaren.

AS.215.401. Senior Seminar Mexico D.F. Its Histories, Cultures, and Politics. 3 Credits.
Through the careful study of Carlos Fuentes’ novel of Mexico City, La región más transparente, we will examine the city’s multiple and contending histories and mythographies from the Aztecs to the present as rendered in visual, textual, and performance media: murals, cinema, TV, burlesque, lucha libre, etc. Taught in Spanish; the course requires advanced reading skills in Spanish. Prior consultation with the instructor is required.
Prerequisites: AS.210.311
Instructor(s): E. Gonzalez
Area: Humanities.

AS.215.402. Senior Seminar: Literaturas y culturas del Cono Sur: Argentina, Uruguay y Chile. 3 Credits.
Advanced Spanish and reading proficiency. Estudio de las culturas literarias de Argentina, Uruguay y Chile en sus respectivos contextos sociales y políticos desde la conquista española. Las culturas indígenas, el desarrollo de la nación, las culturas populares, culturas inmigrantes, regímenes políticos, actualidad económica y social en la época de la globalización.
Instructor(s): E. Gonzalez
Area: Humanities
Writing Intensive.

AS.215.415. Horror in Spanish Literature. 3 Credits.
While our modern conception of “horror” owes much to English literature of the 19th century, it has an under-appreciated precedent in the literature of the Spanish Golden Age. In this course we will read tales of witches, monsters, and the living dead from an age that predates ours by 400 years, but whose darkest fears are surprisingly familiar.
Instructor(s): W. Egginton
Area: Humanities
Writing Intensive.
AS.215.422. Amor y romanticismo en una Novela y tres películas. 3 Credits.
Prerequisites: AS.210.311 AND AS.210.312
Instructor(s): E. Gonzalez
Area: Humanities.

AS.215.441. Borges, Cortazar, Bioy Casares and Their Time. 3 Credits.
The course introduces students to the study of Argentine literary culture in the first three quarters of the twentieth century. Its objective is to instruct the students in methods of close reading and develop perspectives in critical thinking. Cross-listed with History, Humanities Center and Program in Latin American Studies.
Area: Humanities.

AS.215.443. Hispanic Literatures and the Arts. 3 Credits.
Literary works from different genres (fiction, drama, poetry) by authors from Spain and Latin America are studied and illustrated in reference to the plastic and visual arts and cinema, indigenous, popular, and religious cultures. Cross-listed with PLAS
Instructor(s): E. Gonzalez
Area: Humanities.

AS.215.451. El Cine de Pedro Almodóvar. 3 Credits.
El arte cinematográfico del gran cineasta español será estudiado a través de su obra, vista en partes selectas, obras enteras y dentro del marco escénico provisto por otras películas del cine español. Recommended Course Background: AS.210.326 or demonstrated proficiency in the language.
Instructor(s): E. Gonzalez
Area: Humanities.

AS.215.452. Che Guevara and Magical Realism. 3 Credits.
His detractors often compare him to Hitler while many of his admirers see him in a saint and a martyr like Jesus Christ, Cuban school children are taught to be like him. Che was killed in 1967, the same year in which Gabriel García Márquez published Cien años de soledad (One Hundred Years of Solitude). We will study Che's life as a militant revolutionary through his own writings and the exorbitant style known as realismo mágico, crafted by García Márquez, one of Che's great admirers. Four movies will anchor our visual take on the myth and the man: Los diarios de motocicleta (Walter Salles, 2004), Che I and Che II (Steven Soderbergh, 2008), and Wall Street (Oliver Stone, 1987). The nineteen-eighties narcotraffic boom in Colombia and the cocaine-driven financial high times during the late Reagan years will frame our study.
Area: Humanities.

AS.215.453. Contemporary Latin American Narrative: From Machado de Assis to Garcia Marquez. 3 Credits.
The objective of this course is to introduce students to the idea of a Latin American narrative canon that includes both Brazil and Spanish American writers. Often, courses labeled Latin American Literature mainly focus on Spanish American writers because neither the students nor the Professors have language expertise. This course will be taught by Professor Mary M. Bensabat-Ott who will be in charge of the discussions and the work done in Portuguese by students enrolled in the course who wish the work done in the Portuguese original. Professor Castro-Klaren will be in charge of the lectures (in English) for the first 45 minutes, as well as the discussions and the work done by the students in Spanish. The course is organized around a 150-minute class segment. The second 45 minutes will be dedicated to the presentation of video material related to the topic. There will be a 10-minute break, and in the last 45 minutes the students will be divided into two groups. The students who desire to discuss the course material in Portuguese will join Professor Bensabat-Ott, and the students who want to discuss the material in Spanish will join Professor Castro-Klaren. Assignments as well as grades will be given by both Professors. Recommended Course Background: AS.210.277, AS.210.311
Area: Humanities.

AS.215.456. Gauchos, Negros, Gitanos. 3 Credits.
Study of the music and literature inspired by three groups of great liminal influence in the cultural and political affairs of their respective nations. Gauchos (Argentina), Afro Hispanics (Cuba, Puerto Rico, Santo Domingo), Gitanos (Spain). Attention given to popular and learned myths and stereotypes and the history of efforts to establish self-identity. Conducted in Spanish. Recommended Course Background: AS.210.326
Instructor(s): E. Gonzalez
Area: Humanities.

AS.215.458. Cuba and its Culture Since the Revolution. 3 Credits.
We will study the visual and textual arts, cinema, political culture, and blogosphere; reaching back to the first phases in the building of the revolutionary state apparatus and its sovereign mandate. Taught in Spanish.
Instructor(s): E. Gonzalez
Area: Humanities.

AS.215.461. Garcia Marquez and Mario Vargas Llosa. 3 Credits.
This course will focus on two of the major novelists authored by Mario Vargas Llosa and Gabriel Garcia Marquez. The course will also include "autobiographical" texts written by the two Nobel Prize winners. The course will be taught in English but students may choose to do the reading in Spanish of the following: The Green House, Like a Fish in the Water, by Mario Vargas Llosa and One Hundred Years of Solitude and Live to Tell the Tale by Garcia Marquez. The course will strand three threads: the writers’ own self narratives, a critical approach of their narrative craft and their understanding of Latin American History and the human condition. The course will emphasize informed discussion and essay writing on literary texts.
Area: Humanities
Writing Intensive.
AS.215.466. The Spanish Avant-garde. 3 Credits.
From the turn of the 20th century until the outbreak of Civil war in 1936, Spain witnessed the greatest flourishing in its literary and artistic scenes since its Golden Age 300 years before. In poetry, prose, painting, and film, Spanish artists and intellectuals were innovating artistic forms and participating in new kinds of cultural production and critical practice. In this course we will examine this period, paying special attention to the works of such writers and artists as Miguel de Unamuno, José Ortega y Gasset, Luis Buñuel, Salvador Dalí, Federico García Lorca, and Pablo Picasso. The course will be taught in Spanish.
Instructor(s): W. Egginton
Area: Humanities.

AS.215.474. Origins of the Spanish Novel. 3 Credits.
Readings will include selections from Medieval and Renaissance Works, such as "El Conde Lucanor", "Amadís de Gaula", "La carcel de amor", "El Abencerraje", "Lazirillo de Tormes", "La Diana", "El buscon", "Novelas ejemplares" (Cervantes) and "Don Quixote".
Instructor(s): H. Sieber
Area: Humanities.

AS.215.484. Orientalismo al Sur. 3 Credits.
Taught in Spanish. Este curso examina la presencia del Islam y el concepto del "oriente" en el Cono Sur, especialmente Argentina. Leeremos obras de los siglos 19 y 20 que representan al oriente, y discutiremos los significados y cambios que la llegada de inmigrantes "islámicos" produjo en la cultura literaria de esta zona de América Latina. Tendremos en cuenta de forma particular que el problema del "oriente" en España y sus colonias es un problema "interno". Debido a que la península ibérica tuvo una importante presencia musulmana durante toda la edad media (711-1609), en los círculos europeos España fue considerada "islámica" u "oriental" también durante los tiempos modernos. Es así que el Oriente llega a América con la conquista de los españoles "islamizados." Cross-listed with PLAS
Instructor(s): N. Altschul
Writing Intensive.

AS.215.486. Memories of al-Andalus in Contemporary Spain. 3 Credits.
Este curso se centrará en la novela española después de la década de los 80, y especialmente en la novela histórica que retoma la temática de al-Andalus, la sociedad multietnica y multiconfesional de la Iberia medieval. Con estas novelas se llevará la discusión en clase tanto hacia la historia medieval como hacia el significado de la recuperación de la memoria histórica en la ficción española moderna, especialmente en lo tocante a la incorporación de España a “Europa” y a la inmigración “mora” en la actualidad. Taught in Spanish.
Area: Humanities.

AS.215.487. Islam in America. 3 Credits.
Area: Humanities.

AS.215.488. Postcolonial Middle Ages. 3 Credits.
This course focuses on perspectives on the literatures and cultures of the Middle Ages that have stemmed from renewed recognition of medieval times as marked by cultural contact, conquest, and colonization. The course examines both postcolonial theory and its relationships with medieval Iberia through topics such as mimicry, race relations, hybridity, settlement and transculturation, feminization of enemies, nationalism, temporality and periodization. Taught in Spanish.
Area: Humanities.

AS.215.491. Muslim, Jewish & Christian Literatures of Medieval Spain. 3 Credits.
Desde el 711 hasta el 1609 de la era cristiana, la Península Ibérica fue una sociedad multi-lingüística con zonas y ciudades pobladas y/o administradas por miembros de las tres religiones abrahámicas monoteístas. Este curso presenta un panorama de las literaturas hispano-musulmanas, hispano-judías e hispano-cristianas haciendo especial hincapié en el contexto histórico de la península. Los textos en árabe y hebreo serán leídos en traducción inglesa o castellana, dependiendo de su accesibilidad. Taught in Spanish.
Instructor(s): N. Altschul
Area: Humanities.

AS.215.492. Latin American Premodern. 3 Credits.
Taught in Spanish. Focusing on the idea that Hispanic colonization was not modern but premodern in character, this course examines the association of Latin America with topics like feudality, despotism, and medieval cultural lifestyles. Literary and critical texts include Victorino Lastarria, Domingo Sarmiento, Enrique Larreta, Rómulo Gallegos and José Ingenieros, among others.
Writing Intensive.

AS.215.494. Metaphysical Fictions in Latin American Literature. 3 Credits.
All readings and discussions will be in Spanish. Perhaps more than in the Anglophone tradition, the literatures of Latin America have exhibited a strong current of metaphysical speculation, leading to the image of the Latin American literary intellectual as a kind of philosopher poet. In this course we will read salient examples of the metaphysical fictions that have led to this reception, including books and stories by Julio Cortazar, Jorge Luis Borges, Alejo Carpentier, Adolfo Bioy Casares, Gabriel García Márquez, Augusto Roa Bastos, and others. Cross-listed with PLAS
Instructor(s): W. Egginton
Area: Humanities.

AS.215.525. Spanish Independent Study. 3 Credits.
Instructor(s): E. Gonzalez; H. Sieber; N. Altschul; S. Castro-Klaren; W. Egginton.

AS.215.526. Spanish Independent Study. 0 - 3 Credit.
Instructor(s): E. Gonzalez; H. Sieber; N. Altschul; S. Castro-Klaren; W. Egginton
Area: Humanities.

Taught in English, this course is a primer in the linguistics and the rhetoric of literary and cinematic texts. Students will familiarize themselves with the notion of the literary language’s exceptionality by examining Aristotle, Plato, Viktor Sklovskij and Roman Jakobson among others. They will then compare the power of the literary with the language of cinema by studying Andre Bazin’s take of New Realism, Christian Metz’s structuralist approach to cinema and psychoanalyis, Gilles Deleuze’s theory of the moving-image and the time-image, a feminist approach to cinema by E.Ann Kaplan and others, as well as theories of digital cinema from Peter Weibel to Lev Manovich, among others. We will place the language of literature and film within a context that includes religion music, magic, prophecy and medicine. Cross-listed with Film and Media Studies and English (This course is offered as AS.212.601, 213.601, 214.601, and 215.601. Please check other course numbers for open seats.)
Instructor(s): B. Wegenstein; P. Forni.
We will hone our skills in reading novels as political documents and political documents as narrative with revolution and revolt in the background and Marxism as the main informing theoretical legacy. Writings by Cortázar, Vargas Llosa, Euclides da Cunha, Carpenter, Bolaño, Marx, Gramsci, Mariátegui, Fanon, Deleuze, Toscano, Badiou.
Instructor(s): E. Gonzalez.

European languages document the evolution of the concept of literature from a generic term indicating the body of writings produced in a particular country or period to one that more particularly signifies works endorsed with an aesthetic quality. The concept of literature thus seems to take form in connection with the emergence of a critical discourse, the search for a standard of taste. The dream of founding a “science littéraire” modeled on the principles of structural semiotics searching for an elusive “literariness”, literature as a system, a set of formal features, not a collection of discrete, ineffable individuals; it thus involved a rejection of the aesthetic, or at least a reconsideration of its assumptions. This course will pursue the question of “The Idea of Literature” simultaneously from a philosophical and a historical perspective; in moving from formalist literariness to the rediscovery of categories like the ethical, the subject, the reader, the author, and the aesthetic, we will ask such questions as: Can there be a return to an aesthetic education, as some wish, and what would that be? Would such a move resuscitate the ghost of Hume’s gentleman scholar, which the New Critics tried to do away with? Is there a way of formally distinguishing between literature and its various contexts? Authors will include Hume, Kant, Taine, Lanson, Sainte-Beuve, Brunetière, Arnold, Proust, Benjamin, Breton, Sartre, Bourdieu, De Man, and Eco.

Close readings in historical context of José Donoso’s El osceno pájaro de la noche and Casa de campo, Isabel Allende’s La casa de los espíritus, and Pilar Donoso’s Correr el tupido velo, as well as selected essays from Sandra M. Gilbert’s “Rereading Women” to end with Ernesto Cardenal’s autobiography.
Instructor(s): H. Sieber.

This seminar will be based on close readings of the ‘Lazarillo de Tormes’, selections from Mateo Aleman’s ‘Guzman de Alfarache’, and three of Cervantes’ “Novelas ejemplares.” These texts reflect the impact that Spanish fiction exerted on Golden Age Spanish literary history and on the European novel in general. An extensive bibliography will also be covered.
Instructor(s): H. Sieber.

AS.215.639. Don Quijote de la Mancha.
The novel will be the focus of the entire seminar. Recent trends in Cervantes criticism, textual issues related to the novel’s publication, biographical, cultural, and social history, and patronage in the Courts of Phillip II and III will be topics of discussion and research. The goal is a wide-ranging appreciation and understanding of the novel’s original contexts.
Instructor(s): H. Sieber.

Taking into account the crisis in self (national) representation and the fluidity of identities, the course will delve into the work of major Latin American writers in order to study issues of self-representation across time and specific contexts. The course will begin with the works of Sarmiento and move on to Gilberto Freire, Rachel de Queiroz and Clarice Lispector. In a second stage the course will delve into García Marquez’ autobiography and Mario Vargas Llosa’s “La tía Julia y el escribidor”, to end with Ernesto Cardenal’s autobiography.
Instructor(s): S. Castro-Klaren.

AS.215.643. Frontera, conquista, y revolución: España, Argentina y México.
The seminar explores frontiers and contact zones through the literatures of three crucial cases in trans-Atlantic history. It starts with an examination of the frontiers of Muslim invasions and Christian conquests in medieval Iberia. It continues with links between medieval Reconquista and American Conquista. In the case of Argentina, it considers the clash between Indigenous cultures and colonialism in the Pampas, the national wars of independence and civil strife between Buenos Aires and the provinces, and the constitution of the Gaucho national ethos. In the case of Mexico, it concentrates on the northern frontier during the colonial and postcolonial periods, the loss of territory to Texas and the United States, and the theaters of insurgency during the 1910 revolution and its aftermath.
Instructor(s): E. Gonzalez; N. Altschul.

Four authors deeply imbued in translation and the work of Eros and Thanatos will be studied: J. L. Borges (Pierre Menard), J. Derrida (fragments from La carte postale), Javier Marías (Corazón tan blanco), and Andrés Neuman (El viajero del siglo).
Instructor(s): E. Gonzalez.
Area: Humanities
Writing Intensive.
AS.215.645. Frontera, conquista, y revolución: España, Argentina y México.
The seminar explores frontiers and contact zones through the literatures of three crucial cases in trans-Atlantic history. It starts with an examination of the frontiers of Muslim invasions and Christian conquests in medieval Iberia. It continues with links between medieval Reconquista and American Conquista. In the case of Argentina, it considers the clash between Indigenous cultures and colonialism in the Pampas, the national wars of independence and civil strife between Buenos Aires and the provinces, and the constitution of the Gaucho national ethos. In the case of Mexico, it concentrates on the northern frontier during the colonial and postcolonial periods, the loss of territory to Texas and the United States, and the theaters of insurgency during the 1910 revolution and its aftermath.

AS.215.646. The Narrative of Conquest in the Andes, 1530 - 1680.
Departing from narratology and the perspective of post-colonial studies, the course will analyze the narrative of conquest as developed by Cieza de Leon, Garcilaso de la Vega, Inca, Guaman Poma, Jose de Acosta and William Prescott. Instructor(s): S. Castro-Klaren.

AS.215.647. Writing and Reading the Andes: An Interdisciplinary Approach to our Current Understanding of Andean Civilization.
The objective of the course is to bring together the work of the early 16th century Indian, Mestizo and Spanish cronistas that wrote the Andes for the first time in light of the most recent work on Andean pre and post conquest civilization coming from the fields or archaeology, ethno-history, cultural history and historiography. Besides reading from the work of the Inca Garcilaso and Guaman Poma, we will also read from Jose de Acosta and Bernabe Cobo. The scholarly bibliography will include the work of Tom Zuidema, Frank Solomon, Gary Urton, Bryan Bauer and Juan Ossio.

AS.215.650. Mexico and the Invention of America.
Departing from O’Gorman, the course will entail a reconsideration of the discursive invention of Mexico-America. Anonymous, Sahagun, Clavijero, Humboldt, Dussel and Alzandua will conform part of the readings. Taught in English Instructor(s): S. Castro-Klaren Area: Humanities Writing Intensive.

Readings from colonial times to the present from three cultural legacies, Hispanic, English and French. Centered on slavery and its sequel. Instructor(s): E. Gonzalez.

Noir has become the default genre for sex-and-violence best-selling novels in the global market. From its putative origins in hard-boiled crime pulps, on the eve of the Great Depression, the imprint nowadays embodies the leading post-territorial fiction machine. We will zigzag the high-and-low noir belt in the company of masters sharply at odds with their respective nations and the cleansing of dark legacies: J. L. Borges, “El Zahir;” W. Faulkner, Sanctuary; Dashiel Hammett, Red Harvest; Leonardo Sciascia, The Day of the Owl (Il giorno della civetta); Ishmael Reed, Mumbo Jumbo; Carlos Fuentes, La cabeza de la hidra; Mario Vargas Llosa, Lituma en los Andes, Javier Marías, Mañana en la batalla piensa en mí; Orhan Pamuk, The Black Book Kara Kitap.

The course will focus on 7 major novels drawn from the Spanish American and the Brazilian canon in order to ascertain the canon theory that informs the interpretation that produces the force of their centrality and masterly status. The course will consider closely key texts in the theory of the novel in general and history of the Latin American novel. Key authors: Machado de Assis, Guimaraes Rosa, Jose Maria Arguedas, Julio Cortazar, Juan Rufo, Mario Vargas Llosa, Garcia Marquez, Clarise Lispector, Diamel Eltit, Jorge Volpi. Instructor(s): S. Castro-Klaren.

Senior undergrads may take for 3 credits. This course investigates the presence of the “Orient” in the cultures of Spanish America and Brazil, exploring in particular the local relation of this Orient with the heritage of al-Andalus. Readings on Spanish and Iberoamerican Orientalisms, the Black Legend, and local immigration; texts by Sarmiento, da Cunha, Freire, Lugones, Arlt, and Borges, among other authors and topics. Area: Humanities Writing Intensive.

AS.215.688. Postcolonial Middle Ages.
Taught in English. Postcolonial Studies dramatically changed inquiry on the Middle Ages in the last two decades, mainly in the study of English and French materials. This seminar brings medieval Iberian subjects into the discussion and examines the new critical idioms and approaches of pan-European postcolonial medievalism. Instructor(s): N. Altschul Area: Humanities.

AS.215.692. Islamic Spain 711-1609.
España fue una sociedad multiconfesional durante toda la edad media. Haciendo hincapié en el contexto histórico este curso ofrece un panorama de las culturas y literaturas de la Iberia musulmana desde la conquista en el siglo ocho hasta las expulsiones de judeoconversos y moriscos en los siglos quince y dieciséis. Instructor(s): N. Altschul.

AS.215.695. New and Old Disputations of/for the New World.
This course will focus on readings of original texts—chronicles, reports, treatises, and polemics— and critical commentary on the issues central to the disputation for control and deployment of the meanings of the “new” world and its status in the realm of coloniality. Besides selections from the Inca Garcilaso de la Vega, Guaman Poma, and ItxilXotchil, we will read from Jose de Acosta and Bernabe Cobo. Antonello Gerbi’s Disputa Del Nuevo Mundola and Walter Mignolo’s The Darker Side of the Renaissance, along with Enrique Dussel’s El Encubrimiento Del Otro and Charles Man’s 1491 will constitute the totality of readings and problematic of the seminar. Instructor(s): S. Castro-Klaren Area: Humanities Writing Intensive.

AS.215.710. Medievalisms.
This course examines variegated constructions and redeployments of “the middle ages” in postmedieval times. Topics include historical revivals, the national philologies, literary, and filmic reconstructions, postcolonial medievalisms, and theories of temporality, among others. Readings in English and Spanish. Instructor(s): N. Altschul.
From telegrams to tweets, the twentieth-century media revolution appears unique; but the magnitude of the revolution is not unprecedented. Another media revolution preceded ours by about 400 years, and coincided with the dawn of modern Europe. This course will examine examples of inflationary media—media whose deployment affects not just the content being transmitted, but also a culture’s entire understanding of reality—from both ages, with special attention to those deployed in the context of emergent early modern nation states like Spain, but with an eye to better understanding the effects and potentials of analogous media practices today.
Instructor(s): W. Egginton.

AS.215.717. The Urban Experience in Spain.
This course will examine the Spanish urban experience between the 1800s and the present day. While our main focus will be on treatments of the city in novels, our literary approach will be further informed by considerations of other media as well as by theories relating to urbanism and architecture. Spain’s principal metropolises, Barcelona and Madrid, will be the primary (although not exclusive) subjects of this course. Final research paper required along with 3 response papers during semester. This course will meet for four hours on Fridays at 1pm twice a month starting Sept. 17th. However, the first meeting/session will take place on Thursday, Sept. 2nd, 1pm to 5pm.
Instructor(s): R. Davidson.

AS.215.737. Don Quijote.

A close reading of Cervantes’ short stories, with concentration on their literary tradition and their relationship to some of his other works. We will also investigate Spanish court society, politics, and history between 1598 & 1621 and critical bibliography. Course will meet at the Peabody Library.
Instructor(s): H. Sieber.

Graduate students or advanced seniors. This seminar will explore the corpus of political thought in Latin America since independence (1810) to the present by focusing on the discourses that constructed and continue to construct key questions in the negotiation of power in the post-colonial res politica: territory, nationhood, national subjectivity, cultural imagination, justice and regimes of inclusion and exclusion. Readings will include the work of Sarmiento, Euclides da Cunha, Gonzalez Prada, Mariategui, Marti, Revueltas, Paz, Dussel, Ribeiro, Freire, Arguedas, Liberation Theology and Sumaz Kawsay authors.
Instructor(s): S. Castro-Klaren
Area: Humanities
Writing Intensive.

An in-depth reading of Borges’ major work and its relation to critical theory.
Instructor(s): S. Castro-Klaren.

AS.215.751. Literature and Opera.
In this course we will look at the relation between some of the great opera’s of the 18th and 19th centuries and their literary sources. We will also discuss some recent philosophical interpretations of opera. At stake will be the question of how literature is translated into music and stagecraft, and what these translations say about the times and cultures in which they were produced. Each week we will view and listen to an opera, and read its source materials as well as critical works about both. The course will be conducted in English, and will be writing intensive.
(This course is offered as AS.212.355, 213.355, 214.355, and 215.355 and 215.751. Please check other course numbers for open seats.)
Instructor(s): W. Egginton.

AS.215.753. Latin American Premodern.
Focusing on the idea that Iberian colonization was premodern in character, this course examines the association of Spanish and Portuguese America with topics like feudality, the orient, despotism, and medieval cultural lifestyles. Among others, theoretical discussions include the medieval-modern divide, (neo)medievalism, settler postcolonial theory and comparative colonialisms, modernization and dependency theories; texts include, among others, Argentinians Domingo Sarmiento and José Ingenieros, Brazilians Euclides da Cunha and Gilberto Freire, Peruvian José Carlos Mariátegui, and Cuban Alejo Carpentier.
Instructor(s): N. Altschul.

AS.215.763. Vargas Llosa and Garcia Marquez: Intertextual crossing and World Literature.
The objective of the course is to read critically key works by these two writers in the context of their self stipulated intertexts--Flaubert and Faulkner, respectively-- and the place such intertextual readings in the contexts of the recent discussions on "world literature".
Instructor(s): S. Castro-Klaren.

AS.215.777. The Invention of Fiction.
Rather than understand fiction as a constant in human history, this course will consider it a historically specific form of cultural expression. We will examine and compare theories of the fictional from an array of historical moments in order to better understand what fiction is, how it differs from premodern notions of history and poetry, and how it both informs and depends on modern notions of knowledge and subjective agency.
Instructor(s): W. Egginton
Area: Humanities
Writing Intensive.

In this seminar we will examine a selection of literary reflections on and engagements with globalization and its mounting failures and burdens, as it has emerged in Europe and the Americas from the mid-twentieth century to the present. From the economic, constitutional, and cultural politics around the unification of Europe, to the ideological and imperial misfortunes of the U.S. after the collapse of the “End-of-History” thesis, to the resurgence of state populism in Latin America in the wake of neoliberal exhaustion, literary fiction has been deployed to posit, explore, and contest national and post-national myths of identity. The seminar will interrogate how this engagement functions both as aesthetic and theoretical discourse. Readings may include novels by Albert Camus, W. G. Sebald, Leonardo Sciascia, Orhan Pamuk, Javier Marías, Roberto Bolaño, and Jonathan Franzen, along with theoretical writings by Gianni Vattimo, Jürgen Habermas, Rodoïphe Gasché, and others.
Instructor(s): E. Gonzalez; W. Egginton
Area: Humanities.
**AS.215.790. What is Philology?.**
In recent years, philology has gained new attention as a field of methodological reflection which at the same time opens up Literary Criticism towards interdisciplinary research and media studies as it emphasizes the specific status of Literary Criticism in the humanities. The course will examine the changing field(s) of philology from the 18th century to the present in both historical and systematic scope. Including methods of textual criticism, edition philology, and hermeneutics, philology has been addressing questions of theory, methodology and epistemology in various constellations. Precisely because philology’s interest lies in connecting languages and literatures to their historical contexts, one of its primary tasks is to account for the epistemic framework and limitations of such historicization, so as to ensure that the literary object not be confused with historical contexts but is perceived as a distinct phenomenon in itself. – In addition to these questions, the course will discuss methods of edition philology, ranging from historical-critical edition to “material philology” and “genetic criticism” along with analyzing editions of Kafka, Joyce and Flaubert. Further, we will examine the more recent discussion on philology and new media (e.g. digital editions). Readings will include Vico, Schlegel, Schleiermacher, Nietzsche, Auerbach, Szondi, Bollack, Nichols, Cercuqglini, and Ferrer among others. The course will be taught in English. Meets with 212.790, 213.790, and 214.790

**Instructor(s):** E. Strowick; J. Neefs
**Area:** Humanities.

**AS.215.791. Film Theory and Critical Methods.**
This survey of critical approaches to the study of film explores theoretical problems of representation and reality, film form and signification, authorship, spectatorship, and the digital frontier. Each week we examine a different narrative genre, historical period, or a given theoretical aspect through films that students will watch independently as well as at mandatory weekly screenings.

**Instructor(s):** B. Wegenstein; D. Schilling.

**AS.215.826. Spanish Independent Study.**
Instructor(s): E. Gonzalez; H. Sieber; N. Altschul; S. Castro-Klaren; W. Egginton.

**AS.215.827. Spanish Dissertation.**
Instructor(s): E. Gonzalez; H. Sieber; N. Altschul; S. Castro-Klaren; W. Egginton.

**AS.215.828. Spanish Proposal Preparation.**
Instructor(s): E. Gonzalez; H. Sieber; N. Altschul; S. Castro-Klaren; W. Egginton.

**AS.216.300. Contemporary Israeli Poetry. 3 Credits.**
This course examines the works of major Israeli poets such as Yehuda Amichai, Nathan Zach, David Avidan, Dan Pagis, Dalia Rabikovitch, Yona Wollach, Yair Horwitz, Maya Bejerano, and Yitzhak Laor. Through close reading of the poems, the course traces the unique style and aesthetic of each poet, and aims at presenting a wide picture of contemporary Hebrew poetry. Students may receive credit for AS.216.300 or AS.300.413, but not both.

**Prerequisites: Students may receive credit for AS.216.300 or AS.300.413, but not both.**
**Instructor(s):** N. Stahl; Z. Cohen
**Area:** Humanities.

**AS.216.307. Reflective Mirrors: Israeli and Palestinian Cinema. 3 Credits.**
Palestinian and Israeli cinemas have emerged side by side, each depicting its Other as a deceiving mirror of its own self. This course will analyze the different images of these Others in both cinemas.

**Instructor(s):** N. Stahl; Z. Cohen
**Area:** Humanities
**Writing Intensive.**

**AS.216.342. The Holocaust in Israeli Society and Culture. 3 Credits.**
This course examines the role of the Holocaust in Israeli society and culture. We will study the emergence of the discourse of the Holocaust in Israel and its development throughout the years. Through focusing on literary, artistic and cinematic responses to the Holocaust, we will analyze the impact of its memory on the nation, its politics and its self-perception.

**Instructor(s):** N. Stahl
**Area:** Humanities
**Writing Intensive.**

**AS.216.398. Zionism, Post-Zionism and Modern Hebrew Literature. 3 Credits.**
This course studies the development of modern Hebrew literature through its relation to Zionism and Post-Zionism. Based on a close reading of both literary and non-literary Zionist and Post-Zionist texts, we will explore the thematic, social, political, aesthetic and stylistic influences that these two movements have had on modern Hebrew literature. Writers to be discussed include: Hertzl, Nordau, Achad ha- am, Jabotinsky, Klusnser, Brenner, Berdyczewski, Agnon, Greenberg, Kahana-Carmon, Oz, Yehoshua, Grossman, Castel-Bloom, and Laor. Students may receive credit for AS.216.398 or AS.300.398, but not both.

**Prerequisites: Students may receive credit for AS.216.398 or AS.300.398, but not both.**
**Instructor(s):** N. Stahl
**Area:** Humanities.

**AS.216.412. The Divine in Literature and Cinema. 3 Credits.**
This course studies various issues concerning literary and cinematic representations of the divine. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and will familiarize ourselves with the general problem of the relation between religion, literature and cinema. Among the topics to be discussed are, negative theology in literature and film, theodicy and anti-theodicy, the question of religion and literary modernism, providence and narratology in the modern novel and in contemporary cinema.

**Instructor(s):** N. Stahl.

**AS.216.500. Independent Study. 0 - 3 Credit.**
**Instructor(s):** N. Stahl.

**AS.216.612. The Divine in Literature and Cinema.**
This course studies various issues concerning literary and cinematic representations of the divine. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and will familiarize ourselves with the general problem of the relation between religion, literature and cinema. Among the topics to be discussed are, negative theology in literature and film, theodicy and anti-theodicy, the question of religion and literary modernism, providence and narratology in the modern novel and in contemporary cinema.

**Instructor(s):** N. Stahl.

**AS.216.800. Independent Study.**
**Instructor(s):** N. Stahl.
Cross Listed Courses

History of Art

AS.010.216. 20th Century Italian Art. 3 Credits.
This course will be a critical survey of the major artistic movements in Italy during the 20th century, from Futurism to Arte Povera. Often seen as a secondary location of artistic production, the class will situate the artists working in Italy within a broader historical and global context.
Instructor(s): K. Johnson
Area: Humanities.

AS.010.312. Surrealism. 3 Credits.
Topics include: art and the unconscious; “psychic automatism” and its implications for theories of medium, genre, and composition; objects, journals, and exhibitions. Visits to Special Collections and the BMA.
Students will curate and install an exhibition of Surrealist journals from MSEL Special Collections, to open in April 2014.
Instructor(s): M. Warnock
Area: Humanities
Writing Intensive.

AS.010.730. Sacred Images in Early Modern Spain.
This course will look at the dialogue between sacred images and art in Baroque Spain. The status of religious images, the “paragone” or competition between sculpture and painting, and the issue of cult, will all be analyzed through the work of such painters as Velazquez, Zurbaran and Ribera. Cross-listed with the Spanish section of GRLL.
Instructor(s): F. Pereda.

Film and Media Studies

AS.061.354. Wien-Baltimore: Holocaust Education and Documentary Films. 3 Credits.
This documentary production class accompanies the production of the documentary Wien-Baltimore between January and April 2010. The film relives the experiences of Holocaust-survivor Leo Bretholz focusing on Leo’s efforts to tell his story to the Baltimore school community and beyond. Wednesday production meetings and Tuesday screenings.
First class/meeting to be held on Tuesday, February 2nd at 7:30pm.
Recommended Course Background: AS.061.145, AS.061.150, or with instructor permission.

Anthropology

AS.070.262. Cuban Intellectuals, Cinema, and the State. 3 Credits.
This course examines the relationship between intellectuals and the Cuban state, focusing on how cinema and other arts have been mobilized both as propaganda and as sites for social criticism.
Screenings are required for this course and will take place on Tuesdays from 7 pm to 9:30 pm. Cross-list: Film and Media Studies, PLAS, Romance Languages.
Instructor(s): L. Humphreys
Area: Humanities, Social and Behavioral Sciences.

AS.070.408. Creative Expression. 3 Credits.
Tacking between theoretical and ethnographic texts on art and poetry, visual image and dramatic performance, living body and natural landscape, this course seeks anthropological ground for an impersonal and asubjective philosophy of creative expression. Drawing from thinkers such as Nietzsche, Bergson, Whitehead, Merleau-Ponty, and Deleuze, and studies set in China, India, Indonesia, Melanesia, and aboriginal Australia, we will confront the working intuitions of artists and “creators” of various kinds with the unpredictable life of the worlds in which they work.
Area: Humanities, Social and Behavioral Sciences.

Political Science

The seminar will explore to what extent Hegel can be read as contributing to a feminist philosophy. We will focus on Hegelian openings onto the emotional in Phenomenology of Spirit. In addition, we will study feminist philosophers who have drawn on or offered critical readings of Hegel (irigaray, Butler, Cavarero, Malabou, and others).
Instructor(s): J. Bennett; K. Pahl
Area: Social and Behavioral Sciences.

AS.191.421. A Normal Country German Politics and Identity. 3 Credits.
This seminar deals with questions pertaining to the formation of modern German nationalism and national identity through the perspective of German politics and history.
Dean’s Teaching Fellowship
Instructor(s): F. Bauwens
Area: Social and Behavioral Sciences.

Humanities Center

AS.300.211. Great Poems of the Americas. 3 Credits.
This course investigates the long poem or post-epic in 20th- and 21st-century North and Latin America. The epic has been rearticulated in sequences and series, verse novels, lyric cycles, and collage poems: from T.S. Eliot’s The Waste Land, the encyclopedic Cantos of Ezra Pound, and the sweeping Canto General of Pablo Neruda to works by Derek Walcott and Gwendolyn Brooks and fragmented series by Gertrude Stein, Hart Crane, and César Vallejo. We will examine Aimé Césaire’s Notebook of a Return to the Native Land, Vicente Huidobro’s playful Altazor, and very recent epic poems from Canadian women poets such as Anne Carson, Lisa Robertson, and M. NourbeSe Philip. As we test the term post-epic against these texts, we will consider whether it may be applied equally to the heroic tale and the open field poem.
How do poets interpret the idea of “the Americas” as lands and nations in these works, and in what tangled ways do their poetics develop through dialogue across linguistic and geographical distances? To situate the long poem in history, we’ll examine developments in poetic form alongside modernization and globalization, and technological and socio-political changes. We will draw on theories of poetry and poetics as well as critical theory, taking a comparative, Hemispheric Studies approach to literature.
Instructor(s): R. Galvin
Area: Humanities.

AS.300.315. The Sense of Loss, 1880-1930. 3 Credits.
A comparative study of the aesthetics and representation of loss (personal, political, historical, etc.) in a number of modernist texts. Authors to be studied will include J.P. Jacobsen, Ibsen, Unamuno, Kafka, Rilke, Woolf and T.S. Eliot. The class will focus on the twofold sense of “sense” (both as feeling and as meaning) in order to explore the way these texts seek to come to terms with and capture the nature of loss.
Instructor(s): L. Lisi
Area: Humanities.
AS.300.331. Modern Tragedy. 3 Credits.
Since the late 18th century, tragedy has repeatedly been declared dead on the grounds that the changed social, historical and philosophical conditions of modernity do not allow for the genre in a strict sense. This course looks at some versions of this argument in relation to modern works of drama in order to examine its validity and the extent to which the concept and experience of the tragic have changed in our time. Authors to be studied will include Schiller, Kleist, Strindberg, Maeterlinck, Lorca, Miller, Brecht and Beckett. Cross-listed with GRLL and English.
Instructor(s): L. Lisi
Area: Humanities

AS.300.379. Israeli Film and Literature. 3 Credits.
This course examines representations of various aspects of Israeli society and culture in contemporary Israeli cinema and literature. The course will follow both a thematic and chronological path in order to study the ways in which Israeli cinema and literature reflect political, ideological, social, and cultural aspects of contemporary Israel. In this context, we will read well-known works by several major authors and will watch major Israeli films from the 1940s to these days. We will also use a comparative approach to study the different artistic means of both mediums and to evaluate their successes in representing the various tensions of Israeli society and culture.
Instructor(s): N. Stahl; Z. Cohen
Area: Humanities
Writing Intensive.

AS.300.380. Realism and Anti Realism in Modern Jewish Literature. 3 Credits.
This course seeks to trace the narrative dynamics and literary means of Modern Jewish Literature. The course will focus on the ideological, political and artistic context of the break with the conventions of realism in Jewish modernism. Reading includes: Erich Auerbach, Franz Kafka, S.Y. Agnon, S.Y. Abramovitch, Sholem Asch, A.B. Yehoshua, Yoel Hoffmann and Orly Castel-Bloom. Cross-listed with Jewish Studies and GRLL.
Area: Humanities

AS.300.381. The Moses Complex. 3 Credits.
Instructor(s): R. Leys
Area: Humanities.

AS.300.400. Philosophy of Tragedy. 3 Credits.
Since the late eighteenth century, philosophers have repeatedly been drawn to investigations of tragedy and the tragic. In this course we will study some of the most important thinkers in this tradition, and examine the different implications (philosophical, historical, political, existential, aesthetic, etc.) that these concepts carry in their works. Authors to be read will include Schiller, Hegel, Kierkegaard, Nietzsche, Unamuno, Benjamin and Cavell.
Instructor(s): L. Lisi
Area: Humanities

AS.300.406. Marcel Proust, Literature and Art. 3 Credits.
Proust’s great sequence of novels À la recherche du temps perdu is also a theory of the Novel and indeed of Art. A close reading of Du côté de chez Swann and Le Temps retrouvé, will put this to the test. Required editions: Proust’s Du côté de chez Swann, Gallimard, Folio, Le Temps retrouvé, Gallimard, Folio, Contre Sainte-Beuve, Gallimard, Folio. The seminar is open to advanced undergrads, with authorization of the instructor. Cross-listed GRLL-French.
Instructor(s): J. Neefs; M. Fried
Area: Humanities
Writing Intensive.

AS.300.408. Lyric Modernity. 3 Credits.
A comparative literature course on modern lyric and poetics. The main issue of the course is how the lyric voice is constructed and sustained under the pressures of modernization in the United States, Europe, and Korea. We will also emphasize issues of translation and the relationship of music and poetry. Readings will include texts by Adorno, Benjamin, Grossman, von Hallberg and Waters, and poems by Dickinson, Rilke, and Kim among others. All readings available in English. Cross-listing requested with East Asian Studies, GRLL, and English.
Instructor(s): S. Rhee
Area: Humanities.

AS.300.601. Philosophy of Tragedy.
Since the late eighteenth century, philosophers have repeatedly been drawn to investigations of tragedy and the tragic. In this course we will study some of the most important thinkers in this tradition, and examine the different implications (philosophical, historical, political, existential, aesthetic, etc.) that these concepts carry in their works. Authors to be read will include Schiller, Hegel, Kierkegaard, Nietzsche, Unamuno, Benjamin and Cavell. Cross-listed with: English, German & Romance Languages & Literatures, Philosophy
Instructor(s): L. Lisi.

AS.300.606. Realism and Anti Realism in Modern Jewish Literature.
This course seeks to trace the narrative dynamics and literary means of Modern Jewish Literature. The course will focus on the ideological, political and artistic context of the break with the conventions of realism in Jewish modernism. Reading includes: Erich Auerbach, Franz Kafka, S.Y. Agnon, S.Y. Abramovitch, Sholem Asch, A.B. Yehoshua, Yoel Hoffmann and Orly Castel-Bloom. Cross-listed with GRLL and Jewish Studies.

AS.300.684. Marcel Proust, Literature and Art.
Proust’s great sequence of novels À la recherche du temps perdu is also a theory of the Novel and indeed of Art. A close reading of Du côté de chez Swann and Le Temps retrouvé, will put this to the test. Required editions: Proust’s Du côté de chez Swann, Gallimard, Folio, Le Temps retrouvé, Gallimard, Folio, Contre Sainte-Beuve, Gallimard, Folio. The seminar is open to advanced undergrads, with authorization of the instructor. Cross-listed with GRLL-French.
Instructor(s): J. Neefs; M. Fried
Writing Intensive.

Interdepartmental
AS.360.133. Great Books at Hopkins. 3 Credits.
Students attend lectures by an interdepartmental group of Hopkins faculty and meet for discussion in smaller seminar groups; each of these seminars is led by one of the course faculty. In lectures, panels, multimedia presentations, and curatorial sessions among the University’s rare book holdings, we will explore some of the greatest works of the literary and philosophical traditions in Europe and the Americas. Close reading and intensive writing instruction are hallmarks of this course; authors for Fall 2014 include Homer, Plato, Boccaccio, Shakespeare, Madame de Lafayette, Flaubert, Dostoievsky, Chekhov, and Joyce.
Instructor(s): A. Eakin Moss; E. Patton; J. McGarry; J. Neefs; W. Stephens
Area: Humanities
Writing Intensive.
Program in Latin American Studies

AS.361.130. Introduction to Latin American Studies. 3 Credits.
Within a chronological frame that starts with early American-Indian civilizations and moves on to issues in contemporary culture and politics, the course introduces students to an interdisciplinary understanding of Latin American History and Culture. The course draws from historical geography, anthropology, history, politics, art, film, and literature.
Instructor(s): S. Castro-Klaren
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.361.131. Second Year Latin American Studies. 4 Credits.
In this course students will study the development of Latin American societies within the context of European contact and colonial rule, and in the modern era. Initial studies will focus on Latin American History and cultures in the colonial period, and on national development and political processes in the modern period. The course draws from historical geography, anthropology, history, politics, art, film, and literature.
Instructor(s): S. Castro-Klaren
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.361.132. Introduction to Latin American History. 4 Credits.
A survey of Latin American history from pre-Columbian times to the present. The course is designed for students with no prior experience in Latin American history. It is also open to independent study and practicum students.
Instructor(s): Z. Cohen
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.361.315. Third Year Hebrew. 4 Credits.
Designed to maximize comprehension and the spoken language through literary and newspaper excerpts providing the student with the language of an educated Israeli. Cross-listed with Jewish Studies. Final daytime will be determined during the first week of classes based on students' schedules.
Prerequisites: ( AS.384.215 AND AS.384.216) OR ( AS.130.452 AND AS.130.453 )
Instructor(s): Z. Cohen
Area: Humanities.

AS.361.316. Third Year Hebrew II. 4 Credits.
Designed to: maximize comprehension and the spoken language through literary and newspaper excerpts providing the student with the language of an educated Israeli. Recommended Course Background: AS.384.315 or permission required. Cross-listed with Jewish Studies.
Prerequisites: AS.384.315
Instructor(s): Z. Cohen
Area: Humanities.

Program in Museums and Society

AS.389.356. Halls of Wonder: Art, Science, and Literature in the Age of the Marvelous, 1500-1800. 3 Credits.
Explore the material culture of "wonder" from the Renaissance to the Enlightenment in literature, science, and art. with Hopkins' rare book collections and the Walters Art Museum. M&S practicum course.
Instructor(s): E. Havens
Area: Humanities.

AS.389.357. Museums and Society. 1 Credit.
This course will look at the history, development and work of museums and their role in the world of art, science, and literature.
Area: Humanities.

AS.389.358. Museums and Society Practicum. 1 Credit.
In this course students will participate in curatorial and research projects at the Peabody Institute Library, the Maryland Historical Society in Baltimore, and the Library of Congress. The course will meet with the faculty advisor and guest lecturers.
Area: Humanities.

AS.389.359. Museums and Society Seminar. 1 Credit.
In this seminar students will explore the role of museums in society and their relationship to art, science, and literature. The seminar will meet with guest lecturers and faculty advisors.
Area: Humanities.

Music

AS.376.340. Music and Literature: Thomas Mann's Doctor Faustus. 3 Credits.
Area: Humanities
Writing Intensive.

Center for Language Education

AS.384.115. First Year Hebrew. 4 Credits.
Designed to provide reading and writing mastery, to provide a foundation in Hebrew grammar and to provide basic conversational skills. Cross-listed with Jewish Studies. Final day/time will be determined during the first week of classes based on students' schedules.
Instructor(s): Z. Cohen

AS.384.116. First Year Modern Hebrew II. 4 Credits.
Designed to provide reading and writing mastery, to provide a foundation in Hebrew grammar and to provide basic conversational skills. Cross-listed with Jewish Studies.
Prerequisites: AS.384.115
Instructor(s): Z. Cohen

AS.384.215. Second Year Hebrew. 3 Credits.
Designed to enrich vocabulary and provide intensive grammatical review, and enhance fluency in reading, writing and comprehension. Cross-listed with Jewish Studies. Final day/time will be determined during the first week of classes based on students' schedules.
Prerequisites: ( AS.384.115 AND AS.384.115 ) OR ( AS.130.450 AND AS.130.451)
Instructor(s): Z. Cohen
Area: Humanities.

AS.384.216. Second Year Modern Hebrew II. 4 Credits.
Designed to enrich vocabulary and provide intensive grammatical review, and enhance fluency in reading, writing and comprehension. Recommended Course Background: AS.384.215 or permission required. Cross-listed with Jewish Studies.
Prerequisites: AS.384.215
Instructor(s): Z. Cohen
Area: Humanities.

AS.384.315. Third Year Hebrew. 4 Credits.
Designed to maximize comprehension and the spoken language through literary and newspaper excerpts providing the student with the language of an educated Israeli. Cross-listed with Jewish Studies. Final daytime will be determined during the first week of classes based on students' schedules.
Prerequisites: ( AS.384.215 AND AS.384.216) OR ( AS.130.452 AND AS.130.453 )
Instructor(s): Z. Cohen
Area: Humanities.

History

The Department of History offers students the opportunity to work intensively in the classroom and with individual faculty to discover the richness and complexity of history. Undergraduates begin with general courses, but progress quickly to courses that explore topics in depth and provide experience in researching, analyzing, and writing about the past. Graduate students work independently and with faculty advisors on reading and research in their fields of interest, while departmental seminars bring them together to discuss their research, forging a collegial intellectual culture. The department emphasizes European history, United States history, and the histories of Africa, Latin America, and China. Faculty and students participate in a variety of interdisciplinary programs, including Africana Studies, East Asian Studies, Latin American Studies, Judaic Studies, Museums and Society, the Program for the Study of Women, Gender & Sexuality, and the new joint curricular initiative with International Studies, “Global Connections, and Historical Comparisons.”

Facilities

In addition to the Milton S. Eisenhower Library at the university, students in the Department of History can use the collections of the Peabody Institute Library, the Enoch Pratt Free Library, and the Maryland Historical Society in Baltimore, and of the Library of Congress, the National Archives, the Folger Shakespeare Library, and other specialized libraries in nearby Washington, D.C. There is provision for regular transportation to and from the Library of Congress. Also within easy distance are the holdings of specialized historical libraries and archives in Annapolis, Richmond, Williamsburg, Charlottesville, Wilmington, Harrisburg, Philadelphia, Trenton, Princeton, Newark, and New York.
Requirements for the B.A. Degree
(Also see Requirements for a Bachelor’s Degree. (p. 24))

The Krieger School classifies history as both a social scientific and humanistic discipline. This accords very well with the wide range of explanatory and interpretive approaches to the past that now prevail in the discipline of history. One of the history program’s goals is to introduce students to these varied approaches. Although the department offers strong preparation for students who seek to specialize in a particular cultural or geographic region, history at Johns Hopkins is primarily issue and topic oriented. It also puts a premium on developing the capacity to reason comparatively and on deepening the student’s understanding of global connections among cultures in the past and in contemporary life.

The department offers undergraduate courses that range from large introductory classes to small, focused seminars that encourage intensive interaction with individual professors and with other students. Beyond the introductory level, most of our courses are writing intensive and promote in all students critical reading skills and the ability to formulate effective written arguments. Through its core curriculum, the major also cultivates skills specific to the historian, especially research and writing based upon the systematic analysis of primary documents.

The program’s overall aim is to deepen the critical habits of mind that arise from the study of time and change. These capacities are the hallmarks of liberal learning, but they are also the foundation for success in post-graduate studies and careers of many kinds, including business, law, and public affairs.

Major in History

- Students must earn a “C-” or higher grade in all courses used to satisfy major requirements and may not be taken satisfactory/unsatisfactory.
- For students who choose to focus on one geographical area (Europe, United States, Latin America, Africa, Asia), two courses must be taken outside the student’s area of focus.
- Except for courses used to satisfy the foreign language proficiency requirement, no more than four courses offered outside the History department (AS.100.xxx) may be used to satisfy major requirements (e.g.: cross-listed, transfer, and study abroad courses). No more than two of these four courses may be offered outside the Krieger School of Arts and Sciences (usually summer transfer credit and/or study abroad courses).
- Foreign language proficiency may be demonstrated by coursework or by special examination, but a language requirement waived by exam must be documented on the student’s transcript.
- Students must have a cumulative GPA of 3.25 and a cumulative GPA in history of 3.5 or higher by December of their junior year to be eligible for the senior thesis option, a prerequisite for graduating with departmental honors in history.

Honors Program in History

The history department strongly encourages all eligible history majors to pursue the honors track in history. The track culminates in the senior thesis, a yearlong, “capstone” research project completed under the direct supervision of an individual faculty advisor. Like all capstone projects, the senior thesis is intellectually challenging and its completion almost always brings with it a tremendous sense of accomplishment. It also hones the talented young historian’s capacity to sustain a cogent argument based on primary evidence in the long form essay. These skills and the completion of a sustained independent project are also important practical assets when seeking a job or a post-graduate education.

A general cumulative GPA of 3.25 and a cumulative GPA in history of 3.5 are prerequisites for graduation with honors and for undertaking the senior thesis. All thesis writers must also enroll in the AS.100.507 Senior Thesis (fall) and AS.100.508 Senior Thesis (spring) - enrollment is by instructor’s permission and will be granted only to students who have obtained a commitment from a faculty thesis advisor. This commitment should normally be obtained no later than April 30th of the junior year. For questions about the honors track in history or finding a thesis advisor, consult your departmental advisor or Toby L. Ditz, the Director of Undergraduate Studies, toby.ditz@jhu.edu.

Minor in History

The minor in history offers to students majoring in other programs of study an opportunity to pursue a serious interest in history. Because history is classified as both a humanities and social science discipline, completion of the minor fulfills the distribution requirements in the social sciences and the humanities.

- Students must earn a “C-“ or higher grade in all courses used to satisfy minor requirements and may not be taken satisfactory/unsatisfactory.
- No more than one course offered outside the History department (AS.100.xxx) may be used to satisfy minor requirements (e.g.: cross-listed, transfer, and study abroad courses).

### MAJOR REQUIREMENTS

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two 100-level history courses (AS.100.1xx)</td>
<td>6</td>
</tr>
<tr>
<td>AS.100.193 Undergraduate Seminar In History</td>
<td>3</td>
</tr>
<tr>
<td>AS.100.194 Undergraduate Seminar In History</td>
<td>3</td>
</tr>
<tr>
<td>Two history courses at any level</td>
<td>6</td>
</tr>
<tr>
<td>Four 300-level or higher history courses</td>
<td>12</td>
</tr>
</tbody>
</table>

**Foreign language proficiency through the intermediate level:**

1. Students must earn a “C-” or higher grade in all courses used to satisfy major requirements and may not be taken satisfactory/unsatisfactory.

### Additional Upper-Level Courses (select one option):

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.100.507 Senior Thesis</td>
<td>6</td>
</tr>
<tr>
<td>AS.100.508 and Senior Thesis</td>
<td>2</td>
</tr>
<tr>
<td>Two 300-level or higher history courses</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credits:** 36-54

### MINOR REQUIREMENTS

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two 100-level history courses (AS.100.1xx)</td>
<td>6</td>
</tr>
<tr>
<td>One 200-level or higher history course</td>
<td>3</td>
</tr>
<tr>
<td>Three 300-level or higher history courses</td>
<td>9</td>
</tr>
</tbody>
</table>

**Total Credits:** 18

**Cognate Courses** The History Department encourages interdisciplinary work in cognate fields of learning. History minors are therefore strongly advised to take additional courses in any department, including the History Department, that relate to the student’s major discipline in a historical way.
B.A.- M.A. Program in History

The B.A.- M.A Program is an accelerated program that allows the undergraduate to complete a BA and an MA in history in four years. It is designed for students who demonstrate exceptional scholarly ability and assumes that the student will complete most other requirements for graduation by the end of the junior year. Minimum prerequisites for admission include a GPA of 3.8 or higher, completion of language requirements through the intermediate level by the end of the junior year, and the securing of a faculty sponsor in the department of history in advance of application. Students seeking admission into the BA-MA program shall submit a formal application to the regular graduate program in history; the application deadline is December 15 of the junior year.

The program of study during the senior year includes 6-7 credits of graduate reading and research seminars or independent study each semester, mastery of the scholarship in the student’s area of research concentration as demonstrated by the successful completion of a graduate field examination in that area of concentration; and, in lieu of the senior thesis, the completion of a major scholarly research essay equivalent in quality to those completed by first year graduate students in the regular doctoral program. For questions and further details about the program, contact Toby Ditz, Director of Undergraduate Studies, toby.ditz@jhu.edu, or Megan Zeller, mzeller4@jhu.edu, Graduate Coordinator, Department of History, who can also provide details about application procedures.

The graduate program prepares professionally motivated students for careers as research scholars and college and university teachers. Hence it is designed for candidates who want to proceed directly to the Ph.D. degree, who have developed historical interests, and who are prepared to work independently. Within the areas of European history, American history, and the histories of Africa, Latin America, and China, the department emphasizes social/economic and intellectual/cultural history. Although diplomatic and political history are not emphasized, attention is given to the social, economic, and cultural bases of politics.

The program is organized around seminars rather than courses, credits, or grades. AS.100.781 The Seminar-AS.100.782 The Seminar and satellite seminars in European, American, and Comparative World History bring together students, faculty, and invited scholars from outside the university to discuss their research work. These departmental seminars create a lively intellectual community in which graduate students quickly become contributing members. The combination of flexibility, independence, and scholarly collegiality offered by the Hopkins program gives it a distinctive character.

Students select four fields (one major and three minor) and make their own arrangements with professors for a study program leading to comprehensive examinations at the end of the second year. Those arrangements may include taking a seminar in the field. One, and exceptionally two, minor field may be taken outside the Department of History. Students have maximum flexibility in the construction of individual plans of study, as well as the opportunity to work closely with several professors.

Requirements for the Ph.D. Degree

Students are required to have a reading knowledge of those foreign languages that are necessary for the satisfactory completion of their program of graduate study. Students in European history must have a reading knowledge of at least two languages, and students in medieval history must also have a reading knowledge of Latin. Students of Chinese history are expected to have reading knowledge of modern and classical Chinese and in most cases should also have reading knowledge of Japanese and/or a European language. Students in the Latin American area must have a reading knowledge of two of the following, depending upon their particular specialties: French, Spanish, Portuguese, or Dutch. In African history, students must have a reading knowledge of three languages including English and French. Depending upon their fields of specialization, students in African history may have other language needs. Students are expected to pass a written examination in one language within a month after entering the department, and they are required to do so before the end of the first year.

Each student is required to take a seminar under his/her major professor and to participate in at least one departmental seminar each semester.

The student’s knowledge of four fields will be tested by written and oral examinations before the end of the second year of graduate study.

The student must write and defend a dissertation that is a major piece of historical research and interpretation based on primary sources and representing a contribution to historical knowledge. Its content, form, and style must be adequate to make it suitable for publication.

Normally, each student is required to perform some supervised teaching or research duties at some point during the graduate program, most often as a teaching fellow during the second and fourth years.

Interdisciplinary Ph.D. Degree

The departments of History and Anthropology offer an interdisciplinary doctoral degree. For details concerning this degree students should contact either department.

M.A. Degree

The master of arts degree is automatically awarded to each doctoral candidate following the passing of field examinations and the completion of the language requirements. In special circumstances, a student may be permitted to take an M.A. degree after one full year of graduate study. In such cases students will be required to demonstrate by examination an ability to read at least one foreign
language, write a satisfactory research essay, and satisfy the director of their research that they have a mastery of the field of history that forms its background. The essay must be submitted to the Graduate Board.

For current faculty and contact information go to http://history.jhu.edu/directory/

**Faculty**

**Chair**

John Marshall  
Early modern Europe, with emphasis on British and intellectual history.

**Professors**

Jeffrey Brooks  
Russian and Soviet history, with an emphasis on culture and society, the press, and popular culture.

Toby L. Ditz  
Director of Undergraduate Studies: Early American cultural and social history, with a special interest in the history of women and gender.

Louis Galambos  
Economic, business, and political history of the United States with emphasis on institutional change in the period since 1880.

Peter Jelavich  
Modern European cultural and intellectual history.

Michael Johnson  
9th-century United States history with emphasis on slavery and the South.

Pier M. Larson  
African history with specialization in East Africa, Madagascar, the Indian Ocean, and the history of slavery and the slave trade in the Atlantic world.

John Marshall  
Early modern Europe, with emphasis on British and intellectual history.

Tobie Meyer-Fong  
Director of Graduate Studies: East Asia, cultural and social history, race, gender, and nationalism in 20th-century Asia, the Cultural Revolution, contemporary Chinese popular culture, and urban life in China.

Philip D. Morgan  
Harry C. Black professor: Early American history, with subsidiary interests in African-American history and the study of the Atlantic world.

Gabriel Paquette  
Iberian history, colonial Latin America, and political and intellectual history.

William T. Rowe  
John and Diane Cooke Professor of Chinese History: modern East Asia, especially socioeconomic, urban history.

Mary Ryan  
John Martin Vincent Professor: 19th-century United States history with emphasis on women, gender, urban history, and the cultural landscape.

Gabrielle Spiegel  
Krieger-Eisenhower Professor: medieval history, with special interest in historiography and linguistic analysis.

Judith Walkowitz  
Modern European cultural and social history with special interest in Great Britain, comparative women’s history.

Ronald G. Walters  
Social and cultural history of the United States with special interest in radicalism, reform, race, and popular culture.

**Associate Professors**

François Furstenberg  

Michael A. Kwass  
Early modern France.

Kenneth Moss  
Jewish history, modern Russian, and East European history.

Marina Rustow  
Jewish history, medieval Middle Eastern history, the Islamic Mediterranean.

Todd Shepard  
20th-century France and the French Empire.

**Assistant Professors**

Angus Burgin  
20th-century United States, political history, intellectual history, and the history of capitalism.

Nathan Connolly  
20th-century America, race and real estate, tourism, and Caribbean Diaspora in the United States.

Erin Rowe  
Early modern Spanish monarchy, the Mediterranean, saints and sanctity, and women and gender.

**Professors Emeriti**

John W. Baldwin  
Charles Homer Haskins Professor Emeritus.

Sara S. Berry  
Robert Forster  
Richard Goldthwaite  
Jack P. Greene  
Andrew W. Mellon Professor of the Humanities Emeritus.

Richard L. Kagan  
Franklin W. Knight  
Leonard and Helen R. Stulman Professor of History.

Vernon Lidtke  
John G. A. Pocock  
Harry C. Black Professor Emeritus.

Orest Ranum  
Mack Walker
AS.100.102. The Medieval World. 3 Credits.
This course explores selected topics in the political, economic, social and intellectual history of Western Europe in the period between the fall of the Roman Empire and the 13th century.
Instructor(s): G. Spiegel
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.103. Occidental Civilization: Early Modern Europe and the Wider World. 3 Credits.
This course surveys the history of Europe and its interactions with Africa, the Americas, and Asia during the early modern period (c. 1400-1800). Topics include: the Renaissance, the Reformation, International Relations and Warfare, Colonialism, the Enlightenment, and the Age of Revolutions.
Instructor(s): G. Paquette
Area: Humanities, Social and Behavioral Sciences.

AS.100.110. Making America: Politics and Society since the Great Depression. 3 Credits.
This course explores the interplay between economic growth and instability, diversity and conformity, war and protest, and liberalism and conservatism in modern American politics and society. NOTE: Previously offered as 100.182, "The United States since 1929."
Prerequisites: Not open if you have taken "AS.100.182".
Instructor(s): A. Burgin
Area: Humanities, Social and Behavioral Sciences.

AS.100.113. Making America: Race, Radicalism, and Reform. 3 Credits.
Beginning with the end of Reconstruction and continuing through the present day, this course will examine the complicated ways in which Americans attempted to come to terms with racial, ethnic, cultural, and other forms of diversity.
Instructor(s): R. Walters
Area: Humanities, Social and Behavioral Sciences.

AS.100.114. Making America: U.S. History in the Age of Atlantic Revolution. 3 Credits.
Transnational approaches to U.S. history, c. 1760-1830, with a particular emphasis on the impact of the French and Haitian Revolutions.
Instructor(s): F. Furstenberg
Area: Humanities, Social and Behavioral Sciences.

AS.100.115. Colonial Latin America. 3 Credits.
This course introduces the history of Spanish and Portuguese colonization of the Americas, beginning with the civilizations existing there prior to Columbus' arrival, and ending with the emergence of most Latin American republics in the early nineteenth century.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.118. Latin America at a Global Crossroads, 1400-1850. 3 Credits.
This course offers an introduction to the history of colonial Latin America and the Caribbean, c. 1400-1850, nearly four centuries of encounter, colonization, accommodation, and struggle of enormous global consequence.
Area: Humanities, Social and Behavioral Sciences.

AS.100.121. History of Africa to 1880. 3 Credits.
A history of Africa from human evolution to the mid-nineteenth century focusing on key themes in social, economic, and political history.
Instructor(s): P. Larson
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.122. Introduction to History of Africa (since 1880). 3 Credits.
Instructor(s): P. Larson
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.128. Ancient and Medieval Jewish History. 3 Credits.
History of the Jews under empires and monarchies, from the Persian restoration to the Spanish expulsion. Emphasis on Jews in the Middle East and how the rise of Christianity and Islam challenged, transformed and strengthened Judaism. Cross listed with Jewish Studies.
Instructor(s): M. Rustow
Area: Humanities, Social and Behavioral Sciences.
AS.100.129. Introduction to Modern Jewish History. 3 Credits.
An examination of the history of Jews over the past three hundred years. Explores the dramatic encounter at the close of the 18th century between rapidly changing European societies caught up in intellectual, political, and economic revolution and a 2000-year old traditional civilization living in their midst; the kaleidoscopic array of Jewish political, religious, cultural and social responses to this encounter; the new forms of Jewish communal and individual life and consciousness which emerged in the course of the 19th and 20th centuries; the extension of this new modern framework to the Jews of the Middle East in the context of European imperialism and colonialism; the key roles played by the Jews as agents and symbols of political, economic, and cultural modernity; the phenomenon of anti-Semitism and whether it is a pathology or integral part of modern European civilization; the extreme shifts in Jewish life from the mid-20th century in light of the Holocaust, the creation of the state of Israel, and integration into American society.
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences.

AS.100.134. African Encounters with Development. 3 Credits.
Has development been a blessing or a curse for Africa and Africans in the 20th century? This course will examine theories and practices of development that were conceived and carried out with respect to Africa both before and after independence, and ask how their impact on Africans’ lives has been represented and understood by African people, African governments, and international actors, from the late 19th century to the present. This course will be taught as a freshmen seminar
Instructor(s): S. Berry
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.136. Abraham Lincoln and His America. 3 Credits.
Freshmen seminar that explores the life and times of Abraham Lincoln though contemporary sources and texts by historians.
Instructor(s): M. Johnson
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.137. Global Iberian Empires 1400-1800. 3 Credits.
A survey of the origins and development of the Portuguese and Spanish empires in the early modern period, emphasizing the circuits that facilitated exchanges of people, ideas, commodities, and technologies.
Instructor(s): G. Paquette
Area: Humanities.

AS.100.138. Inheriting the Revolution: America from 1787 to 1836. 2 Credits.
This course will meet from July 13-31. It explores the profound economic, political, and social changes that occurred in the United States in the wake of the American Revolution. Topics will range from state-building to the spread of slavery, allowing students to better understand the lasting effects of early 19th-century history on the development of American institutions, democracy, and capitalism.
Area: Humanities.

AS.100.139. Freshman Seminar: American Conservatism. 3 Credits.
Freshmen Only. This course will explore the history of conservative ideas and politics in the United States from the antebellum South to the age of Reagan.
Instructor(s): A. Burgin
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.140. From Plantation to Paris: The American South in Global Perspective. 3 Credits.
This course looks at the American South from a global, rather than national perspective, focusing on how the world beyond the United States has shaped and been shaped by the South. Using an interdisciplinary approach and interpretation of primary sources, students will explore topics ranging from African American journeys to Africa to the Dutch influence on post-Katrina New Orleans.
Instructor(s): I. Beamish
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.144. A Social and Cultural History of the American South. 3 Credits.
This course will explore the social and cultural history of the southern part of the United States from pre-Columbian times to the present. While presenting a comprehensive survey, it will focus particular attention on issues of slavery and race, conceptions of southern identity, and the potency of historical memory in the South.
Area: Humanities, Social and Behavioral Sciences.

AS.100.149. War in American Culture. 3 Credits.
This course will explore the history of the United States, from revolution and nation-building to the present, by looking at American values and assumptions about war and warfare. We will examine domestic conflicts and foreign invasions, rebellions and civil wars, imperial and world wars, and finally terrorism and counterinsurgency in order to assess the role of war in shaping American society and culture.
Instructor(s): T. Jones
Area: Humanities.

AS.100.150. Born in the U.S.A.: First Generation Americans. 3 Credits.
This course will explore the profound economic, political, and social changes that the first generation of Americans experienced in the United States during the course of their lives. Topics will range from state-building efforts to the spread of slavery, allowing students to better understand the lasting effects of 19th-century history on the development of American institutions, democracy, and capitalism.
Instructor(s): C. Hollander.

AS.100.153. Making America: Immigration/Race/Citizenship. 3 Credits.
Debates over who should come, who is eligible for citizenship and rights as old as the process of immigration to the United States itself. Beginning with the end of Reconstruction and continuing through the 20th century interwar period, this course explores who came, why, how they were received, how these waves of newcomers transformed American politics, society and culture, and what these debates can teach us about debates over contemporary immigration today. Class is conducted twice weekly lecture format, with separate required discussion sections. Cross listed with Africana Studies
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.154. Images and Realities: Native Americans in American History. 3 Credits.
Images and Realities addresses American stereotypes and narratives about native people while exploring the history of Native Americans from pre-contact to the present. In doing so, the course covers major events and issues in Native America like culture, identity, sovereignty and representation.
Instructor(s): S. Gamble
Area: Humanities.
AS.100.156. The U.S. City in the 20th Century. 3 Credits.
This introductory course explores the history of urban America. Combining the themes of American urban history, the history of the black freedom struggle, and migration studies, it provokes questions about the possibilities and problems facing cities since the late nineteenth century.
Area: Humanities.

AS.100.157. History of Race and Empire. 3 Credits.
Many states, in a number of historical periods, and across diverse cultures and civilizations can be defined as empires. Similarly, many cultures and civilizations have identified groups of people as distinct from other people on the basis of diverse criteria. This class will examine how the pursuit and maintenance of empires by European states in the modern period was uniquely linked to distinctions between groups of people on the basis of “race”:
Instructor(s): T. Shepard
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.160. Consumer Culture and the Modern City. 3 Credits.
This course explores new forms of consumer culture arising in nineteenth- and twentieth-century cities, and the public spaces--department stores, theaters, exhibition halls, cinemas, shopping malls--that housed them. We read primary and secondary sources produced in imperial and post-colonial contexts in cities such as London, Paris, New York, Mumbai, and Bangkok. Course themes include the relationship between consumer culture and empire, sexual liberation and exploitation, racial and class conflict, body politics, and possibilities for or constraints on self-fashioning.
Instructor(s): L. Pepitone
Area: Humanities.

AS.100.163. The Tudors: Reforming England. 3 Credits.
Deans Prize Teaching Fellowship Course This course will examine Tudor England, including the reigns of Henry VIII, Edward VI, Mary I, and Elizabeth I, and the intellectual and cultural movements of the Reformation and the Renaissance.
Area: Humanities, Social and Behavioral Sciences.

AS.100.164. Slavery and Freedom in the Americas. 3 Credits.
Americans are generally aware of the fact that slavery existed in the United States until 1865. In addition, most Americans have at least a basic understanding of slavery’s importance to understanding the histories of the American South, African-Americans, and racism in the United States. However, fewer Americans know that the history of slavery far transcends these topics. Slavery existed throughout the Americas, from as far north as Canada to as far south as Argentina. In many parts of the Americas, local economies depended almost entirely upon the labor of slaves. In fact, far more Africans came (involuntarily) to the Americas prior to the nineteenth century than did Europeans. In this course, we will explore the often unrecognized fact that slavery was one of the most important institutions for the success and development of the various European colonial settlements in the Americas. This course will particularly emphasize the variable forms slavery took in different times, places, and situations. However, we will also explore in greater depth those aspects of slavery that, while not uniform, did show some commonality in all forms of American slavery. Finally, we will survey the growth of opposition to slavery during the late eighteenth and into the nineteenth century, and the ways freedom came to various slave societies. Freshmen Only.
Area: Humanities.

AS.100.165. Urban Life in Nineteenth-Century America. 3 Credits.
This course examines the development of American cities in the nineteenth century, considering the governmental, infrastructural, and social challenges posed by urban growth. It will explore how the changing role of the city in American economic and political life influenced the development of cities as spaces of cultural interaction and exchange. The course will also focus on changes in urban form over the century, as cities developed from dense walking cities to sprawling metropolises.
Area: Humanities, Social and Behavioral Sciences.

AS.100.166. African American History since Emancipation. 3 Credits.
This course explores the social, cultural, and political history of African Americans from the Civil War to Barack Obama.
Instructor(s): A. Ewing
Area: Humanities, Social and Behavioral Sciences.

AS.100.167. Evangelicism & Fundamentalism in America. 3 Credits.
In this course, we will trace the emergence and development of evangelicism and fundamentalism in America from the Second Great Awakening to the rise of the Religious Right. Butler Freshman Seminar Fellowship Course
Instructor(s): G. Klehr
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.168. Freshman Seminar: US-USSR Cold War. 3 Credits.
Freshmen only. Reading, discussions, short papers on Cold War with emphasis on US and USSR.
Instructor(s): J. Brooks
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.178. Household Technology and American Culture. 3 Credits.
From quill pens to computers, with toilets and televisions along the way, we will consider how home life has both been shaped by and dictated the use of improved technologies. Society chooses to adopt technologies for specific reasons, yet new technologies often have unintended consequences. This course covers domestic technological innovation and corresponding cultural change in the United States, encouraging students to examine the impact of technological choices in American history, and their own lives.
Area: Humanities, Social and Behavioral Sciences.

AS.100.182. The United States since 1929. 3 Credits.
This course explores the interplay between economic growth and instability, communism and anti-communism, diversity and conformity, war and protest, and liberalism and conservatism in American politics and society since the Great Depression.
Instructor(s): A. Burgin
Area: Humanities, Social and Behavioral Sciences.
AS.100.183. Slavery and Freedom in the Americas. 3 Credits.
This course will focus on slavery as fundamental to the social, cultural and economic development of the various European settlements in the Americas from their foundings until the end of the institution. It will particularly emphasize the variable forms slavery took in different times, places, and situations. Finally, the course will explore the growth of opposition to slavery during the late eighteenth and into the nineteenth century, and the different ways freedom came to various slave societies.
Instructor(s): P. Luck
Area: Humanities, Social and Behavioral Sciences.

AS.100.184. Riots, Revolts, and Revolutions: Violence in Early American History. 3 Credits.
This course will examine the history of early America from the first English colonization to the ratification of the Constitution by analyzing the role of violence in shaping this society.
Instructor(s): T. Jones
Area: Humanities, Social and Behavioral Sciences.

AS.100.185. A Cultural History of Contemporary China. 3 Credits.
This course explores cultural and intellectual changes in post-Mao and contemporary China. In considering topics such as literature, cinema, art, music, and the media, it seeks to provide students with an understanding of the interactions between developments in popular culture and the profound social and economic transformations in China's three decades of reform. We will pay attention to both domestic issues as well as the context of globalization.
Instructor(s): K. Ren
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.186. The History of Photojournalism from Daguerre to Digital. 3 Credits.
This course examines the aesthetic, technological, social, and historical dimensions of photojournalism, from the invention of the daguerreotype to the age of digital media (roughly from 1839 to 1989).
Instructor(s): C. Stolarski
Area: Humanities.

AS.100.189. Crime, Punishment, and the State in Nineteenth Century America. 3 Credits.
This course examines crime and punishment in nineteenth-century America, with special focus on imaginings of the criminal and on the development of the prison.
Instructor(s): K. Hemphill
Area: Humanities.

AS.100.191. Freshman Seminar: Family History in the U.S. and Europe. 3 Credits.
Freshmen only Discussion style. Introduces major themes since 1700: family sentiment and authority relations; gender and sexuality; family and work; dynamics of family and race. Readings emphasize interdisciplinary perspectives and interpretation of primary sources.
Instructor(s): T. Ditz
Area: Humanities, Social and Behavioral Sciences.

AS.100.193. Undergraduate Seminar In History. 3 Credits.
The first semester of the two-semester sequence required for majors, this course introduces students to the theory and practice of history. Following a survey of approaches to the study of the past and an introduction to research methods, students undertake original research and write an extended essay.
Instructor(s): E. Rowe; R. Walters
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.194. Undergraduate Seminar In History. 3 Credits.
The second semester of the two-semester sequence required for majors, this course further introduces students to the theory and practice of history. Students undertake original research and write an extended essay.
Instructor(s): G. Paquette; M. Rustow
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.195. The French Revolution. 3 Credits.
The French Revolution is a seminal moment in western history. This course will explore multiple aspects of the Revolution, examining its central events, its global ramifications, and subsequent historical and literary interpretations. Students will leave the course with an understanding of life, ideas and politics during the Revolution, as well as a sense of how the event has operated culturally and intellectually since 1789.
Instructor(s): K. Kurji
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.200. American Environmental History. 3 Credits.
This course examines how Americans' relationship to the natural world has changed over the past three centuries. Starting from the proposition that human interactions with the environment are shaped by cultural attitudes, it looks at how shifts in politics, the economy, and demography influenced Americans' understandings of nature from the colonial period to the present. We will examine the effects of important processes like urbanization and industrialization on the environment.
Instructor(s): D. Schley
Area: Humanities
Writing Intensive.

AS.100.201. Gender and Society in Early Modern Europe. 3 Credits.
This course explores the ways in which gender was experienced, understood, and represented in early modern Europe. Topics covered will include: religion, marriage, family, politics, and sexuality. The course will pay special attention to the relationship between gender ideologies and the political, intellectual, cultural, and social conditions that shaped early modern society.
Instructor(s): E. Cage
Area: Humanities, Social and Behavioral Sciences.

AS.100.202. Conflict and Co-Existence: The Early Modern Mediterranean. 3 Credits.
This course explores the dynamic and fluid world of the early modern Mediterranean (1453-1650), where Christians, Jews, and Muslims met, fought, traded with, and enslaved each other.
Instructor(s): E. Rowe
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.203. Modern Japan. 3 Credits.
Instructor(s): T. Steen
Area: Humanities, Social and Behavioral Sciences.
AS.100.204. Freshman Seminar: Abraham Lincoln and his America. 3 Credits.
Freshman seminar that explores the life and times of Abraham Lincoln though contemporary sources and texts by historians.
Instructor(s): M. Johnson
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.205. The South Asian Diaspora in British Empire. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.100.206. Children Without Parents: Orphaned, Abandoned, and Stolen Children in American History. 3 Credits.
This course studies children separated from parents by death, poverty, abandonment, and coercion, and the ways Americans have cared for them—including indenture, orphanages, “orphan trains,” adoption, and foster care. Dean’s Prize Fellowship Seminar
Area: Humanities, Social and Behavioral Sciences.

AS.100.207. Russia in the Age of Dostoevsky. 3 Credits.
This course explores the explosion of creativity that brought Russian literature and the arts to the forefront of European culture at the time when Dostoevsky wrote his greatest novels.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.208. China: Neolithic to Song. 3 Credits.
This class offers a broad overview of changes in China from Neolithic times through the Song Dynasty (roughly from 5000 BCE through the 13th century CE) and will include discussion of art, material culture, and literature as well as politics and society. Close readings of primary sources in discussion sections and extensive use of visual material in lectures will help students gain firsthand perspective on the materials covered. Cross listed with East Asian Studies
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences.

AS.100.209. Islam and Nationalism. 3 Credits.
This course offers students an introduction to the history of the 19th- and 20th-century Muslim world, using the lens of the development of different forms of nationalism.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.210. Sexuality, Marriage, and Celibacy from Late Antiquity to the Modern Era. 3 Credits.
This course examines issues of sexuality, marriage, and celibacy in the Western Christian World. Dean’s Teaching Fellowship
Area: Humanities, Social and Behavioral Sciences.

AS.100.212. Women, Family, and the Body Politic. 3 Credits.
We look at such thinkers as Plato, Confucius, Paul of Tarsus, John Locke, and Mary Wollstonecraft to discuss how they envisioned women and the family as part of political society (or not).
Instructor(s): C. Gardner
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.213. The Rise of Modern Japan. 3 Credits.
This course begins in the year 1868, when Japan shed its samurai past and embraced a modernity centered around its imperial legacy. The new Meiji leaders made studied efforts to modernize (and at times, westernize) in an effort to create a Japan that was primed to compete on the international scene. We will explore the nation’s emergent imperialism at the end of the 19th century, its involvement in two world wars, post-Occupation economic growth in the 1960s and 1970s, and finally the economic and social troubles of the 1980s to the present. Cross listed with East Asian Studies
Instructor(s): J. Oakes
Area: Humanities, Social and Behavioral Sciences.

AS.100.214. Japan’s Last Shogunate, 1568-1868. 3 Credits.
This course begins in the last years of the Warring States period and explores the history and culture of Japan’s last samurai-based government—the Tokugawa Shogunate—that spanned the period 1600-1868. Known for its two and a half centuries of peace, the Tokugawa period witnessed significant changes for the samurai class, the advent of a new urban-based culture, and an increasingly complicated relationship with the west. Although this period is considered part of Japan’s pre-modern past, it laid the foundations for the country’s emergence as a modern nation in the latter part of the nineteenth century.
Instructor(s): J. Oakes
Area: Humanities, Social and Behavioral Sciences.

AS.100.216. Freshman Seminar: The Tudors: Reforming England. 3 Credits.
This freshman seminar will examine England under Tudor rule (including Henry VIII, Edward VI, Mary I, and Elizabeth I) and the intellectual and cultural movements of the Reformation and the Renaissance.
Instructor(s): J. Walker
Area: Humanities, Social and Behavioral Sciences.

AS.100.217. The United States and the Philippines. 3 Credits.
From 1898 until 1946, the United States governed the Philippines as its first colony. This course describes the imperial economic motivations, the Progressive Era political developments, and the dynamic cultural exchanges that brought Americans to the Pacific and Filipinos to the United States. The course will also examine American anti-imperialists like Mark Twain and the three-hundred year tradition of Filipino anti-imperial writing.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.218. This Almost Chosen People: Popular Religion in U.S. History. 3 Credits.
An exploration of the ways popular religious belief, particularly Protestant evangelicalism, has influenced politics, culture, gender and race relations in the U.S. over the past four centuries. Dean’s Teaching Prize Seminar
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.
AS.100.219. Chinese Cultural Revolution. 3 Credits.
The Cultural Revolution was Mao Zedong’s last attempt to transform Chinese society spiritually and structurally. The events of this period were marked by social upheaval, personal vendettas, violence, massive youth movements, and extreme ideological pressure. This course will explore the Cultural Revolution from a variety of perspectives, focusing on the relationship between events in China from 1966-1976, and their interpretation in China and the West during the Cultural Revolution decade and since.
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences.

AS.100.222. Freshman Seminar: Slavery and Cinema. 3 Credits.
This Freshman Seminar explores Hollywood’s representation of slavery between the 1910s and 2010s. Studying ancient and modern bondage, it asks how film portrays and commodifies the history of race and slavery.
Instructor(s): M. Heerman
Area: Humanities, Social and Behavioral Sciences.

AS.100.224. Americans and their Environment. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.100.225. Freshman Seminar: American Legal History, 1607-1877. 3 Credits.
Examines the relationship between law, society, and governance in early America. Topics include European justifications for settlement, family life, commerce, race and slavery, and the American Revolution and Civil War. Dean’s Prize Freshman Seminar
Area: Humanities, Social and Behavioral Sciences.

AS.100.227. Indigenous Issues Today. 3 Credits.
This course will explore questions of indigeneity in global perspective. How do indigenous people define themselves in post-colonial nations? How do native communities maintain a cultural identity in a modern world? We will address the importance of rights and national and international recognition for indigenous peoples. Though looking at a wide range of world indigenous cultures, we will particularly focus on the modern experience and struggles of America’s native peoples.
Area: Humanities, Social and Behavioral Sciences.

AS.100.230. Bones, Blood, and Ecstasy: Religious Culture in Western Christendom, 1100-1700. 3 Credits.
Explores religious culture in medieval and early modern Europe, with an emphasis on spiritual beliefs and practices, relics, miracles, pilgrimage, and saint-making. Emphasis on reading and discussing written sources and visual culture.
Instructor(s): E. Rowe
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.231. Christian-Muslim Relations in the Middle Age. 3 Credits.
This course will examine Christian-Muslim relations during the eleventh through fifteenth centuries. It takes a broad definition of Christianity and includes the experiences of the Roman, Byzantine and Eastern churches. Students will examine Christian-Muslim relations in a number of locations throughout the Mediterranean, Near East, and Persia. Comparative views on sacred land, political and religious views, philosophy, polemics, learning and scientific understanding will be examined, with particular reference to primary texts in translation.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.232. Gender in Latin American History. 3 Credits.
From Maya codices to Castro’s speeches, this class examines the opportunities and constraints gendered labels supplied and their relationships to hierarchies of class and race.
Instructor(s): N. Andrews
Area: Humanities, Social and Behavioral Sciences.

AS.100.233. History of Modern Germany. 3 Credits.
This course will offer a concise introduction to the political, social, and cultural history of Germany from the founding of the Empire in 1871 until the present.
Instructor(s): H. Balz
Area: Humanities, Social and Behavioral Sciences.

AS.100.239. Why Putin? The Rise and Fall of Democracy in Russia, 1985-2012. 3 Credits.
This course examines the main aspects of recent Russian history including the crisis of communism and the dissolution of the Soviet Union, the struggle for democratic reforms under Boris Eltsin, and the emergence of Vladimir Putin’s authoritarian regime.
Instructor(s): N. Kpososv
Area: Humanities, Social and Behavioral Sciences.

AS.100.241. American Revolution. 3 Credits.
The aim of this course is to explore the causes, character, and consequences of the American Revolution, a seminal event in world history.
Instructor(s): P. Morgan
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.247. Remaking Gender in 20th Century America. 3 Credits.
The last century saw the radical transformation of the meaning of manhood and womanhood. We will trace these changes on multiple levels in public and private life.
Instructor(s): M. Ryan
Area: Humanities, Social and Behavioral Sciences.

AS.100.248. Introduction to the Study of Women, Gender, and Sexuality. 3 Credits.
This course offers an introduction to the fields of Women’s Studies, Gender Studies, and Sexuality Studies. It explores why we need these fields of inquiry, how they have emerged historically, what some of the major and most interesting contributions are and where we might go from here. The course is meant as a preparation for the other WGS core courses.
Area: Humanities, Social and Behavioral Sciences.

AS.100.249. Baltimore as Historical Site. 3 Credits.
The city of Baltimore will serve as a laboratory in which to study American History. We will explore the urban landscape on foot as well as through written sources.
Instructor(s): M. Ryan
Area: Humanities, Social and Behavioral Sciences.

AS.100.256. Intro to Early American Legal History. 3 Credits.
An introduction to key issues in American legal history between the start of European settlement and the era of the Civil War. We will investigate changing understandings of governance and legal authority, focusing particularly on their relationship to the Revolution and the Civil War. Additional topics include Native American and European land claims, the regulation of family life, economic and commercial disputes, and the legal regimes of race and slavery.
Area: Humanities, Social and Behavioral Sciences.
AS.100.262. History, Politics and Identity in Russia from Stalin to Putin. 3 Credits.
The course explores political uses of the past and attempts to define “Russianness” in the context of the projects of Communism and liberal democracy respectively in Soviet and post-Soviet Russia.
Instructor(s): N. Koposov
Area: Humanities, Social and Behavioral Sciences.

AS.100.269. Revolutionary America. 3 Credits.
This course provides an intensive introduction to the causes, character, and consequences of the American Revolution, the colonial rebellion that produced the modern world’s first republic, restructured the British Empire, and set in motion an age of democratic revolutions in the Atlantic world. A remarkable epoch in world history, the revolutionary era was of momentous significance. The full impact and scope of the American Revolution will be addressed in a sweeping Atlantic context.
Instructor(s): J. Adelman
Area: Humanities, Social and Behavioral Sciences

AS.100.274. Early American Legal History. 3 Credits.
This course examines the relationship between law, governance, and social structures in America between the start of European settlement and the era of the Civil War. Topics will include Native American and European land claims, the regulation of family life, economic and commercial disputes, and the legal regimes of race and slavery. Throughout, we will consider both authorities’ aims and the ways in which individual men and women maneuvered within the legal system.
Area: Humanities, Social and Behavioral Sciences

AS.100.299. Africa and the Humanitarians. 3 Credits.
This course is a critical history of humanitarian interventions in Africa beginning with anti-slavery projects in the late 18th century and ending with the Millennium Development Goals established by the United Nations in the year 2000.
Area: Humanities, Social and Behavioral Sciences

AS.100.300. History of 20th Century France since 1945. 3 Credits.
This course examines France and its empire, from 1914 until today, with a focus on questions of gender, religion, and race.
Area: Humanities, Social and Behavioral Sciences

AS.100.301. America after the Civil Rights Movement. 3 Credits.
Explores the role of the 1964 Civil Rights Act and mid-twentieth century reform movements in transforming American politics, economy, and culture since the late 1960’s.
Instructor(s): N. Connolly
Area: Humanities

AS.100.302. The French-Algerian War, 1945-1962. 3 Credits.
The Algerian Revolution is often seen as the touchstone anti-colonial struggle as well as the matrix for modern forms of terrorism and state-sponsored torture. We will explore its history.
Area: Humanities, Social and Behavioral Sciences

AS.100.303. Old Regime France. 3 Credits.
This course examines the history of France from the reign of Louis XIV to the French Revolution, concentrating on the rise of absolutism, the challenge of the Enlightenment, and the origins of the French Revolution.
Instructor(s): M. Kwass
Area: Humanities, Social and Behavioral Sciences

AS.100.304. New World Slavery. 3 Credits.
Area: Humanities, Social and Behavioral Sciences

AS.100.305. Russia in the Age of Dostoevsky. 3 Credits.
Instructor(s): J. Brooks
Area: Humanities, Social and Behavioral Sciences

AS.100.306. By Force or Fiat? The History of International Law, 1648-2000. 3 Credits.
An examination of law in international relations, this course combines an intellectual, cultural, and diplomatic history approach to examine the evolution of international law since the Peace of Westphalia.
Dean’s Teaching Fellowship Course
Area: Humanities, Social and Behavioral Sciences

AS.100.307. Latin American Independence. 3 Credits.
This seminar examines the breakdown of the Spanish and Portuguese empires and the emergence of new states in Latin America in the nineteenth century. Topics include: war, revolution, slavery, liberalism, and monarchism.
Instructor(s): G. Paquette
Area: Humanities, Social and Behavioral Sciences

AS.100.308. Bridging East and West: Chinese Cosmopolitans and Cultural Mediators in the 19th and 20th Centuries. 3 Credits.
This course explores the contributions that cosmopolitan Chinese intellectuals, revolutionaries, diplomats, artists, translators, politicians, and scholars made to cross-cultural understanding in Europe and China of the 19th and 20th centuries. Cross-listed with East Asian Studies
Instructor(s): K. Ren
Area: Humanities, Social and Behavioral Sciences

AS.100.309. American Social Thought since 1865. 3 Credits.
This course explores the intellectual development of the modern United States through readings in philosophy, literature, law, economics, politics, and social theory.
Prerequisites: Cannot enroll if you have taken AS.100.400, same course.
Instructor(s): A. Burgin
Area: Humanities, Social and Behavioral Sciences

AS.100.310. The French Revolution. 3 Credits.
Political, social and cultural history of one of the great turning-points in European history. Previously offered as AS.100.204.
Instructor(s): L. Mason
Area: Humanities, Social and Behavioral Sciences.
AS.100.311. The Atlantic Slave Trade. 3 Credits.
This course explores the African, European, and American involvement in the Atlantic slave trade, as well as the economic, political, and sociological impact of the trade on various Atlantic communities. Dean's Teaching Fellowship Course
Instructor(s): C. Hollander
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.312. Emancipations. 3 Credits.
Comparative exploration of black emancipation and freedom struggles, including slave rebellions in the Caribbean and United States, global civil rights and black power, African nationalism, and the end of apartheid.
Instructor(s): A. Ewing
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.313. The Construction of the African Diaspora in the Americas. 3 Credits.
An examination of the various ways in which an African Diaspora developed across the Americas between 1492 and the present. Attention will be paid to the period of the Transatlantic slave trade but the greater emphasis will be on the complex societies that emerged by the early twentieth century and the responses of people of African descent to these societies. Readings will range across history, demography, economics, politics and culture in order to define a Diaspora and examine the factors that encourage or inhibit its formation. Cross listed with Africana Studies
Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.314. The Enlightenment. 3 Credits.
This course examines the Enlightenment, an intellectual movement that swept Europe in the eighteenth century to shape the modern world.
Instructor(s): M. Kwass
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.317. Jewish Music. 3 Credits.
What is "Jewish music," and what roles has it played in global and Jewish cultures? This course will address these questions, considering genres and contexts of Jewish music from cantillation to klezmer and from art music to Yiddish cinema. Cross listed with Jewish Studies
Instructor(s): J. Walden
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.318. The Age of Revolutions. 3 Credits.
This seminar focuses on the political, social, and economic thought animating the revolutions which transformed Europe and the Americas, c. 1760 - 1850.
Instructor(s): G. Paquette
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.319. The Tudors: Reforming England 1485-1603. 3 Credits.
This course will examine Tudor England, including the reigns of Henry VIII, Edward VI, Mary I, and Elizabeth I, and the intellectual and cultural movements of the Reformation and the Renaissance.
Instructor(s): J. Walker
Area: Humanities, Social and Behavioral Sciences.

AS.100.320. Writing U.S. Empire. 3 Credits.
This course will teach students how to write analytic history and how to interrogate primary documents through a focused look at American imperialism between the 1890s and 1930s.
Instructor(s): N. Connolly
Writing Intensive.

AS.100.321. Visions Of The Self. 3 Credits.
Examines a variety of autobiographical texts – male and female, western and non-western, from the Middle Ages to the present, with an eye towards using these texts as “windows” into the society in which they were written. Course will require weekly reports, a term paper, and final exam. Organized as a seminar, student-run discussion will be integral to the course.
Instructor(s): R. Kagan
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.322. New World Encounters: Europeans, Natives, Africans. The Makings of Creole Society in Spanish America, 15th - 18th centuries. 3 Credits.
This course is designed to introduce students to the complex relationships that were established between the different cultures that inhabited colonial Latin America, from 1492 to the 18th century. Dean’s Teaching Fellowship course.
Instructor(s): G. Garcia Montufar
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.323. Commerce in the Age of Enlightenment. 3 Credits.
This course explores political and economical debates about commerce, debt, inequality, and international competition in 18th century Europe. We will adopt an interdisciplinary approach to the study of a diverse group of primary sources. Dean’s Teaching Fellowship Course.
Instructor(s): D. Woodworth
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.324. Puritan Maidens to Pop Culture Tweens: The History of Youth in America. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.325. The Jewish Condition & the Interwar Crisis: Jewish Politics & Culture in Europe, America, Palestine. 3 Credits.
The twenty years following the First World War were characterized by manifold political crises: the apotheosis of radical left-wing and radical right-wing politics at the heart of Europe, hyper-nationalism in post-imperial Eastern and southern Europe, violent confrontations in Europe’s overseas colonies and mandates, and world-wide economic depression. This course asks how the 16-18 million Jews of Europe, America, and the Near East were affected by these processes and traces their opposing political, religious, and cultural responses to them.
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.326. Extreme America: Political Extremism, 1787-1920. 3 Credits.
In the half century between 1870 and 1920, socialism, anarchism, and communism were real presences in American life, not just smears of words. This course will examine political extremism in this extraordinary period with an eye toward understanding the causes and consequences of a political culture of extremism.
Instructor(s): R. Walters
Area: Humanities, Social and Behavioral Sciences.
AS.100.328. Images and Realities: Native Americans in American History. 3 Credits.
This course explores the history of native people in American history from European landfall to today, introducing its major events and issues, including culture, representation, politics, and identity. DTF course
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.329. Chinese Thought. 3 Credits.
Chinese classical philosophy, Confucianism, and Daoism. Cross-listed with East Asian Studies
Instructor(s): B. Lievens
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.330. National Identity in 20th Century China & Japan. 3 Credits.
Using primary sources, including literature and film, we will explore the changing ways in which ideologues, intellectuals, and ordinary citizens defined national identity in 20th century China and Japan. Cross-listed with WGS and East Asian Studies
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences.

AS.100.331. Buying Power: American Consumer Society 1750-1960. 3 Credits.
This course examines the causes and consequences of America’s transformation into a mass consumer society, including the growth of advertising, the gendering of shopping, and the globalization of American products and tastes. Dean’s Teaching Fellowship course.
Instructor(s): R. Gamble
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.332. Human Rights History. 3 Credits.
Examines how the idea that people have rights transcending their particular place and time has evolved since the early modern period, with special emphasis on European experience and thought.
Instructor(s): L. Mason
Area: Humanities, Social and Behavioral Sciences.

AS.100.333. Global Public Health Since World War II. 3 Credits.
Globalization has dramatically reshaped the world economy, providing great advantages to some but leaving poor nations to struggle with hunger, disease and death on a daily basis. This course explores the impact of globalization on public health in the developed and the developing nations since 1945. Cross-listed with Public Health Studies
Instructor(s): B. Morgan; L. Galambos
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.334. Gender and the Economy in America, 1600-1870. 3 Credits.
Examines white, African, and Native American women’s economic activities in early America, including as laborers, entrepreneurs, and consumers. Also considers women’s economic and political roles during the Revolution and Civil War.
Instructor(s): S. Damiano
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.335. The American West. 3 Credits.
Instructor(s): R. Walters
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.336. Race, Slavery, and Emancipation: The U.S. and the Black Atlantic, 1600-1880. 3 Credits.
This readings seminar places race, slavery, and emancipation in US history into the larger context of Black Atlantic to understand how global slave systems adapted to conditions in North America.
Instructor(s): M. Heerman
Area: Humanities, Social and Behavioral Sciences.

AS.100.337. Soviet-American Cold War. 3 Credits.
How have contemporary achievements and problems in Africa been shaped by past events? What insights may be gained into contemporary conditions by viewing them in historical perspective? Using a series of case studies, this course will examine the history of issues such as economic development, nation building, migration, poverty and social conflict that affect many African nations today. Cross listed with Africana Studies
Instructor(s): S. Berry
Area: Humanities, Social and Behavioral Sciences.

AS.100.338. Contemporary African Political Economies in Historical Perspectives. 3 Credits.
Topic is history, literature, and art in Russia’s age of genius, 1850s through the 1920s. Requirements are short papers and 2 quizzes. Format is short lecture plus discussion.
Instructor(s): J. Brooks
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.339. Tolstoy/Chagall/Pasternak: Russia’s Age of Genius. 3 Credits.
Examine the history of the Inquisition - its origins, theological foundations, methods, and role as a mechanism for social control in medieval & early modern Europe.
Instructor(s): R. Kagan
Area: Humanities
Writing Intensive.

AS.100.340. Russian Imagination. 3 Credits.
Culture, Politics, and Society in Russia’s great age of creativity, 1850s to 1950s.
Instructor(s): J. Brooks
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.341. The Inquisition: Medieval & Modern. 3 Credits.
Examines the history of the Inquisition - its origins, theological foundations, methods, and role as a mechanism for social control in medieval & early modern Europe.
Instructor(s): R. Kagan
Area: Humanities
Writing Intensive.

AS.100.342. The Power of Place: Race and Community in East Baltimore. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.343. The Inquisition: Medieval & Modern. 3 Credits.
Examines the history of the Inquisition - its origins, theological foundations, methods, and role as a mechanism for social control in medieval & early modern Europe.
Instructor(s): R. Kagan
Area: Humanities
Writing Intensive.

AS.100.344. Russian Imagination. 3 Credits.
Culture, Politics, and Society in Russia’s great age of creativity, 1850s to 1950s.
Instructor(s): J. Brooks
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.345. Portuguese Seaborne Empire. 3 Credits.
Exploration and Portuguese settlement in Africa, Asia and America, and integration of these regions into an inter-continental and multi-oceanic system. Emphasis on political, commercial, military, cultural, and social aspects and European/non-European relations.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.346. Soviet-American Cold War. 3 Credits.
The focus will be on Soviet-American interactions, Cold-War Cultures, and the impact on both societies.
Instructor(s): J. Brooks
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.
AS.100.347. Early Modern China. 3 Credits.
The history of China from the 16th to the late 19th centuries.
Instructor(s): W. Rowe
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.348. 20th-Century China. 3 Credits.
Cross listed with East Asian Studies
Instructor(s): W. Rowe
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.349. Reform and its Discontents in the Southern Atlantic World. 3 Credits.
A seminar on Spain, Portugal, and Ibero-America, c. 1650-1830, situated in the wider Atlantic/European context. Topics include: Enlightenment; Warfare; Absolutism; Resistance and Revolution; and Transitions from Empire.
Instructor(s): G. Paquette
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.350. The Art of Collecting in America’s Gilded Age, 1880-1920. 3 Credits.
Course is organized as an upper division seminar for students with interest in history, art history, and museum studies, focuses on the art collections of wealthy Americans during the fabled Gilded Age, ca. 1880 - ca. 1920. Topics to be discussed include the motives, both personal and patriotic, underlying the formation of these collections, the ideas and circumstances that contributed to the creation of municipal museums such as New York City’s Metropolitan Museum of Art, and the relationship between these collections, both private and public, and America’s national identity. Cross-listed with Museums and Society Studies.
Instructor(s): R. Kagan
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.351. God, Self, Nation and Revolution in East European Jewish Life and Thought, 1860-1939. 3 Credits.
The divided Jewish community of modern Eastern Europe defined many of the key modern forms of Jewish identity, politics, culture, and religion and forged bewildering array of syntheses, hybrids, and even negations of Jewishness in relation to the unprecedented political, cultural, and social dilemmas of life in Eastern Europe. Focus on key texts of Jewish religious and secular thought created in Imperial Russia and interwar Poland.
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.352. Age Of Pasternak. 3 Credits.
This course covers Russian history, literature, and the arts 1890-1950. It is writing intensive. Students will develop a theme, keep journals on the readings, and make one oral presentation.
Instructor(s): J. Brooks
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.353. Youth and Youth Movements during 20th Century: Germany, Britain, and the U.S. 3 Credits.
Through texts, music, and films, this course examines the rise of “youth” as a social and cultural category in a variety of forms, ranging from spontaneous (such as Rock’n’Roll or Techno) to state-organized (Hitler Youth).
Instructor(s): H. Balz
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.354. History of Israel, 1948-1970. 3 Credits.
The political, social, and culture history of the State of Israel and its inhabitants during its pivotal first two decades, as reconstructed in recent historiography.
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences.

AS.100.355. The Buddhist Experience. 3 Credits.
Introduction to Buddhist theory and practice - from India to East Asia.
Cross listed with East Asian Studies
Instructor(s): J. Valentine
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.356. The History of Photojournalism from Daguerre to Digital. 3 Credits.
This course examines the aesthetic, technological, social, and historical dimensions of photojournalism, from the invention of the daguerreotype to the age of digital media (roughly from 1839 to 1989). Dean’s Fellowship Course.
Instructor(s): C. Stolarski
Area: Humanities, Social and Behavioral Sciences.
AS.100.364. Pilgrims, Crusaders, Explorers. 3 Credits.
The course looks at primary sources concerning pilgrimage and crusade from the fourth through fifteenth centuries. The readings concentrate on western Christianity, though we shall study the changing ways western Christians perceived their north African and middle eastern counterparts. Moreover, we shall study pilgrimage/hajj and crusade/jihad from historical, economic, anthropological, and theological perspectives. The course is writing intensive, and students will pursue research in a particular topic or event of their interest.
Instructor(s): C. Gardner
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.365. Culture & Society in the High Middle Ages. 3 Credits.
This course will cover the history of Medieval Europe in the High Middle Ages. It will investigate growth of feudalism, the revival of commerce, the growth of national kingdoms, and the intellectual revival known as the Renaissance of the 12th century, including the birth of courtly literature and the emergence of scholasticism.
Instructor(s): G. Spiegel
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.366. The American Dream. 3 Credits.
This course examines ideas about success and failure in the United States over the 20th century. Who won, who lost, and who shaped the debates over The American Dream?
Instructor(s): P. Glotzer
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.368. Understanding Poverty in Modern Europe and the United States. 3 Credits.
This course examines the history of poverty in Europe and the United States between the late 18th and 20th centuries. Topics include the interconnectedness of race and gender, and cultural representations of “the poor.” Dean’s Teaching Fellowship Course.
Instructor(s): A. Hoelger
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.369. The American Earth: Empire and Environment in U.S. History. 3 Credits.
America’s emergence to global power has had tremendous environmental consequences. This course examines the intersections of U.S. imperialism and the environment and how they have transformed each other since 1898. Dean’s Teaching Fellowship course
Instructor(s): N. Cincinnati
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.370. The Victorians. 3 Credits.
This course focuses on the politics of everyday life, consumption, intimate relations, and concepts of the self in Victorian Britain (1837-1901). Particular attention will be devoted to Victorian visual culture, including exhibitions, built environment, decorative arts and leisure culture. Other themes include popular nationalism, class cultures, feminism and body politics, Empire and racial thought. Cross-listed with WGS and Program in Museums and Society
Instructor(s): J. Walkowitz
Area: Humanities, Social and Behavioral Sciences.

AS.100.372. Sex and Society in Early Modern Europe. 3 Credits.
This course will examine how early modern views on the body, gender, and sexuality shaped beliefs about the abilities and rights of women and men.
Instructor(s): E. Rowe
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.373. The Railroad in American Life. 3 Credits.
This course will examine the history of the railroad in America, tracing its social, geographic, and economic effects. It will encourage students to consider the cultural dimensions of technological change. DTF course
Instructor(s): D. Schley
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.374. At the Center of the World: The Mediterranean, 1348-1799. 3 Credits.
From the Renaissance to Napoleon’s invasion of Egypt, this upper level course examines the central role played by the Mediterranean during these centuries. Particular attention given to religious and cultural identity, viewing the Mediterranean as a borderlands region between Christian and Islamic powers. Dean’s Teaching Fellowship course
Area: Humanities, Social and Behavioral Sciences Writing Intensive.
AS.100.386. Medieval Cities. 3 Credits.
What characteristics defined a medieval city and how did these characteristics change between 400 and 1400? We study texts and images of cityscapes throughout the medieval Mediterranean and Middle East.
Instructor(s): C. Gardner
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.388. European Intellectual History from Adam Smith To Nietzsche. 3 Credits.
A survey of major thinkers who supported or opposed capitalism and democracy.
Instructor(s): P. Jelavich
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.391. Originalism and the American Constitution: History and Interpretation. 3 Credits.
This course explores both the historical dimension of the American Constitution’s creation as well as the meaning that such knowledge should bring to bear on its subsequent interpretation.
Instructor(s): J. Gienapp
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.395. A Cultural History of Contemporary China. 3 Credits.
This course examines cultural and intellectual changes in post-Mao China through developments in literature, film, art, music, and the media, with attention to both domestic transformations and global contexts.
Instructor(s): K. Ren
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.396. Landscapes of the American South: Slavery, Law, and Culture, 1770-1900. 3 Credits.
Focusing on the legal and social history of the American South, this course attempts to answer how national identity was complicated by questions concerning race and slavery from the founding forward.
Dean’s Teaching Fellowship course.
Instructor(s): S. Cerato
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.397. American Histories, Male and Female. 3 Credits.
This seminar will be devoted to exploring gender differences as they have been expressed in a sequence of autobiographies and autobiographical fiction set in a shifting social and historical context.
Instructor(s): M. Ryan
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.398. The Mediterranean and France. 3 Credits.
The course explores the interplay of greater Mediterranean culture, economics, and war with the Gaulic/Frankish/French peoples. The course treats the pre-modern Mediterranean as a conduit and connector, rather than as a separator, of Europe and Africa. We will focus on how the Gaulic/French peoples were influenced by classical Mediterranean culture and how the kings of medieval France sought to expand their powers into the Mediterranean before the upheavals of the late fifteenth century shifted royal ambitions away from the sea.
Writing Intensive.

AS.100.399. Decolonization and Nationalism in Africa. 3 Credits.
The end of European colonization in Africa after World War II and its causes, with an examination of the emergence and various forms of African nationalism. Cross listed with Africana Studies.
Instructor(s): P. Larson
Area: Humanities
Writing Intensive.

AS.100.401. Cabaret: History, Theory, and Performance. 3 Credits.
An examination of cabaret, primarily in France and Germany during its heyday (1880-1930).
Instructor(s): P. Jelavich
Area: Humanities, Social and Behavioral Sciences.

AS.100.402. Jewish Modernity: Jewish Secularization, Assimilation, Nationalization, and Religious Revival from the 17th Century to the Present. 3 Credits.
Contemporary accounts and theories of the Jewish experience of modernity from the 17th century to the contemporary state of Israel; secularity and religion; emancipation, citizenship, and empire; capitalism and socialism; assimilation and nationalism; statehood and diaspora.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.404. John Locke. 3 Credits.
Seminar style course in which John Locke’s major works will be read intensively, together with some of his contemporaries’ works, and select scholarly interpretations.
Instructor(s): J. Marshall
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.405. European Socialist Thought. 3 Credits.
Examination of socialist, social-democratic, communist, and anarchist theorists, including Proudhon, Marx, Engels, Bakunin, Bernstein, Lenin, Luxemburg, and Sorel.
Instructor(s): P. Jelavich
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.406. American Business in the Age of the Modern Corporation. 3 Credits.
This course will focus on business organizations, their performance, and sociopolitical relations in the 20th century.
Instructor(s): L. Galambos
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.407. The History of Science Policy and Diplomacy in Japan. 3 Credits.
This course traces and analyzes the history of Japan’s science policy and diplomacy. Students learn Japan’s unique position evolved under the influence of neighboring Asian countries, Europe and the U.S.
Instructor(s): T. Steen
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.
AS.100.408. Theorizing the Age of ‘Enormity:’ Social Theory and the History of the 20th Century. 3 Credits.
Instructor(s): K. Moss; T. Shepard
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.409. Fascism: History and Interpretation. 3 Credits.
This course investigates the history and historiography of fascism, with emphases on definitions of fascism and on fascist political culture in a comparative framework. AS.100.104 recommended but not required.
Dean’s Teaching Fellowship course.
Instructor(s): A. Bisno
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.410. Subversive Humor in US and Modern Europe. 3 Credits.
Varieties of subversive laughter in historical context: 1850s through 1970s in fiction, cartoons, comics, children’s literature, and art. Also open to graduate students.
Instructor(s): J. Brooks
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.412. Jewish History in British Mandatory Palestine 1917-1947. 3 Credits.
Recent historical writing on Jewish politics, culture, and society in British Mandatory Palestine, 1917-1947. Significant attention will also be paid to work on Palestinian Arab society and politics and to Jewish-Arab-British relations.
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.413. London 1580-1830: The History of Britain’s capital city. 3 Credits.
Seminar-style class analyzing the social, cultural, gender, religious, economic, and political history of London from Shakespeare’s time through revolutions, plague, fire, and commercial, colonial, and industrial expansion.
Instructor(s): J. Marshall
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.414. Rebell ing Subjects, Revealing Objects: The Material & Visual Culture of the American Revolution. 3 Credits.
This course explores the cultural and political history of the American Revolution through study of objects and images, and introduces students to the methodological possibilities of writing history through such material and visual culture. Juniors and Seniors Only
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.415. Papyrus, Parchment, and Paper. 3 Credits.
The diffusion of writing technologies before the industrial age, especially around the Mediterranean; the preservation of lightweight, portable texts; modern discoveries (Oxyrhynchus, Dead Sea Scrolls, Nag Hammadi, Cairo Geniza).
Instructor(s): M. Rustow
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.416. Urban Space and City People. 3 Credits.
Readings and research in urban history focused on the United States since the 18th century with special attention to gender and race.
Instructor(s): M. Ryan
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.419. The Age of Revolutions. 3 Credits.
This seminar focuses on the political, economic, and social thought animating the revolutions that transformed Europe and the Americas c.1760-1850.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.421. Creating the News: Media and Politics in Early America. 3 Credits.
Examines how various forms of media - including books, pamphlets, speeches, newspapers, plays and public rituals - shaped American political culture from the Puritans through the Revolution to the coming of the Civil War.
Instructor(s): J. Adelman
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.422. Society & Social Change in 18th Century China. 3 Credits.
Reading knowledge of Chinese recommended but not required. Cross listed with East Asian Studies
Instructor(s): W. Rowe
Area: Humanities, Social and Behavioral Sciences.

AS.100.424. Women & Modern Chinese History. 3 Credits.
This course examines the experience of Chinese women, and also how writers, scholars, and politicians (often male, sometimes foreign) have represented women’s experiences for their own political and social agendas. Cross listed with East Asian Studies.
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.425. Problems Islamic History. 3 Credits.
Seminar on the making of the Middle East to 1500 focusing on conversion to Islam, the development of the state and slave-soldier regimes, the survival and efflorescence of religious minorities, and trade and commerce across the Mediterranean and Indian Ocean.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.426. Popular Culture in Early Modern Europe. 3 Credits.
Witchcraft, magic, carnivals, riots, folk tales, gender roles; fertility cults and violence especially in Britain, Germany, France, and Italy.
Instructor(s): J. Marshall
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.428. London-20th Century. 3 Credits.
This course investigates the history of London between 1900 and 1960. The following themes are explored: the built environment, the local and the global, policing and crime, sexual scandal, popular entertainments and erotic pleasure, consumer culture and the media, cultural imperialism, the experience of war, social democracy, and the emergence of a multi-racial urban society. Cross-listed with Studies of Women, Gender, and Sexuality
Instructor(s): J. Walkowitz
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.
AS.100.429. The History of Colonial Brazil. 3 Credits.
Development of Brazilian civilization from 1500 to 1822 with special reference to the interrelationship of socio-economic determinants and Crown policy. Cross-listed with PLAS
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.433. Censorship in Europe and the U.S.. 3 Credits.
This undergraduate research seminar will examine censorship policies and debates from the eighteenth century to the present. In addition to discussion of common readings, each student will choose a censorship case to research and present to the class.
Instructor(s): P. Jelavich
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.437. Late Imperial China: History and Fantasy. 3 Credits.
Students in this seminar will look at the ways in which Chinese and Western scholars, novelists, film-makers, and artists have represented China’s Late Imperial period. We will look at the way foreigners have imagined China, and the ways in which Chinese writers past and present have fancifully, nostalgically, and inventively rendered their personal and national pasts. The course will explore issues of historical, geographical, and literary imagination. Cross-listed with East Asian Studies
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.438. Modern Mexico and the Mexican Revolution. 3 Credits.
An examination of the political, social, and economic factors between 1810 and 2010 that produced incessant civil war in Mexico during the 19th century and a revolution in the early 20th century. Cross listed with PLAS
Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.439. Cuban Revolution and the Contemporary Caribbean. 3 Credits.
A lecture course dealing with the development of the Cuban Revolution and the tortuous history of the Caribbean during the 19th and 20th centuries.
Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.440. The Revolutionary Experience in Latin America. 3 Credits.
Comparative examinations of revolutionary political changes in Haiti, Mexico, Bolivia, and Cuba. Cross-listed with Latin American Studies
Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.441. Society, Politics, and Economics in Latin America. 3 Credits.
This course traces the complex relationship between politics, economics, and social changes in Latin America and the Caribbean since World War II.
Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences.

AS.100.442. The Intellectual History of Capitalism, 1900 to present. 3 Credits.
This course examines shifting understandings of the philosophical foundations, political implications, and social effects of the market economy since the early twentieth century.
Instructor(s): A. Burgin
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.443. Russian Critical Theory. 3 Credits.
Juniors and Seniors only. Participants will explore the Russian critical tradition of the Soviet Era. Close reading of Bakhtin, Shklovsky, Propp, Vigotsky, Lotman, Gurevich, etc. Short essays required on aspects of the texts.
Instructor(s): J. Brooks; N. Koposov
Area: Humanities, Social and Behavioral Sciences.

AS.100.445. African Fiction as History. 3 Credits.
An exploration of Modern African history through the African historical novel.
Instructor(s): P. Larson
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.447. Christian-Jewish Polemics in the Middle Ages and the Construction of the Enemy. 3 Credits.
The four great public Christian-Jewish disputations of the high middle ages: Paris, Barcelona, Majorca, Tortosa. Original Hebrew and Latin sources in English translation; questions of the changing motives for anti-Judaism and the formation of a persecuting society.
Instructor(s): P. Capelli
Area: Humanities, Social and Behavioral Sciences.

AS.100.450. The British Empire in Africa & South Asia: A Comparative Perspective. 3 Credits.
This seminar surveys the history of British colonial rule and anti-colonial resistance in African and South Asia from a comparative perspective.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.452. Material History: Objects and Material Culture in the Britsh Atlantic World, 1607-1815. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.100.458. Visions of Africa. 3 Credits.
This course examines the ways in which representations of, and journeys to, Africa have shaped the contours of African American political activity, literary production, and social thought, 1619-2011. Cross listed with Africana Studies
Instructor(s): A. Ewing
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.463. African Diasporas: The Brazilian Experience. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.468. Britain from the English Revolution to the Industrial Revolution. 3 Credits.
Instructor(s): J. Marshall
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.
AS.100.470. Monuments and Memory In Asian History. 3 Credits.
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.473. Indian Ocean:Economy, Society, Diaspora. 3 Credits.
A seminar level survey of the history of the Indian Ocean with an emphasis on human diaspora.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.479. Problems in Chinese Urban History. 3 Credits.
Reading and discussion of works in Western languages on the role of cities in Chinese society, from the Tang dynasty (628-906 A.D.) to the present.
Instructor(s): W. Rowe
Area: Humanities, Social and Behavioral Sciences

AS.100.482. Historiography Mod China. 3 Credits.
A survey of assumptions and approaches in the study of modern Chinese history, as written by Chinese, Japanese, and Western historians.
Instructor(s): W. Rowe
Area: Humanities, Social and Behavioral Sciences.

AS.100.484. Marcus Garvey’s America. 3 Credits.
An exploration of African American history from 1896-1942, paying particular attention to the rise and fall of Garveyism and themes of race, imperialism, capitalism, war, gender, migration, and global politics.
Instructor(s): A. Ewing.

AS.100.486. Jim Crow in America. 3 Credits.
Through an examination of law, culture, and politics, this course explores the history of legalized racial segregation in the United States.
Instructor(s): N. Connolly
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.488. The Early Caribbean and the Atlantic World Seminar. 3 Credits.
The Caribbean was the key focal point of overseas European expansion in the early modern world. Its centrality, importance, and significance will be explored.
Instructor(s): P. Morgan
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.497. Year of Revolt: 1968 in Europe. 3 Credits.
This course will examine the dramatic events of 1968 in Western and Eastern Europe during 1968—a year of social and political revolts, generational conflicts, and cultural activism—as well as their long-term consequences.
Instructor(s): H. Balz
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.498. Hist-Family & Gender-Us. 3 Credits.
Topics include: history of emotions; politics of sexuality and marriage; impact of race, ethnicity, and class on family life; women and gender inequality. Primarily colonial era through the early twentieth century, with some attention to contemporary politics of family, gender, and sexuality.
Instructor(s): T. Ditz
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.499. Film and Propaganda in Nazi Germany. 3 Credits.
By examining a range of cinematic works—from explicitly ideological pseudo-documentaries to less overtly tendentious entertainment films —this course will explore the transmission of propaganda into the everyday culture of Nazi Germany.
Instructor(s): H. Balz
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.501. Internship. 1 Credit.
Instructor(s): J. Brooks; L. Galambos; M. Johnson; T. Shepard.

AS.100.502. Internship. 0 - 3 Credit.
Instructor(s): Staff.

AS.100.503. Independent Reading in Latin American History.
Instructor(s): F. Knight.

AS.100.507. Senior Thesis. 3 Credits.
The Seminar is required of all senior history majors writing honors theses and who wish to graduate with departmental honors. Admission will be granted only after the student has selected a faculty advisor for his or her project.
Instructor(s): T. Ditz
Writing Intensive.

AS.100.508. Senior Thesis. 0 - 3 Credit.
Senior Honors Thesis Seminar. Required of all history majors who are writing senior honors theses and wishing to graduate with departmental honors.
Instructor(s): S. Berry; T. Ditz
Writing Intensive.

AS.100.535. Independent Study. 3 Credits.
Instructor(s): Staff.

AS.100.536. Independent Study. 0 - 3 Credit.
Instructor(s): Staff
Writing Intensive.

AS.100.592. Summer Research-History. 3 Credits.
Instructor(s): F. Knight; P. Romero.

AS.100.594. Internship-Summer. 1 Credit.
Instructor(s): A. Burgin; K. Moss; L. Galambos; M. Ryan.

AS.100.599. Independent Study. 3 Credits.
Instructor(s): G. Paquette; K. Moss; W. Rowe.

AS.100.600. Reading Land and History.
How do people’s relations to land figure in their relations to one another and their perspectives on the past? What problems has land presented to the workings of capitalism, the formation of collective identities, the exercise of power - and vice versa - in different historical contexts? The course will examine these and related questions through a series on the US and Africa.
Instructor(s): N. Connolly; S. Berry.
AS.100.601. Movement, Migration, and trade in pre-modern histories of Africa, Asia, and Europe.
Grad students only. This course is focused on exploring different theoretical and methodological approaches to networks of traders, migrants, and scholars who travelled and corresponded across Africa, Asia and Europe in pre-modern period.
Area: Humanities, Social and Behavioral Sciences.

AS.100.602. Subversive Humor in US and Modern Europe.
Emphasis on laughing at authority in European and American print culture from Dickens into the Cold War. Electronic media and non-western cultures may also be considered.

AS.100.604. Readings in the Early U.S. Republic/Nineteenth Century.
Readings in the Early U.S. Republic/Nineteenth Century
Instructor(s): F. Furstenberg.

Instructor(s): B. Vinson.

AS.100.608. The Consumer Revolution in Global Perspective.
This course will examine transformations in European consumption from 1650 to 1800. It will also explore the relationship between consumption, empire, and globalization.
Instructor(s): M. Kwass
Area: Humanities, Social and Behavioral Sciences.

AS.100.609. Russian Critical Theory.
Participants will explore the Russian critical tradition of the Soviet Era. Close reading of Bakhtin, Shklovsky, Propp, Vigenotsky, Lotman, Gurevich, etc. Short essays required on aspects of the texts.
Instructor(s): J. Brooks; N. Koposov
Area: Humanities, Social and Behavioral Sciences.

AS.100.611. Humor and Society in European Print Culture: Theory and Practice, 1840-1918. Theoretical texts include works by Bergson, Freud, Bakhtin, and more recent authors. Case studies will focus on Russia but student research projects and materials for discussion will include England and France. The seminar will meet on Tuesdays 1:30-3:45. (I assume this time is OK). If the time is a problem I could do 3-5 on the same day. Open to graduates and advanced undergraduates. Credit. 100.610

AS.100.616. Proseminar on the Sociedad de Castas en la epoca virrenal.
This course familiarizes graduate students with questions surrounding the evolution of the sociedad de castas in the viceregal period of Latin America, with an emphasis on Mexican historiography.
Prerequisites: AS.100.672
Instructor(s): B. Vinson
Area: Humanities, Social and Behavioral Sciences.

AS.100.620. Early Modern France.
A readings seminar on French history from Louis XIV to the French Revolution. Topics include: absolutism, political culture, the Enlightenment, production and consumption, the French Atlantic, and the French Revolution.
Instructor(s): M. Kwass
Area: Humanities, Social and Behavioral Sciences.

This graduate seminar examines the Black Freedom Struggle through several of the most recent and ground-breaking biographies written about American civil rights and human rights activists.
Instructor(s): N. Connolly.

AS.100.624. How to Be a Disciple of the Sages: Norms of Behavior, Ethics and Etiquette in Early Rabbinic Literature.
Moral instruction in early rabbinic literature (Pirqe Aboth, Aboth de-Rabbi Nathan, Derekh Eretz Rabbah and Zuta, Pereq ha-Shalom) is a very revealing example of the composite character of rabbinic Judaism, its manifold, not only Biblical roots, and its intense osmosis of neighboring traditions: Hellenistic and Roman philosophies, early Christian and Islamic doctrines, rules and handbooks of manners from medieval European monasteries and courts. This seminar will investigate the classical sources of Jewish morals in both Jewish and non-Jewish texts.
Instructor(s): P. Capelli
Area: Humanities, Social and Behavioral Sciences.

AS.100.626. Russian History Graduate Seminar.
Reading, discussion, and writing: Russian history and culture in 19th and 20th centuries.
Instructor(s): J. Brooks.

AS.100.627. Humor and Society in Modern Europe.
Seminar focuses on European print culture though other forms and regions may be explored. Readings include Freud, Bergson, Bakhtin, and others. A paper or project design will be required.
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.100.631. Ibero-Atlantic History.
A reading seminar on the history and historiography of the Portuguese and Spanish empires c. 1600-1900.
Instructor(s): G. Paquette
Area: Humanities.

AS.100.633. Spain and its Empire.
This graduate seminar will explore the historiography of Spain and its empire, 1480-1700.
Instructor(s): E. Rowe.

AS.100.634. Spain and its Empire.
Instructor(s): R. Kagan.

AS.100.635. Russian History and Culture.
This is a graduate seminar in Russian history and culture. The focus will be on the hundred years of Russian experience, from the middle of the nineteenth century through the death of Stalin. There will be attention to art and literature particularly, from Dostoevsky and Tolstoy through the Russian avant-garde, to writers such as Pasternak and Akhmatova. There will nevertheless be some attention to the traditions of modern Russia back to the eighteenth century. The emphasis will be on the great issues of Russian history, politics, and culture. Students will produce a research paper or design a research project depending their needs. There will be extensive reading in primary as well as secondary sources.
Instructor(s): J. Brooks
Writing Intensive.

AS.100.639. German History.
German history from the Restoration through World War I, with emphasis on cultural and intellectual developments.
Instructor(s): P. Jelavich.
AS.100.640. Approaches to a Visual History of War in the 20th Century.
This course will examine theoretical aspects of visual history, as well as analyze depictions of war and their propagandistic, aesthetic, and allegorical dimensions from World War I to the present.
Instructor(s): H. Baiz
Area: Humanities, Social and Behavioral Sciences.

AS.100.641. Global Catholicism in the Early Modern Period.
Explores religious culture in medieval and early modern Europe, with an emphasis on spiritual beliefs and practices, relics, miracles, pilgrimage, and saint-making. Emphasis on reading and discussing written sources and visual culture. Graduate students only.
Instructor(s): E. Rowe
Area: Humanities, Social and Behavioral Sciences.

AS.100.642. Historiography of the Jews.
Instructor(s): K. Moss

AS.100.647. 19th Century America.
Instructor(s): M. Johnson.

AS.100.649. The American South.
Instructor(s): M. Johnson.

AS.100.650. The American South.
Instructor(s): M. Johnson.

AS.100.651. Readings in Urban and Suburban America: The Twentieth Century.
Introduces students to intellectual trends shaping historical treatments of urban and suburban life in twentieth-century America.
Instructor(s): N. Connolly.

AS.100.655. Jewish History and Historiography in Ottoman and British Palestine.
Recent historiography on Jewish politics, culture, and society in late Ottoman and British Mandatory Palestine, 1880s-1947, English and Hebrew. With permission of the professor.
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

Graduate students only. Recent historical writing on Jewish politics, culture, and society in British Mandatory Palestine, 1917-1947. Significant attention will also be paid to work on Palestinian Arab society and politics and to Jewish-Arab-British relations.
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences.

AS.100.659. Women and Modern Chinese History.
Graduate students only. This course examines the experience of Chinese women, and also how writers, scholars, and politicians (often male, sometimes foreign) have represented women’s experiences for their own political and social agendas. Cross listed with East Asian Studies.
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences.

AS.100.661. Racial Literacy for Historians.
Instructor(s): N. Connolly
Area: Humanities, Social and Behavioral Sciences.

AS.100.664. The French Revolution and the World.

AS.100.667. Topics in Modern Jewish History.
Intensive readings in historiography of modern Jewry, with particular focus on Jewish life in 19th - 20th century Palestine and the State of Israel. Recommended Course Background: AS.100.668
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences.

AS.100.668. Colloquium on Modern Jewish History.
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.670. Directed Readings in the Cultural History of British America and the Early United States.
Reading Seminar focusing on modes of interpretation associated with cultural history. Ordinarily a continuation of AS.100.669 (fall), but other interested graduate students may register with instructor’s permission. Co-taught by Francois Furstenberg.
Instructor(s): T. Ditz.

AS.100.671. Germany Since 1918.
German history since World War I - Weimar Republic, Third Reich, German Democratic Republic, and Federal Republic of Germany - with emphasis on cultural and intellectual developments.
Instructor(s): P. Jelavich.

AS.100.672. Colonial Latin American Historical Research and Methodology Seminar.
This course is designed to introduce students to a range of colonial Latin American source documentation and to familiarize them with basic issues in conducting primary source research. Focusing on textual analysis, the use of economic and social data, and archival survey, students will write a series of papers that will build basic competency and skills in the area of Latin American colonial methodology. Advanced Spanish is required. Familiarity and some background in colonial Latin American history is strongly encouraged. The course adopts a practicum style.
Instructor(s): B. Vinson
Area: Humanities, Social and Behavioral Sciences.

AS.100.673. Sem:British Am/Early Us.

AS.100.679. Colonial Latin American History and Readings.
Instructor(s): B. Vinson
Area: Humanities, Social and Behavioral Sciences.

AS.100.680. Research Seminar in Atlantic History 1600-1800.
Instructor(s): P. Morgan.

AS.100.681. Research Seminar in Atlantic History, 1600-1800.
Continuation of AS.100.680
Instructor(s): P. Morgan
Area: Humanities, Social and Behavioral Sciences.

AS.100.685. Reading Seminar in Atlantic History.
Instructor(s): P. Morgan
Area: Humanities, Social and Behavioral Sciences.

AS.100.686. Russia at War.
This seminar explores Russian society and culture in wartime with particular emphasis on Russia’s relationship with Europe.
Instructor(s): J. Brooks
Area: Humanities, Social and Behavioral Sciences.

AS.100.687. Amer Economic History.
Instructor(s): L. Galambos.
AS.100.690. Directed Readings in Latin American History and Historiography.
Provides a comprehensive understanding of the major trends in colonial Latin American historiography from the 1950's until contemporary times. Cross listed with PLAS
Instructor(s): B. Vinson.

AS.100.692. Theorizing the Age of Enormity.
Instructor(s): K. Moss; T. Shepard.

AS.100.695. Problems in U.S. Social & Cultural History.
This is a seminar reading widely in U.S. social and cultural history, ranging chronologically this semester from the mid-18th century to the late 19th century.
Instructor(s): R. Walters.

AS.100.696. Probs Aern Soc & Cult.
An intensive graduate seminar exploring various topics in US social and cultural history, focusing on the period from the late 19th century to the late 20th century.
Instructor(s): R. Walters.

AS.100.700. American Intellectual History.
Readings on American and transalntic intellectual history since 1865, with an emphasis on the history of the social sciences.
Instructor(s): A. Burgin.

AS.100.701. Historiography and Methods in African History.
Graduate students only. Methods, philosophies, approaches, and useful historiographies for researching and writing African histories.

AS.100.702. Race and Migration in Modern History.
Instructor(s): M. Shell-Weiss.

AS.100.704. Sex and the City.
Instructor(s): J. Walkowitz; M. Ryan.

AS.100.705. Decolonization and the "Global North."
This course explores how the mid-20th-century phenomenon often named “decolonization” shaped developments in Europe (including the Soviet Union) , the USA, and Canada.
Instructor(s): T. Shepard.

AS.100.706. Topics in Early African History.
Selected topics in African history prior to 1900. Contact Professor Larson regarding topic for 2010-11 academic year.
Instructor(s): P. Larson.

AS.100.707. Sex and the City.
Continuation of AS.100.704. Graduate students only.
Instructor(s): J. Walkowitz; M. Ryan
Area: Humanities, Social and Behavioral Sciences.

AS.100.709. Modern Latin America.
This course will examine selected themes in Modern Latin American history such as legacies of the colonial administrations, the plural societies, political cultures, slavery, and other forms of servitude; religious impact, independence movements, globalization and narco trafficking. Reading knowledge of Spanish required.Reading knowledge of Spanish. Graduate Students only
Instructor(s): F. Knight.

AS.100.710. Modern Latin America.
Selected themes in Modern Latin America will be discussed along with relevant bibliographies.
Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences.

AS.100.711. Topics in Brazilian History.

AS.100.712. Topics in Brazilian History.
Area: Humanities.

AS.100.713. Comparative Politics of Memory in Present-Day Europe.
This course examines the tension between the cult of national heritage and the glorification of national states as reflected in the politics of memory in various European countries. Graduate students only.
Instructor(s): N. Koposov
Area: Humanities, Social and Behavioral Sciences.

AS.100.714. Cultural Theory For Historians.
Readings include Benjamin, Horkheimer, Adorno, Barthes, Debord, Baudrillard, Foucault, Bourdieu, and de Certeau.
Instructor(s): P. Jelavich.

AS.100.717. Twentieth-Century America.
Readings seminar in twentieth-century American history.
Instructor(s): A. Burgin.

AS.100.719. Transnational Approaches to U.S. History.
Readings on American history in a transnational context since the nineteenth century.
Instructor(s): A. Burgin
Area: Humanities, Social and Behavioral Sciences.

AS.100.720. Culture, Society, History: Theoretical Orientation.
Examination of recent cultural and social theories informing historical scholarship, including the works of Levi-Strauss, Geertz, Bourdieu, Sahlins, de Certeau, Foucault, and Koselleck.
Instructor(s): G. Spiegel; P. Jelavich.

AS.100.721. Topics In African History.
Critical readings on selected themes in African history and historiography.
Instructor(s): S. Berry.

AS.100.723. Seminar in Mediterranean History: The Fatimids as a Medieval Empire.
The Fatimids have generally been studied as a local Egyptian power or else as competitors to the Abbasids. Yet the dynasty sat astride the lucrative Mediterranean and Indian Ocean trade routes, and its court and capital cities inspired imitators in Umayyad Cordoba and Norman Sicily. This seminar will focus on primary sources from the tenth through fifteenth centuries in Arabic and other languages as well as modern scholarship.
Instructor(s): M. Rustow.

AS.100.728. Historical Writing in the Middle Ages.
This course will begin with readings of literary and critical theory, as a preparation for the study of modes of historical writing in the Middle Ages. We will then read a sampling of medieval historiographical texts, beginning with Eusebius.
Instructor(s): G. Spiegel.

AS.100.729. Reading Seminar: Colonial British America and the Atlantic World.
Instructor(s): T. Ditz.
AS.100.730. Reading Seminar: Colonial British America & the Atlantic World.
Instructor(s): T. Ditz.

Reading seminar on most recent research on French colonial Africa.
Instructor(s): P. Larson
Writing Intensive.

AS.100.732. Urban Space and City People.
Readings and research in urban history focused on the United States since the 18th century with special attention to gender and race.
Instructor(s): M. Ryan.

AS.100.733. Reading Qing Documents.
Open to advanced undergraduates with at least one semester of Classical Chinese. This course has several objectives. First and foremost, it is a hands-on document reading class designed to familiarize students with the skills, sources, and reference materials necessary to conduct research in Qing history. To that end, we will spend much of our time reading documents. At the same time, we will engage in problem-solving exercises designed to develop and enhance basic research skills. Finally, several important archive-based secondary works in the secondary literature are available on reserve for your reference. These works demonstrate the ways in which historians have recently applied archival skills (and materials).
Instructor(s): T. Meyer-Fong.

AS.100.735. Early Modern Britain.
Instructor(s): J. Marshall.

AS.100.736. Early Modern Britain.
Instructor(s): J. Marshall.

AS.100.737. Seminar in Modern Chinese History.
Instructor(s): W. Rowe.

AS.100.739. The Power of Place in U.S. History.
Through readings in urban history as well as other scholarship that is situated firmly in physical space, the seminar will explore the intricate and interactive relationship between space and power (a 2 semester sequence, the fall will focus on the long 19th century, the spring on the 20th and 21st)
Instructor(s): M. Ryan; N. Connolly
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.740. The Power of Place in U.S.
Through readings in urban history as well as other scholarship that is situated firmly in physical space, the seminar will explore the intricate and interactive relationship between space and power (a 2 semester sequence, the fall will focus on the long 19th century, the spring on the 20th and 21st),
Instructor(s): M. Ryan
Area: Humanities, Social and Behavioral Sciences.

AS.100.741. Recent Theoretical Issues in History.
An examination of recent theoretical issues in history, including: history as/and memory; the return of presence in history; the turn to affect and the rise of "neurohistory"; posthistoricism and the uses of literary theory in history; and the uses of photography and visual cultures in history.
Cross-listed with Humanities Center.
Instructor(s): G. Spiegel; R. Leys
Area: Humanities, Social and Behavioral Sciences.

AS.100.742. Modern France and French Imperialism.
Historiographic in focus.
Instructor(s): T. Shepard
Area: Humanities, Social and Behavioral Sciences.

AS.100.743. Topics in Post-1945 European History.
Critical readings on selected themes in recent European history and historiography
Instructor(s): T. Shepard
Area: Humanities, Social and Behavioral Sciences.

AS.100.744. Twentieth Century France and the French Empire.
We will discuss the historiography of 20th century France and the French empire.
Instructor(s): T. Shepard.

AS.100.745. Africa and the World.
Instructor(s): P. Larson.

AS.100.746. History of South Africa.
A reading seminar focusing on significant and/or recent studies in the social history of South Africa. Cross listed with Africana Studies.
Instructor(s): P. Larson.

AS.100.748. France and the Maghreb in Modern European History.
Instructor(s): T. Shepard.

AS.100.749. Social Theory for Historians.
Examination of the theories of Marx, Durkheim, and Weber
Instructor(s): P. Jelavich.

AS.100.754. Advanced Topics in Chinese History: Early-Middle Period.
This course will survey and attempt to contextualize recent developments in the historiography of China’s “early” and “middle” periods. Intended for graduate students, this class is open to advanced undergraduates who have taken either East Asian Civilizations or Neolithic-Song - or by permission of instructor. Cross-listed with East Asian Studies.

AS.100.755. Twentieth Century Seminar.
Instructor(s): Staff.

AS.100.759. The Cairo Geniza (Spring).
Documentary sources from the Cairo Geniza in Judaeo-Arabic, Arabic, and Hebrew. Paleography, genre, diplomatic, corpora and editorial technique; historical context, interpretation, historiography and history of the field. Cross listed with Jewish Studies.
Instructor(s): M. Rustow
Area: Humanities, Social and Behavioral Sciences.

AS.100.760. The Cairo Geniza.
Documentary sources from the Cairo Geniza in Judaeo-Arabic, Arabic, and Hebrew (depending on student interest). Diplomatic, paleography, research methods, historiography, and history of the field. Arabic required, some Hebrew preferred.
Instructor(s): M. Rustow
Area: Humanities, Social and Behavioral Sciences.

AS.100.761. History of Capitalism.
Readings on the history of capitalism since the mid-nineteenth century, with an emphasis on the American context.
Instructor(s): A. Burgin.
AS.100.762. History and Historiography of 19th France in Europe and the World.
We will explore recent ad classic studies of 19th-century French history, with particular attention to transnational and colonial questions. Instructor(s): T. Shepard.

AS.100.763. Comparative World Hist.
Instructor(s): Staff.

AS.100.764. Comparative World Hist.
Instructor(s): Staff.

AS.100.765. Topics in Women's History.
An exploration of recent work in women's and gender history, focusing on Europe, the Atlantic world, and the United States in the early modern and modern eras. Meets at the same time and place as AS.100.769. Instructor(s): T. Ditz.

AS.100.766. Topics in Women's Hist.
An exploration of recent work in modern European and US women's and gender history, focusing on some of the following: sexuality, cultural production, politics, family formation, work, religion, differences, and civic orders. A continuation of AS.100.765. Area: Humanities, Social and Behavioral Sciences.

AS.100.767. London World City, 1830-1960.
Themes include cultural Marxism and social history, Victorian visual culture, built environment, commodity culture, philanthropy and crime, popular nationalism, class cultures, feminism and body politics, Empire and racial thought. Instructor(s): J. Walkowitz. Area: Humanities.

AS.100.768. London World City.
Instructor(s): J. Walkowitz.

AS.100.769. Gender History Workshop.
Workshop for presentation of works-in-progress on the history of women, gender, and/or sexuality, including drafts of dissertation chapters, research papers, talks, and proposals. Students in disciplines other than history are welcome. Instructor(s): T. Ditz.

AS.100.770. Gender History Workshop.
Instructor(s): J. Walkowitz; M. Ryan. Area: Humanities.

AS.100.771. Readings in Colonial Latin American History.
This seminar is an introduction to the historiography of colonial Latin America, including intellectual, social, cultural and economic history. Atlantic and Iberian history will also be emphasized where possible.

AS.100.772. The Indian Ocean and European Empire.
A reading seminar on the history and historiography of European Empire in the Indian Ocean region. Instructor(s): P. Larson.

AS.100.786. Seminar: Early Modern Europe.
Instructor(s): Staff.

AS.100.787. Sem: Modern Europe.
Instructor(s): Staff.

AS.100.788. General Seminar: Modern Europe.
Instructor(s): Staff.

AS.100.789. Seminar: American.
Instructor(s): Staff.

AS.100.790. General Seminar: America.
Instructor(s): Staff.

AS.100.791. Seminar: Latin American.
Instructor(s): Staff.

AS.100.792. Gen Sem: Latin America.
Instructor(s): Staff.

AS.100.793. Seminar: African.
Instructor(s): Staff.

AS.100.794. General Seminar: Africa.
Instructor(s): Staff.

AS.100.797. First Year Graduate Workshop.
First year graduate workshop. Instructor(s): T. Meyer-Fong. Area: Humanities, Social and Behavioral Sciences.

AS.100.801. Dissertation Research.
Instructor(s): Staff.

AS.100.802. Dissertation Research.
Instructor(s): Staff.

AS.100.803. Independent Study.
Instructor(s): Staff.

AS.100.804. Independent Study.
Instructor(s): G. Paquette; M. Johnson; W. Rowe.

AS.100.821. Fall Practicum.
Instructor(s): W. Rowe.

AS.100.822. Spring Practicum.
Instructor(s): Staff.

AS.100.890. Independent Study.
Instructor(s): F. Knight.

AS.100.891. Summer Practicum.
Cross Listed Courses

History of Art

AS.010.233. Art and Astrology in the Middle Ages. 3 Credits.
This course explores the relationship between art and astrology from the early Middle Ages to the early Renaissance. We look at a wide range of media—mosaic, painting, metalwork, manuscripts, and sculpture—that speak to the central place of astrology in medieval systems of knowledge, and the practical uses of astrology for medicine and politics. Readings and discussions cover a variety of themes, including the transmission of astrological knowledge, the emergence of large-scale astrological mural programs, the use of precious stones and amulets, and the ways in which artworks probe the tensions between astrology and Christian theology. A recurring topic will be principle of "celestial influence"—the idea that the stars emit rays that affect people and events on earth—and its implications for artistic production and reception, as well as how art objects could even predict, or represent predictions of, future events. Primary sources (in English translation) include Albertus Magnus, Abu Ma'shar, al-Kindi, Roger Bacon, and others. Secondary readings include Aby Warburg, Erwin Panofsky, Fritz Saxl, Michael Camille, Georges Didier-Huberman, and others.
Instructor(s): M. Hauknes
Area: Humanities

AS.010.291. Architectural History of Baltimore. 3 Credits.
Focusing on Baltimore's built environment and drawing upon primary sources, this course will explore the major European and American design theories, values, and practices of the last several centuries with an eye towards establishing Baltimore's place within a national and global urban environmental context. Topics addressed in this course include city building, class and race, architectural revivalism, transportation, urban renewal, and post-industrialism.
Instructor(s): M. Perschler
Area: Humanities
Writing Intensive.

AS.010.421. Michelangelo and His Contemporaries: LICENSE, Controversy, and Reform in 16th Century Italian Art. 3 Credits.
An approach to the later work of Michelangelo (ie. 1520-64) and the response to his art by writers and artists in Rome, Florence and the Veneto before and after the call for a "reform of art" by the Council of Trent.
Area: Humanities

Film and Media Studies

AS.061.396. Modern Paris on Film. 3 Credits.
This course uses French film to examine the history of twentieth-century Paris. We will consider how filmmakers interpreted the social, political, and technological transformations that shaped Paris in the modern era, treating movies as expressions of change and means by which filmmakers comment on it. Taught in English. Cross-listed with History
Instructor(s): L. Mason
Area: Humanities

AS.061.397. French Masculinities. 3 Credits.
Examines changing ideals of masculinity in France after 1960 as they found expression on film, rooting the work of iconic stars and directors in their cultural, political and historical contexts.
Prerequisites: AS.061.140 OR AS.061.141 OR INSTRUCTOR PERMISSION
Instructor(s): L. Mason
Area: Humanities
Writing Intensive.

AS.061.421. History & Film. 3 Credits.
This course explores the intersection between historiography - that is, the theory of history - and its relationship to the moving image. How does film as a medium relate to history as a concept? How does film express its own form of an idea of history? How is film, perhaps, itself historical in the way it works? In this course, we will read the work of Walter Benjamin, Frederick Nietzsche, and Jeffrey Skoller, among others. Students are expected to enter the course ready to engage in discussion. $40 Lab fee
Area: Humanities
Writing Intensive.

Anthropology

AS.070.290. Modern South Asia: Bangladesh/Pakistan. 3 Credits.
Bangladesh and Pakistan, two major regional players in South Asia, originate in the 1947 Partition of India and shared nationhood between 1947 and 1971, ending with the War of Independence in 1971 in which Bangladesh separated from Pakistan. Since that time the two nation-states have been on different paths that have sometimes mirrored each other. This course brings together contemporary works of national histories, social movements and cultural production to consider the politics of self-differentiation and the points of convergences.
Instructor(s): N. Khan
Area: Humanities, Social and Behavioral Sciences

AS.070.328. Ethnographies: Our Animals Ourselves. 3 Credits.
Topic: Our Animals Ourselves. How does the figure of the animal appear in anthropological thought? Looking at classical topics such as totemism, sacrifice and pastoralism, as well as emerging topics of animal rights and vegetarianism, we shall see how anthropological concepts bend or are bent by the animal as boundary marker or bridge between self and other. Required course background: two or more prior courses in anthropology (not cross-listed courses). Course is a requirement for anthropology majors.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.352. Evolution, Ecology, Becoming. 3 Credits.
The concept of evolution is central to social theory. Originating in the question of the species, it has moved into questions of human ecology, cultural forms and modes of thought. While it remains a deeply contested, often criticized concept, particularly in its neo-Darwinian manifestation, it orients anthropological thinking in ways that are as yet to be examined. Reaching into the archives of anthropology and other cognate disciplines, this course will examine the writings of Lyell, Darwin, Marx, Morgan, Boas, Steward, Bateson, Ingold among others.
Co-listed with AS.070.610
Instructor(s): A. Goodfellow; N. Khan
Area: Humanities, Social and Behavioral Sciences

Departments, Program Requirements, and Courses

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AS.070.605. Anthropology and the Everyday.
Analysis of the everyday groans under the theoretical weight of concepts such as "modernity," "governmentality," "capitalism," "globalization" and more recently "security." What might a sharper focus on the everyday yield in terms of its own analytical frameworks and empirical descriptions? We read some contemporary greats (Foucault, Derrida, Cavell, de Certeau, Lefebvre). Simultaneously we look at how each has been received within ethnography by reading anthropologists in engagement with them (Mahmood, Ivy, Das, Siegel, Harvey). We ask what critical stakes anthropology maintains in relation to the everyday.
Instructor(s): N. Khan
Area: Humanities, Social and Behavioral Sciences.

The concept of evolution is central to social theory. Originating in the question of the species, it has moved into questions of human ecology, cultural forms and modes of thought. While it remains a deeply contested, often criticized concept, particularly in its neo-Darwinian manifestation, it orients anthropological thinking in ways that are as yet to be examined. Reaching into the archives of anthropology and other cognate disciplines, this course will examine the writings of Lyell, Darwin, Marx, Morgan, Boas, Steward, Bateson, Ingold among others.
Co-listed with AS.070.352
Instructor(s): A. Goodfellow; N. Khan
Area: Humanities, Social and Behavioral Sciences.

Near Eastern Studies
AS.130.328. Ancient Egypt /Africa. 3 Credits.
Recent excavation and research have shed light on several ancient cultures of the Nile and its tributaries. We will look at the available archaeological and textual (all Egyptian) evidence for these societies and their interactions with Egypt between 3500 and 300 B.C. We will also discuss research aims and methods employed now and in the past in Egypt and the Sudan.
Instructor(s): B. Bryan
Area: Humanities
Writing Intensive.

AS.130.352. History of Hasidism. 3 Credits.
Although it appears to be a relic of pre-modern Judaism, Hasidism is a phenomenon of the modern era of Jewish history. This course surveys the political and social history of the Hasidic movement over the course of the last three centuries. Students will also explore basic features of Hasidic culture and thought in their historical development. Cross-listed with Jewish Studies.
Instructor(s): D. Katz
Area: Humanities.

History of Science Technology
AS.140.105. History of Medicine. 3 Credits.
Course provides an overview of the medical traditions of six ancient cultures; the development of Greek and Islamic traditions in Europe; and the reform and displacement of the Classical traditions during the Scientific Revolution. Cross-listed with Public Health Studies
Instructor(s): M. Fissell
Area: Humanities, Social and Behavioral Sciences.

AS.140.304. Medicine for and by Women in Early Modern Europe. 3 Credits.
This course will examine women’s role in early modern European medicine through the reading of early modern medical texts written for or by women. The course is meant for students interested in women’s history, the history of medicine, European history.
Instructor(s): G. Pomata
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.418. Medicine for and by Women in Early Modern Europe. 3 Credits.
This course will examine women’s role in early modern European medicine through the reading of early modern medical texts written for or by women. The course is meant for students interested in women’s history, the history of medicine, European history. Cross-listed with History
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.425. Individualized Medicine from Antiquity to the Genome Age. 3 Credits.
A seminar for graduate students and advanced undergraduates. We will explore the notion of the individual in medicine over 25 centuries, from the Hippocratics to the invention of the case study during the Renaissance to the genetic, biochemical, and immunological individual in recent biomedicine. Recommended Course Background: AS.140.105, AS.140.106
Instructor(s): G. Pomata; N. Comfort
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

Political Science
AS.191.421. A Normal Country German Politics and Identity. 3 Credits.
This seminar deals with questions pertaining to the formation of modern German nationalism and national identity through the perspective of German politics and history. Dean’s Teaching Fellowship
Instructor(s): F. Bauwens
Area: Social and Behavioral Sciences.

AS.191.609. Historical Research Methods and the Study of Politics.
This course is designed for graduate students across the Social Sciences and the Humanities interested in the study of transnational politics from a historical perspective. Taught by Visiting Hinckley Professor Robert A. Hill, students will be introduced to methods of historical interpretation in the examination of archival documents and other sources of scholarly evidence. Utilizing materials and examples from Prof. Hill’s own extensive archive of Garveyism, Rastafarianism, Black Hebraism, and other transnational, millenarian political and social movements, students will become familiar with the unique research challenges posed by various forms of political and historical articulation, ranging from formal records of state governments, intelligence records, personal archives, to publications and memoirs of non-governmental actors and organizations.
Instructor(s): R. Hill.
Jewish Studies Program

AS.193.201. Early Modern Jewry in Europe and the Mediterranean. 3 Credits.
The course examines the transition from medievalism to modernity among the Jews of Europe and the Mediterranean between the sixteenth and eighteenth centuries, paying attention to both material and intellectual life, and to women and children side by side with merchants and rabbis.
Instructor(s): E. Horowitz
Area: Social and Behavioral Sciences
Writing Intensive.

AS.193.301. Reading the Bible and Encountering its World. 3 Credits.
The course examines the interactions between travel and biblical interpretation between the seventeenth and twentieth centuries, paying particular attention to the ways in which travelers to the Middle East and then scholars saw its residents as relics of an unchanging biblical world, whose practices could be used to interpret scriptural texts from both the Old and New Testaments.
Instructor(s): E. Horowitz
Area: Social and Behavioral Sciences
Writing Intensive.

German Romance Languages Literatures

AS.211.202. Freshman Seminar: A Thousand Years of Jewish Culture. 3 Credits.
This course will introduce students to the history and culture of Ashkenazi Jews through their vernacular, Yiddish, from the settlement of Jews in German-speaking lands in medieval times to the present day. Particular emphasis will be placed on the responses of Yiddish-speaking Jews to the challenges posed by modernity to a traditional society. In addition to studying a wide range of texts—including fiction, poetry, memoir, song, and film—students will learn how to read the Yiddish alphabet, and will prepare a meal of traditional Ashkenazi dishes. No prior knowledge of Yiddish is necessary for this course.
Instructor(s): B. Caplan
Area: Humanities.

AS.211.212. Holocaust and Film. 3 Credits.
Taught in English. This class will examine the history of Holocaust films in regard to the possibilities of genre (documentary versus feature), the use of historical and archival materials, as well as general questions of representation and trauma. I CINEMA OF THE VICTIMS II CINEMA OF THE PERPETRATORS III CINEMA OF THE SECOND AND THIRD GENERATIONS WITNESSES Students will be writing weekly response papers to all screenings, and will choose to work with films in the original languages German, English, Italian, and French. This class will be writing-intensive. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies.
Instructor(s): B. Wegenstein
Area: Humanities
Writing Intensive.

AS.211.394. Brazilian Cult & Civ. 3 Credits.
This course is intended as an introduction to the culture and civilization of Brazil. It is designed to provide students with basic information about Brazilian history, art, literature, popular culture, theater, cinema, and music. The course will focus on how indigenous Asian, African, and European cultural influences have interacted to create the new and unique civilization that is Brazil today. The course is taught in English, but ONE extra credit will be given to students who wish to do the course work in Portuguese. Those wishing to do the course work in English for 3 credits should register for section 01. Those wishing to earn 4 credits by doing the course work in Portuguese should register for section 02. The sections will be taught simultaneously. Section 01: 3 credits Section 02: 4 credits (instructor's permission required)
Instructor(s): M. Bensabat Ott
Area: Humanities
Writing Intensive.

AS.213.236. Panorama of German Thought II. 3 Credits.
Panorama of German Thought from Nietzsche to Habermas. Course will examine major thinkers in nineteenth and twentieth-century German thought with emphasis on the response to Enlightenment philosophy, the critique of reason, the questions about the autonomy of the subject and the search for new individual and collective identities. Reading will include traditional philosophical texts (Nietzsche, Cassirer, Heidegger, Adorno, Habermas) as well as works in anthropology (Gehlen, Scheler), sociology (Simmel, Weber), psychology (Mach, Freud), political theory (Marx, Schmitt) and aesthetics (Benjamin, Warburg, Panofsky). This course is a continuation of Panorama of German Thought I, though the first semester is not a prerequisite for the second. Taught in English.
Instructor(s): R. Tobias
Area: Humanities.
AS.213.252. The Idea of the University: Modern German Thought and the Hopkins’ Experiment. 3 Credits.
Readings and discussion in English. Many of the issues we grapple with today regarding higher education have a long history dating back to the eighteenth and nineteenth centuries, when the first modern universities were founded in Germany. What is the relation of research to teaching? How do we define scholarship? What is the difference between professional training and academic study? How do we distinguish secondary education from higher learning? What obligations does the university have vis-à-vis the state, which often finances it in whole or in part? What protections does the state owe the university when it pursues research that runs counter to the interests of state? What purpose does the ivory tower serve in an age in which higher learning is no longer limited to the classroom but is widely available (via books, radio, television, the internet)? In this class we will explore the rich literature from the nineteenth century on the idea of the university and the value of learning. We will conclude the course with an examination of the German roots of Johns Hopkins. Cross-listed with History
Instructor(s): R. Tobias
Area: Humanities.

AS.213.253. Freshman Seminar: Jewish Humor and the Construction of Cultural Discourse. 3 Credits.
With the fall of the Berlin Wall in 1989, one of the most powerful symbols of the Cold War came down. For decades, the division between East and West Germany had been a decisive factor in German literature and film from both states in several respects. Political censorship in the GDR and West German publishing policies determined the conditions for art production. They created specific audiences and shaped the role of the public intellectual. The Berlin Wall could also be said to have contributed to certain trends like the aesthetics of coldness and the poetics of observation. The course examines the relationship between aesthetics and politics in German-German literature and film from 1961 to the present. Readings include: Christa Wolf, Uwe Johnson, Reiner Kunze, Peter Schneider, Ingo Schulze, Anna Funder. Films: Wings of Desire (Wim Wenders, 1987), The Leading Role (Harun Farocki, 1994), The Tunnel (Roland Suso Richter, 2001), Good Bye, Lenin! (Wolfgang Becker, 2003), The Lives of Others (von Donnersmarck, 2007), Yella (Christian Petzold, 2007). The course will be taught in English.
Instructor(s): M. Caplan
Area: Humanities.

AS.213.344. Holocaust and Film. 3 Credits.
Taught in English. This class will examine the history of Holocaust films in regard to the possibilities of genre (documentary versus feature), the use of historical and archival materials, as well as general questions of representation and trauma. I CINEMA OF THE VICTIMS II CINEMA OF THE PERPETRATORS III CINEMA OF THE SECOND AND THIRD GENERATIONS WITNESSES Students will be writing weekly response papers to all screenings, and will choose to work with films in the original languages German, English, Italian, and French. This class will be writing-intensive. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies.
Instructor(s): B. Wegenstein
Area: Humanities
Writing Intensive.

AS.213.368. German Political Thought. 3 Credits.
This course will introduce students to major figures in German political thought from Martin Luther to Karl Marx and Immanuel Kant to Carl Schmitt. The class will explore such issues as the notion of sovereignty, the relationship between church and state, the theory of parliamentary democracy, and the political and economic ramifications of liberalism. Reading and discussion in English.
Instructor(s): R. Tobias
Area: Humanities.

AS.214.253. Perspectives on Islam in the Age of Dante. 3 Credits.
This course examines portrayals of Islam in European literary works of the late 13th and early 14th centuries. Authors include Ibn ‘Arabi, Marco Polo, Boccaccio, and Dante. Course taught in English with Italian section for majors/minors. Cross-listed with History and WGS Dean’s Teaching Fellowship
Area: Humanities.

AS.214.340. Holocaust & Film. 3 Credits.
Taught in English. This course examines the question of the Holocaust and its representation in the filmic media. We will analyze such themes as post-traumatic documentary (e.g., Night and Fog, Alain Resnais 1955), the resistance to representation (Shoah, Claude Lanzmann 1985), Holocaust drama and the ethics of entertainment (e.g., Schindler’s List, Steven Spielberg 1993), the question of filmic adaptation (e.g., The Grey Zone, Tim Blake Nelson 2002—based on Primo Levi’s The Drowned and the Saved 1986), and the new genre of confessional first person video-diary (e.g., Two or Three Things I know About him, Malte Ludin 2005). On this last theme we will also host the two-day symposium “The Holocaust: Children of the Perpetrators Confront Their Parents’ Nazi Past through Documentary Film,” in March 09. The symposium will feature three international documentary filmmakers and their recent films The End of the Neubacher Project, Marcus Carney 2007, Fatherland, Manfred Becker 2006, and Two or Three Things I know About him, Malte Ludin 2005, in which the filmmakers —children of Nazi perpetrators—are asking the question “who am I in relation to my father’s deeds?” The symposium will further include a number of experts on the topic of Holocaust, commemoration, and documentary film. Students will be involved in the preparation and, if interested, in the panel-discussions of the symposium. All films will be screened with English subtitles; this class is reading-intensive and writing-intensive; weekly response papers will be written about the films and the course topic at large. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies
Writing Intensive.
**AS.214.345. Machiavelli's World: Tyrants and Intellectuals in Renaissance Italy. 3 Credits.**

Italy during the Renaissance was politically fragmented, a hodge-podge of small states organized under a wide variety of political systems: ostensibly democratic republics, states ruled by warrior-tyrants, the temporal authority of the papacy, and more. The struggle for dominance between these various states and systems was fought not only by armies but also by humanist intellectuals – a class that flourished during this period. We will focus on the particularly interesting career of Niccolò Machiavelli, who authored theoretical justifications both for Republicanism (especially in his Discourses) and for tyranny (in his most famous and enigmatic work, The Prince). With close attention to historical context, we will read these and other works by Machiavelli. We will also study other Italian Renaissance intellectuals who responded to the political upheavals of their day in a variety of ways, including Coluccio Salutati, Leonardo Bruni, Leon Battista Alberti, and Pietro Aretino. The class will be conducted in English, and a separate section will be offered for Italian majors (and others with a strong command of the language) in which we will read and discuss texts in Italian.

Instructor(s): J. Coleman
Area: Humanities.

**AS.214.352. Writing and Wonder: Books, Libraries, and Discovery 1250-1550. 3 Credits.**

The invention of printing occurred amid two centuries of intense development in the conduct and material means of European scholarship. The transition from writing by hand to movable type was accompanied by a revolution in scholarship that involved a new attitude to Classical and Biblical antiquity, the recovery of neglected and "lost" works, the formation of secular libraries, and the development of tools for the study of ancient handwriting, writing materials, and the history of language and of history itself. The revolution in attitudes to and uses of the book eventually transformed every discipline related to reading, writing, and the organization of knowledge. Topics to be covered include writing as an object of wonder, the transformation of a mythology of writing into a true history of books, writing, and libraries, the scientific study of writing and of language, and the representation of writing and books in the art and literature of the Middle Ages and Renaissance. Extensive use will be made of Johns Hopkins' large collection of books published before 1600, and student projects will be oriented toward reliving the experiences of scholars in this period, including via computer-assisted means. Open to all undergraduates. Knowledge of a foreign language helpful but not required.

Area: Humanities.

**AS.214.356. Science and Heresy in Galileo's Italy. 3 Credits.**

The class will be conducted in English. In the wake of Copernicus, the still dominant geocentric model of the cosmos was challenged in Italy by two equally brilliant but very different thinkers: Giordano Bruno, iconoclastic philosopher and theorist of magic, and Galileo Galilei, who has been called the “father of modern science.” Both of these revolutionary intellectuals faced strong opposition from within the Catholic Church: Bruno was executed as a heretic, while Galileo was forced to formally recant his heliocentric views. We will study the principal writings of both thinkers, focusing on both the literary qualities and the historical context of their works. We will also examine the cosmological visions of earlier writers, including Dante. Additional section will be offered for Italian majors (and others with a strong command of the language) in which we will read and discuss texts in Italian.

Instructor(s): J. Coleman.

**AS.214.373. Perspectives on Islam in the Age of Dante. 3 Credits.**

This course examines portrayals of Islam in European literary works of the late 13th and early 14th centuries. Authors include Ibn ‘Arabi, Marco Polo, Boccaccio, and Dante. Course taught in English with Italian section for majors/minors.

Instructor(s): B. Neyarapally
Area: Humanities.

**AS.214.437. The Intellectual World of the Italian Renaissance. 3 Credits.**

This course is intended to familiarize students with the intellectual world of Renaissance Italy, or more specifically, the “lost” Italian Renaissance of the long fifteenth century, from the time when Petrarch (1304-74) was in full maturity to the 1520s. During this period, most Italian intellectuals wrote the majority of their work in Latin – not the Medieval Latin of the Church and the universities but in what they saw as a more authentic Latin, like that used in ancient Rome, in the time of Cicero, Virgil, Quintilian, and others. These Renaissance “humanists,” inspired by the example of Roman, and eventually Greek, antiquity, believed that they were carrying out a cultural revival. Who were these humanists? Why then did they choose Latin (and a reformed Latin at that) instead of their “native” tongue as the language in which to effect this renewal? What did this choice afford them in terms of literature and philosophy? Why was this phase of literary and philosophical history undervalued in the evolution of modern scholarship? By the end of this course, you should be able to formulate answers to those questions. Some of the works of these authors still await editions, lying in manuscript libraries or difficult-to-access early printed editions. Many have now had their Latin texts edited, and a number have recently been translated into English. Students therefore have the chance to explore work in a field that is new and growing. A separate Renaissance Latin reading group will accompany the course for those who have studied Latin.

Instructor(s): C. Celenza
Area: Humanities
Writing Intensive.
AS.214.637. The Intellectual World of the Italian Renaissance. 3 Credits.
This course is intended to familiarize students with the intellectual world of Renaissance Italy, or more specifically, the "lost" Italian Renaissance of the long fifteenth century, from the time when Petrarch (1304-74) was in full maturity to the 1520s. During this period, most Italian intellectuals wrote the majority of their work in Latin – not the Medieval Latin of the Church and the universities but in what they saw as a more authentic Latin, like that used in ancient Rome, in the time of Cicero, Virgil, Quintilian, and others. These Renaissance “humanists,” inspired by the example of Roman, and eventually Greek, antiquity, believed that they were carrying out a cultural revival. Who were these humanists? Why then did they choose Latin (and a reformed Latin at that) instead of their “native” tongue as the language in which to effect this renewal? What did this choice afford them in terms of literature and philosophy? Why was this phase of literary and philosophical history undervalued in the evolution of modern scholarship? By the end of this course, you should be able to formulate answers to these questions. Some of the works of these authors still await editions, lying in manuscript libraries or difficult-to-access early printed editions. Many have now had their Latin texts edited, and a number have recently been translated into English. Students therefore have the chance to explore work in a field that is new and growing. A separate Renaissance Latin reading group will accompany the course for those who have studied Latin.
Instructor(s): C. Celenza
Area: Humanities
Writing Intensive.
AS.214.761. Reading & Writing in Pre-Modern Europe. 3 Credits.
This course has a fourfold aim: First, it is designed to familiarize participants with the basics of Latin paleography from Roman antiquity through the age of printing with moveable type; throughout, we will practice deciphering literary and documentary sources of various types, even as we concentrate on the evolution of different writing styles. Second, we will think about paleography’s status as a “discipline.” That is, the term “paleography” dates back to 1708 and Montfaucon’s classic work, Palaeographia Graeca. However, it was only in the late nineteenth century in the world of the German research university that paleography came into the orbit of the Geisteswissenschaften as a “Hilfswissenschaft.” Both implicitly and explicitly throughout the seminar we shall be asking what consequences that move entailed. Third, we will study the manner in which printing with moveable type changed western graphic culture: was printing “revolutionary” or “evolutionary”? Did printing and its radical graphic changes introduce new forms of consciousness in readers? Fourth, we will become familiar with certain aspects of “the history of the book,” discovering as we do what sorts of questions scholars in this broad field of scholarly endeavor have been asking recently.
AS.215.350. Mexico: An interdisciplinary approach to the construction of our image and understanding of Mexico. 3 Credits.
The course studies the accounts of the Mexica on the journey and foundation of Tenochtitlan. Later we move on to the clash of cultures with the Spanish conquest (1521). After studying the art of the colonial period, the course focuses of the Mexican Revolution of 1910 and ends with a consideration of the image of the nation in murals and writers such as Octavio Paz, Carlos Fuentes and Elena Garro. Taught in English.
Instructor(s): S. Castro-Klaren
Area: Humanities
Writing Intensive.
AS.215.441. Borges, Cortazar, Bioy Casas and Their Time. 3 Credits.
The course introduces students to the study of Argentine literary culture in the first three quarters of the twentieth century. Its objective is to instruct the students in methods of close reading and develop perspectives in critical thinking. Cross-listed with History, Humanities Center and Program in Latin American Studies.
Area: Humanities.
AS.215.640. Self-Representation in Latin American Fiction, Testimonio & Memoir. 3 Credits.
Taking into account the crisis in self (national) representation and the fluidity of identities, the course will delve into the work of major Latin American writers in order to study issues of self-representation across time and specific contexts. The course will begin with the work of Sarmiento and move on to Gilberto Freire, Rachel de Queiroz and Clarice Lispector. In a second stage the course will delve into Garcia Marquez’ autobiography and Maria Vargas Llosa’s “La tia Julia y el escribidor”, to end with Ernesto Cardenal’s autobiography.
Instructor(s): S. Castro-Klaren.
AS.215.646. The Narrative of Conquest in the Andes, 1530 - 1680. 3 Credits.
Departing form narratology and the perspective of post-colonial studies, the course will analyze the narrative of conquest as developed by Cieza de Leon, Garcilaso de la Vega, Inca, Guaman Poma, Jose de Acosta and William Prescott.
Instructor(s): S. Castro-Klaren.
AS.215.650. Mexico and the Invention of America. 3 Credits.
Departing from O’Gorman, the course will entail a reconsideration of the discursive invention of Mexico-America. Anonymous, Sahagun, Clavijero, Humboldt, Dussel and Alzandua will conform part of the readings. Taught in English.
Instructor(s): S. Castro-Klaren
Area: Humanities
Writing Intensive.
Sociology
AS.230.166. Chinese Migration in Modern World History 1500’s-2000’s. 3 Credits.
This interdisciplinary course applies theories of economic sociology to examine the effects of Chinese overseas migration on modern world economy from the sixteenth century to the contemporary era. It examines the contribution of overseas Chinese to the development of capitalism in the following junctures: the East-West economic integration in the pre-modern era, China’s modern transformation after the Opium War (1839-1842), the making of US national economy in the early twentieth century, as well as the postwar economic miracles in the Pacific Rim, among others. Special Note: Fulfills History requirement for GSCD track students.
Instructor(s): H. Kuo
Area: Social and Behavioral Sciences.
AS.230.377. Colonialism and Anti-Colonialism. 3 Credits.
This seminar examines the theories and historiography of colonialism and anti-colonial movements. It focuses on the establishment of the colonial division of labor, comparative colonialism, identity formation, and nationalism as well as anti-colonial movement.
Instructor(s): H. Kuo
Area: Social and Behavioral Sciences.
Humanities Center

AS.300.301. Life, Vitality, Thought. Philosophy and the Natural Sciences in Nineteenth Century Europe. 3 Credits.
Last year neuroscientists at MIT shined an optogenetic light on brain cells in order to artificially stimulate memories. If every detail of our past has a particular location in the brain, then we could alter, and even destroy, memories. Does this mean that humans are like machines whose history can be erased as easily as we delete files on a computer? Or are memories, like consciousness, not so easily reducible to brain structures? This class will examine how these and other questions shaped the history of modern biology and experimental psychology beginning in the nineteenth century. We will read the works of prominent biologists, psychologists, and philosophers who were all involved in a rich debate over the nature of life and thought.
Instructor(s): L. McGrath
Area: Humanities
Writing Intensive.

AS.300.330. Trauma in Theory, Film, and Fiction. 3 Credits.
An examination of the representation of trauma in literary theory, psychiatry, survivor literature, films, novels, and comics. Works by Sebald ("The Emigrants"), Lanzmann ("Shoah"), Spiegelman ("In the Shadow of No Towers"), McCarthy ("Remainder"), and others.
Instructor(s): R. Leys
Area: Humanities, Social and Behavioral Sciences.

AS.300.358. Modern Korean Culture and Film. 3 Credits.
This course examines modern Korean culture through film and literature in translation. Emphasis will be on the politics of representation, especially in light of the many collective and personal traumas (caused by poverty and factionalism, colonial rule, war, and an accelerated pace of modernization) that mark twentieth century Korean history.
Instructor(s): S. Rhee
Area: Humanities

AS.300.364. What is Intellectual History?. 3 Credits.
Intellectual History today is a field with no hard and fast identity. This can be a problem but it can also offer unexpected opportunities. In this seminar we will read various books and essays that exemplify this state of affairs and perhaps point to ways beyond it. Texts include works by Foucault, Hayden White, Derrida, and others.
Instructor(s): R. Leys
Area: Humanities

AS.300.365. Desire in the Fin de siècle. 3 Credits.
This course examines the obsession with desire at the turn of the 20th century in literature, drama, philosophy and social thought and its implications for notions of self and community in modernity. Primary focus will be Silver Age Russia with key texts drawn also from the European context. Readings in translation.
Area: Humanities
Writing Intensive.

AS.300.381. The Moses Complex. 3 Credits.
Instructor(s): R. Leys
Area: Humanities.

East Asian Studies

AS.300.303. Modern Japan - 1800 to the Present. 3 Credits.
An introduction to the history of Japan from the 18th century to the present. In lectures and discussion we will draw upon a combination of primary source materials (political documents, memoirs, oral histories, journalism, fiction, film) and scholarly writings in order to gain insight into the complex and tumultuous process by which Japan became an industrialized society, a modern nation-state, and a world power.
Instructor(s): A. Bronson
Area: Humanities, Social and Behavioral Sciences.

AS.310.203. Modern Japan - 1800 to the Present. 3 Credits.
This course introduces students to medical history in China in relation to gender history, legal history, publishing history, and literature from the Song to the Republican period.
Instructor(s): Y. Zhang
Area: Humanities.

AS.310.205. Medicine and Society in China: From the Song to the Republican Period. 3 Credits.
This course will introduce Chinese fiction and drama from the Tang dynasty (618-906) to the early Republican period (1911-1949), such as the romantic dramas of Tang Xianzu and the uncanny tales of Pu Songling. Students will draw connection between these vibrant literary genres and the cultural and socio-historical events that shaped imperial China. Key topics include story-telling, romance, urban culture, gender, reincarnation, and many more. Students will acquire skills in how to read, analyze and discuss the rich legacy of Chinese fiction and drama in translation and to think critically about these writings. Reading materials are all in English.
Instructor(s): F. Joo
Area: Humanities.

AS.310.215. Enlightenment, Empire, and Democracy: Transnational Political Cultures in East Asia, 1880-1980. 3 Credits.
This course explores the global circulation of political ideas and the formation of transnational social, intellectual, and aesthetic movements in Japan, China, and Korea from the 1880s to the 1980s.
Instructor(s): A. Bronson
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.310.221. Introduction to Eastern Religious Traditions. 3 Credits.
This course serves as an introduction to Hinduism, Jainism, Buddhism, Sikhism, Confucianism, and Daoism. Successful completion of this course will provide students with a critical understanding of these six traditions.
Instructor(s): J. Valentine
Area: Humanities, Social and Behavioral Sciences.
AS.310.356. The Buddhist Experience. 3 Credits.
This course is a survey of Buddhist practice across Asia, covering a span of nearly 2500 years (from ca 500 BCE until the present). In addition to studying the origins of Buddhism in India and its eventual spread across Asia, we will examine unique local interpretations of Buddhism. Particular focus will be on manifestations of Buddhism in art and material culture. Students will gain a critical understanding of the role of texts, art, doctrine, and practice play in the overall Buddhist experience. This course is a survey of Buddhist practice across Asia, covering a span of nearly 2500 years (from ca 500 BCE until the present). In addition to studying the origins of Buddhism in India and its eventual spread across Asia, we will examine unique local interpretations of Buddhism. Particular focus will be on manifestations of Buddhism in art and material culture. Students will gain a critical understanding of the role of texts, art, doctrine, and practice play in the overall Buddhist experience.
Instructor(s): J. Valentine
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.310.403. Women Writers from East Asia, 11th to 19th Centuries. 3 Credits.
Introduction to women-authored texts in East Asia, 11th to 19th centuries. Historical and literary significance of their output in Chinese, Japanese, and Korean societies.

Interdepartmental

AS.360.147. Adam Smith and Karl Marx. 3 Credits.
Freshmen Seminar. This freshmen seminar examines the ideas of Smith, the greatest proponent of the free market, and Marx, his most radical critic. Freshmen only.
Instructor(s): E. Schoenberger; P. Jelavich
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

Program in Latin American Studies

AS.361.130. Introduction to Latin American Studies. 3 Credits.
Within a chronological frame that starts with early American-Indian civilizations and moves on to issues in contemporary culture and politics, the course introduces students to an interdisciplinary understanding of Latin American History and Culture. The course draws from historical geography, anthropology, history, politics, art, film, and literature.
Instructor(s): S. Castro-Klaren
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.361.340. Argentina: From Independence to the Present-Day. 3 Credits.
Argentina has long puzzled historians and social scientists. The country reached relatively high levels of development and possesses a large educated middle class, but has consistently “underperformed”. By focusing on the country’s politics from Independence to the present day, this course attempts to unravel Argentina’s many paradoxes.
Area: Humanities, Social and Behavioral Sciences.

AS.361.341. Peronismo and the Iconic Presence of Evita: Challenges of Representation. 3 Credits.
This course is designed to introduce students to the literary and artistic production originated by Peronismo and particularly by Evita. It explores the historical period that consolidated Peronismo and devotes great amount of time to the controversial figure of Evita. She has fed the popular imagination; her representations have reached far beyond the limits of Argentina. The materials will include different genres: biographical, historical, fictional, and documentary.

AS.361.352. Brazilian Literature in Translation (English). 3 Credits.
Course focuses on traditional and contemporary Brazilian fiction, in English, complemented by movies and PPoint. Some of the authors examined are: Machado de Assis, Lispector, G. Rosa, Telles, Sciliar, Hatoum.
Area: Humanities, Social and Behavioral Sciences.

Center for Africana Studies

AS.362.104. Introduction to the African Diaspora. 3 Credits.
This course will begin in Africa before Atlantic slave trade, move to cover that trade into Brazil, the Caribbean and South Carolina. Comparisons of slave systems with Africa, Brazil, some parts of the Caribbean and Carolina (later South Carolina).
Instructor(s): P. Romero
Area: Humanities
Writing Intensive.

AS.362.105. Reading Seminar: Black Society in the Americas. 3 Credits.
Jointly offered with Moira Hinderer, based on themes developed from the archives of the Afro-American Newspaper and selected readings of African American Societies from across the hemisphere of the Americas.
Instructor(s): F. Hayes; M. Hinderer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.175. Freshman Seminar: Remembering the Black Power Movement. 3 Credits.
This course critically examines trends, developments, contradictions, and dilemmas related to the Black Power Movement for black identity and self-determination in the late 1960s and 1970s.
Instructor(s): F. Hayes
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.204. Women in African History. 3 Credits.
Selected readings written by or about notable African women from the 17th century to the present. Themes explored include slavery, power and religion, economics, health and politics.
Instructor(s): P. Romero
Area: Humanities
Writing Intensive.
AS.362.206. Research Seminar: Baltimore History from the AFRO Newspaper Archives-Community Based Learning. 3 Credits.

This small, project-oriented class will introduce you to methods in historical research while exploring major topics in twentieth century Baltimore history. We will use the rich reporting of Baltimore’s Afro-American Newspapers, to explore Baltimore’s place in the larger history of Black urban experience. Students will analyze images and exhibits related to African-American history, as well as research and curate small online exhibits of primary source materials including photographs, newspaper clippings, correspondence, pamphlets, flyers, and maps. We will be among the first scholars to work in the Afro’s rich archival collections, which include over a million images.

Instructor(s): M. Hinderer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.220. Discourses in the African Diaspora. 3 Credits.

The African Diaspora has emerged as one of the “hot” topics of discussion in contemporary global race relations. The purpose of this course is to engage in a semester-long study into the meaning of the “African Diaspora.” Beginning with a brief reflection on some of the theoretical overlays on the topic, the course moves quickly into the heart of the subject matter. The course posts that beyond theoretical discussions, there is much to be learned from a close examination of the narrative accounts of individuals who have lived transnationally - who have themselves been actors and agents of the Diaspora.

Instructor(s): B. Vinson
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.303. Global Africa. 3 Credits.

This course will examine the literature surrounding cross-cultural exchange, through an interrogation of key concepts in African and transnational studies namely “diaspora” “globalization,” and “transnationalism.”

Instructor(s): J. Ahlman
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.306. Seeing Baltimore History: Race & Community. 3 Credits.

This course will explore major topics in 20th century Baltimore history, using local newspapers and the archival collections of the Baltimore Afro American Newspaper.

Instructor(s): M. Hinderer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.313. The Construction of the African Diaspora in the Americas. 3 Credits.

An examination of the various ways in which an African Diaspora developed across the Americas between 1492 and the present. Attention will be paid to the period of the Transatlantic slave trade but the greater emphasis will be on the complex societies that emerged by the early twentieth century and the responses of people of African descent to these societies. Readings will range across history, demography, economics, politics and culture in order to define a Diaspora and examine the factors that encourage or inhibit its formation. Cross listed with Africana Studies.

Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.340. Power and Racism. 3 Credits.

This course investigates the impact of white supremacy and anti-black racism, as a global system of power, on the political development of the United States of America.

Instructor(s): F. Hayes
Area: Social and Behavioral Sciences
Writing Intensive.

AS.362.362. Before the Wire: Black Baltimore History in the 20th Century. 3 Credits.

This course focuses on the history of urban Black communities in the twentieth century, with emphasis on Baltimore City. We will pay particular attention to the idea of “the ghetto,” examining both the origins of this idea and its effect on the political, economic, social, and cultural development of urban communities. In this class each student will create an original research project focused on some aspect of African American life in twentieth century Baltimore.

Area: Humanities, Social and Behavioral Sciences.

AS.362.401. Comparative Slavery in the Americas. 3 Credits.

This course examines the development of slavery and racial thought in Latin America and the Atlantic World from the fifteenth century until its demise in the middle and late nineteenth century. Readings in social and cultural history are intended to focus on the life and labor of slaves, while readings from economic and legal history evaluate slavery as an institution. Intellectual histories are also assigned in an attempt to map the development of slavery as an institution typified by racial caste.

The primary goal of this course is to give students a background in the major historical debates that have shaped the production of the history of slavery, including questions of identity (creolization vs. "African survivals"), slave agency and control, and economic vs. racial causes of slavery and the slave trade. All of these topics will be examined through the overarching theme of the course, which is the Tannenbaum thesis: namely, to what extent slavery was experienced differently in Latin America, Anglo-America, and in Africa itself.

Instructor(s): J. Clark
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

Study of Women, Gender, Sexuality

AS.363.201. Introduction to the Study of Women, Gender, and Sexuality. 3 Credits.

This course offers an introduction into the fields of Women’s Studies, Gender Studies, and Sexuality Studies. It explores why we need these fields of inquiry, how they have emerged historically, what some of the major and most interesting contributions are and where we might go from here. The course is meant as a preparation for the other WGS core courses.

Instructor(s): T. Shepard
Area: Humanities, Social and Behavioral Sciences.

Program in Museums and Society

AS.389.201. Introduction to the Museum: Past and Present. 3 Credits.

This course surveys museums, from their origins to their most contemporary forms, in the context of broader historical, intellectual, and cultural trends. Anthropology, art, history, and science museums are considered. Cross-listed with Anthropology, History, and History of Art.

Instructor(s): E. Rodini
Area: Humanities, Social and Behavioral Sciences.
**AS.389.261. Curating Homewood. 3 Credits.**
Students explore early American life related to the region and the Carroll family of Homewood. Primary research and object study culminate in student-curated thematic exhibition. Optional intersession practicum experience is also possible. For more on exhibit theme, contact instructor. M&S practicum course.
Instructor(s): C. Arthur
Area: Humanities.

**AS.389.275. Interpreting Collections: An Introduction to Museum Education-Community Based Learning. 3 Credits.**
Part public history, part introduction to museum practices, this hands-on course invites students into a local collection to develop interpretive materials for diverse audiences. Students consider the issues and ideas that inform object-based learning and learn about the history, theory, and practice of museum education. Course culminates in the creation of an interpretive text for the Baltimore Museum of Industry. M&S practicum course.
Instructor(s): E. Maloney
Area: Humanities, Social and Behavioral Sciences.

**AS.389.301. Twenty-First Century Approaches to Material Culture. 4 Credits.**
JHU pioneered the concept of the modern research university in the United States, but what does that mean for the everyday experiences of its students, faculty, staff and friends? Excavate the history of this place through the things collected, made and used here since the university’s founding in 1876. Students research the material culture of Hopkins and present their findings on an interactive website: collectionsweb.jhu.edu. Course includes digital media labs. Cross-listed with History and History of Science. M&S practicum.
Instructor(s): J. Kingsley
Area: Humanities, Social and Behavioral Sciences.

**AS.389.340. Critical Issues in Art Conservation. 3 Credits.**
The course examines recent controversies in the conservation of major global art works and sites, raising questions concerning the basic theoretical assumptions, practical methods and ethical implications of art conservation. Cross-listed with History of Art and Anthropology
Instructor(s): S. Balachandran
Area: Humanities.

**AS.389.356. Halls of Wonder: Art, Science, and Literature in the Age of the Marvelous, 1500-1800. 3 Credits.**
Explore the material culture of "wonder" from the Renaissance to the Enlightenment in literature, science, and art, with Hopkins' rare book collections and the Walters Art Museum. M&S practicum course.
Instructor(s): E. Havens
Area: Humanities.

**AS.389.357. Heaven on Earth: Art, Culture and Wonder in the Vatican Museum and Library. 3 Credits.**
This interdisciplinary course will explore the institutional, cultural, artistic and architectural history of St. Peter’s and the Vatican Museum and Library from Antiquity through the Renaissance, up to the present day. Class meets in the Dick Macksey Seminar Room of the Brody Learning Commons. Cross-listed with History.
Instructor(s): E. Havens
Area: Humanities.

**AS.389.381. Introduction to Material Culture: Early Views of Baltimore. 3 Credits.**
Students explore early American life relating to the region and Homewood House. Primary research, object study culminate in exhibit focused on trades and crafts, training and work practices. M&S practicum course. Meets at Homewood Museum. Cross-listed with History.
Instructor(s): C. Arthur
Area: Humanities.

**AS.389.450. Readings in Material Culture. 3 Credits.**
Investigate the history of the collection, interpretation and display of medieval art by nations, museums and private collectors. Topics range from antiquarian interest to conception of medieval sculpture as "primitive", from the use of medieval objects in nationalistic displays and from early American museums such as the Cloisters in NY to current exhibits such as the Walters. Cross-listed with History and History of Art.
Instructor(s): J. Kingsley
Area: Humanities.

**AS.389.460. Inventing the Middle Ages from the Renaissance to Today. 3 Credits.**
Objects, things, "stuff" - this seminar will pursue classic texts and emerging methodologies to explore the myriad ways materials and materiality have been theorized across disciplines. For graduate/advanced undergraduate students.
Instructor(s): E. Rodini; R. Brown
Area: Humanities.

**AS.389.650. Readings in Material Culture.**
Investigate the history of the collection, interpretation and display of medieval art by nations, museums and private collectors. Topics range from antiquarian interest to conception of medieval sculpture as "primitive", from the use of medieval objects in nationalistic displays and from early American museums such as the Cloisters in NY to current exhibits such as the Walters. Cross-listed with History and History of Art.
Instructor(s): J. Kingsley
Area: Humanities.

**EN.570.405. History of Environmental Thought. 3 Credits.**
Geography Environmental Engineering
Area: Humanities, Social and Behavioral Sciences.

**History of Art**

Supporting a proud tradition of excellence in humanities scholarship and teaching, Johns Hopkins University offers students a diverse range of resources and opportunities for the study of art history. Courses are taught by an international faculty of respected research scholars, covering many aspects of the Classical and European tradition from the ancient world into the modern era, as well as selected aspects of Near Eastern, Asian, Ancient American, trans-Atlantic and contemporary arts. Participating in small classes with opportunities for informal excursions, students integrate their direct experience of works of art with the knowledge and critical perspective gained through historical research, discussion, and debate.

Programs leading to the B.A. and Ph.D. degrees emphasize the value of investigating works of art in their historical, intellectual, and social contexts, and enable students to deepen their understanding of cultural history through courses in other departments.

**Facilities and Opportunities**

Located in a metropolitan region of unsurpassed museum collections and research institutions, Johns Hopkins is well situated for the study
of art history. The Baltimore Museum of Art, with its rich holdings in modern and contemporary art, African Art, and the history of prints (just to name a few of its strengths), is directly adjacent to the Homewood campus. Downtown, and only a short shuttle ride away, is the renowned Walters Art Museum, which preserves rare collections of ancient and medieval art, Renaissance, Baroque, and 19th-century painting.

Also easily accessible from Baltimore is the National Gallery of Art in Washington, D.C., which houses a world-class collection of European painting, sculpture, and graphic arts from the Renaissance to the present day. Modern art is presented in the permanent collections and exhibitions of the Hirshhorn Museum, the National Museum of American Art, and the Phillips Collection. Unique exhibitions of Byzantine and pre-Columbian art are maintained at Dumbarton Oaks Research Library, and collections of Asian and African art are housed in the Freer Museum and the Museum of African Art.

Meanwhile, the Sheridan Libraries of Johns Hopkins maintains its own extensive art library on the Homewood Campus, and a Special Collections department which includes, among other treasures, the Fowler Collection of treatises on architecture. Research materials in numerous regional libraries and museums, and in affiliated institutions, including the Library of Congress, are readily accessible to art history students.

(Also see Requirements for a Bachelor’s Degree (p. 24))

Because the department emphasizes the historical, cultural, and social context of art, art history is an excellent program for undergraduates interested in a broadly humanistic education as well as for those preparing for a career in the field. A departmental faculty advisor assigned to each undergraduate major helps plan individual courses of study. Undergraduates are encouraged to participate fully in all departmental activities.

Requirements for the History of Art Major

- Students must earn a “C-” or higher grade in all courses used to satisfy major requirements.
- Courses used to satisfy major requirements may not be taken satisfactory/unsatisfactory.
- Departmental honors are awarded at commencement to undergraduate majors in the history of art who achieve a GPA of 3.6 or better within the major.

**Introductory Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AS.010.101</td>
<td>Introduction to History of European Art I</td>
<td>4</td>
</tr>
<tr>
<td>AS.010.102</td>
<td>Introduction to History of European Art II</td>
<td>4</td>
</tr>
</tbody>
</table>

**Seven Advanced Level Courses (010.2xx-4xx)**

- One course in ancient art history
- One course in medieval art history
- One course in renaissance/baroque art history
- One course in modern art history
- Three additional art history courses

**Secondary Field**

- Three courses in related area in the humanities outside of art history.

**Intermediate Language Requirement in French, German, or Italian**

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<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Demonstrated proficiency through the intermediate level</td>
<td>0-14</td>
</tr>
<tr>
<td>Total Credits</td>
<td>38-52</td>
</tr>
</tbody>
</table>

1. No more than two 010.2xx courses may be applied. Courses in the Program in Museums & Society (AS.389.xxx) require permission from the History of Art Department’s Director of Undergraduate Studies in order to count towards any of these requirements.

2. Any language requirement waived by exam must be documented on the transcript by the end of sophomore year. Proficiency is verified by completion of courses through the second semester of the intermediate level or higher, or upon special request, completion of a departmental exam. Spanish may also be used to satisfy this requirement but only with departmental permission. The Spanish option is not recommended for those hoping to pursue graduate study in History of Art.

Requirements for the History of Art Minor

- Students must earn a “C-” or higher grade in all courses used to satisfy minor requirements.
- Courses used to satisfy minor requirements may not be taken satisfactory/unsatisfactory.

**Introductory Courses**

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<tr>
<th>Course Code</th>
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</thead>
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</tr>
<tr>
<td>AS.010.102</td>
<td>Introduction to History of European Art II</td>
<td>4</td>
</tr>
</tbody>
</table>

**Six Advanced Level Courses (010.2xx-4xx)**

- One course in ancient art history
- One course in medieval art history
- One course in renaissance/baroque art history
- One course in modern art history
- Two additional art history courses

**Total Credits**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Total Credits</td>
<td>26</td>
</tr>
</tbody>
</table>

1. No more than two courses in any one subfield or period, including any courses offered in non-European cultures (Asia, Africa, Ancient Americas, etc.) may be counted overall.

The graduate program is designed to give students working toward the Ph.D. degree an encompassing knowledge of the history of art and a deep understanding of the theories and methodologies pertaining to art historical research. The program emphasizes collaborative working relationships among students and faculty in seminars. Each advanced doctoral candidate benefits from supervision by two faculty members in his or her field.

The program also fosters a close familiarity with the outstanding art treasures in the Baltimore-Washington area relevant to the student’s area of study. In addition to the rich holdings of the Sheridan Libraries of Johns Hopkins University (which include collections of rare books at Garrett Library, Special Collections at Eisenhower Library, and the George Peabody Library downtown) graduate students have access to such research facilities as the Center for Advanced Study in the Visual Arts (National Gallery) and the Dumbarton Oaks Research Library and Collection, both in Washington, D.C.
Admission and Financial Aid

Applicants to the Ph.D. program in History of Art should upload and submit all required application materials and supporting documents through the online application. For information about applying to the Ph.D. program in History of Art, please see the department’s website (http://arthist.jhu.edu/graduate). Applications must be completed by January 16.

To foster close student-faculty relationships and provide for the greatest flexibility in developing each graduate student’s individual curriculum, the department strictly limits the number of students it admits each year.

Financial support for admitted students is provided in the form of tuition grants, a multi-year fellowship stipend (contingent on continued progress), and health insurance coverage, with further opportunities for advanced research and travel funding available. Students in the program may also apply for grants from the Charles Singleton Center for the Study of Pre-Modern Europe, which supports travel, conference participation, and dissertation research in Europe.

Requirements for the Ph.D. Degree

Students may apply for admission to the Ph.D. program with either a B.A. or M.A. degree from another institution in hand. Acceptance requires the approval of the instructors in the areas chosen by the student as major and minor fields; in the case of transfer students, acceptance may be provisional. Unless they can present acceptable language certificates, all students entering the Ph.D. program will be required to pass reading competency examinations in both German and French before the conclusion of the second year of coursework. Italian or Spanish may be substituted for French when a student’s area of study suggests it; a petition must be submitted and approved by the faculty.

Students entering the program with an M.A. degree must complete four full semesters of coursework before being approved to take their qualifying exams; students entering with a B.A. degree may, at the discretion of the faculty, require up to five terms before moving on to exams. The art history faculty encourages students to take full advantage of offerings in other departments, and students may, if they choose, develop a minor field in another discipline. In consultation with their advisers, students who have completed their coursework prepare for the qualifying exams, which is comprised overall of two written exams (one major field and one minor field), followed by an oral defense.

Upon successful completion of course work and qualifying exams, students must submit a dissertation proposal. Once approved by the department, the student is admitted to candidacy and commences work on the dissertation. When a student has completed the dissertation, he or she is examined by a Graduate Board committee assembled by the department chair in consultation with the principal faculty advisor. Successful defense of the dissertation and electronic submission of work, complete in all its components, marks the fulfillment of the program’s degree requirements.

In addition to their own studies and research, every student in the Ph.D. program gains valuable pedagogical experience by serving as a teaching assistant, under different faculty mentors, for at least six terms (over the course of a five-year fellowship), and as a faculty research assistant for at least one term.

Requirements for the in-process M.A. Degree

Students entering the Ph.D. program with a Bachelor’s degree may qualify for the M.A. degree upon completion of two semesters of coursework (six graduate-level courses) and completion of the department’s language requirements, but the department does not accept students for the terminal M.A. degree as such.

Art History Fields

Ancient Art

Long associated with the study of classical archaeology, the department affords students of ancient art the opportunity work with a faculty that includes experts in Roman Art and Architecture and Ancient Near Eastern Art. Students also benefit from the close and long-standing relationship with the Department of Classics. Facilities of special relevance to students of Greek and Roman art include the Johns Hopkins Archaeological Museum, located on campus inside Gilman Hall, and the extraordinary holdings of the Walters Art Museum.

Medieval

Ever since its founding in 1947, the department has given special emphasis to the study of medieval art, and that tradition continues with a new generation of medievalists bringing expertise in Early Christian, Islamic, Byzantine, Mediterranean, and Italian Romanesque art and architecture to the program. Students avail themselves of local expertise through the departments of History, English, and German and Romance Languages and Literatures, and frequently consult with curators at the Walters Art Museum, several of whom participate as adjunct faculty. Hopkins students may take the seminars in Byzantine art offered each year at Dumbarton Oaks, and take advantage of the extensive research library there as well. The extraordinary collections at the Walters Art Museum and at Dumbarton Oaks are especially valuable for students interested in manuscript illumination and the minor arts.

Renaissance / Early Modern

Another signature strength of the History of Art Department is its program in Renaissance and Early Modern Europe, where a broad faculty expertise encompasses the art and culture of Italy, Spain, and the countries of northern Europe from the fourteenth to the seventeenth centuries. Graduate students in these areas participate in the programs of the Charles Singleton Center for the Study of Pre-Modern Europe, which sponsors collaborative research abroad and brings a steady stream of world-class lecturers to Baltimore. Students also benefit from the excellent collections of Italian and northern Renaissance art at the Walters Art Museum, the National Gallery, and the Philadelphia Museum of Art.

Modern

At Hopkins a diverse and challenging curriculum in modern art and criticism is offered by a research faculty of international prominence, supplemented by occasional visiting scholars and museum curators. European art from the 18th to the 21st century, American modernism, and modern art in Asia are all among the department’s distinctive strengths. Students oriented toward the study of criticism and aesthetic theory can also broaden their perspective and develop their critical skills by taking courses offered through the Humanities Center and the Department of Philosophy. Distinctive collections at the Baltimore
Museum of Art and at multiple places in Washington, D.C. (the Hirshhorn Museum, the National Museum of American Art, the Freer/Sackler of the Smithsonian, the Phillips Collection, and others) provide unparalleled resources for students of modern art at all levels.

For current faculty and contact information go to http://arthist.jhu.edu/directory/index.html

**Faculty**

**Chair**
Mitchell Merback
Professor: Northern Renaissance art.

**Professors**
Stephen J. Campbell
Henry and Elizabeth Wiesenfeld Professor: Italian Renaissance art.

Marian Feldman
Professor of History of Art and Near Eastern Studies: Ancient Near Eastern art.

Michael Fried
Herbert Boone Chair in the Humanities (The Humanities Center): Modern art.

Felipe Pereda
Nancy H. and Robert E. Hall Professor: Late Medieval and Early Modern Spanish art.

**Associate Professor**
Rebecca M. Brown
Associate Professor: South Asian art

**Assistant Professors**
Christopher Lakey
Assistant Professor: Medieval art.

Pier Luigi Tucci
Assistant Professor: Roman art and architecture.

Molly Warnock
Assistant Professor: Modern art.

Nino Zchomelidse
Assistant Professor: Medieval art.

**Faculty Emeriti**
Charles Dempsey
Professor Emeritus: Renaissance and Baroque art.

Herbert L. Kessler
Professor Emeritus: Early Christian and Medieval art.

Henry Maguire
Professor Emeritus: Byzantine and Medieval art.

**Teaching Faculty**
Elizabeth Rodini
Teaching Professor: Italian Renaissance art; and Director of the Program in Museums and Society.

**Joint Appointments**
Emily S.K. Anderson
Senior Lecturer (Classics): Ancient Aegean art.

Betsy M. Bryan
Professor (Near Eastern Studies): Egyptian art and archaeology, Egyptology.

H. Alan Shapiro
Professor (Classics): Greek and Roman art.

**Adjunct, Associate, and Visiting Faculty**
Martina Bagnoli
Adjunct Associate Professor (and Curator, Walters Art Museum): Medieval art.

Doreen Bolger
Adjunct Professor (and Director of The Baltimore Museum of Art): Modern art.

Lisa DeLeonards
Senior Lecturer and Austen-Stokes Visiting Associate Professor in the Art of the Ancient Americas.

James Meyer
Adjunct Professor: Modern art.

Carl Strehlke
Adjunct Professor (and Adjunct Curator, Philadelphia Museum of Art): Italian Renaissance art.

For current course information and registration go to https://isis.jhu.edu/classes/

**Courses**

**AS.010.101. Introduction to History of European Art I. 4 Credits.**
A survey of painting, sculpture, and architecture from the Renaissance to the present.
Instructor(s): F. Pereda
Area: Humanities
Writing Intensive.

**AS.010.102. Introduction to History of European Art II. 4 Credits.**
A survey of painting, sculpture, and architecture from the Renaissance to the present. Recommended Course Background: AS.010.101 or instructor permission.
Instructor(s): S. Campbell
Area: Humanities
Writing Intensive.

**AS.010.105. Art of the Ancient Americas. 3 Credits.**
Surveys the art of Olmec, West Mexico, Teotihuacan, Maya, and Aztec.
Instructor(s): L. DeLeonards
Area: Humanities.

**AS.010.110. Art of the Islamic World. 3 Credits.**
An Introduction to art of the Islamic world, from the beginnings of Islam in the seventh century to the present, and from the Mediterranean to Southeast Asia. Architecture, ceramics, painting, textiles, metalwork, photography, installation, and performance art.
Instructor(s): R. Brown
Area: Humanities.
AS.010.126. Indian Art in the Museum. 3 Credits.
India’s culture spans four millennia and multiple religious traditions. The Baltimore/DC area hosts wonderful collections of Indian art; this course introduces India’s art in person, in the museum. We will examine sculptures of the Buddha’s life, paintings of gods and kings, and richly embroidered textiles. We will study how these objects are displayed, and trace their paths from India to Maryland. Fieldtrips to the Smithsonian, Textile Museum, and the Walters, with possible behind-the-scenes workshops.
Area: Humanities.

AS.010.138. Introduction to Public Art: Murals, Monuments, and Museums. 3 Credits.
Murals on the side of the local grocery, Washington monuments in both DC and Baltimore, a 16th century manuscript painting at the Walters, film series at the Charles, galleries in North Arts: this course asks how visual culture shapes and is shaped by the urban experience. Critical readings in museum studies, urban studies, art history, cultural politics. Weekly field trips to local sites, museums, monuments; discussions with artists, curators, collectors.
Area: Humanities.

AS.010.147. South Asian Art, Culture and Politics: Empire, Colony, Nation. 3 Credits.
This course explores the visual culture and politics of South Asia from early archaeological settlements to contemporary installation art. Themes will include: the role of the patron, the relation of text and image, architecture and ritual/political space, colonialism, nationalism, modernity, and postcoloniality. Cross-listed with Political Science
Instructor(s): R. Brown
Area: Humanities.

AS.010.162. Junk! New (Old) Materials in Modern Art. 3 Credits.
This course explores the recurring strategy of using junk materials for artistic creation in the 20th century, in both Europe and the United States, and considers the different ways this strategy has been employed by artists and experienced by viewers at different historical moments. Dean’s Teaching Fellowship course.
Instructor(s): J. Watson
Area: Humanities.

AS.010.192. Move over Michelangelo: Renaissance Sculpture in Northern Italy. 3 Credits.
Michelangelo’s heroic figure has dominated our conception of Renaissance sculpture, but outside of Florence & Rome, a princeley aesthetic for small, intimate, tactile works dominated. We will explore the alternate paradigms for the figure and sculpture in the North, centering around Padua, Mantua, and Venice. The course is built around the collection at the Walters Art Museum, from which students will choose an object as the subject of a semester-long research project. We also take advantage of MICA to visit a bronze workshop, and will visit the Antico exhibition in NY at the Frick. Dean’s Teaching Fellowship
Instructor(s): L. Blom
Area: Humanities.

AS.010.196. Destroying Art: Iconoclasm through History. 3 Credits.
This course explores the deliberate destruction of art by political regimes, religious groups, and individuals, primarily in Europe and the Middle East, from antiquity to the present. Dean’s Teaching Fellowship
Instructor(s): B. Shilling
Area: Humanities.

AS.010.201. Attack the Canvas! Violence & Aggression in Painting, 1947-1977. 3 Credits.
Through the examination of painterly practice in Japan, Italy, France, Germany, and the United States, this class will explore the radically new approaches to artistic production that occurred between 1947 and 1977.
Instructor(s): K. Johnson
Area: Humanities.

AS.010.203. Abstraction. 3 Credits.
Introduction to major works and discourses of, and key debates surrounding, abstraction in the visual arts of Europe and the United States throughout the twentieth century. Visits to the BMA.
Instructor(s): M. Warnock
Area: Humanities.

AS.010.207. Masterpieces of Medieval Islamic Art. 3 Credits.
This course will explore Islamic artwork throughout the medieval world, from Damascus to Jerusalem, from Cordoba to Marrakesh. We will explore exquisite ivory carvings, bronze metalwork, textiles, ceramics and manuscripts that reflect the elite cultures and societies that produced them. Themes we will address include the exchange of luxury goods and culture; the influence of Islamic styles and modes of production on European art; and Islamic art and the Muslim faith.
Area: Humanities.

AS.010.208. The Disappearing Wall: Roman Frescoes in Context. 3 Credits.
The course introduces ancient Roman wall painting from Pompeii and Rome as images painted on “disappearing walls.” We will analyze these and other murals in historical, archaeological and museum contexts.
Instructor(s): S. O’Connell
Area: Humanities
Writing Intensive.

AS.010.209. Art Since 1945. 3 Credits.
Critical survey of artworks, texts, and debates primarily in Europe and the Americas since World War II. Visits to Special Collections, the BMA, and art on Homewood Campus.
Instructor(s): M. Warnock
Area: Humanities.

This course offers an introduction to one of the major movements in modern painting. We will explore the developments of a new aesthetic and subject matter during a period of vast cultural change in Paris and its environs, from the mid-19th century to the turn of the 20th century. Visits to the Baltimore Museum of Art and the National Gallery of Art will supplement our study of artists including Manet, Monet, Degas, Pissarro, Seurat, and more.
Area: Humanities.

AS.010.211. Monuments of Asia. 3 Credits.
An examination of selected architectural monuments from across Asia, including the Indian subcontinent, Southeast Asia, China, Japan, and Korea. Ancient to contemporary.
Instructor(s): R. Brown
Area: Humanities.
AS.010.212. Mirror Mirror: Reflections in Art from Van Eyck to Velasquez. 3 Credits.
Explores the different ways Early Modern painters incorporated mirrors and reflective surfaces into their works for the sake of illusion and metaphor, deception and desire, reflexivity and truth-telling. By transgressing the boundaries of human vision and experience, embedded mirror images often made claims about the powers of art, and the superiority of painting in particular.
Instructor(s): M. Merback
Area: Humanities.

AS.010.213. Medieval Renaissances. 3 Credits.
A course on the appropriation, citation, and imitation of classical antiquity in the art and architecture of the Middle Ages (ca. 300-1300), emphasizing the active transformation of earlier models rather than passive copying.
Instructor(s): R. Danford
Area: Humanities
Writing Intensive.

AS.010.216. 20th Century Italian Art. 3 Credits.
This course will be a critical survey of the major artistic movements in Italy during the 20th century, from Futurism to Arte Povera. Often seen as a secondary location of artistic production, the class will situate the artists working in Italy within a broader historical and global context.
Instructor(s): K. Johnson
Area: Humanities

AS.010.219. Constantinople from Founding to Fall: Art of the Byzantine Empire. 3 Credits.
The course examines Byzantine art - from the founding to fall of Constantinople, both in Byzantium and beyond its borders - through its religious, political and aesthetic power.
Instructor(s): M. Raucher
Area: Humanities
Writing Intensive.

AS.010.225. Early Renaissance Art: Giotto to Leonardo. 3 Credits.
The circumstances of artistic production in Florence compared with those operating in Naples, Rome, Milan, and Venice. The city as site of divergent uses of art by different communities and interests, employing images for the expression of identity and status and as a strategic means of producing consensus or exploiting social division. Note - This offering may be counted toward the major requirement for Renaissance courses.
Instructor(s): S. Campbell
Area: Humanities.

AS.010.226. Art, Medicine, and the Body: From Leonardo to Body Worlds. 3 Credits.
This course explores five centuries of fruitful collaboration between physicians and artists -- those who observe the body in order to heal it, and those who do the same in order to picture it. From medieval medical manuscripts, where the body is portrayed as a microcosm of the created world, to the anatomical forays of Renaissance artists such as Leonardo da Vinci and Albrecht Dürer; from gruesome depictions of bodily pain, disease, and corruption in the art of Matthias Grünewald to the eloquent exposure of the body's interior by anatomists such as Andreas Vesalius; from the spectacularization of the body in Enlightenment science to the rubberized cadavers of Gunther von Hagen's Body Worlds project -- these and other topics will bring into focus the complex intersections between the history of medicine and the history of art.
Instructor(s): M. Merback
Area: Humanities.

AS.010.230. Impressionism, Painting of Modern Life. 3 Credits.
This course offers an introduction to one of the major movements in modern painting. We will explore the developments of a new aesthetic and subject matter during a period of vast cultural change in Paris and its environs, from the mid-19th century to the turn of the 20th century. Visits to the Baltimore Museum of Art and the National Gallery of Art will supplement our study of artists including Courbet, Manet, Monet, Degas, Cézanne, Pissarro, Seurat, and more.
Instructor(s): J. Watson
Area: Humanities.

AS.010.232. Art and Architecture of the Medieval Mediterranean World. 3 Credits.
This course serves as an introduction to the art and architecture of the Mediterranean region between the early Christian period and the Second Crusade (c. 250-1150). We will analyze the interactions between Western European, Byzantine, and Islamic cultures through the development of religious art and architecture, asking specifically how these interactions were mediated by culturally distinct representational practices. The course will cover the broad Mediterranean region by focusing on specific sites of interaction around the Sea (i.e. Islamic Spain, Norman Sicily, Byzantine North Africa, Venice and the Adriatic Coast, and Crusader Palestine). Select topics will include: the rise of religious image theory and its effect on the visual cultures of the Mediterranean region; the trans-regional movement of artists, crafted objects, and artistic technologies; the history of urbanism and the production of artistic objects in port cities and centers of trade; and the concept of the Mediterranean as “Premodern Globalism.” Readings will include both primary and secondary sources, and we will investigate a variety of methods and approaches to the interpretation of art objects.
Instructor(s): C. Lakey
Area: Humanities.
AS.010.233. Art and Astrology in the Middle Ages. 3 Credits.
This course explores the relationship between art and astrology from the early Middle Ages to the early Renaissance. We look at a wide range of media—mosaic, painting, metalwork, manuscripts, and sculpture—that speak to the central place of astrology in medieval systems of knowledge, and the practical uses of astrology for medicine and politics. Readings and discussions cover a variety of themes, including the transmission of astrological knowledge, the emergence of large-scale astrological mural programs, the use of precious stones and amulets, and the ways in which artworks probe the tensions between astrology and Christian theology. A recurring topic will be principle of “celestial influence”—the idea that the stars emit rays that affect people and events on earth—and its implications for artistic production and reception, as well as how art objects could even predict, or represent predictions of, future events. Primary sources (in English translation) include Albertus Magnus, Abu Ma'shar, al-Kindi, Roger Bacon, and others. Secondary readings include Aby Warburg, Erwin Panofsky, Fritz Saxl, Michael Camille, Georges Didi-Huberman, and others.
Instructor(s): M. Hauknes
Area: Humanities.

AS.010.236. Palaces, Temples and Tombs in Mesopotamia. 3 Credits.
Mesopotamia, the “land between the rivers,” is considered the cradle of civilization. Its earliest urban centers appeared by 3500 BCE in the region of modern-day Iraq, Iran, and Syria. Along with urbanism came the emergence of temples and palaces as large-scale elite institutions (replete with written records). Their arts manifest some of the earliest complex representations. This course explores the art and architecture within the social, political and cultural context of ancient Sumer, Babylonia and Assyria. It provides an integrated picture of the arts of Mesopotamia from 3500 to 330 BCE with an emphasis on the development of visual narrative and the use of art in the expression of authority and legitimacy.
Instructor(s): M. Feldman
Area: Humanities.

AS.010.240. Introduction to the Arts of the African Diaspora. 3 Credits.
This is an introduction to the Art of the African Diaspora. It is designed to provide foundational knowledge of the major theoretical understandings of Diaspora and the ways in which they help to illuminate the artistic traditions of people of African descent. The course will present a series of case studies in order to begin to understand the art of the Diaspora and the complexities of its study.
Instructor(s): T. Wofford
Area: Humanities.

AS.010.242. African American Art. 3 Credits.
This is an introduction to the history of African American art. While organized chronologically, the course will emphasize a series of case studies of artists and movements in order to understand African American art and the complexities of its study. The course will explore how black artists in the United States have engaged with key issues such as race, gender, class and ethnicity as well as debates about representation and the role of the artist. Cross-list with Africana Studies
Instructor(s): T. Wofford
Area: Humanities.

AS.010.245. Art in London. 3 Credits.
Instructor(s): H. Letwin
Area: Humanities.

AS.010.250. Early Netherlandish Painting-From Broederlam to Bosch. 3 Credits.
Area: Humanities.

AS.010.251. Medieval Spaces: Site, Image, and Viewer in the Middle. 3 Credits.
This lecture course serves as an introduction to medieval art by analyzing the formal relationships between architecture and images at holy sites from, roughly, the 4th century through the 14th. The course will focus primarily on how those relationships structured viewers’ experiences of the divine by understanding how works functioned for specific audiences in a particular spatial context. In reviewing the origins and transformations of Christian visual culture we will investigate how site-specific image production in Western Europe and Byzantium informed social and political relations; how theological problems related to image worship affected the form and content of the visual arts; and how developments in public and private devotion altered the spaces for imagistic display. Along the way we will encounter a wide array of geographical sites and histories, including early Christian examples in Rome and Byzantium (e.g. the Roman catacombs and Hagia Sophia), monastic settlements in France and Germany during the 8th and 9th centuries (e.g., St. Gall), 12th century architectural sculpture along the European pilgrimage routes, French and German Gothic cathedrals, and monumental painting cycles in Italy (e.g. the Arena Chapel in Padua). By undertaking close readings of a site and its images, we will discover how architectonics encouraged viewers to spatially interact with images. Readings will include both primary and secondary sources, and we will investigate a variety of methods and approaches to the interpretation of art objects.
Instructor(s): C. Lakey
Area: Humanities.

AS.010.252. Sculpture and Ideology in the Middle Ages. 3 Credits.
This lecture course will offer a selective, thematic exploration of the art of sculpture as practiced in the Middle Ages, from the fall of the Roman empire in the 4th century BCE to the dawn of the Renaissance. Our primary concern will be to analyze sculpture in all of its forms -- monumental free-standing, architectural, liturgical, and commemorative -- as the primary medium utilized by patrons, both private and corporate, to display political messages to an ever growing public. Through a series of case studies, we will study how a sculpture’s form and style related to a broader social and cultural realm. Selected topics include the medieval understanding of the body (living and dead); urbanism and politics; and the lure of classicism in the Middle Ages.
Instructor(s): C. Lakey
Area: Humanities.

AS.010.254. Art and Architecture of Early Christian and Medieval North Africa. 3 Credits.
Survey of Early Christian and medieval art and architecture in North Africa, with an emphasis on indigenous developments and cultural exchange in the Mediterranean world, 4th to 13th century. Dean’s Teaching Fellowship course.
Instructor(s): N. Dennis
Area: Humanities.

AS.010.255. The Art of Early Christian Pilgrimage. 3 Credits.
Area: Humanities.
AS.010.256. Nineteenth-Century European Art. 3 Credits.
A selective survey of European painting and sculpture from the French Revolution to the start of the First World War. The nineteenth century ushered in an era which saw political instability, industrialization, imperialism, and the growth of popular culture come to bear on the very conditions of art-making. Focusing on key moments in this history, the course aims to recover the real intensity and strangeness of art’s involvement with modernity. Topics include neo-classicism; art and revolution; the rise of landscape; the triumph of the bourgeoisie; the gendering of art; and the birth of the avant-garde.
Instructor(s): J. Melius
Area: Humanities.

AS.010.263. Paris / New York After the War. 3 Credits.
This course introduces the developments in art after World War II, in both Paris and New York, and studies how certain sensibilities overlapped and intersected as the two cities vied to be the international center of modern art. Recommended Course Background: AS.010.102
Prerequisites: AS.010.102
Instructor(s): J. Watson
Area: Humanities.

AS.010.264. Twentieth-Century Art in Europe and the United States. 3 Credits.
A critical survey of the major artistic movements, paradigms, and documents of twentieth-century art in Europe and the United States. Topics will include: abstraction, collage and assemblage, art and politics, traditional and new media. Among the artists: Picasso, Matisse, Malevich, Pollock, Judd, and Hesse. Writing assignments will include a close analysis of a work in a local collection such as the Baltimore Museum of Art, the Hirshhorn Museum and Sculpture Garden, or the National Gallery of Art.
Instructor(s): M. Warnock
Area: Humanities.

AS.010.291. Architectural History of Baltimore. 3 Credits.
Focusing on Baltimore’s built environment and drawing upon primary sources, this course will explore the major European and American design theories, values, and practices of the last several centuries with an eye towards establishing Baltimore’s place within a national and global urban environmental context. Topics addressed in this course include city building, class and race, architectural revivalism, transportation, urban renewal, and post-industrialism.
Instructor(s): M. Perschler
Area: Humanities
Writing Intensive.

AS.010.300. Michelangelo and His Contemporaries: License, Controversy, and Reform in 16th Century Italian Art. 3 Credits.
An approach to the later work of Michelangelo (ie. 1520-64) and the response to his art by writers and artists in Rome, Florence and the Veneto before and after the call for a "reform of art" by the Council of Trent.
Instructor(s): S. Campbell
Area: Humanities.

AS.010.301. Art and Interactions in the Eastern Mediterranean from 2000-500 BCE. 3 Credits.
The Mediterranean Sea has always acted as a connector for the many great civilizations that flourished around its shores. From 2000 to 500 BCE, these interactions were particularly dynamic, resulting in a diversity of arts including painting wall frescoes, precious jewelry, and elaborate furnishings and weaponry. This course examines the arts of the interactions among the Egyptians, Near Easterners, and Greeks, considering the role of artistic products in intercultural relations.
Instructor(s): M. Feldman
Area: Humanities.

AS.010.303. Flavian Art, AD 69-96. 3 Credits.
This course investigates Roman art and architecture during the Flavian age, in Rome and in the provinces of the empire. With the Flavians, the capital of the empire enjoyed a period of intense building activity: the great projects of Vespasian and Domitian radically transformed its image. Methodologically the focus will be on the integration of diverse sources (archaeological evidence, architecture, sculpture, mosaic, painting, epigraphy and literary sources) to reconstruct the built environment of Rome and other towns (Pompeii, Herculaneum, etc).
Instructor(s): P. Tucci
Area: Humanities.

AS.010.309. Gifts and Thefts in the Middle Ages. 3 Credits.
Why were some medieval objects valued as gifts, others appropriated as spoils, and still others taken by force? How does transferring objects from one cultural context into another change their meaning? Western, Byzantine, and Islamic art, 6th-13th centuries.
Instructor(s): R. Danford
Area: Humanities.

AS.010.311. Japanese Print Culture and Western Collecting. 3 Credits.
The first half of this seminar will examine issues in Japanese print culture, especially the development and circulation of ukiyo-e prints, during the Edo and Meiji periods (1615-1912). Topics will include technological innovations, the role of publishers, censorship, and prints as didactic objects. The second half of the course will explore the popularity of Japanese prints in the West, including their impact on Japonisme and incorporation into Western collections Cross-list with East Asian Studies.
Instructor(s): H. Snow
Area: Humanities.

AS.010.312. Surrealism. 3 Credits.
Topics include: art and the unconscious; “psychic automatism” and its implications for theories of medium, genre, and composition; objects, journals, and exhibitions. Visits to Special Collections and the BMA. Students will curate and install an exhibition of Surrealist journals from MSEL Special Collections, to open in April 2014.
Instructor(s): M. Warnock
Area: Humanities
Writing Intensive.
AS.010.313. The Image in Japanese Visual Culture: Muromachi Painting to Manga and Anime. 3 Credits.
This course explores the Japanese image as a distinct and readily identifiable cultural expression. Through a series of five critical works serving as visual landmarks, the students trace the emergence of the Japanese image from its roots in imported Chinese paintings, through the interpretations of the Rimpa painters, ukiyo-e printmakers, and decorative arts craftsmen of the early modern period, to the internationally acclaimed expressions we now find in 21st-century manga and anime. This course will be taught by Robert Mintz, Associate Curator of Asian Art at The Walters Art Museum.
Instructor(s): R. Mintz
Area: Humanities
Writing Intensive.

AS.010.317. The Face Of God(and Other Body Parts). 3 Credits.
Examines how the belief that God had assumed flesh was fundamental to the development of Christian art. Works of art remain the focus, but the course also considers manuscripts, relics, the Eucharist, and other manifestations
Instructor(s): H. Kessler
Area: Humanities

AS.010.318. Art in Italy, 1200 – 1500. 3 Credits.
This course will offer a selective, chronological exploration of the art of the Italian peninsula from the late Middle Ages through the first century of the Renaissance. Our primary concern will be to examine stylistic developments in architecture, painting, and sculpture during a profound period of political, economic, and social changes. Select topics will include: the role of the Communes as patrons of art; the rise of Humanism and its influences on the arts; the development of perspective theory; the lure of classicism in both the Middle Ages and the early Renaissance; the rise of the artist. Readings will include both primary and secondary sources.
Instructor(s): C. Lakey
Area: Humanities

AS.010.319. Medieval Art and Architecture of the Holy Land. 3 Credits.
Discusses political and religious contexts in the Middle East, where specific territories (Jerusalem) were claimed by all three monotheistic religions for cult practices. Resulting conflicts influenced Jewish, Medieval, and Islamic art and architecture in the region.
Instructor(s): N. Zchomelidse
Area: Humanities

AS.010.320. Art of Colonial Peru. 3 Credits.
The visual arts of viceregal Peru (16th-18th c) are considered in historical context. Religious orders, art schools, artisan guilds and cofradia are examined as are the social and political implications of art patronage.
Instructor(s): L. Deleonardis
Area: Humanities

AS.010.323. The Explosion of Art in the 1960’s. 3 Credits.
This course will explore the diverse art world of the American 1960s, putting in dialogue the myriad experiments of cutting-edge artists working in a wide range of media (e.g. painting, sculpture, photography, performance, film). Topics of study will include, among others, Pop Art, Minimalism, Performance Art, Post-painterly Abstraction, Conceptual Art, Process Art, film, music, and dance. We will situate our synthetic account of sixties art in careful relation to the major historical events of that decade. Recommended Course Background: AS.010.102
Instructor(s): K. Markoski
Area: Humanities

AS.010.324. Art and Architecture in the Augustan Age. 3 Credits.
Investigates Roman art and architecture during the Augustan age (31 BC – AD 14). Augustus’ cultural program influenced many aspects of Roman life, leading to the creation of a new visual language that transformed Roman society. Methodologically, the focus will be on the integration of diverse sources to reconstruct and discuss the images and the built environment of the Augustan age.
Instructor(s): P. Tucci
Area: Humanities.

AS.010.325. Crusader Art: the Road to the New Jerusalem. 3 Credits.
The fusion of Islamic, Byzantine and Western art during the Crusader period represents a dynamic turn in the history of medieval art. This course examines the material culture of the Crusades, including metalwork, enamels, illuminated manuscripts and architecture generated by the artistic exchanges of the era. We will also discuss the political and religious forces that prompted the Crusaders’ quest for Jerusalem and the Holy Land.
Area: Humanities.

AS.010.327. The Harem and the Veil: Space and Gender in the Islamic World. 3 Credits.
This course explores the constructed imagery of the harem and the veil in relation to politics and visual culture in the Middle East, North Africa, India, and Euro-America. Topics will include: Ottoman palace architecture, Orientalist painting, mandating/banning the veil, Islamic feminisms. We will address visual culture broadly, including advertising, architecture, contemporary art, film, news media.
Instructor(s): R. Brown
Area: Humanities
Writing Intensive.

AS.010.331. Art, Knowledge and Power in Global Perspective, 1500-1700. 3 Credits.
This course reexamines renaissance and baroque art in a global perspective, emphasizing race, gender, and international exchange in the sixteenth and seventeenth centuries and drawing extensively on the Walters’ collection.
Instructor(s): H. Friedman
Area: Humanities.

AS.010.333. The Making of Renaissance Rome 1300-1600. 3 Credits.
The multiple identities of the ancient city as these are understood and represented through the work of artists such as Giotto, Filarete, Raphael, Bramante, and Caravaggio; the writings of Petrarch, Pius II, Alberti, and Montaigne; the statecraft and patronage of the Renaissance popes
Instructor(s): S. Campbell
Area: Humanities.

AS.010.334. Problems in Ancient American Art. 3 Credits.
Selected topics which may include collecting the pre-Columbian past and connoisseurship, the formation of national museums, post-Columbian appropriations. Collections study in museums. May also be used toward credit for the Archaeology major. Cross-listed with PLAS and Program in Museum and Society
Instructor(s): L. Deleonardis
Area: Humanities
Writing Intensive.
AS.010.337. Impressionism, Tradition, Originality: What's new under the sun?. 3 Credits.
The course will examine the genesis of modern art, focusing on Impressionism and its debt to earlier traditions. Topics of study include Impressionist painting (Monet, Pissarro, Cézanne, among others), 17th-century Dutch landscape (Hobbema, Jacob van Ruisdael), 18th-century French painting (Fragonard, Chardin), Barbizon school, Courbet, Manet, Impressionist print (Cassatt, Degas), theories of perception, aesthetics of sketch.
Area: Humanities.

AS.010.338. Murals, Monuments, Museums: Art in Baltimore & DC. 3 Credits.
Murals on the side of the local grocery, Washington monuments in both DC and Baltimore, a 16th century manuscript painting at the Walters, film series at the Charles, galleries in North Arts: this course asks how visual culture shapes and is shaped by the urban experience. Critical readings in museum studies, urban studies, art history, cultural politics. Weekly field trips to local sites, museums, monuments; discussions with artists, curators, collectors.
Instructor(s): R. Brown
Area: Humanities, Social and Behavioral Sciences.

AS.010.340. Renaissance Art in the Netherlands, 1400-1500. 3 Credits.
Explores the major painters working in the Low Countries during the fifteenth century: Melchior Broederlam, the Master of Flémalle, Jan van Eyck, Rogier van der Weyden; Hans Memling, Hugo van der Goes, Hieronymus Bosch, and others.
Instructor(s): M. Merback
Area: Humanities.

AS.010.347. Inventing Antiquity in the Early Renaissance. 3 Credits.
A close look at how the ancient Greek, Roman and Jewish worlds were imagined and reconstructed by early Renaissance scholars, poets, warlords and artists.
Instructor(s): S. Campbell
Area: Humanities.

AS.010.348. Art and Faith in Golden Age Spain. 3 Credits.
Introduction to Spanish painting and sculpture of the XVIth and XVIIth centuries, with special focus on religious art.
Instructor(s): F. Pereda
Area: Humanities.

AS.010.351. Asian Art After 1945. 3 Credits.
This course examines the art and architecture of East, South, and Southeast Asia produced since the mid-twentieth century. We will engage with theoretical, visual, and political developments in the recent art of this region, reading statements by artists and architects, discussing the rising commercial and international profile of contemporary Asian art, and exploring established and emerging art histories of this period. Cross-list with East Asian Studies
Instructor(s): R. Brown
Area: Humanities.

AS.010.353. Key Moments in East Asian Politics & Visual Culture. 3 Credits.
Examines key political moments in China, Japan, and Korea from 1850 to the present, focusing on the way visual imagery shapes these events. Includes: Japanese occupation of Korea, Hiroshima and Nagasaki bombings, 1989 Tiananmen square protests, North Korean propaganda.
Instructor(s): R. Brown
Area: Humanities Writing Intensive.

AS.010.355. Art and Religion in the Roman World. 3 Credits.
This course explores the relationships between Roman art and religion through a survey of key topics and issues, from the archaic period to late antiquity, providing an introduction into how to use and analyze both textual and material evidence as sources for understanding Roman society. Temples, altars, public and private buildings, reliefs, statues, sarcophagi, paintings, mosaics, coins, metal-ware, glass and pottery, all get increasingly complex and interesting as the Roman world developed and are important forms of evidence for political, intellectual, social and economical life.
Instructor(s): P. Tucci
Area: Humanities.

AS.010.356. Greek and Roman Art and Architecture. 3 Credits.
This course explores the principal forms and contexts in which art and architecture developed in the Greek and Roman world. It surveys Greek art and architecture from the archaic through the Hellenistic periods, and Roman art and architecture from the foundation of the city of Rome - against the background of the Etruscan tradition - to the divergent trends of late antiquity, including the interaction between Rome and the provinces of the empire. Overall the course encourages critical thinking about the purpose of studying art and architecture as a tool for understanding the Greek and Roman worlds, and provides an introduction into how to use visual and material evidence as a historical source. On completion of this course students will be able to describe and evaluate the architectural style and decorative of key Greek and Roman monuments, as well as their function in ancient society. To be taught by incoming faculty member Pier Luigi Tucci.
Instructor(s): P. Tucci
Area: Humanities.

AS.010.357. Monumentality in Classical Art and Architecture: From Greece to Rome. 3 Credits.
This course investigates the Romans’ reception of Greek and Hellenistic art and architecture, as well as Rome's original contribution during the republican and imperial age. Its goal is to examine the effects of Hellenization on Roman society and the creation of a completely new visual language.
Instructor(s): P. Tucci
Area: Humanities.

AS.010.359. Arts of East Asia. 3 Credits.
This course introduces students to East Asian art and, by extension, to East Asian history and culture. Lectures and discussions will address major movements in the visual culture of East Asia, including architecture, painting and sculpture. Readings include both art historical works and primary source material in translation. Themes will include religious art, particularly the introduction of Buddhist to East Asia from India, cultural interchange within East Asia, and the collection and display of East Asian art in America. Cross-listed with East Asian Studies
Area: Humanities.
AS.010.360. Medieval Art in Europe: Methodology, Historiography, Theory. 3 Credits.
The course explores the conceptual character of medieval European art from Late Antiquity to the end of the Middle Ages with an emphasis on methodological, historiographical, and theoretical issues. Using selected monuments and objects from a wide geographical range and dating from the 4th to the 14th centuries as case studies, students will also familiarize with the methodological developments of art historical research. The course will focus in particular on the "anthropological turn" of medieval art history and medieval image theory.
Instructor(s): N. Zchomelidse
Area: Humanities.

AS.010.364. Babylon: Myth and Reality. 3 Credits.
"Babylon - the name resonates, from the Biblical whore of Revelations to sci-fi. But what do we really know about the ancient city and its civilization?"
Instructor(s): M. Feldman
Area: Humanities.

AS.010.365. Art of the Ancient Andes. 3 Credits.
The visual arts of Andean South America and their respective cultural contexts form the basis of this seminar. Collections study in museums.
Instructor(s): L. DeLeonardis
Area: Humanities.

AS.010.366. Native American Art. 3 Credits.
Survey of the principle visual arts of North America (1500 BC - AD 1600). Introduction to interpretive theory and methodology. Collections study in local and regional museums. Cross-listed with Programs in Museums and Society, Archaeology, and PLAS.
Instructor(s): L. DeLeonardis
Area: Humanities
Writing Intensive.

AS.010.367. Cezanne,Matisse,Picasso. 3 Credits.
Addresses the development of modernist painting in France between 1890 and 1918 through an examination of the work of these three essential figures.
Instructor(s): K. Tuma
Area: Humanities.

AS.010.370. History of Art: Histories, Methods, Theories. 3 Credits.
This course will be a short introduction to the construction of the discipline and to the different methodologies developed in the analysis of works of art, as a way to understand the basic challenges faced today by Art History.
Instructor(s): F. Pereda
Area: Humanities
Writing Intensive.

AS.010.380. Abstract Expressionism: de Kooning, Pollock, Rothko, Newman. 3 Credits.
This course addresses what is arguably the most significant moment in the history of American art: Abstract Expressionism. By looking closely at the careers of four painters from this period - Willem de Kooning, Mark Rothko, Barnett Newman and Jackson Pollock - we will explore both larger issues relevant to this crucial and controversial moment in art history and topics specific to the work of each of these pillars of American abstract art.
Instructor(s): K. Tuma
Area: Humanities.

AS.010.382. The Politics of Display in South Asia. 3 Credits.
Through examining collecting, patronage, colonial exhibitions, and museums, this course examines how South Asia has been constructed in practices of display. Themes: politics of representation, spectacle, ethnography, and economies of desire related to colonialism and the rise of modernity. Cross-list with Anthropology, Museums and Society and Political Science.
Instructor(s): R. Brown
Area: Humanities
Writing Intensive.

AS.010.385. Byzantine Art. 3 Credits.
This course will cover the arts of Byzantium in the medieval period, from the seventh to the fifteenth centuries.
Area: Humanities.

AS.010.389. The Stone and the Thread. 3 Credits.
This course examines the built environment of the Inka and considers architecture in its social, historical, and cultural contexts. Shared forms and ideas implicit in the fiber arts offer comparative points for analysis and discussion.
Instructor(s): L. DeLeonardis
Area: Humanities
Writing Intensive.

AS.010.396. Art After 1945. 3 Credits.
Instructor(s): K. Tuma
Area: Humanities.

AS.010.398. Tombs for the Living. 3 Credits.
Centering on the tomb as a unit of analysis, this course examines how death and funerary ritual reflect the cultural values of the living and are an active force in shaping them. Drawing on case studies from Mesoamerica and the Andes we consider various approaches to entombment and funerary ritual.
Instructor(s): L. DeLeonardis
Area: Humanities
Writing Intensive.

AS.010.400. Looking at Language: Vision and Textuality from Surrealism to the Present. 3 Credits.
Considers the emergence of the “written painting” and other uses of language in the visual arts. Among our case studies: Magritte, Twombly, Ruscha, Indiana, Holzer, Wool, Ligon, Darboven.
Instructor(s): M. Warnock
Area: Humanities.

AS.010.401. Early Modern Vision and Artistic Practice. 3 Credits.
This seminar examines shifting theories of vision in making and perceiving art from species and the Eucharist to Vermeer and the camera obscura.
Instructor(s): C. Fowler
Area: Humanities
Writing Intensive.

AS.010.405. Depicting the Invisible God in the Middle Ages. 3 Credits.
Discusses conditions of medieval image making and theory. Each meeting focuses on how to represent God in the visual arts and introduces iconographic concepts and their reception.
Instructor(s): N. Zchomelidse
Area: Humanities
Writing Intensive.
AS.010.407. Ancient Americas Metallurgy. 3 Credits.
This course addresses the technology, iconography and social significance of metals and draws on case studies from Colombia, Peru, Hispaniola and Panama. Collections study in museums. May also be used as credit toward the Archaeology major. Cross-listed with PLAS
Instructor(s): L. Deleonardis
Area: Humanities.

AS.010.408. Venetian Art and the Mediterranean 1440-1560. 3 Credits.
How Venetian art 1450-1580 was informed by the city’s unique ecological environment and its status as a nexus of cultural interaction in the Mediterranean. Emphasis on recent scholarship.
Instructor(s): S. Campbell
Area: Humanities.

AS.010.412. The Art of Describing. 3 Credits.
Limited to Seniors only (Juniors with permission). This writing-intensive course explores the complex role of description in the analysis and interpretation of works of art. This course explores the role of description in the analysis and interpretation of works of art. Emphasis will be placed on texts by twentieth-century authors, though not exclusively on twentieth-century subject matter. Our primary focus will be the use of different rhetorical strategies to meet the formidable challenge of “translating” visual phenomena into language.
Instructor(s): K. Tuma
Area: Humanities
Writing Intensive.

AS.010.415. Modernism and Postmodernism in Architecture. 3 Credits.
“Form forever follows function,” “the house is a machine for living in,” “less is more,” “less is a bore”—when and where on earth did these architectural catch phrases originate, and what did they mean to the people who coined them and attempted to express them in their designs for buildings? In this course we will study the major architectural theories and design trends of the late 19th and 20th centuries in Europe and the United States—a turbulent and complicated period in the history of architecture commonly known as Modernism and Postmodernism. Topics and personalities addressed in this course will include Expressionism, the Bauhaus, Le Corbusier, urbanism, functionalism, and Frank Lloyd Wright.
Instructor(s): M. Perschler
Area: Humanities.

AS.010.419. Passion Cult, Passion Image, Passion Drama. 3 Credits.
A set of interdisciplinary explorations of the Passion of Christ theme, viewed as a mythic paradigm within European visual culture, religious consciousness and cultic practice since the High Middle Ages.
Instructor(s): M. Merback
Area: Humanities
Writing Intensive.

AS.010.421. Michelangelo and His Contemporaries: Liscense, Controversy, and Reform in 16th Century Italian Art. 3 Credits.
An approach to the later work of Michelangelo (i.e. 1520-64) and the response to his art by writers and artists in Rome, Florence and the Veneto before and after the call for a “reform of art” by the Council of Trent.
Area: Humanities.

AS.010.422. Early Modern Dutch and Flemish Painting. 3 Credits.
Explores the major painters and printmakers working in the Netherlands during the sixteenth and early seventeenth centuries: Pieter Brueghel, Jan Gossaert, Pieter Aertsen, Peter Paul Rubens, Jan Steen, Jan Vermeer, and many others.
Instructor(s): M. Merback
Area: Humanities.

AS.010.423. Roman Sculpture. 3 Credits.
The course examines all the major public and private monuments, in Rome and in the provinces, from the Republican age to the end of the Roman empire. It considers their cultural, political, and social contexts, and of course the original architectural setting. New light is shed on the reception of statuary and reliefs by the Roman viewer, using primary texts as well as the sculptures themselves. The course illustrates the different types of sculpture that an ancient Roman would have encountered, explaining the nuances of meaning in the different words used by Roman and Greek authors in their descriptions. Sculpture was an integral part of Roman life: indeed the Romans placed statues and reliefs in their houses, villas, gardens, and tombs, as well as in their temples and public buildings. While Rome remains a focus for the course, western and eastern provincial examples are also offered to help further understand the role of Roman sculpture. May also be used as credit toward the Archaeology major. Cross-listed with Classics.
Instructor(s): P. Tucci
Area: Humanities.

AS.010.424. Collecting Roman Art: From Antiquity to Present. 3 Credits.
A survey of the most important collections of Greek and Roman sculpture, from the late-Republican age through the Middle Ages and the Renaissance, until the creation of the main museums in Europe and in the United States.
Instructor(s): P. Tucci
Area: Humanities.

AS.010.430. History of Roman Art and Architecture. 3 Credits.
This course explores the principal forms and contexts in which art and architecture developed in the Roman world. It surveys Roman art and architecture from the foundation of the city of Rome - against the background of the Etruscan tradition - to the divergent trends of late antiquity, including the interaction between Rome and the provinces of the empire. Overall the course encourages critical thinking about the purpose of studying art and architecture as a tool for understanding the Roman world, and provides an introduction into how to use visual and material evidence as a historical source. On completion of this course students will be able to describe and evaluate the architectural style and decorative of key Roman monuments, as well as their function in ancient society. Cross-list with Classics
Instructor(s): P. Tucci
Area: Humanities.

AS.010.431. History of Art: Histories, Methods, Theories. 3 Credits.
This course will be a short introduction to the construction of the discipline and to the different methodologies developed in the analysis of works of art, as a way to understand the basic challenges faced today by Art History.
Instructor(s): F. Pereda
Area: Humanities
Writing Intensive.
AS.010.433. Sculpture and the Embodied Viewer. 3 Credits.
This seminar serves as an introduction to reading and writing about visual experience. Our primary focus will be on the relationship between embodied viewers and the art of sculpture broadly defined. By exploring the art of sculpture in all of its historical forms, from the ancient to the contemporary we will investigate the experiential and spatial challenges sculpture poses in order to develop the necessary analytic skills for understanding and interpreting the visual arts. We will combine on-site studies of sculptures in local collections (including the Walters Art Museum, the Baltimore Museum of Art, and public works in Baltimore and on campus) with the development of a critical vocabulary with which to write about sculptural objects, one that draws on the critical histories of sculpture from the birth of art history to the present day.
Instructor(s): C. Lakey
Area: Humanities
Writing Intensive.

AS.010.440. Velázquez and 17th Century Spanish Naturalism. 3 Credits.
An introduction to Spanish Baroque painting, with specific attention to the emergence of naturalism in the work of Diego Velázquez, Francisco de Zurbarán, Murillo and Ribera. This course is open to graduate students.
Instructor(s): F. Pereda
Area: Humanities.

AS.010.445. Topics in Postwar European Art. 3 Credits.
This seminar examines aspects of artistic production in Western Europe primarily in the period 1950-1972, with an emphasis on the art of France, Italy, the Benelux, and German-speaking countries. How was the work of art reimagined and repositioned in the wake of World War II and the horrors of the Holocaust, in the context of reconstruction and an emerging consumer society, and in light of the Cold War? How did postwar artists conceive the claims of artistic tradition and painting in particular in a rapidly expanding field of aesthetic practices and possibilities? Is there such a thing as “European art,” and if so, how does it relate to or mediate among various national identities? These and related questions will be at the heart of our discussions.
Instructor(s): M. Warnock
Area: Humanities.

AS.010.460. The Medieval Art and Architecture of Venice and Constantinople. 3 Credits.
Juniors and Seniors only An introduction to the rival cities, Venice and Constantinople, studied through their medieval art and architecture. Meets with 010.681
Instructor(s): H. Maguire
Area: Humanities.

AS.010.461. Courbet and Manet. 3 Credits.
A close engagement with the work of two great 19th-century French painters.
Instructor(s): M. Fried
Area: Humanities.

AS.010.468. Sculpture After Sculpture. 3 Credits.
A survey of major theories of sculpture from the mid-Twentieth Century to the present day. Through close readings of critical texts, we will consider the following nexes of debate: late modernism; minimalism; land art and the alleged dispersion of sculpture as an autonomous medium; site-specific and mobile site sculpture; gigantiscist sculpture; and the resurgence of a conventional sculpture of bodily proportion during the last fifteen years after sculpture as a medium was declared obsolete: a sculpture “after” sculpture. Readings: Writings by Henry Moore, Herbert Read, Clement Greenberg, Michael Fried, Donald Judd, Robert Morris, Robert Smithson, Rosalind Krauss, Yve-Alain Bois, Douglas Crimp, Hal Foster, Alex Potts, Miwon Kwon, and George Baker.
Instructor(s): J. Meyer
Area: Humanities.

AS.010.469. Return of the Sixties. 3 Credits.
The period of the Sixties and early Seventies has emerged as a central preoccupation of art and art history in recent years. The Sixties witnesses the conclusion of modernism and utopic aspirations, of radical politics and the counterculture. It also ushers in contemporary forms of mediation, consumption, and mobility. This course will examine the art of Sixties return, and narratives of art since the Sixties. Topics will include the Sixties as history, memory, and nostalgia; the monumentalization of entropy (the “return” of Robert Smithson); the artist-traveler from Ed Ruscha to Francis Aly; and the reappraisal of sculpture as medium after its alleged dispersion. We will consider works by Francis Aly, Matthew Buckingham, Gerard Byrne, Tom Burr, Tacita Dean, Sam Durant, Olafur Eliasson, Felix Gmelin, Renée Green, Mary Kelly, Kenji James Marshall, Mike Nelson, Philippe Parreno, Charles Ray, Mark Tribe, and Kelley Walker, among others. This class is led by James Meyer, Associate Curator of Modern and Contemporary Art, National Gallery of Art. Will meet with 010.641
Instructor(s): J. Meyer
Area: Humanities.

AS.010.470. Power and Politics in Assyrian Art. 3 Credits.
Assyria, centered in northern Iraq, created one of the world’s first great empires that dominated the ancient Near Eastern world from around 900 to 612 BCE. In concert with imperial expansion came an explosion of artistic production ranging from palace wall reliefs to small-scale luxury objects. This seminar examines the close relationship between the arts and politics in the Assyrian empire. Some themes that will be explored are: historical narrative, text and image, portable luxury arts and gender, politics and religion. The course will engage in close visual analysis of the ancient materials and readings of critical scholarship.
Instructor(s): M. Feldman
Area: Humanities
Writing Intensive.

AS.010.481. Classics of Art Criticism. 3 Credits.
Readings by Diderot, Baudelaire, Fry, Greenberg.
Instructor(s): M. Fried
Area: Humanities.

AS.010.501. Independent Study. 0 - 3 Credit.
Instructor(s): Staff.

AS.010.502. Independent Study. 0 - 3 Credit.
Instructor(s): Staff.

AS.010.503. Reading Course in History of Art. 2 Credits.
Open to students by arrangement with a faculty advisor in the History of Art Department.
Instructor(s): M. Merback
Area: Humanities.
AS.010.521. Honors Thesis. 0 - 3 Credit.
Open to students by arrangement with a faculty advisor in the History of Art Department. Interested students should review the program description available in the department office.
Instructor(s): Staff
Writing Intensive.

AS.010.522. Honors Thesis. 3 Credits.
Instructor(s): Staff
Writing Intensive.

AS.010.552. Museum Independent Study. 1 Credit.

AS.010.596. Internship-Summer. 1 Credit.
Instructor(s): E. Rodini; K. Tuma; M. Koortbojian; P. Tucci.

AS.010.597. Independent Study-Summer. 3 Credits.
Instructor(s): L. DeLeonardis; M. Koortbojian; S. Campbell.

AS.010.600. Looking at Language: Vision and Textuality from Surrealism to the Present.
Considers the emergence of the “written painting” and other uses of language in the visual arts. Among our case studies: Magritte, Twombly, Ruscha, Indiana, Holzer, Wool, Ligon, Darboven.
Instructor(s): M. Warnock
Area: Humanities.

This seminar examines shifting theories of vision in making and perceiving art from species and the Eucharist to Vermeer and the camera obscura.
Instructor(s): C. Fowler
Area: Humanities.

The course explores the significance of the Severan marble plan of Rome and its potential to shed new light on the building program of Septimius Severus and Caracalla.
Instructor(s): P. Tucci.

AS.010.603. The Active Body: On Display and in Performance.
An examination of two recent developments in art history and museum studies: the recognition of the object as active and agentic and a growing critical engagement with the body of the artist and performance art. The seminar will unsettle these two themes with the history of living humans on display, from nineteenth-century exhibitions to present-day craftspeople, thinking through bodies, objects, and performance through disciplinary engagements from anthropology, political theory, art history, and museum studies. Open to motivated undergraduates.
Instructor(s): R. Brown
Area: Humanities.

AS.010.605. Problems in Description.

AS.010.606. Sculpture After Sculpture.
A survey of major theories of sculpture from the mid-Twentieth Century to the present day. Through close readings of critical texts, we will consider the following nexes of debate: late modernism; minimalism; land art and the alleged dispersion of sculpture as an autonomous medium; site-specific and mobile site sculpture; giganticist sculpture; and the resurgence of a conventional sculpture of bodily proportion during the last fifteen years after sculpture as a medium was declared obsolete: a sculpture “after” sculpture. Readings: Writings by Henry Moore, Herbert Read, Clement Greenberg, Michael Fried, Donald Judd, Robert Morris, Robert Smithson, Rosalind Krauss, Yve-Alain Bois, Douglas Crimp, Hal Foster, Alex Potts, Miwon Kwon, and George Baker.
Instructor(s): J. Meyer.

AS.010.607. The Epistemology of Photography.
This seminar will ask how photography produces ways of knowing: how does photography’s reality-effect shape its dissemination and absorption? Is photography’s emergence during the colonial era coincidental or catalytic? How is memory (re)constituted in a photography-saturated world? What kinds of histories does photography encourage and discourage? Is a photograph an object? We will read across disciplines (literature, anthropology, history, history of art, political science, theory) to investigate the epistemology of photography and the photograph.
Instructor(s): R. Brown.

AS.010.608. Urban Images, Urban Realities from Rome to the Renaissance.
In the western world over the course of the past two millennia, cities and urban living have been a central component of what it has meant, in the eyes of contemporaries, to be ‘civilized.’ Hence, representations of cities often tend to reflect the political, cultural and ideological agendas of those who created or commissioned them, from the ‘Madaba Map Mosaic’ in sixth-century Jordan to the Lorenzetti frescoes in the Palazzo Pubblico in fourteenth-century Siena. In this course, we will attempt to compare these idealized images with the reality of urban living conditions in western Europe, insofar as these can be traced through textual and archaeological evidence, in order to assess the relationship between the ‘real’ and the ‘ideal,’ and to ask how and why the former often differed so greatly from the latter.

AS.010.610. Image, Theory, Matter in Medieval Visual Culture.
This seminar considers the relationship between foundational approaches to medieval art history and recent methodologies that focus on ‘thing-signification.’ Primary materials in local collections will be closely analyzed.
Instructor(s): C. Lakey.

AS.010.611. Selected Topics in Near Eastern Art.
Topics will vary but will explore current art historical theories and approaches and their application and/or relevance to Near Eastern art.
Instructor(s): M. Feldman.

AS.010.612. Medieval Image.
From a careful reading of significant works of art, contemporary texts bearing on images, and modern theoretic writings, the seminar investigates the function of narratives, icons, physical matter, and accompanying texts in the production of meaning.
Instructor(s): H. Kessler.
AS.010.613. Questions of Artistic Geography in Italy, 1400-1600.
A consideration of the role of place in the art of Lorenzo Lotto, Gaudenzio Ferrari, Cesare da Sesto, Romanino, Moretto, Pordenone, Titian, and other artists active before the canon-formation enterprise of Giorgio Vasari definitively altered the map of Italian art after 1550. Also open to advanced undergrads.
Instructor(s): R. Brown.

Critical exploration of the major models developed by art historians to describe the forms of attention mobilized by visual imagery, the role of the beholder in realizing meaning, the dynamics of response, and the reflexivity of works of art. Intersections with literary history and theory, phenomenology, and reception-aesthetics will be examined in tandem with art-historical case studies. Authors include Riegl, Benjamin, Gombrich, Baxandall, Kemp, Fried, Cray, Bryson, Melville, Husserl, Iser, Jauss, Merleau-Ponty, Foucault, Barthes, Deleuze and Guattari.
Instructor(s): M. Merback.

AS.010.615. The Reform of the Image in Catholic Europe 1500-1600.
Aspects of the reform of art in Italy and Spain, as manifested in official attempts to discipline artistic practice and through artistic initiatives; emphasis on primary sources and recent scholarly debates.
Instructor(s): F. Pereda; S. Campbell.

AS.010.616. Monumental Narrative.
Investigates the depictions of Old and New Testament themes on the walls of early medieval buildings. The programs and sources of early Christian cycles, the adjustments made to address the public, and such technical issues as the role of model books are studied.
Instructor(s): H. Kessler.

Area: Humanities.

AS.010.620. Art of Colonial Peru.
Instructor(s): L. Deleonardis
Area: Humanities.

Beginning with the anti-colonial and popular art of the turn of the nineteenth century, the seminar will address the subcontinent’s participation in modernism, interrelations between “high” and “vernacular” art, appropriations of spirituality, critical engagements with sexuality and feminism, and experiments with film, performance, and new media into the 21st century. Questions related to nationalism, modernity, postcoloniality, religio-political conflict, commercialization, international biennials, and globalization. Note: Course will engage with Raqs Media Collective’s spring campus residency. Seminar is open to motivated undergraduates.
Instructor(s): R. Brown.

AS.010.629. Materials in Postwar Art.
Through case studies of specific artists and works of art, this course examines the use of new materials in the postwar period: bricks, felt, fiberglass, fluorescent light, house paint, kapok, latex, lead, rocks, rubber, sponges, vinyl, wax, etc.

AS.010.630. Art of Medieval Italy.
Area: Humanities.

AS.010.631. Art, Science and Representation in the Middle Ages.
This seminar investigates the relationship between art, science, and theories of representation from the late antique period through the fourteenth century. Select topics include illuminated cosmological and astronomical manuscripts; Islamic cartographers and astrologers at the court of Roger II in Palermo; the rise of optical theory and scientific representation; and the intersection of diagrammatic and mimetic theories of images.
Instructor(s): C. Lakey.

AS.010.634. The Politics of Visual Culture.
In-depth reading and discussion at the intersection of visual culture and the political. Issues may include photography and colonialism, national symbolism, commodification of culture, visual and ethnographic display, the national museum, repatriation, modernity and the spectacle.

AS.010.635. Art and Representation in Nineteenth Century Peru.
Permission required Graduate, nineteenth-century Peru, nationalism, visual sources and interpretation
Instructor(s): L. Deleonardis.

AS.010.636. Cézanne and Interpretation.
This course explores key interpretations of Cézanne’s art from the late nineteenth century to the present, including formalist, socio-historical, psychoanalytic, phenomenological, deconstructive and post-deconstructive perspectives.
Instructor(s): K. Tuma.

AS.010.641. Return of the Sixties.
The period of the Sixties and early Seventies has emerged as a central preoccupation of art and art history in recent years. The Sixties witnesses the conclusion of modernism and utopic aspirations, of radical politics and the counterculture. It also ushers in contemporary forms of mediation, consumption, and mobility. This course will examine the art of Sixties return, and narratives of art since the Sixties. Topics will include the Sixties as history, memory, and nostalgia; the monumentalization of entropy (the “return” of Robert Smithson); the artist-traveler from Ed Ruscha to Francis Aly’s; and the reprisal of sculpture as medium after its alleged dispersion. We will consider works by Francis Aly’s, Matthew Buckingham, Gerard Byrne, Tom Burr, Tacita Dean, Sam Durant, Olafur Eliasson, Felix Gmelin, Renée Green, Mary Kelly, Kenny James Marshall, Mike Nelson, Philippe Parreno, Charles Ray, Mark Tribe, and Kelley Walker, among others. This class is led by James Meyer, Associate Curator of Modern and Contemporary Art, National Gallery of Art. Will meet with 010.469.
Instructor(s): J. Meyer.

AS.010.642. Man of Sorrows: Reception, Interpretation, Confrontation.
Focusing on the cultic and devotional imagery of Christ as the Man of Sorrows, this seminar explores modes of reception in Byzantine, Medieval and Renaissance art (painting, sculpture and prints).
Instructor(s): M. Merback.

AS.010.649. Mantegna and Bellini: painting and art theory 1450-1500.
Mantegna’s and Bellini’s work will be considered in the context of humanist and antiquarian culture of Padua, Venice and Mantua.
Instructor(s): S. Campbell.

AS.010.650. Reform Art In Italy.
This course is a consideration of initiatives to reform religious art in Italy before and after the Council of Trent.
Instructor(s): S. Campbell.
The depiction of visionary experiences is an important and frequent topic in medieval art. This course discusses iconographical and theoretical preconditions for the development of a particularly challenging body of medieval images that range from the visions of Old Testament prophets, to John’s Apocalypse, dreams, and visionary experiences in the context of female monasticism (Hildegard von Bingen, Gertrud von Helfta). Issues covered in this course are: patristic and medieval theories of vision, devotional practices, and the scientific approach towards vision in the later Middle Ages.
Instructor(s): N. Zchomelidse
Area: Humanities.

This seminar investigates the fate of painting in the decades following Abstract Expressionism. Topics to be addressed include: the legacy of Jackson Pollock; anti-gesture; European décollage; painting and photography; modularity/seriality/chance; painting and conceptualism; monochrome and the fate of color.
Instructor(s): K. Tuma.

AS.010.655. Religion in Roman Art.
This course explores the relationships between Roman art and religion through a survey of key topics and issues, from the archaic period to late antiquity, providing an introduction into how to use both textual and material evidence as sources for understanding Roman art and society.
Instructor(s): P. Tucci.

AS.010.656. Depicting the Invisible God in the Middle Ages.
Discusses conditions of medieval image making and theory. Each meeting focuses on how to represent God in the visual arts and introduces iconographic concepts and their reception.
Instructor(s): N. Zchomelidse.

How Venetian art 1450-1580 was informed by the city’s unique ecological environment and its status as a nexus of cultural interaction in the Mediterranean. Emphasis on recent scholarship.
Instructor(s): S. Campbell
Area: Humanities.

AS.010.658. Special Topics in the Art of Lombardy and the Veneto, 1500-1600.
An approach to the problem of regionalism in Italian art, focusing on art production in the Lombard cities of Bergamo, Brescia and Cremona 1520-90.

AS.010.659. Passion Cult, Passion Image, Passion Drama.
A set of interdisciplinary explorations of the Passion of Christ theme, viewed as a mythic paradigm within European visual culture, religious consciousness and cultic practice since the High Middle Ages.
Instructor(s): M. Merback.

AS.010.666. Exhibiting the Other.
Despite challenges to museum practices in the 1970s and 1980s, the approach to displaying the art and visual culture of regions and periods outside of the European and North American mainstream remains caught between scholarly theorizing and demands for the commodification of the exotic. The ongoing exclusionary logic of collecting and display practices and the shrinking budgets for museums undermine efforts to rethink and challenge longstanding institutionalized patterns. In this seminar we will assess the politics, theory, and practice of displaying what still operates as the "other", reading across art history, museum studies, politics, and anthropology. Open to senior undergraduates with permission of instructor. Cross-listed with Political Science and Programs in Museums and Society
Instructor(s): R. Brown.

An introduction to the rival cities, Venice and Constantinople, studied through their medieval art and architecture. Meets with 010.460
Instructor(s): H. Maguire
Area: Humanities.

This seminar will study the art and architecture of Venice and its colonies from the ninth to the fifteenth centuries, including architecture, sculpture, wall and floor mosaics, painting and metalwork.

AS.010.684. Topics in Recent Art: Jeff Wall, Joseph Marioni, Anri Sala.
A consideration of the work of at least three contemporary artists in different media: the photographer Jeff Wall, the painter Joseph Marioni, and the video artist Anri Sala. Open to advanced undergrads with permission of the instructor.
Instructor(s): M. Fried.

AS.010.687. Topics in Postwar European Art.
This seminar examines aspects of artistic production in Western Europe primarily in the period 1950-1972, with an emphasis on the art of France, Italy, the Benelux, and German-speaking countries. How was the work of art reimagined and repositioned in the wake of World War II and the horrors of the Holocaust, in the context of reconstruction and an emerging consumer society, and in light of the Cold War? How did postwar artists conceive the claims of artistic tradition and painting in particular in a rapidly expanding field of aesthetic practices and possibilities? Is there such a thing as “European art,” and if so, how does it relate to or mediate among various national identities? These and related questions will be at the heart of our discussions.
Instructor(s): M. Warnock.

AS.010.689. Seeing Sculpture.
This course explores the art of sculpture in all of its historical forms, from the ancient to the contemporary, and investigates the experiential and spatial challenges that sculpture as a medium poses. Our focus will combine on-site studies of artifacts in local collections with the development of a critical vocabulary with which to write about sculptural objects, one that draws on the rich history of responses to sculpture from the birth of art history to the present.
Instructor(s): C. Lakey; J. Melius
Area: Humanities.

AS.010.693. Classics Of Art Criticism.
Readings include Diderot, Baudelaire, Fry, Greenberg, and Jeff Wall.
Instructor(s): M. Fried.
AS.010.697. Topics in Venetian Art.
This seminar examines artistic exchanges between Venice and its territorial state.
Instructor(s): S. Campbell.

AS.010.700. Juan Gris, Cubism & Representation.
This course is offered to Undergraduates by permission only. Contact Sally Hauf: shauf@jhu.edu for permission. - In his paintings, collages, and drawings, Juan Gris (1887-1927) made major contributions to the radical redefinition of pictorial representation in Paris in the early years of the 20th century. However, he has too often dismissed as a craftsman rather than a revolutionary if not overlooked altogether. Triangulating his work with that of Picasso and Matisse, this seminar will explore Gris' role in the innovations of the teens and in the post-war "return to order." Special attention will be given to his particular brand of Cubism, with its interest in effects of light (halo, shadow, silhouette), mixture of materials, and complex pattern.

AS.010.703. Art History's Interdisciplinary Turn.
Examines the ways Art History has opened itself to paradigms in other disciplines since the 1970s. What has been gained and lost? What does it mean to be "interdisciplinary" today?
Instructor(s): M. Merback.

AS.010.704. Altarpiece and Altar-image.
This seminar investigates, historically and anthropologically, the origins, development and articulation of the Christian altarpiece as a functional genre within European art, on both sides of the Alps, with emphasis on the later Middle Ages and early Renaissance.
Instructor(s): M. Merback.

AS.010.705. Dürer & Grünewald.
Recent perspectives on the two most celebrated artists of the German Renaissance, their lives and intersecting careers, their major works, and the shifting tides of reception that ultimately made them representatives of "zweierlei deutsche Kunst" -- opposed models of German art's epochal achievement.
Instructor(s): M. Merback.

AS.010.706. Pilgrimage: Art and Anthropology.
Research paradigms and problems in the study of Christian pilgrimage, ca. 500-1500, and its relation to prevailing forms of visual culture, popular and elite. Topics include: the historical development of European cult forms and shifting conceptions of sanctity; articulations in the environmental poetics of pilgrimage shrines; case studies of miracle-cycles and votives, portable objects and pilgrimage devotionalia, and works of art thematizing the penitential, experiential, and therapeutic dynamisms of homo viator.
Instructor(s): M. Merback.

AS.010.712. Michelangelo and His Contemporaries: Liscense, Controversy, and Reform in 16th Century Italian Art.
An approach to the later work of Michelangelo (ie. 1520-64) and the response to his art by writers and artists in Rome, Florence and the Veneto before and after the call for a "reform of art" by the Council of Trent.
Area: Humanities.

The course investigates the earliest influence from Greece on Roman artists, architects and patrons during the Late Republic. Even before the conquest of mainland Greece, Roman society was transformed by a dramatic process of acculturation. Hellenistic art, quickly adapted by the Romans, played an important part in the development of late-republican Rome: the contrast between the old mos maiorum and what would soon be condemned as luxuria was striking. Archaeological material and literary sources prove that the new taste pervaded not only the Roman way of life but also art and architecture. The course examines in detail the inspiring struggle between Etrusco-Italic traditions and the overwhelming riches from the Hellenistic world. Cross-listed with Classics
Instructor(s): P. Tucci.

AS.010.717. Alternative Histories Through Art and Archaeology: from Arcaic to Late Antique Rome.
This seminar investigates important areas and buildings of ancient Rome in relation to the culture and events of their time, and explores the role of art and architecture in Roman society. Methodologically the focus is on the integration of diverse sources (archaeological evidence, architecture, sculpture, mosaic, painting) to reconstruct and understand different aspects of Rome's development, from its foundation to the late antique period. This course provides a framework for critical discussion of historical and socio-cultural themes through the analysis and interpretation of material and visual culture as well as other forms of archaeological evidence. It addresses key debates on the construction and transformation of ancient Rome, exploring notions of identity, cult, language, economy as well as forms of political organization. Overall the course aims to give graduate students the tools to access those histories and ideologies which appear unattainable through the literary sources alone, allowing for the expansion of existing narratives and challenging the underlying models which inform our understanding of key historical and cultural processes. To be taught by incoming faculty member Pier Luigi Tucci.
Instructor(s): P. Tucci.

AS.010.718. Art and Architecture in the Augustan Age.
This seminar investigates Roman art and architecture during the Augustan age (31 BC – AD 14), in Rome and in the provinces of the empire. Augustus' cultural program influenced any aspects of the Roman way of life (religious ritual, clothing, state ceremony), leading to the creation of a new visual language that expressed and furthered the transformation of Roman society. Methodologically the focus will be on the integration of diverse sources (archaeological evidence, architecture, sculpture, mosaic, painting) to reconstruct and discuss the images that a contemporary would have experienced in Rome and elsewhere.
Instructor(s): P. Tucci.
AS.010.719. Art and Architecture under the Flavian Dynasty. This seminar investigates Roman art and architecture during the Flavian age (AD 69-96) in Rome and in the provinces. With the Flavian dynasty, the empire enjoyed a period of renewed political and economic stability: and this was the result of the principate of Vespasian. The 2009-celebration of the bimillennary of Vespasian’s birth gave the opportunity to reassess the figure of this emperor and the role of his dynasty in the development of Rome. With the Flavians, the capital of the empire enjoyed a period of intense building activity (e.g. the Colosseum). The great projects of Vespasian and Domitian radically transformed its image. The embellishment of the city and the global re-planning of the urban spaces were the visible signs of the political revival of the empire. Methodologically the focus will be on the integration of diverse sources (archaeological evidence, architecture, sculpture, mosaic, painting, epigraphy and literary sources) to reconstruct the built environment of Rome during the last three decades of the 1st century AD. Cross-list with Classics.
Instructor(s): P. Tucci.

AS.010.720. Roman Art and Archaeology: The Capitoline Hill. An interdisciplinary seminar on the Capitoline Hill in Rome, with its focus on archaeological and architectural issues, as well as on the legacy of the classical world (from an ideal point of view, but also for what concerns the physical reuse of the memories of the past).
Instructor(s): P. Tucci.

AS.010.730. Sacred Images in Early Modern Spain. This course will look at the dialogue between sacred images and art in Baroque Spain. The status of religious images, the “paragone” or competition between sculpture and painting, and the issue of cult, will all be analyzed through the work of such painters as Velazquez, Zurbaran and Ribera. Cross-listed with the Spanish section of GRLL.
Instructor(s): F. Pereda.

AS.010.731. Art & Reform in Renaissance Spain. The seminar will explore main ideas of Spiritual and Ecclesiastical Reform in relation to the arts. The seminar will consider different chronological and geographical areas, such as Renaissance Seville, Counter-Reformation Valencia or the decoration of the Escorial Basilica.
Instructor(s): F. Pereda.

AS.010.732. Art and Patronage in 15th c. Spain. This seminar will concentrate in the artistic production in the time of the Catholic Monarchs (1472-1516). The immigration of Fleming artists, the mechanics of patronage, and the interreligious uses of images will be addressed with a historical perspective.
Instructor(s): F. Pereda.

AS.010.733. Evidence in Early Modern Art: Italy and Spain. This course will analyze the uses of evidence in Early Baroque art at the crossroads of History of Art, Science and Religion. How do images/paintings produce evidence? How does evidence relate to belief? And to skepticism? And how does it affect shifting conceptions of Naturalism? Case studies will include paintings by such artists as Caravaggio, Velázquez, Ribera or Zurbarán.
Instructor(s): F. Pereda
Area: Humanities.

AS.010.734. Counter-Reformation Valencia or the decoration of the Escorial Basilica. Cross-listed with the Spanish section of GRLL.
Instructor(s): F. Pereda.

AS.010.735. Evidence in Early Modern Art: Italy and Spain. This course will analyze the uses of evidence in Early Baroque art at the crossroads of History of Art, Science and Religion. How do images/paintings produce evidence? How does evidence relate to belief? And to skepticism? And how does it affect shifting conceptions of Naturalism? Case studies will include paintings by such artists as Caravaggio, Velázquez, Ribera or Zurbarán.
Instructor(s): F. Pereda
Area: Humanities.

AS.010.750. Medieval Seeing: The History of Vision and Perspective. This course investigates medieval practices and theories of ‘seeing’ (broadly defined) in relation to the visual arts: topics will include the history of perspective, ancient and medieval optics, medieval histories of vision and perception, the allegorization of optics in theological tracts and literature, and the application of the theories in art, preaching, and liturgy.
Instructor(s): C. Lakey; H. Kessler.

AS.010.751. Writing the Italian Renaissance, Burckhardt to Panofsky. A close reading of key thinkers, reconsidering their relevance to contemporary critical and art-historical practice. This course is being co-taught with Jeremy Melius.
Instructor(s): J. Melius; S. Campbell.

AS.010.760. Agency and Other Topics in Contemporary Theory of Art History. A critical reading of texts by various thinkers including Alfred Gell, Horst Bredekamp, David Freedberg, Whitney Davis, and David Summers. Open to qualified undergraduates with the permission of the instructor.
Instructor(s): M. Fried; R. Leys.

AS.010.761. Art and Reformation in Germany and Switzerland. Research paradigms and new developments in evaluating the impact of church reform, evangelical theology, confessional conflict, iconoclasm, and revolution on the arts, visual culture, and the social place of the artist in German and Swiss society between 1500 and 1575.
Instructor(s): M. Merback
Area: Humanities.

Cross Listed Courses

Classics

AS.040.119. The World of Pompeii. 3 Credits. This course will focus on the history and archaeology of Pompeii. Close attention will also be paid to the reception of Pompeian materials in European and American culture. Cross-listed with History of Art and the Program in Museums and Society.
Instructor(s): H. Valladares
Area: Humanities.
AS.040.137. Freshman Seminar: Archaeology at the Crossroads: The Ancient Eastern Mediterranean through Objects in the JHU Archaeological Museum. 3 Credits.
This seminar investigates the Eastern Mediterranean as a space of intense cultural interaction in the Late Bronze Age, exploring how people, ideas, and things not only came into contact but deeply influenced one another through maritime trade, art, politics, etc. In addition to class discussion, we will work hands-on with artifacts from the JHU Archaeological Museum, focusing on material from Cyprus. 
Instructor(s): E. Anderson
Area: Humanities
Writing Intensive.

AS.040.201. Digging Up the Gods: The Archaeology of Roman Sanctuaries. 3 Credits.
This course will explore the major sites of Ancient Italy, such as Rome, Ostia, and Pompeii, from temples to dedications, and their role in religion and society. Cross-listed with History of Art. 
Instructor(s): G. Gessert
Area: Humanities

AS.040.218. Celebration and Performance in Early Greece. 3 Credits.
Surviving imagery suggests that early Aegean societies engaged in diverse celebratory performances, including funerals and palatial feasts, puberty rites and ecstatic dance. We investigate archaeological evidence of such celebrations, focusing on sociocultural roles, bodily experience, and interpretive challenges.
Instructor(s): E. Anderson
Area: Humanities
Writing Intensive.

AS.040.235. Past is Present: Cultural Heritage and Global Interactions. 3 Credits.
The uncovering, collection and valuation of the archaeological past is deeply embroiled in global interactions - diplomatic, economic, cultural. We examine the complex role of cultural heritage through consideration of case studies and analytic approaches. Frequent visits to area museums. 
Instructor(s): E. Anderson
Area: Humanities

AS.040.355. Roman Landscapes in Context. 3 Credits.
This course will explore Roman representations of landscape from the 1st century BCE to the 2nd century CE. We will also consider early modern fantasies of ancient landscapes. Cross-listed with History of Art and Interdepartmental. 
Instructor(s): H. Valladares
Area: Humanities.

AS.040.357. The Art of Classical Greece. 3 Credits.
Area: Humanities.

AS.040.360. The Archaeology of Daily Life. 3 Credits.
Limited to juniors and seniors from Classics, History of Art, Archaeology, and Museum and Society. Others with permission of instructor only. This course will examine objects of daily life from the Greco-Roman world in the Johns Hopkins University Archaeological Museum. Students will collaborate on an online catalogue, featuring their research. Cross-listed with History of Art, Near Eastern Studies, and Museums and Society. 
Instructor(s): H. Valladares
Area: Humanities.

AS.040.366. The Archaeology of Ancient Cyprus: Investigating a Mediterranean Island World in the JHU Museum. 3 Credits.
This course explores the visual and materials worlds of ancient Cyprus from the earliest human evidence through the Iron Age. Class involves regular analysis of artifacts based in the Archaeological Museum Collection. 
Instructor(s): E. Anderson
Area: Humanities
Writing Intensive.

AS.040.368. The Authority of Ruins: Antiquarianism in Italy, 1690-1890. 3 Credits.
(Same as 040.668) This seminar will focus on the transformation of antiquarianism in Italy after the discovery of Herculaneum and Pompeii. Students will work primarily with rare books from the collections at JHU. Cross-listed with History of Art and Museums and Society and Interdepartmental.
Area: Humanities.

AS.040.621. Proseminar to Classical Archaeology.
An introduction to research methods and current topics of discussion in the scholarship on Greek and Roman art and archaeology. Cross-listed with History of Art. 
Instructor(s): P. Tucci.

AS.040.626. Athenian Festivals.
AS.040.638. Ancient Greek Seafaring.
The seminar will survey literary, archaeological, and iconographical evidence for Greek ships and seafaring, and lay the groundwork for an exhibition in 2012. Cross-listed with History of Art.

AS.040.642. Greek Vases in the Johns Hopkins Archaeological Museum.
The seminar will update the scholarship on selected vases in the collection published since the 1984 catalog and generate detailed labels to accompany the new installation. 
Instructor(s): A. Shapiro.

AS.040.648. Homeric Archaeology.
This seminar surveys the archaeology of the Late Bronze Age in the Aegean, then explores the creation, diffusion, and reception of Homeric epic from the Iron Age to the end of the Archaic Period.
Instructor(s): A. Shapiro; E. Anderson.

AS.040.651. Greek Art: Archaic into Classical.
An intensive exploration, based on current scholarship, of Greek sculpture and painting ca. 500-460 BCE and the origins of the Classical style. Cross-list with History of Art. 
Instructor(s): A. Shapiro
Area: Humanities.

AS.040.655. Attic Hero Cults.
This seminar will combine the evidence of literary and epigraphical sources with archaeological material (votive reliefs, vase iconography) to explore the central role of hero cult in the religious life of ancient Athens. Cross-listed with History of Art. 
Instructor(s): A. Shapiro.

AS.040.663. Heroes and Hero Cult in Greece.
AS.040.668. The Authority of Ruins: Antiquarianism in Italy, 1690-1890.
(Same as 040.368) This seminar will focus on the transformation of antiquarianism in Italy after the discovery of Herculaneum and Pompeii. Students will work primarily with rare books from the collections at JHU. Cross-listed with History of Art and Near Eastern Studies.
Area: Humanities.
AS.040.671. Greek Portraiture and Society.  
This seminar will explore the development of Greek portrait sculpture from the Early Classical through the Hellenistic periods and the contexts of its display in Greek cities.  
Instructor(s): A. Shapiro

Film and Media Studies  
AS.061.223. Special Topics: Performance Art and Video. 3 Credits.  
This course will explore the history and current state of video and performance art, two of the most important movements in contemporary art. How have they influenced each other and how have they affected mainstream media and cultural notions of art? Students will view significant works and their presentation in galleries, museums, and public spaces, and will create individual and collaborative performance pieces of their own.  
Instructor(s): S. Barber 
Area: Humanities.

Anthropology  
AS.070.408. Creative Expression. 3 Credits.  
Tacking between theoretical and ethnographic texts on art and poetry, visual image and dramatic performance, living body and natural landscape, this course seeks anthropological ground for an impersonal and asubjective philosophy of creative expression. Drawing from thinkers such as Nietzsche, Bergson, Whitehead, Merleau-Ponty, and Deleuze, and studies set in China, India, Indonesia, Melanesia, and aboriginal Australia, we will confront the working intuitions of artists and “creators” of various kinds with the unpredictable life of the worlds in which they work. 
Area: Humanities, Social and Behavioral Sciences.

Near Eastern Studies  
AS.130.329. Ancient Egyptian Art and Archaeology. 3 Credits.  
A survey of Egyptian art as seen in the temples, tombs, funerary, and minor arts of Egypt between 3000 and 100 B.C. Slide lectures will provide a survey of art from the Pyramids to Augustus Caesar and will focus on such topics as the principles of Egyptian art; can the term art apply to early Egypt? How were artisans trained and what techniques and materials were utilized in their work? Co-listed (meets with) AS.133.750.  
Instructor(s): B. Bryan 
Area: Humanities 
Writing Intensive.

Introduces students to the methods of analysis involved in the study of archaeological ceramics. In addition to the history of ceramic analysis and its place in archaeology, students will be introduced to the basic skills needed for processing ceramics in an archaeological setting, and introduce them to the basic corpus of ancient Eastern Mediterranean ceramics, from the Neolithic until the Hellenistic period, with an emphasis on assemblages from the region of Near East, Egypt, Aegean, Greece, and Rome. They will learn more technical forms of analysis aimed at identifying methods of production, and the function and use of ceramic vessels. The aim is to prepare students who intend to participate in archaeological field projects with the appropriate knowledge of the ceramics of the Eastern Mediterranean Region. Emphasis will be placed on linking analytical methods with the appropriate research questions they can address. Students will have the opportunity to work directly with existing collections at the university, and in the Walters Art Gallery. 
Area: Humanities.

AS.131.635. Seminar: Near East Archaeology.  
Topic varies but can include the archaeology of Mesopotamia, Syria, or Palestine, or thematic discussions (e.g., on ideology, state collapse, etc.).  
Instructor(s): G. Schwartz; M. Feldman.

German Romance Languages Literatures  
AS.213.684. Aesthetics of Description.  
Since the enduring disavowal of description by Lessing, characteristics commonly assigned to description include structural endlessness and exorbitance; the simple succession of elements; the „breakdown of composition“ (Lukács) in a proliferation of details; the parity of described details; its failed ability at illusion; also its tendency to mortify, insofar as it transforms its subject into something static, stagnant. The course will undertake a critical revision of these characteristics by analyzing aesthetical debates and literary descriptions from the 18th to the 20th centuries. Topics leading the discussion will be: text-image relations; description between literature and science; observation through description; dynamization of description; motion and motionlessness; poetics of perception; performativity of description; the boredom of reading. Readings include: Bodmer, Breitinger, von Haller, Winckelmann, Lessing, Alexander von Humboldt, Hebbel, Stifter, Darwin, Ossip Mandelstam, Aby Warburg, Lukács, Peter Weiss, Peter Handke. The course will be taught in German.
AS.214.352. Writing and Wonder: Books, Libraries, and Discovery 1250-1550. 3 Credits.
The invention of printing occurred amid two centuries of intense development in the conduct and material means of European scholarship. The transition from writing by hand to movable type was accompanied by a revolution in scholarship that involved a new attitude to Classical and Biblical antiquity, the recovery of neglected and "lost" works, the formation of secular libraries, and the development of tools for the study of ancient handwriting, writing materials, and the history of language and of history itself. The revolution in attitudes to and uses of the book eventually transformed every discipline related to reading, writing, and the organization of knowledge. Topics to be covered include writing as an object of wonder, the transformation of a mythology of writing into a true history of books, writing, and libraries, the scientific study of writing and of language, and the representation of writing and books in the art and literature of the Middle Ages and Renaissance. Extensive use will be made of Johns Hopkins' large collection of books published before 1600, and student projects will be oriented toward reliving the experiences of scholars in this period, including via computer-assisted means. Open to all undergraduates. Knowledge of a foreign language helpful but not required.
Area: Humanities.

AS.214.672. Tasso, the Epic & Tradition.
Students will achieve deep familiarity with Tasso's Gerusalemme liberata and Aminta; read selections from Gerusalemme conquistata, Il mondo creato, Tasso's Dialogues, and his literary-theoretical treatises; survey important texts of Tasso criticism, and sample Tasso's legacy in poetry and figurative arts.
Instructor(s): W. Stephens.

AS.300.602. Theory, Painting, Vision.
Reading in philosophy, theory, criticism. Texts by Merleau-Ponty, Heidegger, Foucault, Derrida, Cavell, and Pippin, among others.
Instructor(s): M. Fried.

AS.300.644. Theory, Painting, Vision.
Theory, Painting, Vision: Readings to be selected but they will definitely include texts by Barthes, Cavell, Wall, and Michaels.
Instructor(s): M. Fried.

Center for Africana Studies

AS.362.103. Introduction to African Arts. 3 Credits.
This course provides an overview of principal visual arts of Africa, pre-historic to contemporary.
Instructor(s): N. Bridges
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.208. From Nok to Nsukka: Approaches to the Art of Nigeria. 3 Credits.
This course provides an introduction to art traditions within Nigeria's borders; it also explores historiography and the impact of modern nation-building on art history and the development of museum exhibitions.
Instructor(s): K. Gunsch
Area: Humanities.

Program in Museums and Society

AS.389.130. Mini Course: Conservation, An Introduction to Technical Art History. 1 Credit.
Look through the eyes of a conservator and learn how to answer historical questions by analyzing the physical nature of works of art. Objects examined will include paintings, sculpture and works on paper from the collection of the Baltimore Museum of Art. Class meets 4 times, on February 7, 14, 21 and 28, at the BMA. Syllabus and organizational meeting at JHU on Thursday, January 31, 5:30pm.
Instructor(s): T. Primeau
Area: Humanities.

AS.389.201. Introduction to the Museum: Past and Present. 3 Credits.
This course surveys museums, from their origins to their most contemporary forms, in the context of broader historical, intellectual, and cultural trends. Anthropology, art, history, and science museums are considered. Cross-listed with Anthropology, History, and History of Art.
Instructor(s): E. Rodini
Area: Humanities, Social and Behavioral Sciences.

AS.389.205. Examining Archaeological Objects. 3 Credits.
This course considers the role of materials in the production, study and interpretation of objects by examining artifacts from the Johns Hopkins Archaeological Museum. Students will consider materials such as ceramics, stone, metal, glass, wood and textiles, and visit artists' studios to gain an understanding of historical manufacturing processes. M&S practicum course. Cross-listed with Archaeology, Near Eastern Studies, Classics, and History of Art.
Instructor(s): S. Balachandran
Area: Humanities.

AS.389.320. Photographs on the Edge: Ara Güler in Archives of the Smithsonian's Freer and Sackler Galleries. 3 Credits.
Work as a curator alongside Smithsonian staff, researching the work of Turkish photographer Ara Güler to develop an exhibit that considers relationships between the history of photography, archives and the museum. Class will travel several times to the Freer and Sackler Galleries in Washington D.C. M&S practicum course.
Instructor(s): N. Micklewright
Area: Humanities, Social and Behavioral Sciences.

AS.389.330. Critique of the Museum in Contemporary Art. 3 Credits.
Since the 1960s, many artists have challenged art museum conventions, contesting the assumption that museums are ideologically neutral spaces of display. This institutional critique is examined in artworks, installations, literature. Cross-listed with History of Art.
Instructor(s): R. Haywood
Area: Humanities.

AS.389.343. Conservation of Modern and Contemporary Art. 3 Credits.
We examine how museums care for, interpret, and preserve modern and contemporary artworks that defy the traditional materials, display methods, and uses of ancient or historic art. Cross-listed with History of Art.
Area: Humanities.
AS.389.345. Introduction to Museum Practice. 3 Credits.
Taking the JHU Archaeological Museum as a case study and working closely with its holdings, we discuss the principles and practice of managing and preserving museum collections. Earns M&S Practicum credit. Cross-listed with History of Art, Anthropology, Near Eastern Studies, and Classics.
Instructor(s): S. Balachandran
Area: Humanities.

AS.389.354. Paper Museums: Exhibiting Prints at the BMA. 3 Credits.
In this advanced seminar, students work with BMA curator to organize an exhibition about the printed series. Covers various aspects of museum work, including research, installation, programming. M&S practicum course. Cross-listed with History of Art
Instructor(s): R. Hoisington
Area: Humanities.

AS.389.356. Halls of Wonder: Art, Science, and Literature in the Age of the Marvelous, 1500-1800. 3 Credits.
Explore the material culture of "wonder" from the Renaissance to the Enlightenment in literature, science, and art, with Hopkins' rare book collections and the Walters Art Museum. M&S practicum course.
Instructor(s): E. Havens
Area: Humanities.

AS.389.358. Curators, Connoisseurship, and Museum Collections. 3 Credits.
Long-time curator leads practical and theoretical discussion of curatorial work on art museum permanent collections: connoisseurship, conservation, presentation, interpretation, exhibitions, acquisitions, and provenance. Some meetings at BMA and Walters.

AS.389.362. Behind the Scenes at the Walters Art Museum: Material Migrations. 3 Credits.
Work with Walters and STSci staff to learn about the workings of a professional art museum while developing an exhibition of images from the Hubble Space Telescope. M&S practicum course.
Area: Humanities.

AS.389.363. Curating Culture at JHU's Evergreen Museum & Library: Excellence in Twentieth Century Design. 3 Credits.
In this hands-on course, students research Evergreen and develop an innovative, public exhibition or presentation. History of the house, grounds, books, artifacts are all subject to investigation. M&S practicum course. Cross-listed with History of Art.
Area: Humanities.

AS.389.366. Interpreting Warhol: An Introduction to Museum Education and Interpretation. 3 Credits.
A hybrid between art history and an introduction to museum practices, this course culminates in developing education programs for the BMA's upcoming exhibition dedicated to Andy Warhol. M&S practicum course. Cross-listed with History of Art.
Area: Humanities.

AS.389.367. Walking with Reliquaries. 3 Credits.
Students will study medieval objects from the Walters Art Museum collection and design interpretative tools that will be used in an upcoming exhibition at the museum. The class meets at Walters, and is M&S practicum course. Cross-listed with History of Art.
Instructor(s): M. Bagnoli
Area: Humanities.

AS.389.368. Artists, Museums, and Social Purpose: Contemporary Models. 3 Credits.
How do artists working today engage with museums? Students explore these partnerships in theory and practice, proposing a local installation in collaboration with artist-instructor Peter Bruun. M&S practicum course. Cross-listed with Homewood Art Workshops; History of Art
Instructor(s): P. Bruun
Area: Humanities.

AS.389.373. Encountering the Art of South Asia: Museum Display, Theory and Practice. 3 Credits.
Students reconsider the exhibition and interpretation of South Asian Art at the Walters Art Museum to suggest a new permanent display. Class meets at the Walters Art Museum. M&S practicum course.
Instructor(s): R. Brown; R. Mintz
Area: Humanities.

AS.389.440. Who Owns Culture?. 3 Credits.
This seminar explores the complicated, often explosive concept of cultural property, including questions surrounding the ownership, preservation, and interpretation of artifacts, monuments, heritage sites, and living traditions. Cross-listed with Anthropology and History of Art.
Instructor(s): E. Rodini
Area: Humanities, Social and Behavioral Sciences.

AS.389.450. Readings in Material Culture. 3 Credits.
Objects, things, "stuff"- this seminar will pursue classic texts and emerging methodologies to explore the myriad ways materials and materiality have been theorized across disciplines. For graduate/advanced undergraduate students.
Instructor(s): E. Rodini; R. Brown
Area: Humanities.

AS.389.460. Inventing the Middle Ages from the Renaissance to Today. 3 Credits.
Investigate the history of the collection, interpretation and display of medieval art by nations, museums and private collectors. Topics range from antiquarian interest to conception of medieval sculpture as "primitive", from the use of medieval objects in nationalistic displays and from early American museums such as the Cloisters in NY to current exhibits such as the Walters. Cross-listed with History and History of Art.
Instructor(s): J. Kingsley
Area: Humanities.

AS.389.650. Readings in Material Culture.
Objects, things, "stuff"- this seminar will pursue classic texts and emerging methodologies to explore the myriad ways materials and materiality have been theorized across disciplines. For graduate/advanced undergraduate students.
Instructor(s): E. Rodini; R. Brown
Area: Humanities.

History of Science and Technology

The Department of the History of Science and Technology offers an undergraduate program leading to the degree of Bachelor of Arts with a major in science, medicine, and technology, and a graduate program leading to the degree of Doctor of Philosophy.

The department offers a variety of courses that deal with the history of the conceptual and technical development of the sciences, as well as the cultural and social impact of science and technology on civilization.
These courses are open to all undergraduates in the Schools of Arts and Sciences and Engineering. A few of the courses require some background in an appropriate science, but most are accessible to those with no specialized knowledge who want to understand the part science has played in shaping modern culture. Students who have concerns about their technical competence for a given course should consult the professor involved.

**Major in History of Science, Medicine, and Technology**

Offered in cooperation with the Institute of the History of Medicine, this major allows students to combine substantive work in science with study of the social and historical context of modern science, medicine, and technology. The aim of the program is to produce graduates who are scientifically literate and technically competent, and who at the same time understand science and medicine not as static, autonomous enterprises but rather as modes of thought that have developed in specific social contexts.

The major is appropriate for any student planning a career in medicine or other areas of the health care industry. It is also flexible enough to serve as a basis for a variety of careers where an informed knowledge of science and technology and their impact on society is important. Such careers include broad areas of business and industry, journalism, teaching, museum work, and specialized areas of law and public policy.

**Requirements for the B.A. Degree**

Also see Requirements for a Bachelor’s Degree. (p. 24)

- Sciences: Students are required to have a total of 30 credits in science, engineering, and mathematics courses coded (E, N, or Q), of which at least nine credits must be above the 100-level. Laboratory courses in science count toward this requirement. Calculus I is strongly recommended.
- History of Science, Medicine and Technology: A total of 24 credits of course work in the history of science, medicine and technology are required. These must include at least two survey courses and four additional courses above the 100-level.
- Students in their senior year may take graduate courses with permission.
- A minimum grade of C- is necessary in all courses applied toward the requirements of the major and requirements may not be taken satisfactory/unsatisfactory. Each course must be at least 3 credits.

Two Survey Courses (select from the following): * 6

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Additional History of Science, Medicine & Technology Courses **

- Two history of science, medicine & technology courses at any level 6
- Four 200-400 level history of science, medicine & technology courses 12

Science, Math, or Engineering Courses (N, Q, or E) 9

- Nine credits of 200-level or higher N, Q, or E courses

**Twenty-one credits of N, Q, or E courses at any level** 21

**Total Credits** 54

* Other courses might serve to fulfill the survey course requirement with permission of the director of undergraduate studies.
** The courses AS.140.411 Senior Research Seminar and AS.140.412 Research Seminar may not be used towards this requirement.

**Honors in the Major**

Students who demonstrate excellence in course work are eligible to write an honors thesis (AS.140.411 Senior Research Seminar and AS.140.412 Research Seminar) in their final year for additional credits. Students must have outstanding recommendations from two department members to be eligible for the thesis. Departmental honors are conferred if a student has a GPA of 3.5 or better in major requirements and receives a grade of A- or better on the thesis.

**Minor in the History of Science, Medicine and Technology**

The department offers a minor which may be combined with other science, social science, or humanities majors. To complete the requirements for the minor, students must have a total of 18 credits in the history of science, medicine, or technology, including at least one survey course. A minimum grade of C- is necessary in all courses applied toward the requirements of the major and requirements may not be taken satisfactory/unsatisfactory. Each course must be at least 3 credits.

One Survey Course (select from the following): * 3

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Additional History of Science, Medicine & Technology Courses

- Five history of science, medicine & technology courses at any level 15

**Total Credits** 18

* Another course might serve to fulfill the survey course requirement with permission of the director of undergraduate studies.

**Ph.D. in the History of Science and Technology**

The graduate program in the history of science and technology leads to the Ph.D. degree. Although an M.A. degree is granted, candidates who seek only that degree are not ordinarily admitted. The object of the Ph.D. program is to provide the rigorous training necessary for a scholarly career in teaching and research; consequently, the focus of the student’s activity will be the research seminars of the department. Faculty from the Institute of the History of Medicine in the School of Medicine also participate in the program.

**Admission**

Application deadline is January 15. All supplemental materials (official transcripts, three letters of recommendation, official GRE scores, and,
when applicable, official TOEFL scores) should be sent directly to the Graduate Admissions Office at:

Johns Hopkins University
Full-time Graduate Studies in Arts, Sciences, and Engineering
Graduate Admissions Office
Shriver Hall 28
3400 North Charles Street
Baltimore, Maryland 21218

For further information on our faculty and programs, please visit our website at: http://host.jhu.edu.

Requirements for the Ph.D. Degree

Before candidates begin full-time research on their dissertations, they must prepare themselves adequately in the appropriate fields of knowledge, become skilled in the techniques of historical research, and be able to carry out a sustained piece of historical analysis and writing.

In the first year of the program students are introduced to the methods and techniques of research and complete a year-long survey course in the history of science or the history of medicine. Students in their second year of study present a research paper to the department. In the second and third years of study, students prepare a field in history and two specialized fields in the history of science, medicine, or technology. The fields are individually arranged and satisfied. The fields entail broad and intensive reading and the passing of a comprehensive examination and/or presentation of a major research paper. Before being admitted for formal candidacy for the degree, the student must also demonstrate a reading knowledge of two foreign languages. The final requirement for the Ph.D. degree is the completion of a dissertation that is an original contribution to historical knowledge and of a standard suitable for publication.

The History of Science and Technology is by its nature interdisciplinary, and students are encouraged to undertake study in related areas such as history, philosophy, and the natural and medical sciences.

Facilities

The Eisenhower Library and the Welch Medical Library contain about two million volumes, including the special collections of the Institute of the History of Medicine in Baltimore. These research facilities are supplemented by the rare book holdings at Evergreen House, the Pratt Library, and the Peabody Library.

Other important research collections are available to students. In Philadelphia, collections include the Chemical Heritage Foundation, the American Philosophical Society, and the Academy of Natural Sciences. The Hagley Museum and Library’s collections in the history of American science and technology are within easy distance of campus, as are the incomparable holdings of the Library of Congress, the National Library of Medicine, and other governmental agencies in Washington, D.C.

Financial Aid

The department has several graduate fellowships and teaching assistantships. Students may also be eligible for federal financial support through the National Science Foundation. Information on these and other fellowships can be obtained through the fellowship advisor at the student’s college, or from the Fellowship Office of the National Academy of Sciences, National Research Council, Washington, D.C. 20025. In the recent past, doctoral candidates have also won support for their research in the United States and abroad through such sources as the Smithsonian Fellowships, the Fulbright-Hays grants, the Spencer Foundation, and the Deutscher Akademischer Austauschdienst (DAAD) Fellowship.

For current faculty and contact information go to http://host.jhu.edu/ people/

Faculty

Chair
Sharon Kingsland
Professor (Chair): history of biology, especially ecology, genetics and behavioral biology; science in America.

Professors
Robert H. Kargon
Willis K. Shepard Professor of the History of Science: history of physics; science and social change; science in America.

Stuart W. Leslie
History of technology, history of science-based industry.

Lawrence M. Principe
Drew Professor of the Humanities, Professor: history of chemistry and alchemy, early modern science, science and religion.

Associate Professor
Maria Portuondo
History of science, science and exploration, science and technology in Latin America, early modern Spanish and Latin American Cosmography and geography.

Assistant Professor
Yulia Frumer
History of science, Japanese history.

Affiliated Faculty School of Medicine

Nathaniel C. Comfort
Professor: history of biology, especially genetics, molecular biology, and biomedicine; history of recent science, oral-history and interviewing. Current project: History of human and medical genetics in America.

Mary E. Fissell
Professor: European health care and popular medicine, 17th and 18th centuries; early modern gender and the body.

Jeremy Greene
Elizabeth Treide and A. McGehee Harvey Chair in History of Medicine, Associate Professor: 20th century clinical medicine, therapeutics, pharmaceuticals, global health, history of disease.

Marta Hanson
Associate Professor: history of East Asian Medicine; History of Chinese science and medicine; history of epidemics and disease in China.

Graham Mooney
Assistant Professor: history of public health, 19th and 20th centuries; historical epidemiology; historical demography; disease surveillance and risk.

Randall M. Packard
William H. Welch Professor of History of Medicine: history of disease; public health; and medicine, health, and disease in Africa.

Gianna Pomata
Professor: medieval and Renaissance European medicine; natural history; Italy; history of history and of scholarship.

Daniel P. Todes
Professor: history of Russian medicine and science, social relations of scientific thought, history of biomedical sciences.

For current course information and registration go to https://isis.jhu.edu/clases/

Courses

**AS.140.105. History of Medicine. 3 Credits.**
The course provides an overview of the medical traditions of six ancient cultures; the development of Greek and Islamic traditions in Europe; and the reform and displacement of the Classical traditions during the Scientific Revolution. Cross-listed with Public Health Studies
Instructor(s): M. Fissell
Area: Humanities, Social and Behavioral Sciences.

**AS.140.106. History of Modern Medicine. 3 Credits.**
The history of Western medicine from the Enlightenment to the present, with emphasis on ideas, science, practices, practitioners, and institutions, and the relationship of these to the broad social context.
Instructor(s): D. Todes
Area: Humanities, Social and Behavioral Sciences.

**AS.140.111. Freshman Seminar. 3 Credits.**
This Freshman Seminar explores instances of first contact between different world cultures and western science (16th-20th c.). Some cases considered include Jesuits in the Chinese imperial court, Spanish missionaries and the Maya, etc.
Instructor(s): M. Portuondo
Area: Humanities, Social and Behavioral Sciences.

**AS.140.113. Freshmen Seminar: Darwin, Freud, Pavlov: Perspectives on Human Nature. 3 Credits.**
Instructor(s): D. Todes
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**AS.140.115. Freshman Seminar: Humans and Artifacts. 3 Credits.**
Instructor(s): Y. Frumer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**AS.140.117. Freshman Seminar: Writing about Science and Medicine. 3 Credits.**
Scientific literature* is not an oxymoron. Doctors and scientists write, sometimes beautifully. How? Why? We will both dissect and emulate classics of this genre and discuss how literary skill can inform both patient care and laboratory practice, and how it can shape the role of science in society. Freshmen Only.
Instructor(s): N. Comfort
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**AS.140.123. Johns Hopkins: The Idea of a University. 3 Credits.**
Who was Ira Remsen and why is he interred in the building bearing his name? Was the School of Medicine's best surgeon really a life-long drug addict? This freshman seminar will explore the history of our university since its founding in 1876, including its schools of medicine, public health, nursing, the Applied Physics Laboratory and SAIS. We'll look carefully at the archives and develop a thematic class exhibit. Research and writing intensive.
Instructor(s): S. Leslie
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**AS.140.143. Genetics in Medicine & Society. 3 Credits.**
If you ever become seriously ill, have children, or read the newspaper, you cannot afford to be ignorant of the science of heredity. In this class, we will explore some of the principle concepts of genetics and their social impact, from Gregor Mendel to the Human Genome Project. We will read some original papers as well as review articles and historical analyses. Topics covered will include: the rediscovery of Mendel's principles; eugenics; the introduction of genetics into medicine; concepts of genetic disease; genetic and biochemical individuality; genetics, race, and gender; and genetic screening and testing. This course will be discussion-heavy and include a term paper.
Instructor(s): N. Comfort
Area: Humanities, Social and Behavioral Sciences.

**AS.140.152. The Roots of the Stem Cell Debate. 3 Credits.**
For science & non-science majors. We will study the science of stem cells & related topics (e.g. cloning) and then put the stem cell debate into its cultural context. We will use these discussions to examine the interplay between science & culture, focusing on ethics, politics, and the education of the public while examining the role that the media plays.
Area: Humanities, Social and Behavioral Sciences.

**AS.140.161. Thinking and Living with Animals: Human-Animal Relationships in History. 3 Credits.**
The course analyzes the history of human-animal interactions focusing on the way in which discourses and knowledge about animals shaped fundamental concepts such as gender, culture, agency, and knowledge. Dean's Teaching Fellowship course
Area: Humanities, Social and Behavioral Sciences.

**AS.140.215. Monuments and Memory. 3 Credits.**
Why do some places, whether manmade or natural, capture and hold our imaginations? Why, and how, do we commemorate particular sites? This course will explore the construction or discovery, and the enduring significance, of selected monuments in the West, beginning with the Great Pyramid and ending with the World Trade Center. We will consider national memorials by which the West has measured itself. We will study how they were made, interpreted and represented in art, literature, popular culture, and tourism. Cross-listed with Program in Museums and Society.
Instructor(s): S. Leslie
Area: Humanities, Social and Behavioral Sciences.

**AS.140.217. Urban Modern: Science, Technology and Modernity since 1880. 3 Credits.**
The course surveys manned flight in America, with particular emphasis on how technological changes and sociocultural events have influenced one another in the development of aircraft.
Instructor(s): L. Karafantis
Area: Humanities, Social and Behavioral Sciences.
AS.140.301. History of Science: Antiquity To Renaissance. 3 Credits.
The first part of a three-part survey of the history of science. This course deals with the concepts, practice, and the cultural roles of scientific thought from classical antiquity to the time of Copernicus. Topics include the pre-Socratics, the systems of Plato and Aristotle and their continuing influence, Islamic science, Latin medieval scholasticism and the universities, and Renaissance hermeticism/natural magic. Interactions across science, art, technology, and theology are highlighted.
Instructor(s): L. Principe
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

Survey of major scientific advances from 18th to 20th century, from Newtonian science to the age of Big Science. H,S.

AS.140.303. Spaces of Inquiry: The Clinic, The Studio..... 3 Credits.
How have science, medicine and the arts informed and shaped one another? This undergraduate seminar traces the interaction of key sites of knowledge production from the early 19th to the late 20th c., with a focus on universities, museums, corporations, libraries and hospitals.
Instructor(s): R. Kargon; S. Leslie
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.140.304. Medicine for and by Women in Early Modern Europe. 3 Credits.
This course will examine women’s role in early modern European medicine through the reading of early modern medical texts written for or by women. The course is meant for students interested in women’s history, the history of medicine, European history.
Instructor(s): G. Pomata
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.140.305. Science and Technology in East Asia. 3 Credits.
The course explores the historical and cultural context of scientific and technological developments in China, Japan and Korea, focusing especially on the rise of modern science in the 19th and the 20th century.
Instructor(s): Y. Frumer
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.140.306. Science And Religion. 3 Credits.
Science and religion are crucial influences on Western culture. This course examines their interrelations during the past 2000 years, including the Athens-Jerusalem debate, medieval theology, the Galileo affair, evolution, and current issues.
Instructor(s): L. Principe
Area: Humanities, Social and Behavioral Sciences.

AS.140.307. War and Technology in East Asia. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.140.311. Ecology, Health, and the Environment. 3 Credits.
Explores historical and current problems relating to the environment and human health, with emphasis on the Chesapeake region and Baltimore. Students write research papers.
Instructor(s): S. Kingsland
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.140.315. Spaceflight and Society: Exploring the History of the Final Frontier. 3 Credits.
This course explores the history of spaceflight, emphasizing its civil component, but also including national security and commercial activities, and the interactions among all components of spaceflight around the world.
Instructor(s): R. Launius
Area: Humanities, Social and Behavioral Sciences.

AS.140.319. Johns Hopkins: America’s First Research University. 3 Credits.
Who was Ira Remsen and why is he interred in the building bearing his name? Was the School of Medicine’s best surgeon really a life-long addict? Did JHU undergraduates actually steal and hold hostage the University of Maryland Terrapin? This undergraduate seminar will explore the history of our university since its founding in 1876, including its schools of medicine, public health, the Applied Physics Laboratory and SAIS. We’ll look carefully at the archives and develop a thematic exhibit. Research and writing intensive.
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.140.320. Modernity on Display: Technology and Ideology in the Era of World War II. 3 Credits.
Seminar focuses on ideological warfare over technological modernity at world’s fairs 1937-1942. France, United States, Japan, Germany and Italy.
Instructor(s): A. Molella; R. Kargon
Area: Humanities, Social and Behavioral Sciences.

AS.140.321. Scientific Revolution. 3 Credits.
This course concerns developments in early modern Europe accepted as the origins of modern science. With a focus on the fundamental change in our understanding of nature, course topics include alchemy, astrology, astronomy, cosmology, humanism, mechanics, natural magic, and physics.
Instructor(s): M. Portuondo
Area: Humanities, Social and Behavioral Sciences.

AS.140.322. The Heavens and Earth in the History of Astronomy. 3 Credits.
How do we study the stars, and what do they tell us about the earth? In this course, we explore views of the heavens across history, from ancient Greece to international astrophysics. Special emphasis will be given to the ‘new stars’ of 1572 and 1604, whose remnants astronomers at Johns Hopkins University continue to study today. Croaa-listed with Earth and Planetary Science, Physics and Astronomy.
Area: Humanities, Social and Behavioral Sciences.

AS.140.325. Cult/Communica/Technol. 3 Credits.
After examining oral communication, emergence of writing, printing, perspective, and extensions of senses (telescope, camera, radio, telephone, internet), seminar focuses on the emergence of visual culture in the 20th century.
Instructor(s): R. Kargon
Area: Humanities, Social and Behavioral Sciences.

AS.140.327. Science and Utopia. 3 Credits.
Seminar examines the changing role of science in planning the ideal community from the 17th century to the present. Readings include works by Campanella, Bellamy, H.G. Wells, Orwell, B.F. Skinner and Walt Disney.
Instructor(s): R. Kargon
Area: Humanities, Social and Behavioral Sciences.
AS.140.330. Oral History Theory and Method. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.140.332. Science Moderne: Inventing a Culture for the Future. 3 Credits.
This undergraduate seminar examines the impact of new ideas of time and space and of the second Industrial Revolution (the transformations induced by science-based technologies) on art, music, dance, urban design, architecture, and social and political thought in the first half of the 20th century. Cross-listed with Program in Museums and Society.
Instructor(s): A. Molella; R. Kargon
Area: Humanities, Social and Behavioral Sciences.

AS.140.333. The Idea of the Artificial Human in History. 3 Credits.
Course examines the concept of the artificial human as a mirror of changing world-views from late middle ages through the twentieth century. Readings include Mary Shelley, Wells, Capek, Piercy.
Instructor(s): R. Kargon
Area: Humanities, Social and Behavioral Sciences.

AS.140.334. Science in the Atomic Age. 3 Credits.
Transformation of science after WWII, including rise of interdisciplinary fields, Big Science, atomic science, molecular biology, and environmentalism. Research paper required.
Instructor(s): S. Kingsland
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.140.337. Science, Fiction, and the Brain. 3 Credits.
Explore two centuries worth of attempts to explain (and control) human consciousness. This seminar uses history, philosophy, ethics, and especially science fiction to trace the development of the sciences of mind and brain from mesmerism to fMRI.
Area: Humanities, Social and Behavioral Sciences.

AS.140.339. JHU Oxford: History & Philosophy of Sciences. 3 Credits.
Open to JHU Oxford participants only.
Instructor(s): J. Schildbach; Staff.

AS.140.346. History of Chinese Medicine. 3 Credits.
Students will study the most recent anthropological, philosophical, and historical scholarship on medicine in traditional and modern Chinese society. They will approach the topic from several angles including medical pluralism, the range of healers, domestic and literate medicine, gender, emergence of new disciplines, public health and the history of disease. The course relies on secondary sources and primary sources in English translation. Cross-listed with East Asian Studies.
Instructor(s): M. Hanson
Area: Humanities, Social and Behavioral Sciences.

AS.140.347. History Of Genetics. 3 Credits.
Intellectual and social history of the gene concept, including Mendelism, eugenics, medical genetics, DNA, genomics, and personalized medicine.
Instructor(s): N. Comfort
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.140.352. Who Wants to be a Billionaire?: High Tech & the American University. 3 Credits.
Long before Facebook, faculty and students were creating startups on campus. This course examines college entrepreneurship from its 19th-century origins to today: the potential perils, profits, and promise for entrepreneurs and universities alike.
Instructor(s): S. Morris
Area: Humanities, Social and Behavioral Sciences.

AS.140.354. Science, Technology and Society in Modern East Asia. 3 Credits.
The course aims to survey the history of science and technology in East Asian countries—China, Japan and Korea—since the late 19th century. Since Japan was the only nation in East Asia that succeeded in modernizing itself by adopting western science, technology and politics, it will be studied first. The Chinese and Korean cases will then be reviewed from different angles. The course will emphasize the mutual influence between science & technology and society to answer how they became major industrial powers in the 21st century. Cross-listed with East Asian Studies.
Instructor(s): D. Kim; Y. Li
Area: Humanities, Social and Behavioral Sciences.

AS.140.359. Museums and Globalization. 3 Credits.
Examines how museums are linked to wider national, cultural, communities, and mobilize resources to address political, economic and social concerns and questions of heritage. Jointly with Case Western Reserve University. Cross-listed with Program in Museums & Society.
Instructor(s): R. Kargon
Area: Humanities, Social and Behavioral Sciences.

AS.140.362. The Communications Revolution. 3 Credits.
Investigates the nature and impact of phenomenal changes in transportation and communication since the 19th-century, including iconic developments such as the Panama Canal, Brooklyn Bridge, airplanes, automobiles, television, wireless communication and the internet.
Instructor(s): S. Morris
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.140.365. From Colonial to Global Health: Health, Healing and European Expansion, 1500-1950. 3 Credits.
This course traces the impact of European expansion on health, medicine and disease control from the Age of Exploration to the emergence of international and global health in the early twentieth century. Dean’s Teaching Fellowship course.
Instructor(s): K. Arner
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.140.368. Technological Transformations. 3 Credits.
Course explores the historical development of revolutionary technologies and their transformations of the individual and society. Focus on computing, biotech, consumer goods, warfare, manufacturing, agriculture, imaging, energy, transportation, and sustainability.
Instructor(s): M. Portuondo
Area: Humanities, Social and Behavioral Sciences.

AS.140.369. The Cities of East Asia: A Cultural History. 3 Credits.
Area: Humanities, Social and Behavioral Sciences Writing Intensive.
AS.140.371. The History of Forensic Medicine: Medicine and the Law in Western Society, 1500-2000. 3 Credits.
This course explores the history of forensic medicine from some of its earliest roots to the present day, investigating everything from witchcraft trials to DNA profiling.
Instructor(s): S. Lejaq
Area: Humanities, Social and Behavioral Sciences.

AS.140.372. Science on Display. 3 Credits.
History of collecting, exhibiting and interpreting science and technology, from Renaissance cabinets of curiosity to modern world’s fairs, zoos, aquariums, films and science centers. Students will present their own exhibits as dioramas, web sites, documentaries or other formats. Cross-listed with Program in Museums and Society
Instructor(s): S. Leslie
Area: Humanities, Social and Behavioral Sciences.

AS.140.376. A Second World Within the World of Nature: The History of Geographic Thought. 3 Credits.
This course traces the development of the science of geography from antiquity through the mid-nineteenth century. Readings explore the legal, political, cultural and theological resonances of geography during this period.
Instructor(s): M. Franco
Area: Humanities, Social and Behavioral Sciences.

AS.140.377. When the West Came East: Science & Technology in East Asia 19th-Early 20th Century. 3 Credits.
This course is an exploration of 19th - 20th century China, Japan and Korea. We will examine the links between technology and imperialism to understand why by the 19th and 20th centuries these East Asian countries began to fall behind in the race for technological superiority.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.385. A Patient’s History of Health and Healing (1600-1750)(DTF). 3 Credits.
This course explores themes in the history of medicine in early modern Europe from the patient’s point of view. Topics include patients’ conceptions of disease categories, articulations of suffering, use of popular medical texts, experiences of childbirth, negotiations with healers, and approaches to death. Dean’s Teaching Fellowship course
Cross-listed with Public Health Studies
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.389. Exploration and Science. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.140.390. Science and Technology in Latin America. 3 Credits.
The course surveys various national contexts to illustrate major themes in western science and technology in Hispanic America (1492 to the present). Cross-listed with Program in Latin American Studies
Instructor(s): M. Portuondo
Area: Humanities, Social and Behavioral Sciences.

AS.140.392. Sexing the Body: Gender, Sexuality, and Medicine. 3 Credits.

AS.140.397. The Population Problem in Historical Perspective. 3 Credits.
This course will trace the major debates over the relationship of population growth to food supply, birth control, resources, and environmental change from the 18th century to present. Cross-listed with Public Health Studies
Area: Humanities, Social and Behavioral Sciences.

AS.140.398. Godzilla and Fukushima: Japanese Environment in History and Films. 3 Credits.
Juxtaposing Japanese environmental history and its reflection in popular media, the course will explore the intersection between technology, environment, and culture. The course will be accompanied by relevant movie screenings.
Instructor(s): Y. Frumer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.411. Senior Research Seminar. 2 Credits.
Instructor(s): M. Portuondo
Area: Humanities, Social and Behavioral Sciences.

AS.140.412. Research Seminar. 2 Credits.
Departmental Majors Writing a Senior Thesis Only
Instructor(s): M. Portuondo
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.413. The White Plague: History of Tuberculosis. 3 Credits.
Instructor’s permission only. Examination of interrelated scientific, medical, social, and cultural dimensions of tuberculosis from early modernity to the present in various geographical and cultural settings. Extensive reading, research based on primary sources. Cross-listed with History, Anthropology
Instructor(s): D. Todes
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.418. Medicine for and by Women in Early Modern Europe. 3 Credits.
This course will examine women’s role in early modern European medicine through the reading of early modern medical texts written for or by women. The course is meant for students interested in women’s history, the history of medicine, European history. Cross-listed with History
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.425. Individualized Medicine from Antiquity to the Genome Age. 3 Credits.
A seminar for graduate students and advanced undergraduates. We will explore the notion of the individual in medicine over 25 centuries, from the Hippocratics to the invention of the case study during the Renaissance to the genetic, biochemical, and immunological individual in recent biomedicine. Recommended Course Background: AS.140.105, AS.140.106
Instructor(s): G. Pomata; N. Comfort
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.445. Mixing It Up: Interdisciplinarity in Science. 3 Credits.
Many landmark discoveries in science, such as the discovery of the double helix, were achieved through an interdisciplinary approach. Our course explores how institutions of research and education have advanced science through the promotion of interdisciplinarity. Case studies examine important problems in physical and biological sciences whose solutions required interdisciplinary approaches. Research paper required.
Instructor(s): R. Kargon; S. Kingsland
Area: Humanities, Social and Behavioral Sciences.
AS.140.451. History and Ethics of Body Modification. 3 Credits.
Explores the history and ethics of various forms of body modification, including: cosmetic surgery, tattooing, transsexuality, transableism, performance-enhancing and mood-altering drugs, prostheses, vampirism, and bodybuilding. Co-listed with 140.651
Instructor(s): D. O’Connor
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.501. Independent Study. 3 Credits.
Instructor(s): M. Portuondo.

AS.140.502. Independent Study. NULL Credits.
Instructor(s): G. Mooney; M. Portuondo; S. Leslie.

AS.140.597. Research-Summer. 3 Credits.
Instructor(s): S. Leslie; Staff.

AS.140.598. Summer Internship. 1 Credit.
Instructor(s): S. Leslie; Staff.

AS.140.599. Independent Study-Summer. 3 Credits.
Instructor(s): M. Portuondo; S. Leslie.

An introductory course at the graduate level to the interpretation of historical evidence; to the social, intellectual, and political analysis of historical data; and to contemporary methods in the history of science, medicine, and technology.
Instructor(s): M. Hanson.

AS.140.618. Seminar in the History of Life Sciences.
For graduate students preparing papers in history of science.
Instructor(s): S. Kingsland.

AS.140.626. Advanced Seminar.
Seminar designed for Ph.D. students currently working on their dissertation thesis.
Instructor(s): R. Kargon; Y. Frumer.

AS.140.635. The Postwar Reconstruction of Science.
Examines transformation of science after World War II in comparative perspective. Students will do a research project.
Instructor(s): R. Kargon; S. Kingsland.

AS.140.641. Departmental Colloquium.
Reports by staff members, students, and invited speakers.
Instructor(s): Y. Frumer.

AS.140.642. Colloquium.
Reports by faculty, students, and invited speakers.
Instructor(s): M. Portuondo; S. Kingsland.

AS.140.647. Science and the State, 1500-1900.
Comparative analysis of rise of modern state and rise of modern science from early modern period through 19th century. Students will write research papers.
Instructor(s): R. Kargon; S. Kingsland.

The course explores how early modern natural philosophers engaged with ancient philosophies to fashion the approaches to the study of nature associated with the Scientific Revolution. Topics discussed include Neoplatonism, Hermetism, Skepticism, Atomism and various other conceptions of nature and knowledge.
Instructor(s): M. Portuondo.

AS.140.651. The History and Ethics of Body Modification.
Explores the history and ethics of various forms of body modification, including: cosmetic surgery, tattooing, transsexuality, transableism, performance-enhancing and mood-altering drugs, prostheses, vampirism, and bodybuilding. Co-listed with 140.451
Instructor(s): D. O’Connor

AS.140.652. Seminar in the History of Technology.
Reading seminar and general introduction to key historiographical, topical and methodological issues of the field. Readings include contributions to technological history from the perspectives of economics, cultural studies, sociology and archeology.
Instructor(s): M. Portuondo.


AS.140.655. Early Modern Science in France.
This seminar examines 17th- and 18th-century French science and medicine and their social, political, and institutional contexts. Participants will write a paper or dissertation chapters for discussion. Reading knowledge of French required.
Instructor(s): L. Principe.

AS.140.656. Science in the American Century.
Open to juniors and seniors without instructor’s permission. Selected topics in 20th century history of science and technology with emphasis on American science and its impact worldwide.
Instructor(s): R. Kargon; S. Kingsland; S. Leslie.

AS.140.657. Science on Display.
History of collecting, exhibiting and interpreting science and technology, from Renaissance cabinets of curiosity to modern world’s fairs, zoos, aquariums, films and science centers. Students will present their own exhibits as dioramas, web sites, documentaries or other formats. Cross-listed with Program in Museums and Society
Instructor(s): S. Leslie.

AS.140.658. Main Currents in American Science and Technology.
A graduate seminar focusing on major periods and selected themes from the colonial era to the present.
Instructor(s): R. Kargon; S. Leslie.

AS.140.659. Looking Back at Science of Tomorrow.
The course will look at the history of science through the lens of science fiction, and explore the role of scientific imagination in the development of sciences.
Instructor(s): Y. Frumer.

This graduate research seminar aims at the production of professional-quality research papers focusing on social, cultural and technical change in late 19th and 20th -century cities world-wide. Students are expected to present work-in-progress and engage in constructive criticism. Undergraduates by permission only.
Area: 2.00.
AS.140.705. History of Science: Antiquity To Renaissance.
The first part of a three-part survey of the history of science. This course
deals with the concepts, practice, and the cultural roles of scientific
thought from classical antiquity to the time of Copernicus. Topics
include the pre-Socratics, the systems of Plato and Aristotle and their
continuing influence, Islamic science, Latin medieval scholasticism
and the universities, and Renaissance hermeticism/natural magic.
Interactions across science, art, technology, and theology are
highlighted. Lecture meets with AS.140.301
Instructor(s): L. Principe.

Seminar on major scientific developments from 18th-20th century.
Weekly readings, discussion and class presentations. Students may
attend lectures for 140.302.
Instructor(s): S. Kingsland.

AS.140.710. Scientific Revolution.
Course concerns developments in early modern Europe known as the
Scientific Revolution. Topics include cosmology, astronomy, mechanics,
natural history, and chemistry and issues involving magic, technology,
humanism, and the social content of early modern science. Lecture
meets with 140.321 Lec.
Instructor(s): M. Portuondo.

AS.140.722. Wretched Subjects.
While earlier generations of historians often considered the topics
of alchemy, astrology, magic, etc. as "pseudosciences," current
scholarship shows them to be crucial parts of the history of science. This
graduate research seminar explores the content, contributions, context,
exile, and revival of these "wretched subjects." Students will write a
substantial paper based on their original research.
Instructor(s): L. Principe.

Instructor(s): R. Kargon.

AS.140.802. Directed Readings & Diss.
Instructor(s): R. Kargon.

AS.140.803. Independent Study-Summer.
Instructor(s): S. Kingsland.

Instructor(s): S. Kingsland.

AS.140.812. Directed Readings & Diss.
Instructor(s): S. Kingsland.

Instructor(s): S. Leslie.

AS.140.832. Directed Readings & Diss.
Instructor(s): S. Leslie.

Instructor(s): L. Principe.

AS.140.836. Directed Readings & Diss.
Instructor(s): L. Principe.

AS.140.837. Direct Readings & Disser.


Instructor(s): M. Portuondo.

AS.140.842. Directed Readings & Diss.
Instructor(s): M. Portuondo.

AS.140.843. Directed Reading & Dissertation.
Instructor(s): Y. Frumer.

AS.140.844. Directed Reading & Dissertation.
Instructor(s): Y. Frumer.

AS.140.847. Dir Rdg & Dissertation.

AS.140.848. Directed Reading & Dissertation.

Instructor(s): R. Packard.

AS.140.854. Directed Readings & Diss.
Instructor(s): R. Packard.

AS.140.863. Directed Reading and Dissertation.
Instructor(s): G. Pomata.

AS.140.864. Directed Readings and Dissertation.
Instructor(s): G. Pomata.

Instructor(s): H. Marks.

AS.140.872. Dir Rdg & Dissertation.
Instructor(s): H. Marks.

Instructor(s): M. Hanson.

AS.140.874. Directed Readings & Diss.
Instructor(s): N. Comfort.

Instructor(s): M. Hanson.

AS.140.876. Directed Reading & Dissertation.
Instructor(s): M. Hanson.

AS.140.877. Directed Reading & Dissertation.
Instructor(s): J. Greene.

AS.140.878. Directed Readings and Dissertation.
Instructor(s): J. Greene.

Instructor(s): D. Todes.

AS.140.892. Dir Rdg & Dissertation.
Instructor(s): D. Todes.

Instructor(s): M. Fissell.

AS.140.894. Directed Readings & Diss.
Instructor(s): M. Fissell.

Instructor(s): G. Mooney.

AS.140.896. Directed Readings & Diss.
Instructor(s): G. Mooney.
Cross Listed Courses

History of Art

AS.010.233. Art and Astrology in the Middle Ages. 3 Credits.
This course explores the relationship between art and astrology from the early Middle Ages to the early Renaissance. We look at a wide range of media—mosaic, painting, metalwork, manuscripts, and sculpture—that speak to the central place of astrology in medieval systems of knowledge, and the practical uses of astrology for medicine and politics. Readings and discussions cover a variety of themes, including the transmission of astrological knowledge, the emergence of large-scale astrological mural programs, the use of precious stones and amulets, and the ways in which artworks probe the tensions between astrology and Christian theology. A recurring topic will be principle of “celestial influence”—the idea that the stars emit rays that affect people and events on earth—and its implications for artistic production and reception, as well as how art objects could even predict, or represent predictions of, future events. Primary sources (in English translation) include Albertus Magnus, Abu Ma’shar, al-Kindi, Roger Bacon, and others. Secondary readings include Aby Warburg, Erwin Panofsky, Fritz Saxl, Michael Camille, Georges Didi-Huberman, and others.
Instructor(s): M. Hauknes
Area: Humanities.

Anthropology

AS.070.335. Ducks, Rodents and Humans: Contemporary Sciences of Emotions. 3 Credits.
This course introduces students to the changing scientific conceptions of emotions by attending to the ways in which early emotional relations have been studied in diverse scientific traditions and across species.
Instructor(s): B. Polat
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.352. Evolution, Ecology, Becoming. 3 Credits.
The concept of evolution is central to social theory. Originating in the question of the species, it has moved into questions of human ecology, cultural forms and modes of thought. While it remains a deeply contested, often criticized concept, particularly in its neo-Darwinian manifestation, it orients anthropological thinking in ways that are as yet to be examined. Reaching into the archives of anthropology and other cognate disciplines, this course will examine the writings of Lyell, Darwin, Marx, Morgan, Boas, Steward, Bateson, Ingold among others.
Co-listed with AS.070.610
Instructor(s): A. Goodfellow; N. Khan
Area: Humanities, Social and Behavioral Sciences.

The concept of evolution is central to social theory. Originating in the question of the species, it has moved into questions of human ecology, cultural forms and modes of thought. While it remains a deeply contested, often criticized concept, particularly in its neo-Darwinian manifestation, it orients anthropological thinking in ways that are as yet to be examined. Reaching into the archives of anthropology and other cognate disciplines, this course will examine the writings of Lyell, Darwin, Marx, Morgan, Boas, Steward, Bateson, Ingold among others.
Co-listed with AS.070.352
Instructor(s): A. Goodfellow; N. Khan
Area: Humanities, Social and Behavioral Sciences.

Near Eastern Studies

AS.130.259. Ancient Science and Technology. 3 Credits.
A survey of scientific practices and technological innovations in the ancient world, including astronomy, medicine, law, and divination. Special attention will be devoted to the relationship between magic and science during the periods covered.
Instructor(s): P. Delenero
Area: Humanities, Social and Behavioral Sciences.

Political Science

AS.190.471. The University and Society. 3 Credits.
In the 20th century, American universities became the envy of the world, leading in most categories of scholarly productivity and attracting students from every nation. In recent years, though, American higher education has come to face a number of challenges including rapidly rising costs, administrative bloat, corporatization and moofification. We will examine the problems and promises of American higher education, the political struggles within the university and the place of the university in the larger society. Upper classes and Grad Students only.
Instructor(s): N. Ginsberg; R. Kargon
Area: Social and Behavioral Sciences.

German Romance Languages Literatures

AS.211.237. Literature and Medicine. 3 Credits.
Taught in English. The course will analyze literary representations of illness as well as explore interfaces between literary and medical knowledge in more general ways. Both literature and medicine can be considered semiotics as they deal with the study of signs; further, both are invested in interpretation. We will analyze the relation between literature and madness, explore “illness as metaphor” (Susan Sontag) and discuss case studies in relation to literary genres (for example, Freud is surprised to notice that his studies on hysteria read like novels). As prominently depicted in Thomas Bernhard’s “In the Cold” and theoretically analyzed by Michel Foucault, the course will further address the nexus between medical institutions and power. Readings will include: Antonin Artaud, Thomas Bernhard, Georg Büchner, Michel Foucault, Sigmund Freud, Henry James, Franz Kafka, Thomas Mann, Daniel Paul Schreber, Susan Sontag, etc. Films: “Philadelphia” (Jonathan Demme, 1993), “Melancholia” (Lars von Trier, 2011).
Instructor(s): E. Strowick
Area: Humanities.

AS.211.358. Bodyworks: Body, Medicine and Technology in the 21st Century. 3 Credits.
Area: Humanities.

AS.212.303. Performing Madness: from Tristan to King Lear. 3 Credits.
For minors/majors in French, advanced level of French (AS.210.302) is required. For all other students, reading knowledge of French is recommended. The class explores the facets of madness in the medieval and Renaissance imaginary. Readings will include Tristan and Yseut, Play of Madness, The Praise of Folly, King Lear. The class will be taught in English. French majors/ minors will have to write all assignments in French. Cross-listed with History of Science, Medicine and Technology Dean’s Teaching Fellowship
Instructor(s): P. Delenero
Area: Humanities
Writing Intensive.
AS.213.237. Literature and Medicine. 3 Credits.
Taught in English. The course will analyze literary representations of illness as well as explore interfaces between literary and medical knowledge in more general ways. Both literature and medicine can be considered semiotics as they deal with the study of signs; further, both are invested in interpretation. We will analyze the relation between literature and madness, explore “illness as metaphor” (Susan Sontag) and discuss case studies in relation to literary genres (for example, Freud is surprised to notice that his studies on hysteria read like novellas). As prominently depicted in Thomas Bernhard’s “In the Cold” and theoretically analyzed by Michel Foucault, the course will further address the nexus between medical institutions and power. Readings will include: Antonin Artaud, Thomas Bernhard, Georg Büchner, Michel Foucault, Sigmund Freud, Henry James, Franz Kafka, Thomas Mann, Daniel Paul Schreber, Susan Sontag, etc. Films: “Philadelphia” (Jonathan Demme, 1993), “Melancholia” (Lars von Trier, 2011).
Instructor(s): E. Strowick
Area: Humanities.

AS.213.325. Johann Wolfgang von Goethe: Bridging Literature and Science. 3 Credits.
Open to Sophomores or higher standing. This course will examine the literary and scientific works of Goethe (1749-1832). We will explore the complex relations between literature and science at a point in history where the disciplinary boundaries were more porous than they are today. In this seminar, we will read those works, in which literature and science intersect, via style or subject matter, but most importantly, via their joint philosophical underpinnings, revealing that for Goethe science and literature are not two separate trains of thought but form a highly intricate discursive web. Goethe’s œuvre offers the unique opportunity to discuss the relations between literature and science around 1800, the formation period of “modern” natural sciences and the beginning of their domination over literature and philosophy, by analyzing one author, who straddled both realms, and who reflects on the value of scientific and literary discourses. Cross-listed with History of Science and Technology Dean’s Teaching Fellowship - Taught in English
Instructor(s): C. Domenghino
Area: Humanities.

AS.213.362. Sigmund Freud. 3 Credits.
The course will examine Freud’s writings from a two-fold perspective: On the one hand, we will analyze the contributions of psychoanalysis to modern thought. Lining himself up with Copernicus and Darwin, Freud considers his concept of the “unconscious” a further insult to mankind’s narcissism and revolution of thought. In this respect, psychoanalysis affects a vast array of concepts of modern thought such as subject, language, sexuality, morality, culture, history, religion and art which we will discuss alongside with key terms of psychoanalysis (unconscious, repetition, transference etc.). On the other hand, the course will address the specific relation between psychoanalysis and literature. Throughout Freud’s writings, literature enjoys vivid interest. Not only are psychoanalytic concepts (e.g. Oedipus complex, narcissism, the uncanny) crucially informed by literary texts, but also Freud’s “Interpretation of Dreams” proves to be a theory of representation and reading. We will investigate the ways in which literature and psychoanalysis are involved with each other considering narrative forms, performative aspects and aspects of the genre (novel, novella). Readings and discussions in English.
Area: Humanities.

AS.213.684. Aesthetics of Description.
Since the enduring disavowal of description by Lessing, characteristics commonly assigned to description include structural endlessness and exorbitance; the simple succession of elements; the „breakdown of composition” (Lukács) in a proliferation of details; the parity of described details; its failed ability at illusion; also its tendency to mortify, insofar as it transforms its subject into something static, stagnant. The course will undertake a critical revision of these characteristics by analyzing aesthetic debates and literary descriptions from the 18th to the 20th centuries. Topics leading the discussion will be: text-image relations; description between literature and science; observation through description; dynamization of description; motion and motionlessness; poetics of perception; performativity of description; the boredom of reading. Readings include: Bodmer, Breitinger, von Haller, Winckelmann, Lessing, Alexander von Humboldt, Hebbel, Stifter, Darwin, Ossip Mandelstam, Aby Warburg, Lukács, Peter Weiss, Peter Handke. The course will be taught in German.

AS.214.356. Science and Heresy in Galileo’s Italy. 3 Credits.
The class will be conducted in English. In the wake of Copernicus, the still dominant geocentric model of the cosmos was challenged in Italy by two equally brilliant but very different thinkers: Giordano Bruno, iconoclastic philosopher and theorist of magic, and Galileo Galilei, who has been called the “father of modern science.” Both of these revolutionary intellectuals faced strong opposition from within the Catholic Church: Bruno was executed as a heretic, while Galileo was forced to formally recant his heliocentric views. We will study the principal writings of both thinkers, focusing on both the literary qualities and the historical context of their works. We will also examine the cosmological visions of earlier writers, including Dante. Additional section will be offered for Italian majors (and others with a strong command of the language) in which we will read and discuss texts in Italian.
Instructor(s): J. Coleman.

AS.214.375. Documentary Production Practicum: “The Cure:" the History and Culture of Breast Cancer. 3 Credits.
This class will accompany Bernadette Wegenstein during some months of producing her feature documentary “The Cure” on the history and culture of breast cancer. It will be a hands on experience with director/producer Bernadette Wegenstein, editor/producer Patrick Wright and cinematographer Allen Moore filming at the GBMC’s Breast Care clinic, the Haisted Medical Archives, and some other Baltimore locations. This class will meet once a week, but some weeks the class will consist in the hands-on experience on the field rather than the actual class meeting.
Area: Humanities.

East Asian Studies
AS.310.303. A World Upturned: Cultures of Catastrophe in Japan. 3 Credits.
Focusing on earthquake science and earthquake lore, radioactive mutation and nuclear decimation, this course will consider the relationship between technological culture and large-scale cataclysm. In addition to treating a broad array of written, graphic, and filmic representations of Japan’s past and potential catastrophes, we will also be keeping a close and careful eye on present developments in Japan’s 2011 earthquake/tsunami/nuclear disaster.
Instructor(s): R. Sayre
Area: Humanities, Social and Behavioral Sciences.
Program in Museums and Society

AS.389.275. Interpreting Collections: An Introduction to Museum Education-Community Based Learning. 3 Credits.

Part public history, part introduction to museum practices, this hands-on course invites students into a local collection to develop interpretive materials for diverse audiences. Students consider the issues and ideas that inform object-based learning and learn about the history, theory and practice of museum education. Course culminates in the creation of interpretive text for the Baltimore Museum of Industry. M&S practicum course.

Instructor(s): E. Maloney
Area: Humanities, Social and Behavioral Sciences.

AS.389.301. Twenty-First Century Approaches to Material Culture. 4 Credits.

JHU pioneered the concept of the modern research university in the United States, but what does that mean for the everyday experiences of its students, faculty, staff and friends? Excavate the history of this place through the things collected, made and used here since the university’s founding in 1876. Students research the material culture of Hopkins and present their findings on an interactive website: collectionsweb.jhu.edu. Course includes digital media labs. Cross-listed with History and History of Science. M&S practicum.

Instructor(s): J. Kingsley
Area: Humanities, Social and Behavioral Sciences.

AS.389.450. Readings in Material Culture. 3 Credits.

Objects, things, “stuff”- this seminar will pursue classic texts and emerging methodologies to explore the myriad ways materials and materiality have been theorized across disciplines. For graduate/advanced undergraduate students.

Instructor(s): E. Rodini; R. Brown
Area: Humanities.

AS.389.650. Readings in Material Culture.

Objects, things, “stuff”- this seminar will pursue classic texts and emerging methodologies to explore the myriad ways materials and materiality have been theorized across disciplines. For graduate/advanced undergraduate students.

Instructor(s): E. Rodini; R. Brown
Area: Humanities.

Humanities Center

The Humanities Center reflects a characteristic quality of Johns Hopkins University as an intellectual community. The coordinated study of Western civilization through its literature, art, philosophy, and history has been one of the oldest continuing concerns at Hopkins. Because it has remained by design and tradition the smallest of the major American universities and because of the interdisciplinary interests of some of its most distinguished faculty, Hopkins has fostered to a remarkable degree the free exchange between scholars and students across departmental boundaries. In addition to its programmatic concern with comparative literature, intellectual history, and feminist theory, the Humanities Center does much to coordinate such exchange, which it encourages among students and scholars at all levels of their careers.

Supplementing its regular course offerings, the Humanities Center from time to time sponsors conferences, colloquia, and short-term seminars on topics of special interest to its graduate students and to the intellectual community at large. The center is also responsible for publishing annually the Comparative Literature issue of MLN; graduate students may apply to work as editorial assistants in its production and are invited to contribute to its reviews of current publications.

A recent development has been the appointment of several distinguished scholars as associates of the Humanities Center for terms of variable length. Each associate visits the campus once a year to teach an intensive seminar open to graduate students (and in certain cases to advanced undergraduates) in the Humanities Center as well as in other departments. The associates also meet informally with interested students and faculty and in general play an active role in the intellectual life of the university.

The Humanities Center’s activities for undergraduates address two different needs. For students interested in a general liberal arts preparation or one of the university’s preprofessional programs, the Center provides a broad introduction to the documents and thought of Western culture. For freshmen the Center offers the Great Books at Hopkins course, as well as a variable array of courses taught by the Center’s faculty. For students interested in preparing for graduate school, the Center also offers a fundamental preparation geared to the individual’s specific talents that can be the basis for more specialized humanistic study at the graduate level. Qualified juniors and seniors, as well as sophomores planning to study abroad in their junior year, are provided the opportunity to pursue an independent and often interdisciplinary research project through the Honors Program. In either case, the Center stresses skill in critical reading and writing, sophistication in the use of research tools, and supervised independent study. The coherence of each individual’s program depends upon careful consultation with the faculty advisor.

The Humanities Center does not offer a departmental major.

Honors Program in the Humanities

The Humanities Center Honors Program was initiated in 1976, the centennial of the founding of Johns Hopkins University. The program offers all qualified undergraduates the possibility of pursuing an independent and often interdisciplinary research project in the junior and senior year. Students can propose a topic in any humanistic discipline, including intellectual or cultural history, English and comparative literature, women and gender studies, minority literature and culture, film studies, anthropology, philosophy, and others. Past topics have also examined points of intersection between the arts and the sciences, so that the Honors Program in the Humanities also give majors outside the humanities a chance to broaden and combine their studies.

Requirements

To be eligible, a student’s performance in courses taken in the humanities, and particularly in the chosen field(s) of study, should be distinctly above average, and the proposed topic should show coherence, focus, and seriousness of purpose. Each project must be sponsored by two faculty members, one of whom will be the primary advisor. In appropriate cases, one of these sponsors may be external to the university. Successful completion of the Honors Program is conditional on completion of the student’s research thesis and participation in the Honors Seminar for two years, the second of which must be the student’s senior year.
Application process

This is a two-year program normally beginning in the junior year, with applications accepted in the spring semester of the sophomore year. Second-semester freshmen who plan to study abroad in their junior year or who already possess the necessary qualifications are also encouraged to apply. Applications can either be submitted by email to aeakinmoss@jhu.edu or submitted in hard copy to Anne Eakin Moss in Gilman Hall 213. All applications should include:

1. A completed application form, including the name of at least one faculty member the student plans to work with
2. Brief statement of purpose outlining the proposed thesis topic, with initial bibliography
3. Unofficial transcript of undergraduate course work

Required Course Work

Sophomore year (optional)

It is recommended that sophomores who plan to study abroad in their junior year, as well as those who are ready to begin their honors research, should consider participating in the Honors Seminar during their sophomore year. In general, such students should follow the course work as described below for the junior year.

Junior year

1. Two courses chosen from relevant offerings in the Humanities Center curriculum. Students’ work will be based on undergraduate courses offered by the core faculty of the Humanities Center and the course offerings of faculty with joint appointments in the Humanities Center.
2. A year-long Honors Seminar for all students in the program, in which the general progress of the students’ writing and research will be discussed and senior students will present work-in-progress reports. The seminar meets once every two weeks and participation is mandatory for all students enrolled in the Honors Program.
3. Optional independent study course on thesis project with one or both sponsors

Junior agenda

- September-October: Students should identify and meet with a prospective faculty advisor. Two faculty advisors are required for the final thesis; at least one of these advisors must be a Humanities Center faculty member or affiliate. Once students have received a commitment from two advisors to supervise the thesis, they should begin to compose a comprehensive reading list in consultation with their advisor.
- November-January: Using the reading list as a guide, students will conduct exploratory research in the field of their proposed project.
- February-March: Students will present a 3-5 page prospectus, formulating the central questions of the thesis, in the Honors Seminar.

Senior year

1. Independent study course in the spring semester toward completion of the thesis.
2. Two courses, as above, with Humanities Center faculty and affiliates.
3. Continued participation in the two-semester Honors Seminar (see above under “junior year” for description), with periodic “work-in-progress” reports and oral presentation of the thesis research in the spring semester.

Senior agenda

- Students will complete theses in consultation with their advisor and continue to attend the Honors Seminar. In April and May, students will present their final theses in the Honors Seminar.

Great Books at Hopkins

Great Books is a course in which students attend lectures by an interdepartmental group of Hopkins faculty members and meet in small discussion groups, each led by one of the course faculty. In lectures and seminars, panel discussions, multimedia presentations, and curatorial sessions among the University’s rare book holdings, we explore some of the greatest works of the literary and philosophical traditions in Europe and the Americas. Close reading and intensive writing instruction are hallmarks of this course; a changing list of authors includes, among others, Homer, Plato, Dante, Boccaccio, Cervantes, Shakespeare, Austen, Shelley, Burckhardt, Douglass, Flaubert, Dostoevsky, Nietzsche, Wharton, Wolfe, and Joyce.

The Center sponsors programs of study leading to the Ph.D. degree in two general fields: comparative literature and intellectual history. These programs are designed with the cooperation of the faculty in the adjacent literary and historical departments. Only a few highly qualified applicants can be admitted; the center gives priority to candidates whose proposed course of study is congruent with faculty interests and strengths. Click here for degree requirements.

Building on its successful doctoral and undergraduate honors programs, the Humanities Center has recently introduced a one-year Master of Arts program in Humanistic Studies.

Requirements for the Ph.D. Degree

Each student works with an ad hoc committee of three faculty members who help to design a coherent, individual program of studies. During the first two years the candidate works closely with each of his or her advisors. The course of studies, seminars, and tutorials leads to three area examinations administered by the advisory committee. During the second year, qualified students are invited to teach under faculty supervision, and on occasion advanced students have been allowed to offer undergraduate seminars of their own design.

Program in Comparative Literature

Normally, candidates for the Ph.D. in comparative literature should be competent in three national literatures and have a general familiarity with critical theory. Students in this program are encouraged to spend at least one year of study abroad, usually as members of groups working in Paris, Florence, Hamburg, Geneva, or Madrid in programs sponsored by the modern language departments and the Center. The University maintains the Villa Spelman in Florence as a study center, and the departments of German and Romance Languages and Literatures have regular programs of faculty exchange.

Students in the comparative literature program can apply for a joint major with the Department of German and Romance Languages and Literatures. They become supervised teaching assistants in that department and receive a master’s degree in German upon completion.
of the field examinations, before the doctoral degree in comparative literature. On a more ad hoc basis, similar arrangements for well-qualified candidates can generally be made with the departments of Classics and German and Romance Languages and Literatures.

Program in Intellectual History

The Center's doctoral program also allows flexibility in the construction of a course of study in intellectual history involving comparatist and interdisciplinary approaches. Candidates should also note related special programs at Hopkins, such as the program in political theory and the research facilities of the Institute of the History of Medicine.

Advisor

Upon their arrival, entering students should select, in consultation with the Director, a member of the Center's faculty to serve as their academic advisor, pro tem. As time goes on and their interests further define themselves, they may wish to change advisors and may very well wind up working most closely with faculty in another department; should this become the case, they should nevertheless meet regularly—what is, each semester—to discuss their progress with whomever in the Center is serving as Director of Graduate Studies.

Course Work

During their first two years, students are expected to take two seminars for credit each semester, in addition to whatever language courses they may enroll in and whatever courses they choose to audit. They should select seminars—which need not be restricted to Humanities Center offerings—in consultation with their advisors. Students arriving after having taken graduate courses elsewhere should discuss with the director of graduate studies the possibility of having that work counted toward satisfying the Center's course requirements.

Third-Year Review

At some point during their third year of residence—after completing all outstanding seminar papers, and preferably by mid-year—students will have their work reviewed by a faculty committee composed of three teachers from among the Humanities Center faculty and from among the faculty from the other departments with whom the student plans to conduct field exams. The purpose of the review is to allow the faculty to assess the student's progress, to clarify her/his status as regards remaining course work, and to define future fields. In preparation for this review, the student will circulate, in advance of the meeting, materials that the student judges to be work that will best serve the purpose of the review.

Field Examinations

Students are expected, in their third and fourth years, to complete three field exams. The purpose of requirement is two-fold: the exams may serve to help a student refine her/his thinking about a dissertation topic, or they may be a means of extending and deepening a student's knowledge of an area of studies in which s/he proposes to teach and conduct research. The examinations themselves may take a variety of forms: one could work further on a project begun in a seminar and produce a longer paper that would become part of a dissertation; one could read one's way into and across a particular field, writing a series of short papers on one's reading, or else sitting for a written or oral examination on the material studied; one could design and teach an undergraduate course in one's area of interest; one could complete the requirements for a M.A. degree in another department, as a way of strengthening one's claim to teach in that field. These are choices to be discussed with one's committee at the third-year review.

Undergraduate Teaching

During one's years at the Center one will have a number of opportunities to develop one's skills and confidence as a teacher. In the second year and thereafter, students will ordinarily serve as assistants in courses taught by the Center's faculty or, if appropriate, in courses in other departments: in the past, our students have taught in the French and German language programs, in English composition and literature courses, as well as in assisting in history, philosophy and political science courses. More experienced students are encouraged to teach courses of their own invention—as a way of completing a field exam, or in competition for one of the Dean's Teaching Fellowships, or simply to add to the Center's array of offerings.

Dissertation Review

A second formal review of a student's work will take place after the completion of field exams, either in the fourth or in the fall semester of a student's fifth year. The aim of this review is to bring the student together with the faculty with whom s/he will write a dissertation. This review will not take place until the student believes that s/he has a substantial piece of work associated with the dissertation, e.g., the draft of a chapter. This work will be circulated before the review, along with a prospectus of 10-40 pages, to the faculty the student wishes to have as dissertation advisors. (If all of these advisors are from outside the Humanities Center, one of the Center's faculty, selected by the student, will also sit in on the review.) This discussion is not intended to replace the Graduate Board Oral, which will take place after the dissertation has been completed, but will serve to mark the transition from work on the field exams to the preparation and writing of a thesis.

Departmental Presentations

Late in a student's work on a dissertation—preferably in the fifth year or the beginning of the sixth—s/he will be asked to give a talk on material from her/his dissertation to the assembled students and faculty of the Center and invited guests. The aim of this requirement is to give students experience in the more formal presentation of their work, to make possible a wider range of response to that work than a dissertation committee can provide, and to allow all students of the Center—whose research interests vary widely—to become better acquainted with each other's projects.

Requirements for the MA in Humanistic Studies

The MA in Humanistic Studies is aimed both at Seniors from across the University who seek to deepen their education by way of interdisciplinary study in literature, philosophy, and religion during an added fifth year of study as well as at students who graduated elsewhere and who consider pursuing graduate studies in intellectual history or comparative literature here or at other universities.

This terminal MA consists of eight courses over two semesters and a MA thesis with directed study during the summer months. The program places an emphasis on elaborating an individualized curriculum and on close collaboration with Humanities Center faculty in the writing of the thesis. Students accepted into the program from within Johns Hopkins benefit from a tuition reduction.
The coursework will follow the following template:

**Fall Semester**

- Graduate Seminar
- Graduate Seminar
- Graduate Seminar
- Master’s Colloquium

**Spring Semester**

- Humanities Thesis Seminar
- Thesis Writing

**Summer Semester**

- Directed Thesis Study
- Thesis Writing

To apply, please submit the following to [http://grad.jhu.edu/apply/apply-now/](http://grad.jhu.edu/apply/apply-now):

- Official Application
- Statement of purpose
- Three letters of recommendation
- Transcripts
- Sample of work
- Supplementary Application Form (Language Form)
- GRE scores and subject (optional)
- TOEFL/IELTS scores (if applicable)

**Financial Aid**

Tuition grants, stipends, and teaching fellowships are available to doctoral candidates.

For current faculty and contact information go to [http://humctr.jhu.edu/people/](http://humctr.jhu.edu/people/)

**Faculty**

**Director**

Hent de Vries

Russ Family Chair in the Humanities (Director) (Philosophy): modern European thought, history and critique of metaphysics, philosophies of religion, political theologies, concepts of violence, literature and temporality.

**Professors**

Michael Fried

J. R. Herbert Boone Chair in the Humanities (History of Art): modern art and literature, critical theory, modern poetry.

Ruth Leyss

Henry Wiesenfeld Chair in the Humanities (History): history and theory of psychoanalysis, history of psychiatry and psychology, history of the neurosciences; affect theory; history of the emotions; 19th- and 20th-century intellectual history, feminist theory.

Paola Marrati

Philosophy: modern and contemporary French thought, phenomenology, philosophies of life (Bergson, Dilthey, Canguilhem, Deleuze), philosophy and cinema, aesthetics.

**Assistant Professors**

Leonardo Lisi

European literature of the long nineteenth century; European modernism; Kierkegaard and German idealism; tragedy and the tragic; philosophical aesthetics and literary forms

Anne Eakin Moss

19th- and 20th-century Russian literature, Soviet cinema and film theory, concepts of friendship and community.

Yi-Ping Ong

19th- and 20th-century literature and philosophy, the novel, modernism, existentialism, ethics, and justice in contemporary Anglophone literature.

**Professors Emeriti**

Neil Hertz

Richard A. Macksey

Stephen G. Nichols

Nancy S. Struever

**Joint Appointments**

Christopher Celenza

Professor (German and Romance Languages and Literatures): Italian literature.

Veena Das

Krieger-Eisenhower Professor (Anthropology): history and myth, philosophy and anthropology, violence, social suffering, medical anthropology; South Asia, Europe.

Eckart Förster

Professor (Philosophy): metaphysics, history of philosophy, Kant and German idealism.

Yitzhak Melamed

Associate Professor (Philosophy): early modern philosophy, German idealism, metaphysics.

Jacques Neefs

James M. Beall Professor: French literature, history and theory of novel, modernity in Art and literature, literature and knowledge (19th- and 20th-century), genetic criticism.

Dimitrios Yatromanolakis

Associate Professor (Classics): Ancient Greek literature, thought, and sociocultural history; Platonic philosophy; historical and comparative anthropology; ritual theory; reception studies; comparative poetics.

**Visiting Assistant Professor**

Elizabeth Patton

Post-Reformation literature with special emphasis on women writers and early modern English Catholicism

For current course information and registration go to [https://isis.jhu.edu/classes/](https://isis.jhu.edu/classes/)
Courses

AS.300.102. Moral Life. 3 Credits.
This is an introductory course in moral philosophy, with a special focus on the dimensions of moral self-transformation in ancient and modern philosophy, contemporary literature, and film. Readings include: Plato, St. Augustine, Kant, Kierkegaard, Heidegger, Wittgenstein, Beckett, Faulkner, and Coetzee. No prior background in philosophy, literature, or film required.
Area: Humanities.

AS.300.111. Shakespeare and his 'Goddess'. 3 Credits.
Shakespeare’s description of his lover’s eyes as ‘nothing like the sun’ is both an homage and a sendup of a 300-year-old poetic convention reaching back to the days of Petrarch and the early humanist poets. In this course we will trace that tradition from the perspective of Shakespeare and his contemporaries, finishing the semester with several plays, including ‘The Taming of the Shrew,’ that further illustrate and problematize Shakespeare’s ‘goddess’ reference. Readings will include poetic dialogues between male and female poets, such as those by the early Italian Petrarchans Vittoria Colonna, Michelangelo, Veronica Gambara, and Gaspara Stampa; their French counterparts, Maurice Scève and Les Dames des Roches; and the later English reflections on the sonnet tradition by Sir Philip Sidney, Shakespeare, and Sidney’s niece, Lady Mary Wroth. All works will be read in translation. Freshmen only.
Instructor(s): E. Patton
Area: Humanities
Writing Intensive.

AS.300.207. A Mix of Voices: Chinese Literatures from Late Imperial through Modern. 3 Credits.
This course examines the arts and culture of China from 1368-2000, with major focus on writers. We will begin with artists of the Ming (1368-1644) and Qing (1644-1911), focusing first on canonical voices: court poets, authors of classical fiction, literati essayists, calligraphers and painters. Outside of the court urban artists observed a dramatically changing world around them. Fiction, drama, memoir and mass-produced arts explored new social alignments and freedoms. The twentieth century brought revolution and party governance, along with arts born of mass media: periodicals, film and wood block print. Finally, post-Mao avant-garde artists both retrieved traditional aesthetics and explored new venues and visions. This look at the literature of China will require both close reading of texts as well as an interdisciplinary examination of the cultural factors that shape literatures.
Instructor(s): V. Cass
Area: Humanities.

AS.300.209. Chinese Literature and Culture of the Ancient and Early Medieval periods. 3 Credits.
We will read selections in the original, as well scholarship and criticism concerning the texts. We will consider issues specific to the variety of texts: the social and political context of the “philosophical schools” and writers, the religious and ritual contexts of medical literature and poetry, especially the Elegies of Chu (Chu Ci), the development of literati traditions and the craft of historiography, artistic responses to the collapse of the Han, and the rise of religious literatures of the Six Dynasties. We will introduce aspects of classical language texts: complex form characters, classical Chinese grammar and classical Chinese semantic values. Written assignments, classroom exercises and tests will be based on developing skills in reading and writing classical Chinese; however, tests, discussions, one short paper and one research paper will require interpretation of larger issues pertinent to the texts. Texts to be read in Chinese. Recommended Course Background: two years of Mandarin Chinese.
Area: Humanities.

AS.300.211. Great Poems of the Americas. 3 Credits.
This course investigates the long poem or post-epic in 20th- and 21st-century North and Latin America. The epic has been rearticulated in sequences and series, verse novels, lyric cycles, and collage poems: from T.S. Eliot’s The Waste Land, the encyclopedic Cantos of Ezra Pound, and the sweeping Canto General of Pablo Neruda to works by Derek Walcott and Gwendolyn Brooks and fragmented series by Gertrude Stein, Hart Crane, and César Vallejo. We will examine Aimé Césaire’s Notebook of a Return to the Native Land, Vicente Huidobro’s playful Altazor, and very recent epic poems from Canadian women poets such as Anne Carson, Lisa Robertson, and M. NourbeSe Philip. As we test the term post-epic against these texts, we will consider whether it may be applied equally to the heroic tale and the open field poem. How do poets interpret the idea of “the Americas” as lands and nations in these works, and in what tangled ways do their poetics develop through dialogue across linguistic and geographical distances? To situate the long poem in history, we’ll examine developments in poetic form alongside modernization and globalization, and technological and socio-political changes. We will draw on theories of poetry and poetics as well as critical theory, taking a comparative, Hemispheric Studies approach to literature.
Instructor(s): R. Galvin
Area: Humanities.

AS.300.213. Homelessness in America. 3 Credits.
This course examines homelessness in the United States from multiple perspectives. Students will hear first-hand from individuals who have experienced homelessness as well as experts in the field.
Instructor(s): T. Gottbreht
Area: Humanities.
AS.300.225. Blogs and Spies in Shakespeare's England. 3 Credits.
This seminar celebrates the university's recent acquisition of State Papers Online (1509-1714), which contains searchable digital images of thousands of contemporary manuscripts. While we read plays, poetry, and essays by such figures as Queen Elizabeth, William Shakespeare, members of the Sydney family, Elizabeth Cary, John Donne, Aemelia Lanyer, Robert Southwell, Andrew Marvell, William Marlowe, Jane Cavendish, Elizabeth Brackley, and Katherine Philips, we will also be carrying out on-line searches of correspondences, wills, court documents, spy reports (including play-by-play accounts of houses dismantled in searches for hidden priests), and letters of condolence from Queen Elizabeth alongside decoded messages revealing plots to unseat her. In addition to searching virtual archives students will be introduced to early modern paleography, in part through visits to Johns Hopkins University's brick-and-mortar libraries to consult actual manuscripts, incunabula, and illegal imprints from the 16th and 17th centuries.
Instructor(s): E. Patton
Writing Intensive.

AS.300.231. Introduction to Comparative Literature. 3 Credits.
This course offers an introduction to the history, theory, and praxis of comparative literature. We will read texts from some of the founding figures of the discipline and look at the most recent debates in the field, including translation studies, literary theory, and world literature, among others. Particular attention will be given to the methodologies and problems of studying literatures in different linguistic traditions and the relation between literature and other areas of thought and culture, such as philosophy, art history, and psychoanalysis. Case studies in comparative approaches to literature will provide concrete examples to our discussions.
Instructor(s): L. Lisi
Area: Humanities
Writing Intensive.

AS.300.237. Introduction to the Philosophy of Law. 3 Credits.
The course treats the question of law in the German philosophical tradition, from Kant, Hegel, Marx to Carl Schmitt, Walter Benjamin, and Theodor Adorno. The treatment is philosophical, and the relation between philosophy and law/right is itself part of the question. We will be reading certain rather short texts closely and try to work with such concepts as violence, subject/personality, sovereignty, universality, etc. One central question is: why and how does natural right become positive law?
Area: Humanities.

AS.300.239. Philosophy and the Emotions. 2 Credits.
We will read some of the most important texts in the history of the philosophy of the emotions, including works by Plato, Descartes, Spinoza, Schopenhauer, Heidegger, and Freud. We will discuss themes such as love, shame, apathy, anxiety, the mind-body problem, the notion of spirit, the notion of mood, and the overall problem of the distinction between emotion and reason.
Instructor(s): A. Rot
Area: Humanities.

AS.300.241. The Literature of the Everyday. 3 Credits.
The ordinary, the common, the everyday: why does literary realism consider the experiences of the average individual to be worthy of serious contemplation? In this course, we will read closely a set of novels by Flaubert, Mann, Dickens, Zola, Tolstoy, and Woolf from the period between 1850 and 1950 in which the development of realism reaches its climax. These novels explore the nature of work, family, the body, consciousness, and the changing relation between individual and tradition in modernity. We will situate these novels in their social, historical, and literary contexts, and establish a set of terms for the formal study of the novel as a genre (plot, character, setting, narrative, etc.). (Students of all levels who are interested in literature are encouraged to take this course.)
Instructor(s): Y. Ong
Area: Humanities.

AS.300.252. The Modern Novel and Realism. 3 Credits.
In this class we will be exploring the ways in which modern novels represent reality. Starting with the Nineteenth Century novel, and its claim for realism, we will follow the evolution of narrative modes and strategies that lead to modernist novel and its different claim for representing reality. The two main works which will guide our investigation will be Madame Bovary and Mrs. Dalloway. Alongside with the analysis of the novels we will engage in some of the fundamental critical texts that have defined realism and its stakes.
Area: Humanities.

AS.300.281. Sovereignty and Modern Drama. 3 Credits.
This course is interested in the relationship between sovereignty and drama. By placing the common individual center stage, twentieth-century modern drama achieved a theatrical revolution. And yet the modern theater has not completely shed itself of its former preoccupation with kings and their undoing, as evidenced by the royal figures who show up in plays by influential playwrights as various in their political and artistic commitments as Strindberg, Ibsen, Jarry, Yeats, Shaw, Pirandello, O'Neil, Brecht, Sartre, Ionesco, and others. This course seeks to examine how, when, and why royal personages are employed in modern drama. What does the theater have to say about sovereignty and authority? About humanism and antihumanism? Is theater linked to sovereignty? If so, how? This course will consider the political, philosophical, and theological critiques implicit in the plays where sovereigns are found, paying close attention as well to the problem of theatricality. Dean's Teaching Prize Fellowship Course.
Instructor(s): N. Jerr
Area: Humanities.
AS.300.282. Great Poems of the Americas: Post-Epics. 3 Credits.

“In America the natural man has triumphed over the imported book,” announced José Martí. The call to cast off the literary forms of Old Europe echoed throughout the hemisphere during the 20th century, as poets sought to write a new kind of “American” poetry. The epic has been rearticulated in sequences and series, verse novels, lyrical cycles, and collage poems, such that it has become the “post-epic.” We will investigate the long poem in 20th-century North and Latin America, from the encyclopedic Cantos of Ezra Pound and the sweeping Cantos General of Pablo Neruda to briefer works by Derek Walcott and Gwendolyn Brooks, and fragmented series by Gertrude Stein and César Vallejo. We will read texts including Charles Olson’s sprawling history of America, The Maximus Poems, and William Carlos Williams’s Paterson; Aimé Césaire’s Notebook of a Return to My Native Land and Kamau Brathwaite’s The Arrivals; Elizabeth Bishop’s cartographic North & South; Octavio Paz’s single, 584-line, cyclical sentence, Sunstone; and Vicente Huidobro’s careening, linguistically playful Altazor. As we test our definition of “post-epic” against these texts, we will consider whether the term may be applied equally to the heroic tale and the “open field” poem. To situate the long poem in history, we will examine changes in poetic form alongside questions of modernization and globalization, technology and development, and socio-political transformation.

Area: Humanities
Writing Intensive.

AS.300.290. Freshman Seminar: Shakespeare and his “Goddess”: real and imaginary lovers in the poetry and drama of early modern Europe. 3 Credits.

Shakespeare’s description of his lover’s eyes as ‘nothing like the sun’ is both an homage and a sendup of a 300-year-old poetic convention reaching back to the days of Petrarch and the early humanist poets. Incorporating music and drama, we will examine that sonnet tradition from the perspective of Shakespeare and his contemporaries, tracing both the historical roots of the Shakespearian sonnet form its influence on the music of the present day, and finishing the semester with Shakespeare’s The Taming of the Shrew, a play that further illustrates and problematizes Shakespeare’s ‘goddess’ reference. Readings will include poetic dialogues between male and female poets, such as those by the early Italian Petrarchans Vittoria Colonna, Michelangelo, Veronica Gambara, and Gaspara Stampa; their French counterparts, Maurice Scève, Louis Labé, Joachim du Bellay and Pernette du Guillet; and later reflections on the sonnet by Shakespeare and his English contemporaries: Sir Philip Sidney; Sidney’s niece, Mary Herbert, Lady Wroth; John Donne; Robert Southwell; and Katherine Phillips. All continental works will be read in translation.

Instructor(s): E. Patton
Area: Humanities
Writing Intensive.

AS.300.300. Cultivating the Self: A History of Spiritual Exercises. 3 Credits.

Dean’s Teaching Fellowship. We will examine spiritual exercises that seek to transform one’s thought and being from Greek antiquity to modernity. Readings from philosophical and religious texts include Plato, Epicurus, Augustine, Montaigne, Kierkegaard, Nietzsche, Sartre, Heidegger, Foucault. Particular attention will be paid to the constitutive role of reading, writing, and dialogue.

Instructor(s): D. Dubois
Area: Humanities.

AS.300.301. Life, Vitality, Thought. Philosophy and the Natural Sciences in Nineteenth Century Europe. 3 Credits.

Last year neuroscientists at MIT shined an optogenetic light on brain cells in order to artificially stimulate memories. If every detail of our past has a particular location in the brain, then we could alter, and even destroy, memories. Does this mean that humans are like machines whose history can be erased as easily as we delete files on a computer? Or are memories, like consciousness, not so easily reducible to brain structures? This class will examine how these and other questions shaped the history of modern biology and experimental psychology beginning in the nineteenth century. We will read the works of prominent biologists, psychologists, and philosophers who were all involved in a rich debate over the nature of life and thought.

Instructor(s): L. McGrath
Area: Humanities
Writing Intensive.

AS.300.302. New American Cinema. 3 Credits.

This course offers a historical, critical, and theoretical approach to American avant-garde and independent film from the 1940s till the present. Filmmakers include Stan Brakhage, Michael Snow, Andy Warhol, Jim Jarmusch, Quentin Tarantino, and David Lynch.

Instructor(s): J. Gerrits
Area: Humanities
Writing Intensive.

AS.300.303. Multum in Parvo: Forms of Short Fiction. 3 Credits.

The theory and practice of reading brief narratives, from the parable to the post-modern short story. We will be attending to the rhetorical and ethical issues that are raised within the compass of such fictions, with consideration of some specific forms that have shaped the development of recent literary tales: the case history, portraits of the artist, fictions of detection, and certain enduring philosophic myths. Time permitting, we’ll also examine how a few of our narratives have been translated into another medium such as film.

Instructor(s): R. Macksey
Area: Humanities
Writing Intensive.

AS.300.305. Asian American Literature. 3 Credits.

This course examines Asian American Literature with emphasis on East Asian American culture and history. Topics of discussion will include immigration, nation, conceptions of home, loyalty, navigation, and translation of various kinds. Throughout the course, we will explore how recognizable emotions, in tension with historical events, become manifest in art.

Area: Humanities
Writing Intensive.

AS.300.307. Dostoevsky and Critical Theory. 3 Credits.

Examines novels by Dostoevsky, including The Idiot and The Brothers Karamazov, and works of literary theory and philosophy which grapple with his poetics and thought (Bakhtin, Girard, Shesov, Rozanov, Nietzsche, Freud, Levinas).

Instructor(s): A. Eakin Moss
Area: Humanities
Writing Intensive.
AS.300.308. The Israeli Novel. 3 Credits.
This course studies the Israeli novel through close reading of the works of major Israeli writers such as, Ya’akov Shabtai, Amos Oz, A. B. Yeshoshua, Amalia Kahana-Carmon, Yehoshua Knaz, David Grossman, Orly Castel-Bloom, Yoel Hoffmann and Etgar Keret. We will focus on questions of style, genres and thematic choices. Among the topics to be discussed are Jewish history and tradition, social and political critiques and minority representations. Classes conducted in English, but students with knowledge of Hebrew are encouraged to read texts in the original.
Instructor(s): N. Stahl
Area: Humanities.

AS.300.311. Sovereignty and Modern Drama. 3 Credits.
What does the modern theater have to say about sovereignty and authority? Does this align with or challenge the political discourse? How is theater linked to sovereignty? Considering a wide range plays, this course explores the ways the notion of sovereignty persists as a theme in modern drama despite its commitments to the common, everyday hero. We will focus on the political, philosophical, and theological critiques implicit in the plays where sovereigns are found. From the short chamber plays of Yeats based on Noh drama, to the epic theatre of Brecht, from the Abstract drama of Jarry and the Absurd theatre of Ionesco, to the Naturalism of Strindberg and the Realism of O’Neill, from the meta-theatricality of Pirandello to the Minimalism of Beckett, students will encounter a variety of artistic styles and commitments, giving them an overview of many of the major movements that mark modern drama. Dean’s Teaching Fellowship
Instructor(s): N. Jerr
Area: Humanities.

AS.300.312. Imagining Revolution and Utopia. 3 Credits.
Examines theories of revolution and utopia in literature, art and film. Primary case study is Russia and the Soviet Union, with comparative look at influential European works and contemporary politics. Topics include gender and the family, terror, communism and communalism, and the avant-garde in art and film. Cross listed with Studies of Women and Gender, and Sexuality, and Film & Media Studies
Instructor(s): A. Eakin Moss
Area: Humanities
Writing Intensive.

AS.300.313. Contemporary Israeli Cinema. 3 Credits.
This course examines Israeli cinema of the last two decades. Among the films to be discussed are: Oscar nominees Adjami and Waltz with Bashir, Late Marriage, A Matter of Size, Year Zero, Lemon Tree, Sweet Mud, and Lebanon. We will study the different influences and the innovative use of style and genres in these films, as well as the new themes and agendas that they offer.
Instructor(s): N. Stahl
Area: Humanities.

AS.300.315. The Sense of Loss, 1880-1930. 3 Credits.
A comparative study of the aesthetics and representation of loss (personal, political, historical, etc.) in a number of modernist texts. Authors to be studied will include J.P. Jacobsen, Ibsen, Unamuno, Kafka, Rilke, Woolf and T.S. Eliot. The class will focus on the twofold sense of “sense” (both as feeling and as meaning) in order to explore the way these texts seek to come to terms with and capture the nature of loss.
Instructor(s): L. Lisi
Area: Humanities.

AS.300.317. Russian Novel. 3 Credits.
Explores the uniqueness of the Russian novel in its development from Pushkin’s novel in verse Eugene Onegin to Bely’s symbolist novel Petersburg. Other works by Tolstoy, Doestoevsky, Lermontov and Gogol. Readings in translation.
Instructor(s): A. Eakin Moss
Area: Humanities
Writing Intensive.

AS.300.318. The Modernist Novel: Mann, Woolf, and Joyce. 3 Credits.
The purpose of this course is to survey works by three of the greatest, most relentless innovators of the twentieth century – Thomas Mann, Virginia Woolf, and James Joyce -- who explored and exploded narrative techniques for depicting what Woolf called the “luminous halo” of life. Selected novels include: Death in Venice, Buddenbrooks, Jacob’s Room, Mrs. Dalloway, To the Lighthouse, A Portrait of the Artist as a Young Man, and Ulysses.
Instructor(s): Y. Ong
Area: Humanities
Writing Intensive.

AS.300.319. Skepticism and Theology. 3 Credits.
This course examines the relation between the history of philosophical theology and the foundations of modern skepticism by focusing on their mutual point of departure: the concept of the human being as an essentially “finite” being “limited” in its capacity to know others, the world, and God.
Instructor(s): T. Dika
Area: Humanities
Writing Intensive.

AS.300.322. Reason, Religion, and Modernism in Europe. 3 Credits.
Amidst the rise in psychological research in France and the secular reforms of the Third Republic, French philosophical and religious thinkers upended their Catholic tradition in the late nineteenth century. This seminar explores the Modernist turn in Catholicism, which drew on scientific advancements in order to challenge Church hierarchies and fundamentally transform Catholics’ personal relationship to God. Our objective is to examine the intersection of science, faith, and society in historical and philosophical perspective.
Instructor(s): L. McGrath
Area: Humanities.

AS.300.324. Cinema of the 1930s: Communist and Capitalist Fantasies. 3 Credits.
Comedy and musical comedy film flourished in the USA during the Great Depression as well as in the USSR during the Stalinist Great Terror. This course will compare American and Soviet films of this era, examining the intersections between politics and aesthetics as well as the lasting implications of the films themselves in light of theoretical works on film as a medium, ethics and gender (including Benjamin, Kracauer, Cavell).
Instructor(s): A. Eakin Moss
Area: Humanities
Writing Intensive.
AS.300.326. Comparative Modernisms. 3 Credits.
Dynamic, unprecedented literary innovation marks the first part of the 20th century. This course moves from Dadaism, Surrealism, and the Harlem Renaissance, through Anglo-American, Caribbean, and Brazilian modernisms, and the Latin American vanguard. We’ll investigate literary experimentation in connection with the visual arts, modernization, colonialism, race, gender, and war. We will read novels, poetry, and essays from major writers who may include Apollinaire, André Breton, Marcel Proust; Gertrude Stein, HD, Djuna Barnes, Elsa von Freytag-Loringhoven, Mina Loy, T.S. Eliot; James Joyce, W.B. Yeats; Langston Hughes, Zora Neale Hurston, Jean Toomer; Claude McKay, Aimé Césaire, Louise Bennett, Jean Rhys, Nicolás Guillén; Oswald de Andrade, Julio Cortázar, Oliverio Girondo, Jorge Luis Borges.
Instructor(s): R. Galvin
Area: Humanities
Writing Intensive.

AS.300.330. Trauma in Theory, Film, and Fiction. 3 Credits.
An examination of the representation of trauma in literary theory, psychiatry, survivor literature, films, novels, and comics. Works by Sebald ("The Emigrants"), Lanzmann ("Shoah"), Spiegelman ("In the Shadow of No Towers"), McCarthy ("Remainder"), and others.
Instructor(s): R. Leys
Area: Humanities, Social and Behavioral Sciences.

AS.300.331. Modern Tragedy. 3 Credits.
Since the late 18th century, tragedy has repeatedly been declared dead on the grounds that the changed social, historical and philosophical conditions of modernity do not allow for the genre in a strict sense. This course looks at some versions of this argument in relation to modern works of drama in order to examine its validity and the extent to which the concept and experience of the tragic have changed in our time. Authors to be studied will include Schiller, Kleist, Strindberg, Maeterlinck, Lorca, Miller, Brecht and Beckett. Cross-listed with GRLL and English
Instructor(s): L. Lisi
Area: Humanities.

AS.300.332. Tolstoy's War and Peace. 3 Credits.
Called a "loose baggy monster" by Henry James, Leo Tolstoy’s War and Peace is a sui generis work of modern literature that offered a response and challenge to the European Realist novel and founded a Russian national myth. We will read the novel in translation alongside theoretical works examining issues of genre, narrative, perspective, theatricality, the everyday, domesticity, desire and violence.
Area: Humanities
Writing Intensive.

AS.300.334. Comic Evolution: Stages in Comedy. 3 Credits.
An eclectic tour of comic forms and theories from classical antiquity to contemporary practice. Although the textual focus will be on stage comedy, we’ll also consider the comic in other forms & media—film [Keaton], comic strip [Herriman], and parodic satire. Some of the familiar questions on the agenda: topical vs. ‘perennial’ material, the social functions of comedy, the shelf-life of humor, butts & scapegoats, symmetries & asymmetries between comedy and tragedy, verbal & non-verbal comic devices, the general rhetoric of comedy, & the possibility of a GUT.
Instructor(s): R. Macksey
Area: Humanities
Writing Intensive.

AS.300.335. Ethics of Fiction: The Rise of the Modern Short Story. 3 Credits.
Story-telling is an art and social practice that characterizes many cultures from antiquity to the present day. The modern short story, however, developed as a specific art form over the past 150 years, addressing perennial ethical issues, either directly or obliquely, in ways peculiar to its time. We will be reading a few stories by the earlier masters and shapers of the form (Flaubert, James, Chekhov, Joyce, Kafka) and then follow the trajectory of the short story in the hands of their modernist and postmodernist inheritors. The approach will be comparative with an emphasis on the close reading of the techniques and arguments of the exemplary texts. We will also examine the translation of several of these stories into the related narrative medium of film.
Instructor(s): R. Macksey
Area: Humanities.

AS.300.337. The Rise of the Modern Short Story. 3 Credits.
Instructor(s): R. Macksey
Area: Humanities
Writing Intensive.

AS.300.338. Art, Action, Intention. 3 Credits.
Since the publication of Monroe Beardsley and William K. Wimsatt’s “The Intentional Fallacy,” debate about the relevance of the artist’s intentions to the meaning and interpretation of the works she creates has been ongoing. How one understands the relevance of an artist’s intentions depends, in part, on how one understands the concept of “intention,” one of the central topics of Philosophy of Action. This course examines how resources in the philosophy of action have been brought to bear in order to illuminate the topic of artistic intention. It is also concerned to explore how accounting more adequately for the relevance of an artist’s intentions in particular might contribute to a more adequate analysis of the concept of “intention” more generally. This course is open to both graduates students and undergraduates.
Area: Humanities
Writing Intensive.

AS.300.339. Asian American Literature and Culture. 3 Credits.
Topics include conceptions of home, law, loyalty, and belonging as they come up within Asian American texts. Works by Chang-rae Lee, Mei-mei Berssenbrugge, Maxine Hong Kingston, John Okada, Bich Minh Nguyen and others. The course will also explore theoretical and historical questions about how a literary canon is formed, as well as the idea of a post-ethnic America. Cross-listed with East Asian Studies
Instructor(s): S. Rhee
Area: Humanities
Writing Intensive.
AS.300.340. Thinking the Body/The Body Thinking: Introduction to Aesthetics from the Perspective of Dance. 3 Credits.

In the nineteenth and twentieth centuries, dance has developed into a serious art form. However, philosophers of art have paid little attention to dance. Why is this the case? Is dance perhaps too corporeal or too unreflective or in some other way too marginal to be a fruitful topic for philosophical reflection? Or does the failure of mainstream philosophical aesthetics to take dance seriously perhaps signal unacknowledged biases in such approaches? Might dance, the art form whose medium is the human body, have something to contribute to current philosophical interest in rethinking the human body and, particularly, the relation between mind and body? Seeking responses to questions such as these, this course provides an introduction to the place of dance in the philosophy of art. The first half of the course examines portions of seven foundational texts in the philosophy of art and culture as well as philosophical accounts of dance that draw on these foundational texts in a range of ways. The aim is not only to explore dance from the perspective of traditional aesthetic theories, but also to explore such traditional theories from the perspective of arguably the art form which they have been most resistant to treating seriously. This oblique angle of entry into mainstream approaches to general aesthetic topics will bring into focus important questions that might be easily overlooked if one examines such theories only in light of their preferred examples of art. The second part of the course explores dance as itself a mode of philosophical reflection, examining how the work of choreographers such as George Balanchine, Jerome Bel, William Forsythe, Crystal Pite and Yvonne Rainer explore the possibilities and limits of their medium: the human body. One proposal will be of particular concern: Might such instances of the body thinking bring into focus more adequate ways of thinking about the body?
Instructor(s): K. Boyce
Area: Humanities

AS.300.341. East Asian Cinema. 3 Credits.

A study of select films across East Asia in their aesthetic and institutional contexts. Highlighted directors will include Yasujiro Ozu and Akira Kurosawa, Chen Kaige, Wong Kar-wai, Im Kwon-Taek, and Gen Sekiguchi, Bong Joon-ho. Cross-listed with East Asian Studies and Film and Media Studies
Instructor(s): S. Rhee
Area: Humanities
Writing Intensive.

AS.300.342. The Bible and Philosophy I. 3 Credits.

This course will examine several attempts by ancient, modern, and contemporary thinkers to come to terms with the Biblical concept of revelation and prophecy, law and election, apocalyptic and eschatology. We will put special emphasis on the first articulation of the idea of Christian universalism, faith and justification, time and eternity. Readings will include the entire corpus of St. Paul’s authentic letters, in addition to the major Scriptural passages on which he draws, but also selections from Philo of Alexandria, St. Augustine, Spinoza, Luther, Nietzsche, Jakob Taubes, Alain Badiou, Giorgio Agamben, and Jean-Luc Nancy.
Instructor(s): H. de Vries
Area: Humanities, Social and Behavioral Sciences.

AS.300.343. Philosophy and Literary Form. 3 Credits.

This course examines the difference literary form can make to the shaping of philosophical content. Philosophers have tended to treat literary form as merely ornamental. For this reason, they have often underestimated the philosophical significance not only of certain works of literature but also the literary form of even those works uncontroversially considered to be philosophical. This course explores the philosophical significance of literary forms in both kinds of works. The first half examines how and why Anglo-American philosophers have incorporated the interpretation of individual literary works into their philosophical writing. We will concentrate on three works of literature—Ibsen’s A Doll’s House, James’s The Golden Bowl and Wordsworth’s Prelude—each of which has attracted significant philosophical attention. The second half of the course examines how philosophers have brought literary analysis to bear in order to illuminate the philosophical achievement of certain canonical philosophical texts. We will concentrate on three literary forms—dialogue, meditation and confession—as these forms are instantiated by three works of philosophy: Plato’s Republic, Descartes’s Meditations and Wittgenstein’s Philosophical Investigations.
Instructor(s): K. Boyce
Area: Humanities.

AS.300.346. Forms of Moral Community: The Contemporary World Novel. 3 Credits.

Literary and philosophical imaginations of moral community in the post-WWII period (1950-2001). Texts include: Coetzee, Disgrace; McEwan, Atonement; Achebe, Things Fall Apart; Ishiguro, An Artist of the Floating World; Roy, The God of Small Things; Lessing, The Grass is Singing; Mistry, A Fine Balance; Morrison, Beloved; and essays by Levi, Strawson, Adorno, Murdoch, Beauvoir and Barthes on the deep uncertainty over moral community after the crisis of World War II. Close attention to novelistic style and narrative will inform our study of the philosophical questions that animate these works. What does it mean to acknowledge another person’s humanity? Who are the members of a moral community? Why do we hold one another responsible for our actions? How do fundamental moral emotions such as contempt, humiliation, compassion, gratitude, forgiveness, and regret reveal the limits of a moral community?
Instructor(s): Y. Ong
Area: Humanities.

AS.300.347. Humans, Animals, and Ghosts. 3 Credits.

This course analyzes philosophical texts, novels, and films that explore the boundaries among human, animal, and alien forms of life and discusses the significance of their haunting presence in scholarly literature and popular culture alike. Readings include: R. Descartes, D. Diderot, D. Haraway, O. Butler, F. Kafka, J. Derrida.
Instructor(s): P. Marrati
Area: Humanities
Writing Intensive.

AS.300.349. The Cinema of Andrei Tarkovsky. 3 Credits.

Course examines the films and theoretical writing of Andrei Tarkovsky, director of Andrei Rublev, Solaris, and Stalker.
Instructor(s): A. Eakin Moss
Area: Humanities
Writing Intensive.
AS.300.350. Skepticism on Stage and Page. 3 Credits.
This course explores influential interpretations of and responses to skepticism in literature, philosophy and theater. Case Studies will include: Descartes, Ibsen, James, Kafka, Kierkegaard, Poe, Shakespeare, and Wittgenstein.
Instructor(s): K. Boyce
Area: Humanities.

AS.300.351. The Phenomenon of Boredom from an Interdisciplinary Perspective. 3 Credits.
We will examine the history, philosophy, sociology, and psychology of boredom and consider the characteristics, concerns, and methods of the different fields and disciplinary frameworks in which this phenomenon has been studied.
Instructor(s): A. Rot
Area: Humanities Writing Intensive.

AS.300.352. Fictions of Autobiography. 3 Credits.
A comparative survey of autobiographical writing as a creative process. Beginning with a few classic examples (Augustine, Petrarch, Montaigne, Rousseau), the seminar will proceed to more recent adventures in the first-person singular. Modern instances will include self-creation in several genres and media, including narrative, dramatic, and cinematic forms. Seminar meets at 107 St. Martin’s Road.
Instructor(s): R. Macksey
Area: Humanities Writing Intensive.

AS.300.353. Henry James and the Art of the Novel. 3 Credits.
Area: Humanities.

AS.300.354. Philosophy, Films, and TV Series. 3 Credits.
This course explores how films and TV series can offer new perspectives on philosophical problems and how, in turn, philosophy can help understanding their power of conviction for contemporary culture.
Instructor(s): P. Marrati
Area: Humanities

AS.300.355. The Literature of the Everyday. 3 Credits.
The ordinary, the common, the everyday: why does literary realism consider the experiences of the average individual to be worthy of serious contemplation? In this course, we will read works by Flaubert, Dickens, Zola, Eliot, Mann, Tolstoy, Ibsen, and Woolf in the context of critical theories of realism.
Instructor(s): Y. Ong
Area: Humanities.

AS.300.356. From Literature to Film - the case of Israeli Cinema. 3 Credits.
This course explores the differences and similarities between two artistic mediums: literature and cinema. Our case study will be the interesting transformation of Hebrew fiction into Israeli films—a dominant phenomenon in Israeli cinema since its very beginning. Our main framework will be narrative theories, but we will also consider the specific historical, ideological and geo-political aspects involved in this transformation. By comparing the two artistic modes and studying the transformation of 5 literary works into films, students will become familiar with the history of modern Hebrew literature, contemporary Israeli cinema, and the relationship between these two artistic mediums. Cross-listed with Jewish Studies, Film and Media Studies, and Writing Seminars
Instructor(s): N. Stahl
Area: Humanities Writing Intensive.

AS.300.358. Modern Korean Culture and Film. 3 Credits.
This course examines modern Korean culture through film and literature in translation. Emphasis will be on the politics of representation, especially in light of the many collective and personal traumas (caused by poverty and factionalism, colonial rule, war, and an accelerated pace of modernization) that mark twentieth century Korean history.
Instructor(s): S. Rhee
Area: Humanities.

AS.300.359. Homelessness in America: Interdisciplinary and Critical Perspectives. 3 Credits.
This course examines innovative research, writings, and other media concerning homelessness in the United States, with special emphasis on critical/philosophical and interdisciplinary approaches that shed new light on the issue.
Instructor(s): T. Gottbreht
Area: Humanities.

AS.300.360. Critical Thinking and its History. 3 Credits.
This course aims at discussing different conceptions of “critique” and “critical thinking” in modern and contemporary philosophy. Readings include: Descartes, Kant, Adorno, Foucault, Arendt, Said, Butler.
Instructor(s): P. Marrati
Area: Humanities.

AS.300.361. Fiction & Case History: Constructive Reading. 3 Credits.
A comparative seminar in the attentive reading of short fictions and other narratives. Attention to the reader’s share as well as that of the author in the construction of stories; consideration of the diagnostic and therapeutic uses of the imagination.
Instructor(s): R. Macksey
Area: Humanities Writing Intensive.

AS.300.362. Beauty and the Predicate Calculus. 3 Credits.
Frege’s development of a predicate calculus made possible the evolution of a distinctively “analytic” tradition in philosophy. But arguably that tradition has failed to fully appreciate the implications of this important development. The course will begin by examining how Frege himself understood the importance of his advance. It will then consider arguments to the effect that some of the most influential accounts of mind and action—namely those shaped by Donald Davidson—fail by failing to take this advance adequately into account. In light of these arguments in philosophy of mind and action, we will reconsider the implications of Frege’s advance for aesthetics. The principle aim of the course will be to construct an account of art and criticism that takes those implications fully into account. Efforts to construct alternatives that overcome this purported failing will be examined
Instructor(s): K. Boyce
Area: Humanities.

AS.300.363. Reading Judith Shakespeare: Women Playwrights of Early Modern England. 3 Credits.
Virginia Woolf’s account of the thwarted career of Shakespeare’s hypothetical sister, Judith, frames our reading of plays and poetry by Shakespeare and contemporary women writers, including Isabella Whitney, Elizabeth Cary, Mary Sidney, Aemelia Lanyer, Mary Wroth, and others. Students will create fictional biographies of “Judith Shakespeare” and her literary accomplishments.
Instructor(s): E. Patton
Area: Humanities
Writing Intensive.
AS.300.364. What is Intellectual History?. 3 Credits.
Intellectual History today is a field with no hard and fast identity. This can be a problem but it can also offer unexpected opportunities. In this seminar we will read various books and essays that exemplify this state of affairs and perhaps point to ways beyond it. Texts include works by Foucault, Hayden White, Derrida, and others.
Instructor(s): R. Leys
Area: Humanities

AS.300.365. Desire in the Fin de siècle. 3 Credits.
This course examines the obsession with desire at the turn of the 20th century in literature, drama, philosophy and social thought and its implications for notions of self and community in modernity. Primary focus will be Silver Age Russia with key texts drawn also from the European context. Readings in translation.
Area: Humanities
Writing Intensive.

AS.300.366. Russian Avant-Garde Cinema. 3 Credits.
Russian cinema was born out of the intense artistic experimentation of the fin-de-siècle avant-garde and developed in a climate of dramatic political and cultural change in the twenties and thirties. While subject to draconian censorship in the Soviet period, it nonetheless engaged in active dialogue with the film industries of Western Europe and America and had a lasting impact on world cinema. This course examines the extraordinary flourishing of avant-garde cinema in the Soviet Union in the 1920s and 30s including films by Eisenstein, Vertov, Pudovkin, and Dovzhenko, their theoretical writings, and their far-reaching influence on film and film theory. All readings in English, films subtitled in English.
Instructor(s): A. Eakin Moss
Area: Humanities
Writing Intensive.

AS.300.367. Seeing Like a Woman. 3 Credits.
This seminar examines the problems of female desire, subjectivity, spectatorship and performance in fiction, poetry, memoir and film from a variety of cultures and theoretical perspectives. Readings include: de Beauvoir, Riley, Butler, Cixous, Tolstoy’s “Family Happiness,” Woolf’s Orlando, Larsen’s Passing; Poetry by Moore, Bishop, Plath, Akhmatova, Tsvetaeva and Szymborska. Films by Deren, Ophuls, Hitchcock, Potter, Campion, Akerman, Varda, Denis.
Instructor(s): A. Eakin Moss
Area: Humanities
Writing Intensive.

AS.300.369. The Bible and Philosophy (Introduction to Intellectual History). 3 Credits.
This course will examine several attempts by ancient, modern, and contemporary thinkers to come to terms with the Biblical concept of creation and Providence, revelation and prophecy, law and election, apocalypse and eschatology, with a special emphasis on the first articulation of the idea of Christian universalism, faith and justification, time and eternity, sacrifice and the body. Readings will include the entire corpus of St. Paul’s authentic letters, the major Scriptural passages on which he draws, but also selections from Philo of Alexandria, St. Augustine, Spinoza, Nietzsche, Karl Barth, Jakob Taubes, Alain Badiou, Giorgio Agamben, and others.
Instructor(s): H. de Vries
Area: Humanities

AS.300.370. What Computers Can’t Do and other Controversies. 3 Credits.
A critical examination of recent debates over the interface between the humanities and the natural sciences. Topics include: computer models of the mind; consciousness and the brain; affect theory and the neurosciences; mirror neuron theory; literature and the natural sciences; the new trauma theory.
Instructor(s): R. Leys
Area: Humanities.

AS.300.371. The Modernist Novel: James, Woolf, and Joyce. 3 Credits.
The purpose of this course is to survey works by three of the greatest, most relentless innovators of the twentieth century - Henry James, Virginia Woolf, and James Joyce -- who explored and exploded narrative techniques for depicting what Woolf called the “luminous halo” of life. Selected novels include: The Portrait of a Lady, The Wings of a Dove, Jacob’s Room, Mrs. Dalloway, To the Lighthouse, A Portrait of the Artist as a Young Man, and Ulysses.
Instructor(s): Y. Ong
Area: Humanities.

AS.300.373. Philosophies of Ecology. 3 Credits.
This course analyzes classical and modern philosophical conceptions of nature and environment in the context of present debates about ecology.
Area: Humanities.

AS.300.374. The Other in Israeli Culture. 3 Credits.
This course examines the representations of the Other in Israeli society and culture. Relying on Self-Other theories we will study the role of the Other in contemporary Israeli cinema, prose, poetry, theater and visual art, and will investigate the political, social and cultural context of its representations. Cross-listed with Jewish Studies and Film and Media Studies
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.300.375. The God of the Hebrew Writer. 3 Credits.
Who is the God of the Hebrew poet and what kind of being is he? This course will examine the ways in which Hebrew writers conceived God. Against the background of Medieval Hebrew poetry we will read modern Hebrew poetry, prose and drama and analyze the changes in the notion of God and its depictions from the Middle Ages through Jewish Enlightenment to modernity. We will study the role of the poet as a mediator between God and his people and his or her understanding of God in the aftermath of World War I and the Holocaust.
Area: Humanities.

AS.300.377. Cinema and Philosophy. 3 Credits.
Why is contemporary philosophy so interested in cinema? Do movies have anything to say about philosophical problems? What are the most productive ways of bringing films and philosophy into conversation?
Instructor(s): M. Shuster
Area: Humanities.
AS.300.379. Israeli Film and Literature. 3 Credits.
This course examines representations of various aspects of Israeli society and culture in contemporary Israeli cinema and literature. The course will focus on both a thematic and chronological path in order to study the ways in which Israeli cinema and literature reflect political, ideological, social, and cultural aspects of contemporary Israel. In this context, we will read well-known works by several major authors and will watch major Israeli films from the 1940s to these days. We will also use a comparative approach to study the different artistic means of both mediums and to evaluate their successes in representing the various tensions of Israeli society and culture.
Instructor(s): N. Stahl; Z. Cohen
Area: Humanities
Writing Intensive.

AS.300.380. Realism and Anti Realism in Modern Jewish Literature. 3 Credits.
This course seeks to trace the narrative dynamics and literary means of Modern Jewish Literature. The course will focus on the ideological, political and artistic context of the break with the conventions of realism in Jewish modernism. Reading includes: Erich Auerbach, Franz Kafka, S.Y Agnon, S.Y Abramovitch, Sholem Asch, A.B Yehoshua, Yoel Hoffmann and Orly Castel-Bloom. Cross-listed with Jewish Studies and GRLL
Area: Humanities.

AS.300.381. The Moses Complex. 3 Credits.
Instructor(s): R. Leys
Area: Humanities

AS.300.384. Modern Korean Literature and Film. 3 Credits.
We will examine twentieth century Korean culture through short stories that are canonical in modern Korean literature and through a series of films associated with New Korean Cinema. One aim of the course is to gain a sense of the history against which the literary and cinematic artifacts obtain their representative artistic status. A second aim is to inquire into the relationship between written and filmic texts in order to see the limits and advantages of one medium over another for representing national culture. No prior familiarity with Korean language is required.
Instructor(s): S. Rhee
Area: Humanities.

AS.300.385. The Rhetoric of Fiction. 3 Credits.
Area: Humanities
Writing Intensive.

AS.300.387. The Ethics of Fiction II. 3 Credits.
Instructor(s): R. Macksey
Area: Humanities
Writing Intensive.

AS.300.388. Introduction to the Philosophy of Time. 3 Credits.
This course explores answers to the question "What is time?" that take account of time as something both inside and outside of us. Readings include, among others, Aristotle, Augustine, Kant, Bergson, Heidegger, and Einstein. Cross-listed with Philosophy
Instructor(s): N. Schott
Area: Humanities.

AS.300.389. Post-Soviet Cinema. 3 Credits.
After the fall of the Soviet Union, Russian filmmakers grappled with the legacy of Soviet power and the nature of the new democracy. This course examines the concept of sovereignty in philosophy and art through the lens of popular films and art cinema from this context.
Cross-listed with Film and Media Studies
Area: Humanities.

AS.300.390. Obama and Philosophy. 3 Credits.
The course will investigate the theological and philosophical as well as rhetorical and literary backgrounds and guiding principles that have informed Barack Obama’s writings, speeches, and political strategies so far. While paying minute attention to a few pivotal controversial recent debates, both in domestic policy and international relations, our central focus will be on understanding the curious blend of Obama’s version of so-called Christian realism, influenced by Reinhold Niebuhr, among others, and of what we will call his deep pragmatism. Special attention will be paid to his early appeal to “simple ideas” and “small miracles,” each of them yielding the Biblical and sobered injunction of a “hope against hope.” Cross-listed with Philosophy
Instructor(s): H. de Vries
Area: Humanities.

AS.300.391. Home and Exile. 3 Credits.
This course examines the concept of home and the condition of exile primarily through the case of 20th century Russian literature, film, art and essay, with comparative texts from other cultures. Attention will be paid to the aesthetic, philosophical and historical implications of home and exile as well as consideration of notions of diaspora and transnational literature and film. All texts will be read in English translation.
Instructor(s): A. Eakin Moss
Area: Humanities.

AS.300.392. Forms of Moral Community: The Contemporary World Novel. 3 Credits.
Literary and philosophical imaginations of moral community in the post-WWII period (1950-2001). Texts include: Coetzee, Disgrace; McEwan, Atonement; Achebe, Things Fall Apart; Ishiguro, An Artist of the Floating World; Roy, The God of Small Things; Lessing, The Grass is Singing; Mistry, A Fine Balance; Morrison, Beloved; and essays by Levi, Strawson, Adorno, Murdoch, and Beauvoir on the deep uncertainty over moral community after the crisis of World War II. Close attention to novelistic style and narrative will inform our study of the philosophical questions that animate these works. What does it mean to acknowledge another person’s humanity? Who are the members of a moral community? Why do we hold one another responsible for our actions? How do fundamental moral emotions such as contempt, humiliation, compassion, gratitude, forgiveness, and regret reveal the limits of a moral community?
Instructor(s): Y. Ong
Area: Humanities.

AS.300.393. The Literature of the Everyday: Realism in the 19th- and 20th-Century Novel. 3 Credits.
The ordinary, the common, the everyday: why does literary realism consider the experiences of the average individual to be worthy of serious contemplation? In this course, we will read works by Flaubert, Dickens, Zola, Eliot, Mann, Tolstoy, and Woolf in the context of critical theories of realism.
Instructor(s): Y. Ong
Area: Humanities.
AS.300.394. Of Miracles and Special Effects. 3 Credits.
This course will investigate the relationship between traditional theologies of the miracle and contemporary media theories of special effects. We will ask why and how the current age of globalization and new technological media forces us to investigate and theorize the concept, event, and practice of religion in altogether novel ways. Readings and screenings will include Augustine, al-Ghazali, Hume, Rosenzweig, Benjamin, Wittgenstein, Arendt, Derrida, Carl Theodor Dreyer's Ordet, and Mamoru Oshii's Ghost in the Shell.
Area: Humanities.

AS.300.395. Stages of Comedy: Theory & Practice. 3 Credits.
A comparative survey of dramatic and cinematic events, with some attention to the various attempts to present a theory of comedy. Seminar will include some food and drinks to support the discussions.
Instructor(s): R. Macksey
Area: Humanities
Writing Intensive.

AS.300.397. How Freud Changed the Way We Think. 3 Credits.
An examination of aspects of the history and theory of psychoanalysis, focusing on the question of origins in Freud's work. Texts by Freud, Laplanche, Lacan, Derrida, and others.
Instructor(s): R. Leys
Area: Humanities.

AS.300.398. Zionism, Post-Zionism and Modern Hebrew Literature. 3 Credits.
This course studies the development of modern Hebrew literature through its relation to Zionism and Post-Zionism. Based on a close reading of both literary and non-literary Zionist and Post-Zionist texts, we will explore the thematic, social, political, aesthetic and stylistic influences that these two movements have had on modern Hebrew literature. Writers to be discussed include: Hertzl, Nordau, Achad ha'am, Jabotinsky, Kluasner, Brenner, Berdyczewski, Agnon, Greenberg, Kahana-Carmon, Oz, Yehoshua, Grossman, Castel-Bloom, and Laor. Students may receive credit for AS.216.398 or AS.300.398, but not both.
Prerequisites: Students may receive credit for AS.216.398 or AS.300.398, but not both.
Instructor(s): N. Stahl
Area: Humanities
Writing Intensive.

AS.300.399. Cinema and Philosophy. 3 Credits.
Do movies have anything to say about philosophical problems? Why is contemporary philosophy so interested in cinema? What are the most productive ways of bringing films and philosophy into conversation? Why is contemporary philosophy so interested in cinema?
Instructor(s): P. Marrati
Area: Humanities.

AS.300.401. Either/Or: Philosophy and Literature in Kierkegaard. 3 Credits.
A close study of one of Kierkegaard's central works, Either/Or, with particular attention to the relation between philosophical analysis and literary modes of representation in the text.
Instructor(s): L. Lisi
Area: Humanities.

AS.300.402. Honors Seminar. 3 Credits.
The Honors Program in the Humanities offers qualified undergraduates the possibility of pursuing an independent research project in their Junior and Senior years in any humanistic discipline or combination of disciplines: intellectual history, comparative literature, philosophy, critical theory, psychoanalysis, religion, film, etc., as well as points of intersection between the arts and the sciences. After one year qualified students may apply for admission to the concurrent BA/MA degree program. Sophomores who plan to study abroad in their Junior year should also consider attending this seminar.
Area: Humanities.

AS.300.403. Honors Seminar. 3 Credits.
The Honors Program in the Humanities offers qualified undergraduates the possibility of pursuing an independent research project in their Junior and Senior years in any humanistic discipline or combination of disciplines: intellectual history, comparative literature, philosophy, critical theory, psychoanalysis, religion, film, etc., as well as points of intersection between the arts and the sciences. After one year qualified students may apply for admission to the concurrent BA/MA degree program. Sophomores who plan to study abroad in their Junior year should also consider attending this seminar. Please keep the Special Note: Limited to Juniors and Seniors and Sophomores admitted to the Honors Program in the Humanities. Permission of instructor required.
Instructor(s): L. Lisi
Area: Humanities
Writing Intensive.

AS.300.404. The Israeli Novel. 3 Credits.
This course studies the Israeli novel through close reading of the works of major Israeli writers such as, Ya'akov Shabtai, Amos Oz, A.B Yehoshua, Amalia Kahana-Carmon, Yehoshua Knaz, David Grossman, Orly Castel-Bloom, Yoel Hoffmann and Etgar Keret. We will focus on questions of style, genres and thematic choices. Among the topics to be discussed are Jewish history and tradition, social and political critiques and minority representations. Classes conducted in English, but students with knowledge of Hebrew are encouraged to read texts in the original. Cross-listed with Jewish Studies and Writing Seminars.
Area: Humanities.

AS.300.405. The Jewish Jesus. 3 Credits.
This course studies the different images of Jesus that accompanied Jewish thought and imagination for almost two thousand years and analyzes their contribution to the self-understanding of Jews over these millennia. We will study historical, religious, and literary texts.

AS.300.406. Marcel Proust, Literature and Art. 3 Credits.
Proust's great sequence of novels À la recherche du temps perdu is also a theory of the Novel and indeed of Art. A close reading of Du côté de chez Swann and Le Temps retrouvé, will put this to the test. Required editions: Proust’s Du côté de chez Swann, Gallimard, Folio, Le Temps retrouvé, Gallimard, Folio, Contre Sainte-Beuve, Gallimard, Folio. The seminar is open to advanced undergrads, with authorization of the instructor. Cross-listed GRLL-French
Instructor(s): J. Neefs; M. Fried
Area: Humanities.
AS.300.407. Forms of Moral Community: The Post-1950 Anglophone Novel. 3 Credits.
This course will focus on works by post-war Anglophone novelists -- Lessing, Achebe, Ishiguro, Coetzee, Morrison, Roy, and McEwan -- that confront fundamental questions about what it means to acknowledge another person's humanity and to belong to a moral community. Instructor(s): J. Neefs
Area: Humanities.

AS.300.408. Lyric Modernity. 3 Credits.
A comparative literature course on modern lyric and poetics. The main issue of the course is how the lyric voice is constructed and sustained under the pressures of modernization in the United States, Europe, and Korea. We will also emphasize issues of translation and the relationship of music and poetry. Readings will include texts by Adorno, Benjamin, Grossman, von Hallberg and Waters, and poems by Dickinson, Rilke, and Kim among others. All readings available in English. Cross-listing requested with East Asian Studies, GRLL, and English
Instructor(s): R. Leys
Area: Humanities.

AS.300.409. Proust and Philosophy. 3 Credits.
Open to graduate students. In addition to offering an extensive reading of Marcel Proust’s In Search of Lost Time, with special focus on the novel’s use of philosophical tropes, this course will investigate its reception in and significance for twentieth century and contemporary thought. Readings will include Bergson, Beckett, Bataille, Camus, Sartre, Adorno, Deleuze, Levinas, Blanchot, Ricoeur, Landy, Dancy, and Pippin.
Instructor(s): H. de Vries
Area: Humanities.

AS.300.410. Animal Minds. 3 Credits.
An examination of some of the scientific and philosophical literature on the nature of animal minds and the way(s) in which they differ from the human mind. The most important of these apparent differences are the use of language, the exercise of concepts, and instrumental reasoning, including the use of instruments. Co-list with AS.150.490
Instructor(s): M. Williams; R. Leys
Area: Humanities.

AS.300.411. Flaubert. 3 Credits.
Through a close reading of Flaubert’s novel, selective consideration of the drafts and of the historical, political and artistic context, we shall examine the making of that masterpiece of narrative prose, which Flaubert himself conceived under the sign of modernity. Our central concern, in other words, is with L’Éducation sentimentale as a second crucial event in aesthetic modernity, twenty two years after Madame Bovary. Seminar will be taught in French and English. L’Éducation sentimentale edition required: GF Flammarion, 2003. Co-listed with 300.604
Instructor(s): J. Neefs; M. Fried
Area: Humanities.

AS.300.412. Flaubert. 3 Credits.
This course examines the works of major Israeli poets such as Yehuda Amichai, Nathan Zach, David Avidan, Dalia Rabikovitch, Yona Wallach, Maya Bejerano, and Yitzhak Laor. These works will be read against the background of the poetry of previous literary generations of writers such as H.N. Bialik, Avraham Shlonsky, Natan Alterman and Lea Goldberg in an attempt to uncover changes in style, themes and aesthetic. Through close reading of the poems, the course traces the unique style and aesthetic of each poet, and aims at presenting a wide picture of contemporary Hebrew poetry. Class will be conducted in English and texts will be read in both English translation and the Hebrew original. Open for both Hebrew and non-Hebrew speakers. Students may receive credit for AS.216.300 or AS.300.413, but not both.
Prerequisites: Students may receive credit for AS.216.300 or AS.300.413, but not both.
Instructor(s): N. Stahl.

AS.300.413. Israeli poetry. 3 Credits.
In this seminar on 20th-c. poetry of the Americas, we will explore the relations between land, language, and identity. Our point of departure, informed by de Andrade’s “Cannibal Manifesto,” will be the idea that all literary texts form a body upon which writers may feast when they compose new works. Devouring, plundering, and appropriating will be central concepts for our seminar. We’ll debate the politics of literary transculturation (hybridity/mestizaje/métissage), and discuss diasporic and multilingual U.S. American poetry (Louisiana Creole poetry, Nuyorican Poets Café, etc.). We will also investigate issues of authorship and originality; constraint, sampling, and parody; and poetic hoaxes and frauds. Readings may include theoretical texts from Édouard Glissant, Ángel Rama, Néstor García Canclini, and Roberto Schwarz, as well as Deleuze, Foucault, Kristeva, and Barthes. Poetry may be drawn from Caribbean writers Césaire, Senghor, Walcott, Brathwaite, Martí, Pāles Matos; Brazilians Haroldo and Augusto de Campos; and North Americans Langston Hughes, Claude McKay, Myung-Mi Kim, Kenneth Goldsmith, Susan Howe, and Christian Bök.
Instructor(s): R. Galvin
Area: Humanities
Writing Intensive.

AS.300.414. Wittgenstein, Religion, and Ethics. 3 Credits.
Starting out from the Lecture on Ethics, this course will investigate Wittgenstein’s approaches to religion and ethics, mysticism and the spiritual, and contrast these with those of his contemporaries and later interpreters. Readings will include Ludwig Wittgenstein, Martin Heidegger, Elizabeth Anscombe, C.S. Lewis, Hilary Putnam, Richard Rorty, Stanley Cavell, Martin Stokhof, and others.
Instructor(s): H. de Vries
Area: Humanities.

AS.300.415. Law of the Cannibal: Trans-American Poetics. 3 Credits.
In this seminar on 20th-c. poetry of the Americas, we will explore the relations between land, language, and identity. Our point of departure, informed by de Andrade’s “Cannibal Manifesto,” will be the idea that all literary texts form a body upon which writers may feast when they compose new works. Devouring, plundering, and appropriating will be central concepts for our seminar. We’ll debate the politics of literary transculturation (hybridity/mestizaje/métissage), and discuss diasporic and multilingual U.S. American poetry (Louisiana Creole poetry, Nuyorican Poets Café, etc.). We will also investigate issues of authorship and originality; constraint, sampling, and parody; and poetic hoaxes and frauds. Readings may include theoretical texts from Édouard Glissant, Ángel Rama, Néstor García Canclini, and Roberto Schwarz, as well as Deleuze, Foucault, Kristeva, and Barthes. Poetry may be drawn from Caribbean writers Césaire, Senghor, Walcott, Brathwaite, Martí, Pāles Matos; Brazilians Haroldo and Augusto de Campos; and North Americans Langston Hughes, Claude McKay, Myung-Mi Kim, Kenneth Goldsmith, Susan Howe, and Christian Bök.
Instructor(s): R. Galvin
Area: Humanities
Writing Intensive.

AS.300.416. Modern Jewish Thought and Literature. 3 Credits.
Open to graduate students. This course studies a wide range of texts dealing with questions concerning the Jewish experience in the modern world. Relying on a comparative mode, we will analyze the historical, philosophical, ideological, and political aspects of these texts, as well as parallel literary and artistic depictions of similar topics. Crosslisted with Jewish studies.
Area: Humanities.

AS.300.417. Modern Hebrew Poetry. 3 Credits.
An examination of attempts by historians, literary critics, philosophers, psychoanalysts and others to harness the findings of the neurosciences for theoretical and critical purposes.
Area: Humanities.
AS.300.419. Reflective Mirrors in Israeli and Palestinian Cinema. 3 Credits.
Open to graduate students. Palestinian and Israeli cinemas have emerged side by side, each depicting its Other as a deceiving mirror of its own self. This course will explore the different images of these Others in both cinemas and study their political, ideological, historical and sociological contexts. Crosslisted with Jewish studies.
Area: Humanities.

AS.300.421. Spiritual Exercises: Concepts and Practices. 3 Credits.
This course will introduce the concepts, practices, and history of spiritual exercises and its modern transformations. Readings include Marcus Aurelius, Philo of Alexandria, St. Augustine, St. Ignatius of Loyola, Henri Bergson, Ludwig Wittgenstein, Stanley Cavell, and Pierre Hadot.
Instructor(s): H. de Vries
Area: Humanities.

AS.300.423. Contemporary Theory: New Materialisms, New Vitalisms, and the Post- Traumatic Subject. 3 Credits.
A discussion of: recent versions of materialism and realism, including materialisms informed by neuroscience; vital materialism; the latest developments in trauma and affect theory; and related trends. Texts by Zizek, Malabou, Damasio, Pippin, McDowell, Johnston, Brassier, Churchland, LeDoux, and others.
Instructor(s): R. Leys
Area: Humanities.

AS.300.425. Literature and the Divine. 3 Credits.
This course studies various issues concerning literary representations of the divine. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and will familiarize ourselves with the general problem of the relation between religion and literature. Among the topics to be discussed are, negative theology in literature, theodicy and anti-theodicy, the question of religion and literary modernism and providence and narratology in the modern novel.
Area: Humanities.

AS.300.431. Russian Literary Modernisms. 3 Credits.
Play with form and genre, self-reflexivity, fragmentation, linguistic creativity, and destabilizing humor all characterize classic works in Russian literature written before and after what would in literary historical terms be considered the Modernist period. This seminar will test a number of recent formal and philosophical definitions of Modernism against a wide range of Russian literary classics that can be seen to fall loosely into the genre including works by Gogol, Tolstoy, Chekhov, Bely, Olesha, Shklovsky, Bulgakov, and Tertz. We will also look at Russian literary critical texts that define and constitute Modernism in the Russian context. Texts in translation. Co-listed with AS.300.641
Instructor(s): A. Eakin Moss
Area: Humanities
Writing Intensive.

AS.300.432. Tolstoy’s War and Peace. 3 Credits.
Open to advanced undergraduates and graduate students. This course will examine the poetics, politics and philosophy of Tolstoy’s sprawling novel alongside key works in Russian and Western literary criticism. Works will be read in translation, but there may be a special section for students capable of reading in the original.
Area: Humanities
Writing Intensive.

AS.300.503. Indiv Honors Work-Junior. 3 Credits.
Area: Humanities.

AS.300.505. Individual Honors-Srs. 3 Credits.

AS.300.507. Honors Seminar. 3 Credits.
The Honors Seminar is a mandatory component of the Honors Program in Humanities, which offers qualified undergraduates the possibility of pursuing an independent research project in their Junior and Senior years in any humanistic discipline or combination of disciplines: intellectual history, comparative literature, philosophy, critical theory, psychoanalysis, religion, film, etc., as well as points of intersection between the arts and the sciences. After one year qualified students may apply for admission to the concurrent BA/MA degree program. Sophomores who plan to study abroad in their Junior year should also consider applying to the Program. In the 2014-2015 academic year, the Seminar will focus on a close reading of Coetzee’s Elizabeth Costello and associated texts, which will serve as a point of departure for discussion on the relation between different intellectual disciplines and pursuits.
Instructor(s): A. Eakin Moss; M. Shuster
Area: Humanities
Writing Intensive.

AS.300.508. Honors Seminar. 3 Credits.
The Honors Seminar is a mandatory component of the Honors Program in Humanities, which offers qualified undergraduates the possibility of pursuing an independent research project in their Junior and Senior years in any humanistic discipline or combination of disciplines: intellectual history, comparative literature, philosophy, critical theory, psychoanalysis, religion, film, etc., as well as points of intersection between the arts and the sciences. After one year qualified students may apply for admission to the concurrent BA/MA degree program. Sophomores who plan to study abroad in their Junior year should also consider applying to the Program.
Instructor(s): A. Eakin Moss
Area: Humanities
Writing Intensive.

AS.300.509. Independent Research. 0 - 3 Credit.
Instructor(s): E. Patton.

AS.300.525. Editorial Internship. 1 Credit.
Writing Intensive.

AS.300.526. Editorial Internship. 1 Credit.
Students with a serious commitment to critical journalism may contract a supervised internship with one of the University publications or cooperating sponsors in the Baltimore community.
Area: Humanities
Writing Intensive.

AS.300.599. Independent Study. 3 Credits.
Instructor(s): L. Lisi; R. Macksey.
AS.300.600. Beauty and the Predicate Calculus.
Frege’s development of a predicate calculus made possible the evolution of a distinctively “analytic” tradition in philosophy. But arguably that tradition has failed to fully appreciate the implications of this important development. The course will begin by examining how Frege himself understood the importance of his advance. It will then consider arguments to the effect that some of the most influential accounts of mind and action—namely those shaped by Donald Davidson—fail by failing to take this advance adequately into account. Efforts to construct alternatives that overcome this purported failing will be examined. In light of these arguments in philosophy of mind and action, we will reconsider the implications of Frege’s advance for aesthetics. The principle aim of the course will be to construct an account of art and criticism that takes those implications fully into account.

AS.300.601. Philosophy of Tragedy.
Since the late eighteenth century, philosophers have repeatedly been drawn to investigations of tragedy and the tragic. In this course we will study some of the most important thinkers in this tradition, and examine the different implications (philosophical, historical, political, existential, aesthetic, etc.) that these concepts carry in their works. Authors to be read will include Schiller, Hegel, Kierkegaard, Nietzsche, Unamuno, Benjamin and Cavell. Cross-listed with: English, German & Romance Languages & Literatures, Philosophy
Instructor(s): L. Lisi.

AS.300.602. Theory, Painting, Vision.
Reading in philosophy, theory, criticism. Texts by Merleau-Ponty, Heidegger, Foucault, Derrida, Cavell, and Pippin, among others.
Instructor(s): M. Fried.

AS.300.603. Readings in Russian Poetry, Prose and Theory.
Readings to be selected by mutual agreement among the students and instructor. Reading knowledge of Russian required.
Instructor(s): A. Eakin Moss
Area: Humanities.

AS.300.604. Flaubert.
Through a close reading of Flaubert’s novel, selective consideration of the drafts and of the historical, political and artistic context, we shall examine the making of that masterpiece of narrative prose, which Flaubert himself conceived under the sign of modernity. Our central concern, in other words, is with L’Éducation sentimentale as a second crucial event in aesthetic modernity, twenty two years after Madame Bovary. Seminar will be taught in French and English. L’Éducation sentimentale edition required: GF Flammarion, 2003. Co-listed with: 300.412
Instructor(s): M. Fried.

AS.300.606. Realism and Anti Realism in Modern Jewish Literature.
This course seeks to trace the narrative dynamics and literary means of Modern Jewish Literature. The course will focus on the ideological, political and aesthetic features of the break with the conventions of realism in Jewish modernism. Reading includes: Erich Auerbach, Franz Kafka, S.Y Agnon, S.Y Abramovitch, Sholom Asch, A.B Yehoshua, Yoel Hoffmann and Orly Castel-Bloom. Cross-listed with GRLL and Jewish Studies.

An examination of aspects of the history and theory of psychoanalysis, focusing on the question of origins in Freud’s work. Texts by Freud, Laplanche, Lacan, Derrida, and others.
Instructor(s): R. Leys.

AS.300.608. Philosophy and the Event.
What constitutes or characterizes a genuine event, whether in history and politics or in individual lives and loves? This seminar explores several answers to this philosophical question, starting out from the major works of two contemporary thinkers, Alain Badiou and Jean-Luc Marion, whose central concerns in Being and Event and Being Given and elsewhere—namely, the so-called laicization of grace and the phenomenology of givenness—seem at once close and diametrically opposed to each other. Attention will further be paid to concrete historical and literary examples as well as to other conceptualizations of the event that would seem to either substantiate or contradict their respective claims. Readings will also include writings by Donald Davidson, Stanley Cavell, Sari Nusseibeh, Hannah Arendt, Isaiah Berlin, Barack Obama, and others.
Instructor(s): H. de Vries.

AS.300.609. Philosophy and/as/of Criticism.
In its heyday in the 1950 and 60’s, Philosophy of Criticism was the central topic of Anglo-American Philosophical Aesthetics, but that is no longer the case. In the first half of the course, we examine the history of Philosophy of Criticism, seeking to understand its change of fortune. We will explore the logical form of criticism, giving special attention to the difficult questions that arise about whether and how critical judgments can be rationally justified. The second half of the course explores the proximity between criticism and certain forms of philosophy. It is focused on two questions: 1) Can some instances of literary criticism be understood as ways of doing philosophy? 2) Are some forms of philosophy—the ordinary language philosophy of J. L. Austin and Ludwig Wittgenstein will be our central case study—best understood as forms of criticism?.

AS.300.611. The Good Life.
What is a good life? Philosophical and literary texts on the nature of virtue, autonomy, beauty, friendship, and integrity as necessary achievements for a good life. Plato, Aristotle, Montaigne, Shakespeare, Rousseau, Kant, Emerson, Pater, Murdoch, Tolstoy, Chekhov, James, Woolf, Naipaul, Coetzee, Ishiguro, Kundera. Please note: this is an graduate seminar, open to interested and qualified undergraduates.
Instructor(s): Y. Ong
Area: Humanities.

AS.300.612. Topics in Kierkegaard’s Philosophy: Repetition, Revelation, Anxiety, and Fear.
Close study of the rhetoric and arguments of four of Kierkegaard’s most important works from 1843-44: Repetition, Philosophical Fragments, The Concept of Anxiety, and Fear and Trembling. Contextualizing readings by Kant, Schelling, Hegel, and J.L. Heiberg.
Instructor(s): L. Lisi.

AS.300.613. The Ancient Quarrel: Literature and Philosophy.
Key turning points in the debate over which kind of knowledge, philosophical or literary, most benefits the soul and society. We will investigate the various ways in which literature has been construed as moral or immoral, and the use of literary modes of persuasion and argument in philosophical texts. Possible authors include: Homer, Plato, Aristotle, Sidney, Shakespeare, Rousseau, Kierkegaard, Tolstoy, Heidegger, Sartre, Beauvoir, Nussbaum, Cavell, Diamond, James, Coetzee, and Mulhall.
Instructor(s): Y. Ong.

This seminar aims at analyzing the relation between Cavell’s novel interpretation of both skepticism and moral perfectionism.
AS.300.615. Classics of Literary Criticism.
Readings will include key texts by Eric Auerbach, several Russian Formalists, Northrop Frye, Roland Barthes, Stanley Cavell, Eve Sedgwick Kosofsky, Friedrich Kittler, and Stephen Greenblatt.
Instructor(s): L. Lisi; M. Fried
Area: Humanities.

AS.300.616. Thinking the Body/The Body Thinking: Introduction to Aesthetics from the Perspective of Dance.
In the nineteenth and twentieth centuries, dance has developed into a serious art form. However, philosophers of art have paid little attention to dance. Why is this the case? Is dance perhaps too corporeal or too unreflective or in some other way too marginal to be a fruitful topic for philosophical reflection? Or does the failure of mainstream philosophical aesthetics to take dance seriously perhaps signal unacknowledged biases in such approaches? Might dance, the art form whose medium is the human body, have something to contribute to current philosophical interest in rethinking the human body and, particularly, the relation between mind and body? Seeking responses to questions such as these, this course provides an introduction to the place of dance in the philosophy of art. The first half of the course examines portions of seven foundational texts in the philosophy of art and culture as well as philosophical accounts of dance that draw on these foundational texts in a range of ways. The aim is not only to explore dance from the perspective of traditional aesthetic theories, but also to explore such traditional theories from the perspective of arguably the art form which they have been most resistant to treating seriously. This oblique angle of entry into mainstream approaches to general aesthetic topics will bring into focus important questions that might be easily overlooked if one examines such theories only in light of their preferred examples of art. The second part of the course explores dance as itself a mode of philosophical reflection, examining how the work of choreographers such as George Balanchine, Jerome Bel, William Forsythe, Crystal Pite and Yvonne Rainer explore the possibilities and limits of their medium: the human body. One proposal will be of particular concern: Might such instances of the body thinking bring into focus more adequate ways of thinking about the body?
Instructor(s): K. Boyce
Area: Humanities.

AS.300.617. Philosophy and Literature in Either/Or.
Celebrated and reviled alike, Kierkegaard’s 1843 Either/Or has been viewed as both the culmination of the Enlightenment project and the birth of existentialism, a playful work of romantic literature and a piece of late-Hegelian philosophy, a vindication of the secular everyday and the articulation of a modern faith in a transcendent God. In this course we read the work closely and in its entirety and pay particular attention to the relation between its philosophical arguments and literary forms of presentation.
Instructor(s): L. Lisi.

AS.300.619. Trauma: Theorizing Terror Before and After 9/11.
Debates over the nature of trauma, testimony, and representation before and after 9/11. Texts by Shoshana Felman, Cathy Caruth, Giorgio Agamben, Don DeLillo, Marianne Hirsch, Art Spiegelman, Georges Didi-Huberman, and others.

AS.300.621. Heidegger’s Being and Time I.
This seminar consists of an integral reading of Martin Heidegger’s 1927 magnum opus Being and Time (Sein und Zeit) in light of its historical and philosophical context as well as its contemporary reception in both the phenomenological, existentialist, hermeneutic, and analytic traditions. We will start out, this semester, from the First Division. Readings will include the commentaries by Ryle, Gadamer, Levinas, Derrida, Marion, Dreyfus, Brandom, and others.
Instructor(s): H. de Vries; P. Marrati.

This seminar explores Derrida’s analyses of notions of life, death, and mourning in crucial figures such as Freud, Heidegger, and Lévinas as well as their implications for important moral and political issues such as death penalty and human rights.
Instructor(s): P. Marrati.

AS.300.628. Contemporary Theory: New Materialisms, New Vitalisms, and the Post- Traumatic Subject.
A discussion of: recent versions of materialism and realism, including materialisms informed by neuroscience; vital materialism; the latest developments in trauma and affect theory; and related trends. Texts by Zizek, Malabou, Damasio, Pippin, McDowell, Johnston, Brassier, Churchland, LeDoux, and others.
Instructor(s): R. Leys
Area: Humanities.

AS.300.631. Russian Literary Modernisms.
Play with form and genre, self-reflexivity, fragmentation, linguistic creativity, and destabilizing humor all characterize classic works in Russian literature written before and after what would in literary historical terms be considered the Modernist period. This seminar will test a number of recent formal and philosophical definitions of Modernism against a wide range of Russian literary classics that can be seen to fall loosely into the genre including works by Gogol, Tolstoy, Chekhov, Bely, Olesha, Shklovsky, Bulgakov, and Tertz. We will also look at Russian literary critical texts that define and constitute Modernism in the Russian context. Texts in translation. Co-listed with AS.300.431
Instructor(s): A. Eakin Moss
Area: Humanities.

AS.300.632. Tolstoy’s War and Peace.
Open to advanced undergraduates and graduate students. This course will examine the poetics, politics and philosophy of Tolstoy’s sprawling novel alongside key works in Russian and Western literary criticism. Works will be read in translation, but there may be a special section for students capable of reading in the original.
Area: Humanities.

This seminar revisits the debate between Derrida and Lévinas about metaphysical, ethical, and political violence with a specific focus on the importance granted or denied to the animal life of humans. Cross-listed with Political Science.
AS.300.637. Faust and Philosophy.
This course combines the close reading of Goethe’s epic Faust with the study of a number of philosophical texts that either influenced Goethe’s work or were influenced by it. Particular attention will be paid to the relation between literary form and philosophical argument. Authors besides Goethe will include Fichte, Schelling, Schiller, Friedrich and August Wilhelm Schlegel, Hegel, Kierkegaard, Karl Rosenkranz and Theodor Vischer. Discussion in English; reading knowledge of German required
Instructor(s): L. Lisi
Area: Humanities.

AS.300.641. Literature and the Divine.
This course studies various issues concerning literary representations of the divine. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and will familiarize ourselves with the general problem of the relation between religion and literature. Among the topics to be discussed are, negative theology in literature, theodicy and anti-theodicy, the question of religion and literary modernism and providence and narratology in the modern novel.
Area: Humanities.

AS.300.643. The Turn to Affect.
Why is there a turn to affect among cultural theorists today? How do affect theorists re-imagine the “relays” between body, brain, and culture? Texts by Damasio, Deleuze, Hansen, LeDoux, Massumi, Maturana, Sedgwick, Tomkins, Varela, and others.
Instructor(s): R. Leys.

AS.300.644. Theory, Painting, Vision.
Theory, Painting, Vision: Readings to be selected but they will definitely include texts by Barthes, Cavell, Wall, and Michaels.
Instructor(s): M. Fried.

In his later lectures on animality, sovereignty, and death penalty, Derrida engages with some of the most urgent philosophical, ethical, and political issues of our time. This seminar aims at analyzing these issues in the larger context of Derrida’s thought.

AS.300.674. Literature and/as Ethics.
Arguments for the immorality of literature, the morality of literature, and the amorality of literature. Can a literary text be evaluated on ethical grounds, and how? How do literary texts make ethical arguments? What does it mean to read literary texts or do literary criticism in an ethical mode? We will be concerned throughout with the philosophical uses, and abuses, of literary forms. Possible authors and texts: Plato, Chaucer, Shakespeare, Flaubert, Zola, Dostoevsky, Lawrence, Hardy, Woolf, Forster, Beauvoir, Cocteau, Oe, Cavell, The Wire, and Mad Men. Primary texts will be accompanied by a selection of essays from moral philosophy and ethical criticism.
Instructor(s): Y. Ong.

AS.300.676. Heidegger’s Being and Time II.
This seminar consist of an integral reading and discussion of Martin Heidegger’s 1927 magnum opus Being and Time (Sein und Zeit) in light of its historical and philosophical context as well as its contemporary reception in both the phenomenological, existentialist, hermeneutic, and analytic traditions. We will focus primarily on the Second Division but also revisit central questions from Division One. However, it will not be necessary for students to have attended the previous seminar on this earlier part of Heidegger’s major work. Recommended readings will include the commentaries by Emmanuel Levinas, Jacques Derrida, Jean-Greisch, Jean-Luc Marion, Hubert Dreyfus, Robert Brandom, and others. Cross-listed with Philosophy
Instructor(s): H. de Vries.

AS.300.682. Political Theologies: Old and New.
This seminar will investigate the historical transformation of the tradition of “political theology” and analyze several contemporary proposals for a so-called politics “beyond sovereignty.” Readings will include Kantorowicz, Lefort, Derrida, Nancy, Laclau, Agamben, Gauchet, Niebuhr, Obama, Roy, and Nusseibeh.

AS.300.684. Marcel Proust, Literature and Art.
Proust’s great sequence of novels À la recherche du temps perdu is also a theory of the Novel and indeed of Art. A close reading of Du côté de chez Swann and Le Temps retrouvé, will put this to the test. Required editions: Proust’s Du côté de chez Swann, Gallimard, Folio, Le Temps retrouvé, Gallimard, Folio, Contre Sainte-Beuve, Gallimard, Folio. The seminar is open to advanced undergrads, with authorization of the instructor. Cross-listed with GRLL-French
Instructor(s): J. Neefs; M. Fried
Writing Intensive.

AS.300.685. Seriousness and Sincerity in the Work of J.L Austin, Stanley Cavell, and Jacques Derrida.

AS.300.686. Mysticism and Mechanicism.
This seminar will investigate the historical, conceptual, and practical intertwining of spirit and automatism, mind and machine, global religion and technological media. We will start out from the spiritual automaton motif as it appears in Spinoza and Leibniz and follow its echoes in more recent debates (concerning the ghost the machine, the idea of artificial intelligence, and all those realities often called virtual). Readings will include Henri Bergson, Ludwig Wittgenstein, Gilbert Ryle, Walter Benjamin, Henri Atlan, Lambert Wiesing, and others.
Instructor(s): H. de Vries.

AS.300.687. The Politics and Morality of Skepticism.
Instructor(s): P. Marrati.

AS.300.688. Autour de Baudelaire (Around Baudelaire).
Topics in Baudelaire’s art and thought and in that of various contemporaries (Courbet, Manet, Wagner) and successors (Mallarmé, Proust, Benjamin, Starobinski, Bonniefoy). Readings and discussion will be mainly in French. Co-listed with AS.212.604
Instructor(s): J. Neefs; M. Fried.

AS.300.689. Deleuze and Philosophy: Time, Life, Becoming.
This seminar aims at analyzing the major concepts of Deleuze’s philosophy and their ethical and political implications for contemporary debates.
Instructor(s): P. Marrati.

AS.300.691. The Jewish Jesus.

Instructor(s): P. Marrati.
AS.300.800. Independent Study.
Instructor(s): H. de Vries; M. Fried.
AS.300.801. Ind Stdy-Field Exams.
Instructor(s): H. de Vries.
AS.300.802. Independent Study Field Exam.
Instructor(s): H. de Vries; P. Marrati.
Instructor(s): H. de Vries.
AS.300.804. Dissertation Research.
Instructor(s): H. de Vries.
AS.300.805. Literary Pedagogy.
Instructor(s): H. de Vries.
AS.300.806. Literary Pedagogics.
Instructor(s): H. de Vries.
AS.300.808. In Study Field Exam.
Instructor(s): E. Forster.
AS.300.890. Research Practicum.
Instructor(s): M. Fried.

Cross Listed Courses

History of Art
AS.010.337. Impressionism, Tradition, Originality: What’s new under the sun?. 3 Credits.
The course will examine the genesis of modern art, focusing on Impressionism and its debt to earlier traditions. Topics of study include Impressionist painting (Monet, Pissarro, Cézanne, among others), 17th-century Dutch landscape (Hobbema, Jacob van Ruisdael), 18th-century French painting (Fragonard, Chardin), Barbizon school, Courbet, Manet, Impressionist print (Cassatt, Degas), theories of perception, aesthetics of sketch.
Area: Humanities.
AS.010.400. Looking at Language: Vision and Textuality from Surrealism to the Present. 3 Credits.
Considers the emergence of the “written painting” and other uses of language in the visual arts. Among our case studies: Magritte, Twombly, Ruscha, Indiana, Holzer, Wool, Ligon, Darboven.
Instructor(s): M. Warnock
Area: Humanities.
AS.010.693. Classics Of Art Criticism.
Readings include Diderot, Baudelaire, Fry, Greenberg, and Jeff Wall.
Instructor(s): M. Fried.
AS.010.760. Agency and Other Topics in Contemporary Theory of Art History.
A critical reading of texts by various thinkers including Alfred Gell, Horst Bredekamp, David Freedberg, Whitney Davis, and David Summers. Open to qualified undergraduates with the permission of the instructor. This course is being co-taught with Prof. Ruth Leys.
Instructor(s): M. Fried; R. Leys.

Classics
AS.040.693. The Pre-Socratics and Early Plato.
This seminar will focus on the earliest phases of European philosophy. Topics that will be examined include: scholarly approaches to the fragments of major thinkers such as Herakleitos and Empedokles; the concept of “fragment;” the transition from the pre-Socratics to early Plato; the later reception of Herakleitos and Pythagoras in European thought.
Instructor(s): D. Yatromanolakis
Area: Humanities.

Anthropology
AS.070.674. Creative Expression.
Tackling between theoretical and ethnographic texts on art and poetry, visual image and dramatic performance, living body and natural landscape, this course seeks anthropological ground for an impersonal and asubjective philosophy of creative expression. Drawing from thinkers such as Nietzsche, Bergson, Whitehead, Merleau-Ponty, and Deleuze, and studies set in China, India, Indonesia, Melanesia, and aboriginal Australia, we will confront the working intuitions of artists and “creators” of various kinds with the unpredictable life of the worlds in which they work.
Area: Humanities, Social and Behavioral Sciences.

History
AS.100.360. Literature as an Institution: The Russian Case. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.
AS.100.741. Recent Theoretical Issues in History.
An examination of recent theoretical issues in history, including: history as/and memory; the return of presence in history; the turn to affect and the rise of “neurohistory”; posthistoricism and the uses of literary theory in history; and the uses of photography and visual cultures in history.
Cross-listed with Humanities Center.
Instructor(s): G. Spiegel; R. Leys.
Area: Humanities, Social and Behavioral Sciences.

German Romance Languages Literatures
AS.211.414. Body as Vehicle: The French 20th Century Approach to Theatrical Performance. 3 Credits.
From Greek tragedy to postmodern stage productions: 20th century theater practitioners revisit performance through the ritual and emotional experience of physical action on the stage. Hence, the actor’s body operates as a bridge relating traditional forms of expression to theatrical performance, as well as a creative — and sensitive — source of emotions. This vehicle becomes in the hands of some 20th century practitioners an object of experimentation, initiating the concepts and practices of an Anthropology of the Theater. A thorough study of theoretical texts, music, as well as videos showing contemporary performances in France, will explore the variety of this theatrical approach and the way some revolutionary theories influenced theater practice in France and worldwide.
Area: Humanities.
AS.212.403. Flaubert’s Madame Bovary, Prose as a Modern Art. 3 Credits.
AS.212.403 for advanced undergrads. Through a close reading of Flaubert’s novel and selective consideration of the drafts, we shall examine the making of that masterpiece of narrative prose, which Flaubert himself conceived under the sign of modern art. Our central concern, in other words, is with Madame Bovary as a crucial event in aesthetic modernity, one that has had a prodigious afterlife in both literature and visual arts. Seminar will be taught in French and English. Madame Bovary edition required: Le Livre de Poche Classique, 1999. Meets with AS.212.623 Cross-listed with Humanities Center Area: Humanities.

AS.212.448. Baudelaire: Art, Poetry, Modernity, 3 Credits.
Seminar taught in French and English. Charles Baudelaire is widely regarded as the decisive figure in 19th Century literary and artistic Modernity. In this seminar we will read his magnificent Les Fleurs du mal and Spleen de Paris and his equally remarkable art criticism, as well as various critical discussions of his achievement. Cross-listed with Humanities Center Instructor(s): J. Neefs; M. Fried Area: Humanities.

AS.212.604. Around Baudelaire.
Topics in Baudelaire’s art and thought, and in that of various contemporaries (Courbet, Manet, Wagner) and successors (Mallarmé, Proust, Benjamin, Starobinski, Bonnefoy, Roubaud, Deguy). Readings and discussion will be mainly in French. Instructor(s): J. Neefs; M. Fried

AS.212.623. Flaubert’s Madame Bovary, Prose as a Modern Art.
Through a close reading of Flaubert’s novel and selective consideration of the drafts, we shall examine the making of that masterpiece of narrative prose, which Flaubert himself conceived under the sign of modern art. Our central concern, in other words, is with Madame Bovary as a crucial event in aesthetic modernity, one that has had a prodigious afterlife in both literature and visual arts. Seminar will be taught in French and English. Madame Bovary edition required: Le Livre de Poche Classique, 1999. Area: Humanities.

Seminar taught in French and English. Charles Baudelaire is widely regarded as the decisive figure in 19th Century literary and artistic Modernity. In this seminar we will read his magnificent Les Fleurs du mal and Spleen de Paris and his equally remarkable art criticism, as well as various critical discussions of his achievement. Cross-listed with Humanities Center Instructor(s): J. Neefs; M. Fried.

Taught by Visiting Professor Lydie Moudileno: The course will examine representation of Europe, mostly but not exclusively France and Paris in the fiction produced by writers from the former French colonies, from the 1950’s to the present.

AS.212.362. Sigmund Freud. 3 Credits.
The course will examine Freud’s writings from a two-fold perspective: On the one hand, we will analyze the contributions of psychoanalysis to modern thought. Lining himself up with Copernicus and Darwin, Freud considers his concept of the “unconscious” a further insult to mankind’s narcissism and revolution of thought. In this respect, psychoanalysis affects a vast array of concepts of modern thought such as subject, language, sexuality, morality, culture, history, religion and art which we will discuss alongside with key terms of psychoanalysis (unconscious, repetition, transference etc.). On the other hand, the course will address the specific relation between psychoanalysis and literature. Throughout Freud’s writings, literature enjoys vivid interest. Not only are psychoanalytic concepts (e.g. Oedipus complex, narcissism, the uncanny) crucially informed by literary texts, but also Freud’s “Interpretation of Dreams” proves to be a theory of representation and reading. We will investigate the ways in which literature and psychoanalysis are involved with each other considering narrative forms, performative aspects and aspects of the genre (novel, novella). Readings and discussions in English. Area: Humanities.

AS.213.610. The Idea of a University in Classical German Philosophy.
The role and function of a university in life and in society was a topic of considerable concern for some of the most prominent German philosophers of the late 18th and early 19th century. Their published (and unpublished) contributions led to a new understanding of what a university should be that proved to be very influential for the conception of the ‘modern’ university, as realized in Germany in the 19th century. The seminar will examine the writings of Kant, Fichte, Schelling, Schleiermacher, and Humboldt on the university with attention to the relation of the authors’ thoughts on education to their more general philosophical positions. The seminar will begin on March 22 and continue to the end of the term.

AS.213.628. Literary Hermeneutics.
AS.213.634. Schiller’s Aesthetic Writings.
Schiller’s theoretical writings might be approached by the sentence ‘it is only through beauty that man makes his way to freedom’. Discussing the assumption that humans live in a condition of unfreedom resulting from social and economic divisions, Schiller’s notion of beauty crosses boundaries between ethics, politics and aesthetics to formulate a theory of modernity in which beauty functions as a medium to reconcile man’s sensuous nature and his capacity for reason. The course will examine Schiller’s concept of beauty in relation to the anthropological, political, ethical and aesthetic discourses of his time especially with respect to Kant’s view of aesthetic judgment which Schiller at the same time embraced and criticized. Particular attention will be paid to Schiller’s reflexions on representation as well as to the poetics of his aesthetic discourse. Readings include: Kaßler-Briefe (1793), Über Anmut und Würde (1793), Vom Erhabenen (1793), Über die ästhetische Erziehung des Menschen in einer Reihe von Briefen (1793), Über naive und sentimentalische Dichtung (1795/96). Readings and discussions in German.

AS.213.683. Dilettantism.
AS.214.684. Aesthetics of Description.
Since the enduring disavowal of description by Lessing, characteristics commonly assigned to description include structural endlessness and exorbitance; the simple succession of elements; the „breakdown of composition“ (Lukács) in a proliferation of details; the parity of described details; its failed ability at illusion; also its tendency to mortify, insofar as it transforms its subject into something static, stagnant. The course will undertake a critical revision of these characteristics by analyzing aesthetical debates and literary descriptions from the 18th to the 20th centuries. Topics leading the discussion will be: text-image relations; description between literature and science; observation through description; dynamization of description; motion and motionlessness; poetics of perception; performativity of description; the boredom of reading. Readings include: Bodmer, Breitinger, von Haller, Winckelmann, Lessing, Alexander von Humboldt, Hebbel, Stifter, Darwin, Ossip Mandelstam, Aby Warburg, Lukács, Peter Weiss, Peter Handke. The course will be taught in German.

AS.214.352. Writing and Wonder: Books, Libraries, and Discovery 1250-1550. 3 Credits.
The invention of printing occurred amid two centuries of intense development in the conduct and material means of European scholarship. The transition from writing by hand to movable type was accompanied by a revolution in scholarship that involved a new attitude to Classical and Biblical antiquity, the recovery of neglected and “lost” works, the formation of secular libraries, and the development of tools for the study of ancient handwriting, writing materials, and the history of language and of history itself. The revolution in attitudes to and uses of the book eventually transformed every discipline related to reading, writing, and the organization of knowledge. Topics to be covered include writing as an object of wonder, the transformation of a mythology of writing into a true history of books, writing, and libraries, the scientific study of writing and of language, and the representation of writing and books in the art and literature of the Middle Ages and Renaissance. Extensive use will be made of Johns Hopkins’ large collection of books published before 1600, and student projects will be oriented toward reliving the experiences of scholars in this period, including via computer-assisted means. Open to all undergraduates. Knowledge of a foreign language helpful but not required.
Area: Humanities.

AS.214.656. Media and Art Theory.
This class will read basic texts in media theory, history, and philosophy — from Marshall McLuhan, and the school of French structuralists, to film semiotics and current approaches to media analysis within ubiquitous computing. We will look at some media artists from Nam June Paik to Cindy Sherman and ask the question of how their art-work incorporates a specific media-theoretical and -philosophical background. Readings from Mark Hansen, Tom Mitchell, Ulrik Ekman, Vivian Sobchack, Amelia Jones a.o.

AS.214.761. Reading & Writing in Pre-Modern Europe.
This course has a fourfold aim: First, it is designed to familiarize participants with the basics of Latin paleography from Roman antiquity through the age of printing with moveable type; throughout, we will practice deciphering literary and documentary sources of various types, even as we concentrate on the evolution of different writing styles.
Second, we will think about paleography’s status as a “discipline.” That is, the term “paleography” dates back to 1708 and Montfaucon’s classic work, Palaeographia Graeca. However, it was only in the late nineteenth century in the world of the German research university that paleography came into the orbit of the Geisteswissenschaften as a “Hilfswissenschaft.” Both implicitly and explicitly throughout the seminar we shall be asking what consequences that move entailed.
Third, we will study the manner in which printing with moveable type changed western graphic culture: was printing “revolutionary” or “evolutionary”? Did printing and its radical graphic changes introduce new forms of consciousness in readers? Fourth, we will become familiar with certain aspects of “the history of the book,” discovering as we do what sorts of questions scholars in this broad field of scholarly endeavor have been asking recently.


AS.215.441. Borges, Cortazar, Bioy Casares and Their Time. 3 Credits.
The course introduces students to the study of Argentine literary culture in the first three quarters of the twentieth century. Its objective is to instruct the students in methods of close reading and develop perspectives in critical thinking. Cross-listed with History, Humanities Center and Program in Latin American Studies.
Area: Humanities.

Interdepartmental

AS.360.133. Great Books at Hopkins. 3 Credits.
Students attend lectures by an interdepartmental group of Hopkins faculty and meet for discussion in smaller seminar groups; each of these seminars is led by one of the course faculty. In lectures, panels, multimedia presentations, and curatorial sessions among the University’s rare book holdings, we will explore some of the greatest works of the literary and philosophical traditions in Europe and the Americas. Close reading and intensive writing instruction are hallmarks of this course; authors for Fall 2014 include Homer, Plato, Boccaccio, Shakespeare, Madame de Lafayette, Flaubert, Dostoevsky, Chekhov, and Joyce.
Instructor(s): A. Eakin Moss; E. Patton; J. McGarry; J. Neefs; W. Stephens
Area: Humanities Writing Intensive.

This class will survey the various ways in which women, sexuality, and violence are linked in the Hebrew Bible (often referred to as the Old Testament). We will employ a variety of perspectives, including philosophical, historical, and literary. No prior familiarity with the Hebrew Bible is presupposed.
Area: Humanities, Social and Behavioral Sciences.
AS.360.255. The Politics of Sexual Empowerment. 3 Credits.
This course will survey a range of political problems regarding sexual empowerment and disempowerment, in particular concerning feminism(s), rights within the family, sexual orientation, sex work, pornography, sex trafficking, and related topics. No previous political theory experience required. Cross-listed with Humanities Center.
Area: Humanities, Social and Behavioral Sciences.

Study of Women, Gender, Sexuality
The Feminization of Poverty - This WGS course examines the intersection of gender and poverty in the US and internationally. Students will intern for a Baltimore-area organization that works to improve gender economic equality, and course discussions will situate student experiences in a broader framework of understanding.
Instructor(s): T. Gottbreht
Area: Humanities, Social and Behavioral Sciences.

AS.371.140. Cartooning. 3 Credits.
Not open to Freshmen. A history-and-practice overview for students of the liberal arts. The conceptual basis and historical development of cartooning is examined in both artistic and social contexts. Class sessions consist of lecture (slides/handouts), exercises, and ongoing assignments. Topics include visual/narrative analysis, symbol & satire, editorial/political cartoons, character development, animation. Basic drawing skills are preferred but not required.
Instructor(s): T. Chalkley
Area: Humanities.

AS.371.146. Basic Black/White Photo. 3 Credits.
Students must have a 35mm camera with manual aperture and shutter speed ATTENDANCE AT 1ST CLASS IS MANDATORY An introduction to the technical and creative process of producing black & white photographs. Working in the darkroom, students learn the fundamentals of film processing and print development. In-class critiques, discussion, and analysis of historic images develop critical vision. With the instructor’s guidance, students work on a project of their choice and produce a portfolio of ten mounted prints.
Area: Humanities.

AS.371.149. Visual Reality. 3 Credits.
In art, "Realism" is a simulation of visual reality. But art can also simulate alternative realities, those realities or truths which exist only in daydreams or nightmares. In this class, we will learn to explore and create representations of these additional moments of existence. This will require thinking creatively or "outside the box," a useful skill in any field. Using a variety of media, students are asked to solve problems to which there is no one correct answer.
Instructor(s): D. Bakker
Area: Humanities.

AS.371.151. Photoshop/Digital Darkroom. 3 Credits.
Photoshop and the Digital Darkroom Photoshop is not only the digital darkroom for processing images created with digital cameras; it is also a creative application for making original artwork. In this course, students use Photoshop software as a tool to produce images from a fine art perspective, working on projects that demand creative thinking while gaining technical expertise. Students will make archival prints, have regular critiques, and attend lectures on the history of the manipulated image and its place in culture. We will look at art movements which inspire digital artists, including 19th century collage, dada, surrealism, and the zeitgeist of Hollywood films. Students must have a digital camera. Prior knowledge of Photoshop is not required. Attendance at first class is mandatory.
Instructor(s): H. Ehrenfeld
Area: Humanities.

AS.371.152. Introduction to Digital Photography. 3 Credits.
Introduction to Digital Photography Students learn to use their digital cameras through a variety of projects, which will help them develop technical and creative skills. Students explore documentary, landscape and portrait photography. Critiques and slide lectures of historic photographs, which range from postmortem daguerreotypes to postmodern digital imagery, help students develop a personal vision. Students gain camera proficiency with one-on-one instruction in the field. Basics for print adjustment and output will be covered. Attendance at first class is mandatory.
Instructor(s): H. Ehrenfeld
Area: Humanities.

AS.371.157. Basic Black & White: Wet Darkroom. 3 Credits.
This film-based class guides students through the technical and creative process of producing black and white photographs. Working in the darkroom, students learn the fundamentals of film and print development. In-class critiques explore the elements which make this medium unique. Students develop critical vision through discussion and analysis of historic images as well as images they make themselves. With the instructor’s guidance, students work on a project of their choice and produce a portfolio of ten mounted prints.
Instructor(s): P. Berger
Area: Humanities.

AS.371.162. Black and White: Digital Darkroom. 3 Credits.
In this digital course, students explore the black-and-white aesthetic. They develop camera skills on numerous field trips, including Cylburn Arboretum and the John Brown Liberty Ship. Students meet frequently for critiques and discussions based on historic and contemporary imagery. Techniques such as high dynamic range, panorama and infrared are covered. Emphasis is on composition and developing a photographic style via shooting and post-processing. Students are encouraged to make work that is meaningful to them and which communicates its intent to their audience. Digital SLR cameras are provided. Attendance at first class is mandatory.
Instructor(s): P. Berger
Area: Humanities.
Interdisciplinary Studies

The undergraduate major in interdisciplinary studies allows students to combine disciplines in Krieger School of Arts and Sciences to develop a major focused on a particular topic or intellectual theme. Therefore, courses proposed for this interdisciplinary major must have coherence and build toward a rich exploration of a clear set of principles or questions.

Requirements for a B.A. Degree with a Major in Interdisciplinary Studies

Also see Requirements for a Bachelor’s Degree (p. 24).

Students in the humanities and social sciences who wish to design their own major, or who wish to divide their studies between departments, may create their own program in Interdisciplinary Studies. This interdisciplinary major may straddle several traditional disciplines but must maintain a substantive theme or focus. For example, a student interested in the American Revolutionary period may construct a curriculum including courses from History, English, History of Art, and Sociology. Another may wish to focus on children in poverty, drawing from Anthropology and Economics. Proposals for the interdisciplinary major should be submitted at the end of the sophomore year.

This major requires the support of a faculty advisor and the approval of the Arts and Sciences Curriculum Committee. A student wishing to complete this major must work with a full-time faculty member from the Homewood campus to construct a curricular plan that includes courses representing 45 to 60 credits. These courses can include all related prerequisites and related courses, such as language study. Independent study, research, and internships may be included. Twenty-one credits must be earned at the 300-level or higher. Courses from the School of Engineering are not permitted, except by petition.

The proposal should explain how each of these courses provides insight on the given topic, concept, issue, time period, etc. There is no need to defend the principle of interdisciplinary study, as that is a given, but the student must explain how the courses from two or more departments represent a conceptual whole.

After receiving approval from a sponsoring faculty advisor, the student then works with the Office of Academic Advising to finalize the proposal and to present it to the Curriculum Committee, consisting of faculty and undergraduates, who must approve the proposal by majority vote. After approval, the student continues to work with the faculty advisor and Academic Advising to oversee completion of requirements.

Rules:

- Students pursuing this major must still meet all other requirements for a bachelor’s degree (https://e-nextcatalog.jhu.edu/undergrad-students/academic-policies/requirements-for-a-bachelors-degree) in the Krieger School of Arts and Sciences.
- All courses for the major must be taken for a letter grade and students must earn a C- or better in courses completing major requirements.
- Students must earn 45-60 credits in the completion of the major.
- At least 21 credits must be completed at the 300-level or higher and may not be counted toward another major or minor.
- Courses offered by the School of Engineering may not be included in major requirements (Some minor exceptions may be permissible).

International Studies

The International Studies major is an interdisciplinary program drawn from the departments of political science, history, economics, languages, sociology, and anthropology. There are three programs in International Studies: a regular undergraduate major leading to the B.A. degree in four years, and two accelerated programs leading to a B.A. and M.A. degree in five years. One of the accelerated programs is in partnership with the Johns Hopkins School of Advanced International Studies in Washington, D.C. and the other is with political science institute Sciences Po in Paris. The three programs, and all other aspects of the International Studies Program, are described on the International Studies website at http://krieger.jhu.edu/internationalstudies

Requirements for the B.A. Degree

Also see Requirements for a Bachelor’s Degree (p. 24)

Students considering a major in International should begin introductory courses required of the major early in their college careers. Choices may include an introductory history course at the 100-level, AS.180.101 Elements of Macroeconomics-AS.180.102 Elements of Microeconomics, and one of the following gateway courses: AS.190.209 Contemporary
International Politics, AS.190.213 International Politics, or AS.190.229 Introduction to Comparative Politics.

Major Requirements
The international studies major is comprised of three main components:

• Foreign language study
• Core courses in history, political science, and economics
• Focus area of the student’s choosing

In addition, students must earn a grade of C- or better in all course applied towards major requirements and courses may not be taken satisfactory/unsatisfactory.

Foreign Language
Proficiency in one major foreign language is required. This requirement may be met either by taking two courses beyond the intermediate level or by special examination. If the student can demonstrate proficiency through examination, s/he must take an additional two semesters of either a new language or upper-level literature and culture courses taught in the language of proficiency.

Core Courses
Courses fulfilling the specific requirements below are listed on the International Studies website (http://krieger.jhu.edu/internationalstudies/courses).

• Five courses in history, including one introductory course at the 100-level from the History Department at Johns Hopkins University. Three out of the five courses must be non-Western history (some introductory courses may count toward the non-Western history requirements). Two out of the five courses must be taken at the 300-level.
• One course in international politics
• One course in American politics
• Two courses in comparative politics
• One course in political theory
• Four courses in economics. One must be an internationally-oriented course listed on the International Studies website. Two courses must be AS.180.101 Elements of Macroeconomics and AS.180.102 Elements of Microeconomics. The final course may be of the students’ choosing from courses offered in the Economics Department.

Focus Area Specialization
Every major in International Studies selects a specialization area, which consists of four semester courses within a coherent field of interest. Specialization fields may be organized in terms of area (Latin America, East Asia), theme (security studies, international economics), or language (e.g., Mandarin, Arabic). Two courses should be at the 300-level or higher.

Major Requirements:

Foreign Language Study
Two courses beyond the intermediate level or if proficient based on exam, two additional language courses

One Core Political Science Course
AS.190.102 Introduction To Comparative Politics 3
or AS.190.104 International Politics

Political Science Courses
One international relations course 3
One American politics course 3
Two comparative politics courses 6
One political theory course 3

Economics Courses
AS.180.101 Elements of Macroeconomics 3
AS.180.102 Elements of Microeconomics 3
One AS.180.xxx course 3
One approved internationally-focused economics course 3

Five History Courses **
One AS.100.1xx history course 3
Three approved non-Western history courses 9
One history course selected by student 3

Focus Area ***
Four courses with a coherent field of interest 0-12

Total Credits 51-66

* Approved internationally-focused economics courses are identified each semester on the International Studies website and can be identified by a POS-Tag of INST-ECON in their course description in the schedule of classes.

** Two history courses must be completed at the 300- or 400-level. It is possible that the introductory course required in the History Department (AS.100.1xx) may be a non-Western history course. If so, then the student will select another history course to complete five total history courses.

*** Courses fulfilling the focus area may overlap with other courses used to fulfill specific major requirements.

Tracks and Pre-Defined Focus Areas
In lieu of a focus area of their own choosing, students may pursue one of International Studies’ unique tracks or pre-defined focus areas. These double-major tracks and minor focus areas are offered in conjunction with affiliated departments and allow students to concentrate their course of study within a specific department or program while simultaneously benefiting from the interdisciplinary training offered by the International Studies major.

Students pursuing a track will receive a double major in International Studies and the affiliated department or program. For example, students pursuing the Global Social Change and Development track will receive a double major in International Studies and Sociology. The student’s faculty advisor will be a faculty member from the affiliated department or program.

Students pursuing a pre-defined focus area will receive a major in International Studies and a minor in the affiliated department or program (e.g., students pursuing the Global Modernity and the Jewish Experience focus area will receive a minor in Jewish Studies) and benefit from a faculty advisor in the affiliated department or program.
Senior Thesis and Honors in the Major

International studies majors also have the opportunity to write a senior research thesis. To be eligible to write a thesis, seniors must identify a faculty sponsor who will supervise the project. Once a faculty sponsor has approved a topic, students must enroll in a three-credit independent study during the fall semester. Students will work out a specific work plan with their faculty sponsor suitable for their project. At the end of the fall semester the faculty sponsor will assess whether adequate progress has been made and the project warrants further work as an undergraduate thesis. If so, then the faculty sponsor will grant the student permission to enroll in the senior thesis course worth six credits. In addition to completion of a senior thesis, students who wish to receive honors in the major will also need a GPA of 3.7 or better in all major requirements.

Study Abroad

Studying abroad is especially valuable for International Studies majors. JHU encourages all IS majors to spend one or both semesters of their junior year abroad. International Studies sponsors a number of study abroad programs designed for IS majors and administers them in collaboration with the Office of Study Abroad.

The Junior Year Abroad at SAIS Bologna, offered through the Bologna campus of the Paul H. Nitze School of Advanced International Studies (SAIS), allows motivated International Studies majors to spend their junior year taking graduate level classes at the SAIS Bologna campus. Students who spend their junior year in Bologna and subsequently apply for graduate studies at SAIS will receive one semester of credit at SAIS for their work in Bologna.

A similar exchange program with the French political science institute Sciences Po allows students to spend a semester or a year studying at one of Sciences Po’s seven regional campuses: Paris, Menton, Reims, Poitiers, Le Havre, Nancy, or Dijon. Courses are offered in English as well as French and thus are open to students regardless of their knowledge of French. One of Europe’s most prestigious universities, Sciences Po has a strong international focus and allows students to develop a cross-cultural and transatlantic perspective, while simultaneously offering unique access to the field of international affairs.

Sciences Po’s School of Journalism also offers a competitive spring semester English language program in Journalism. This selective program is designed for students who are interested in pursuing a career in journalism or who have had some journalism experience. The program curriculum consists of a combination of lectures, workshops and reporting projects, in addition to mandatory French language classes for students who are not proficient in French.

Additionally, the Office of Study Abroad also offers a wide range of study abroad opportunities across the globe tailored to specific interests.

Five-Year Accelerated B.A./M.A. Program with the Paul H. Nitze School of Advanced International Studies (SAIS)

For students wishing to pursue a master’s degree after graduation from Hopkins, the university offers an accelerated and competitive International Studies B.A./M.A. Program drawing upon its resources at SAIS, located in Washington, D.C. Combining a liberal arts curriculum with a strong specialization in international studies, the program allows those enrolled to receive the B.A. and M.A. degrees in five years instead of the usual six.

Approximately eight sophomores are selected for the program each year. Admission is limited to those who are highly motivated toward careers for which a background in international studies is essential: research, teaching, or practice in international affairs. Financial assistance is available to those admitted based on need and academic achievement.

Five-Year Accelerated B.A./M.A. Program with Sciences Po

Students may also apply to participate in a five-year accelerated B.A./M.A. program with Sciences Po, one of Europe’s finest schools of political science. The B.A./M.A. Program is aimed principally at students who are interested in international affairs and who would like to develop their intellectual and professional capabilities from an international and multidisciplinary perspective. After the junior year, students spend two years at Sciences Po’s Paris campus completing graduate-level coursework at the Paris School of International Affairs (PSIA), which houses the majority of Sciences Po’s internationally-oriented master’s programs. PSIA is a bilingual institution, thus students may choose to pursue either an English or French track. Students may also elect to pursue a master’s degree at the School of Journalism, School of Communication, or School of Law. Students interested in an academic career may also choose to pursue a research master’s with the Doctoral Program at Sciences Po. Students who are not proficient in French will also pursue French language training during their course of study at Sciences Po. Students will earn a B.A. from Hopkins after their first year in Paris and a master’s from Sciences Po after their second year.

Applicants follow an application and review process similar to the one for the SAIS program. Approximately three to four sophomores are selected each year for the Sciences Po program. Students pay tuition to Johns Hopkins for the first year in Paris and to Sciences Po for the second. Financial aid from Johns Hopkins continues only through the end of a student’s fourth year.

Progress toward the B.A./M.A. Degrees

Students in both programs described above spend their first three years at the Homewood campus and the last two at either SAIS or Sciences Po. Students receive the B.A. degree at the end of their first year at either SAIS or Sciences Po and the M.A. at the end of their second year.

Students selected for either of the accelerated programs may not study abroad during their Homewood years, with the exception of summer or intersession programs.

For current faculty and contact information go to http://krieger.jhu.edu/internationalstudies/directory/

Faculty

Director
Sydney V. Morgan

The Leonard and Helen R. Stulman Jewish Studies Program

The Leonard and Helen R. Stulman Jewish Studies Program was founded in 2002 to coordinate the many academic activities at Johns
Hopkins dedicated to the study of Jewish history, literature, language, philosophy, politics, and religion. The program gives students the opportunity to explore over three millennia of Jewish culture, ranging from ancient Israel to the present. The Stulman Program sponsors visiting professors and course offerings in a wide variety of disciplines, awards undergraduate travel funds and graduate fellowships, and provides many opportunities for students, faculty, and the general public to participate in a wide range of lectures, conferences, and other special events.

The program offers a minor to students interested in the many dimensions of Jewish life, religion, and culture, from ancient times to the present. It will also interest students who wish to study cultures and civilizations in which thinking about Jews and Judaism played an important role, that is, students interested in Christianity, Islam, or the culture of global modernity. Because of its interdisciplinary nature, the Jewish studies minor offers students access to a broad array of humanities and social sciences disciplines. It therefore serves as a good complement to many majors, as well as providing indispensable intellectual training to anyone interested in Jewish professional life.

**Minor in the Leonard and Helen R. Stulman Jewish Studies Program**

The Jewish Studies minor requires a minimum of six courses (amounting to at least 18 credits) selected from those approved by the Advisory Committee of the Jewish Studies Program. The courses must be from at least two departments, and at least three must be upper-level courses (300-level or above). All courses applied towards the minor must be taken for a letter grade and a grade of C- or better must be earned. In addition, only two courses with any single professor can be counted towards the minor.

The requirements for a minor in Jewish studies are as follows:

**Four Jewish Studies Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>One course at any level</td>
<td>3</td>
</tr>
<tr>
<td>Three 300-level or higher courses</td>
<td>9</td>
</tr>
</tbody>
</table>

**Two Approved Language Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two courses in modern Hebrew, biblical Hebrew, or Yiddish at any level</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credits: 18

* Students must take two semesters of coursework. Students cannot place out of these courses based on prior knowledge.

For current faculty and contact information go to http://krieger.jhu.edu/jewishstudies/faculty_directory/index.html

**Faculty**

**Professors**

Steven R. David  
(Political Science): Vice Dean for Centers and Programs: international relations, security studies, comparative politics.

Ruth Leys  
(Humanities): history and theory of psychoanalysis, history of psychiatry and psychology, 19th- and 20th-century intellectual history, feminist theory.

**Associate Professors**

Kenneth B. Moss  
Felix Posen Associate Professor (History) and Director, Jewish Studies Program: modern Jewish history, Russia and Eastern Europe, Yishuv/Palestine and Israel, Jewish political thought, nationalism, theory and practice of cultural history.

Marina Rustow  
Charlotte Bloomberg Chair in the Humanities; Associate Professor History: Medieval and early modern Jewish history; medieval Arab politics and political cultures; rabbinic and karaitic Judaisms; religion and society in Fatimid Egypt.

**Assistant Professor**

Neta Stahl  
(Department of German and Romance Languages and Literatures): Comparative and Modern Hebrew literature, religion and literature.

**Lecturers**

Beatrice Caplan
(Department of German and Romance Languages and Literatures): Zelda and Myer Tandetnik Lecturer in Yiddish.


Language Instruction
Zvi Cohen (Center for Language Education).

Scholar in Residence
Piero Capelli (History).

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

**AS.193.100. Yiddish Bibliography: a seminar for intermediate and advanced Yiddish students. 3 Credits.**
Yiddish Bibliography: a seminar for intermediate and advanced Yiddish students. The seminar’s aim is to introduce the students to a large set of Yiddish resources, along various topics and research areas, while improving their Yiddish reading and expression skills.
Instructor(s): E. Niborski.

**AS.193.200. Early Holocaust Literature: Jewish Poetry and Prose 1939-1949. 3 Credits.**
Introduces the two earliest forms of Holocaust literature: literary writing by Jews under Nazi rule and literary writing by Jewish survivors of the Holocaust produced in its immediate wake (between liberation in 1945 and the decisive moment of the foundation of the State of Israel in 1948). Treats questions of literature as a form of immediate reaction to persecution and annihilation, literature as testimony, the relationship of poetics and early Holocaust memory and consciousness. Reference will be made mainly to professional writers in Yiddish and Polish. All readings in English translation.
Area: Social and Behavioral Sciences
Writing Intensive.

**AS.193.300. Readings in Yiddish. 3 Credits.**
Area: Social and Behavioral Sciences.

**AS.193.301. Reading the Bible and Encountering its World. 3 Credits.**
The course examines the interactions between travel and biblical interpretation between the seventeenth and twentieth centuries, paying particular attention to the ways in which travelers to the Middle East and then scholars saw its residents as relics of an unchanging biblical world, whose practices could be used to interpret scriptural texts from both the Old and New Testaments.
Instructor(s): E. Horowitz
Area: Social and Behavioral Sciences
Writing Intensive.

**AS.193.202. Everyday Voices of the Holocaust: Popular Jewish Poetic Expression in the Ghettos and Camps. 3 Credits.**
The course aims to encourage knowledge of a relatively unknown mass phenomenon - poetic creativity by Jews under Nazi Rule, in the Ghettos and Camps. The study of mostly unpublished, multilingual texts, written by non-professional writers, will enable to better understand the complexity of immediate Jewish reaction to Holocaust reality, in its multicultural contexts. Texts from selected ghettos and camps, originally written in Yiddish, Polish, German and Hebrew will be read in English translation and analyzed - also with emphasis on the differences and similarities between East and West European Jewry.
Instructor(s): M. Trinh.

**AS.193.304. Poetry of Ordinary People: Jewish Poetic Expression in Ghettos and Camps. 3 Credits.**
The course aims to encourage knowledge of a relatively unknown mass phenomenon - poetic creativity by Jews under Nazi Rule, in the Ghettos and Camps. The study of multi-lingual texts, written by non-professional writers, will enable to better understand the complexity of immediate Jewish reaction to Holocaust reality, in its multi-cultural contexts. Texts from selected ghettos and camps, originally written in Yiddish, Polish, German and Hebrew will be read in English translation and analyzed.
Emphasis will be put on the differences and similarities between Eastern and Western European Jewry.
Instructor(s): M. Trinh
Area: Social and Behavioral Sciences.

Cross Listed Courses

**English**

**AS.060.332. Jewish American Fiction. 3 Credits.**
Instructor(s): E. Sundquist
Area: Humanities
Writing Intensive.
AS.060.371. Major American Authors: Philip Roth. 3 Credits.
Over the course of his long career Philip Roth has struck a precarious balance between identification as a Jewish American novelist and insistence that his art escapes such ethnic enclosures. This tension lies at the heart of his work, as indeed some would argue it lies at the heart of the American Jewish experience of the twentieth century.
Having emerged as a decidedly rebellious figure who shocked the Jewish community and the nation at large in the 1950s and 60s, Roth has written more than twenty-five novels exploring issues that range from conflicts over assimilation to the roles of the Holocaust and Israel in American Jewish life to the countercultural turbulence of the 1960s to the identity politics of the 1990s. Roth has revealed in forms of fictive autobiography—"counter-lives," "counter-plots," and counterfactual histories—that have enlarged the scope of fiction while still grappling with the tensions and dangers of modern life. Works to be read include: "Goodbye, Columbus"; "Portnoy's Complaint"; "Operation Shylock"; "American Pastoral"; "The Ghost Writer"; "The Anatomy Lesson"; "The Plot Against America"; "The Human Stain"; "The Facts"; "The Counterlife"; "Sabbath's Theater"; and "Nemesis". Requirements: two 8-10 page papers, a class presentation, and participation in discussion.
Instructor(s): E. Sundquist
Area: Humanities
Writing Intensive.

AS.060.375. Literature of the Holocaust. 3 Credits.
The course will focus on reactions to, and representations of, the Holocaust in European, Israeli, and American literature. In moving from the initial response of eyewitness testimony, through the emergence of fiction as one means to test the adequacy of historical accounts and memoirs, and on to more recent reflections on the problem of adequately “remembering” the event, we will consider how the Nazi genocide has entered into world consciousness. What does it mean to have an artistic or aesthetic response to such an event? Why has the Holocaust assumed so a significant role in contemporary life that there are entire genres of literature and film devoted to it? We will also look at some more contemporary writers whose work deals indirectly with the after-effects of the Holocaust. Readings may include: Levi, Survival in Auschwitz; Borowski, This Way for the Gas, Ladies and Gentlemen; Delbo, Auschwitz and After; Tadeusz Borowski, "This Way for the Gas, Ladies and Gentlemen"; John Hersey, "The Wall"; Leon Uris, "Exodus"; Jerzy Kosinski, "The Painted Bird"; Jorge Semprun, "The Long Voyage"; Imre Kertesz, "Fateless"; David Grossman, "See: Under Love"; Leslie Epstein, "King of the Jews"; Cynthia Ozick, "The Shawl"; Philip Roth, "The Plot against America"; and William Gass, "The Tunnel", with various historical and theoretical works in accompaniment. Requirements: a circulated discussion paper; reports on critical/theoretical works; participation in discussion; a research paper.
Instructor(s): E. Sundquist
Area: Humanities

History

AS.100.128. Ancient and Medieval Jewish History. 3 Credits.
History of the Jews under empires and monarchies, from the Persian restoration to the Spanish expulsion. Emphasis on Jews in the Middle East and how the rise of Christianity and Islam challenged, transformed and strengthened Judaism. Cross listed with Jewish Studies.
Instructor(s): M. Rustow
Area: Humanities, Social and Behavioral Sciences.

AS.100.129. Introduction to Modern Jewish History. 3 Credits.
An examination of the history of Jews over the past three hundred years. Explores the dramatic encounter at the close of the 18th century between rapidly changing European societies caught up in intellectual, political, and economic revolution and a 2000-year old traditional civilization living in their midst; the kaleidoscopic array of Jewish political, religious, cultural and social responses to this encounter; the new forms of Jewish communal and individual life and consciousness which emerged in the course of the 19th and 20th centuries; the extension of this new modern framework to the Jews of the Middle East in the context of European imperialism and colonialism; the key roles played by the Jews as agents and symbols of political, economic, and cultural modernity; the phenomenon of anti-Semitism and whether it is a pathology or integral part of modern European civilization; the extreme shifts in Jewish life from the mid-20th century in light of the Holocaust, the creation of the state of Israel, and integration into American society.
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences.
AS.100.317. Jewish Music. 3 Credits.
What is “Jewish music,” and what roles has it played in global and Jewish cultures? This course will address these questions, considering genres and contexts of Jewish music from cantillation to klezmer and from art music to Yiddish cinema. Cross listed with Jewish Studies.
Instructor(s): J. Walden
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.325. The Jewish Condition & the Interwar Crisis: Jewish Politics & Culture in Europe, America, Palestine. 3 Credits.
The twenty years following the First World War were characterized by manifold political crises: the apotheosis of radical left-wing and radical right-wing politics at the heart of Europe, hyper-nationalism in post-imperial Eastern and southern Europe, violent confrontations in Europe’s overseas colonies and mandates, and world-wide economic depression. This course asks how the 16-18 million Jews of Europe, America, and the Near East were affected by these processes and traces their opposing political, religious, and cultural responses to them.
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.351. God, Self, Nation and Revolution in East European Jewish Life and Thought, 1860-1939. 3 Credits.
The divided Jewish community of modern Eastern Europe defined many of the key modern forms of Jewish identity, politics, culture, and religion and forged bewildering array of syntheses, hybrids, and even negations of Jewishness in relation to the unprecedented political, cultural, and social dilemmas of life in Eastern Europe. Focus on key texts of Jewish religious and secular thought created in Imperial Russia and interwar Poland.
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.354. History of Israel, 1948-1970. 3 Credits.
The political, social, and culture history of the State of Israel and its inhabitants during its pivotal first two decades, as reconstructed in recent historiography.
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences.

AS.100.402. Jewish Modernity: Jewish Secularization, Assimilation, Nationalization, and Religious Revival from the 17th Century to the Present. 3 Credits.
Contemporary accounts and theories of the Jewish experience of modernity from the 17th century to the contemporary state of Israel; secularity and religion; emancipation, citizenship, and empire; capitalism and socialism; assimilation and nationalism; statehood and diaspora.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.412. Jewish History in British Mandatory Palestine 1917-1947. 3 Credits.
Recent historical writing on Jewish politics, culture, and society in British Mandatory Palestine, 1917-1947. Significant attention will also be paid to work on Palestinian Arab society and politics and to Jewish-Arab-British relations.
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.415. Papyrus, Parchment, and Paper. 3 Credits.
The diffusion of writing technologies before the industrial age, especially around the Mediterranean; the preservation of lightweight, portable texts; modern discoveries (Oxyrhynchus, Dead Sea Scrolls, Nag Hammadi, Cairo Geniza).
Instructor(s): M. Rustow
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.447. Christian-Jewish Polemics in the Middle Ages and the Construction of the Enemy. 3 Credits.
The four great public Christian-Jewish disputations of the high middle ages: Paris, Barcelona, Majorca, Tortosa. Original Hebrew and Latin sources in English translation; questions of the changing motives for anti-Judaism and the formation of a persecuting society.
Instructor(s): P. Capelli
Area: Humanities, Social and Behavioral Sciences.

AS.100.624. How to Be a Disciple of the Sages: Norms of Behavior, Ethics and Etiquette in Early Rabbinic Literature.
Moral instruction in early rabbinic literature (Pirqe Aboth, Aboth de-Rabbi Nathan, Derekh Eretz Rabbah and Zuta, Perek ha-Shalom) is a very revealing example of the composite character of rabbinic Judaism, its manifold, not only Biblical roots, and its intense osmosis of neighboring traditions: Hellenistic and Roman philosophies, early Christian and Islamic doctrines, rules and handbooks of manners from medieval European monasteries and courts. This seminar will investigate the classical sources of Jewish morals in both Jewish and non-Jewish texts.
Instructor(s): P. Capelli
Area: Humanities, Social and Behavioral Sciences.

AS.100.642. Historiography of the Jews.
Instructor(s): K. Moss; M. Rustow.

AS.100.655. Jewish History and Historiography in Ottoman and British Palestine.
Recent historiography on Jewish politics, culture, and society in late Ottoman and British Mandatory Palestine, 1880s-1947, English and Hebrew. With permission of the professor.
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.667. Topics in Modern Jewish History.
Intensive readings in historiography of modern Jewry, with particular focus on Jewish life in 19th - 20th century Palestine and the State of Israel. Recommended Course Background: AS.100.668
Instructor(s): K. Moss
Area: Humanities, Social and Behavioral Sciences.

AS.100.759. The Cairo Geniza (Spring).
Documentary sources from the Cairo Geniza in Judaeo-Arabic, Arabic, and Hebrew. Paleography, genre, diplomatic, corpora and editorial technique; historical context, interpretation, historiography and history of the field. Cross listed with Jewish Studies.
Instructor(s): M. Rustow
Area: Humanities, Social and Behavioral Sciences.
Near Eastern Studies

AS.130.114. The Archaeology of Ancient Israel. 3 Credits.
This course will explore the intersection of sexuality and power relationships in the forging of ethnic, political, and religious identities as presented in the Bible and ancient Near Eastern literature. Cross-listed with Jewish Studies.
Instructor(s): L. Wright
Area: Humanities.

AS.130.118. Ancient Israel: In Their Own Words. 3 Credits.
This course will focus on the inscriptions of ancient Israel and its neighbors from the first millennium BCE. Texts speak to us directly in ways that other nonverbal archaeological remains - such as architecture or pottery - cannot. Also, secondary sources written by later historians and commentators are similarly limited, as they are separated from original events by space, time, and cultural situation. Considering how individuals from an ancient culture articulate thoughts “in their own words” is invaluable to any meaningful reconstruction of history. Participants will learn to glean information from inscriptions, including those that are fragmentary or seemingly mundane. They will experience hands-on history writing, using primary sources in translation, though those with any knowledge of ancient languages, especially Classical Hebrew, will be able and encouraged to engage with the texts in their original vernacular. Basic knowledge of world history will be helpful though not prerequisite.
Prerequisites: AS.130.134
Instructor(s): H. Parker
Area: Humanities.

AS.130.140. Hebrew Bible / Old Testament. 3 Credits.
The Bible is arguably the most read and yet most misinterpreted book of all time, one of the most influential and yet most misapplied work of literature. The Hebrew Bible (Old Testament) is Scripture to Jews and Christians yet also a rich collection of literature w/ numerous literary genres that has been highly influential on secular Western culture. At its core, it is our most important literary source that (when wed with archaeology) helps us to understand the people and culture of Iron Age Israel and Judah. This is an introductory course surveying of the books of the Hebrew Bible (Old Testament) giving primary attention to the religious ideas they contain and the ancient contexts in which they were composed. Topics include: The Academic Study of Religion, Ancient Creation Accounts, Ancestral Religion, The Exodus and Moses, Covenant, Tribalism and Monarchy, The Ideology of Kingship, Prophecy, Priestly Sources, Psalms, Wisdom Literature, and Apocalyptic Thought.
Instructor(s): T. Lewis
Area: Humanities.

AS.130.172. Introduction to Aramaic. 3 Credits.
Cross-listed with Jewish Studies Aramaic, a Semitic language attested from 1100 BCE and spoken to this day, is central to some of the core texts of Western culture such as the Hebrew Bible, the Talmuds and the New Testament. This course will focus on Babylonian Aramaic, as preserved in the Babylonian Talmud and parallel sources. After studying the basic forms and grammar we will read various texts from the Babylonian Talmud as well as karaita and geonic literature and magical bowls. We will survey some of the main corpora written in Babylonian Aramaic and open a gateway to deeper understanding of this heritage.
Instructor(s): Y. Monnickendam
Area: Humanities.

AS.130.301. History of Ancient Syria-Palestine. 3 Credits.
A survey of the history of Ancient Syria and Cannan, including Ancient Israel.
Instructor(s): P. McCarter
Area: Humanities.

AS.130.302. History: Ancient Syria-Palestine II. 3 Credits.
A survey of the history of Ancient Syria and Cannan, including ancient Israel. Taught with AS.134.661. Cross-listed with Jewish Studies.
Instructor(s): P. McCarter
Area: Humanities.

AS.130.330. The Garden of Eden. 3 Credits.
A seminar on the history of interpretation of Genesis 2-3, with a focus on the uses of the biblical story of the Garden of Eden in Jewish, Christian, and Muslim traditions. Class attendance and participation are mandatory.
Instructor(s): E. Robbins
Area: Humanities.

AS.130.338. The Talmud as Read in the Middle Ages: The Sugya of Kavod HaBriot (Human Dignity). 3 Credits.
In the early Middle Ages the Talmud emerged as the defining document of official Jewish religion and culture, and remained so until the dawn of the Modern Era. Jewish scholars in many different countries, and in a wide variety of cultural contexts, developed certain ways of reading, interpreting, and applying the Talmud. In the process, they produced an immense corpus of commentary and law. This course will examine how and why the Talmud was studied in these centuries by jews who mined it, subject by subject, for emotional, philosophical, and legal meaning.
Instructor(s): D. Katz
Area: Humanities.

AS.130.340. History Religion/Israel. 3 Credits.
A study of the origins of ancient Israelite religion, its emergence from and continuities with ancient West Semitic religion and culture. Students will be exposed to comparative and historical approaches for reconstructing this time period including the utilization of new sources of knowledge (e.g., Syro-Palestinian archaeology and epigraphy; neighboring ancient Near Eastern religions).
Instructor(s): T. Lewis
Area: Humanities, Social and Behavioral Sciences.

AS.130.341. Traditionalism vs. Orthodoxy in the Modern Era: The Case of Judaism. 3 Credits.
During the Modern Era in European history, the Traditionalist Jewish civilization of Europe that had evolved over many centuries went into deep crisis. The new political, social, and intellectual realities which characterized Modernity seriously challenged, overwhelmed, and indeed threatened to destroy the Jewish Traditionalist culture and society. In response, different Traditionalist thinkers and communities evolved a number of strategies for surviving in a modern environment, strategies that unexpectedly transformed Traditionalism into something different, which came to be called Orthodox Judaism. This course explores this process of transformation, which has had an important impact on Jewish life in the modern and post-modern eras. Cross-listed with Jewish Studies.
Instructor(s): D. Katz
Area: Humanities.

AS.130.343. Dead Sea Scrolls-English. 3 Credits.
A survey of the manuscripts found at Qumran and other sites near the Dead Sea.
Instructor(s): P. McCarter
Area: Humanities.
AS.130.346. Introduction to the History of Rabbinic Literature. 3 Credits.
Area: Humanities.

AS.130.348. Religious Law Wrestles With Change: The Case of Judaism. 3 Credits.
Description: “How does a religious system which defines its ancient laws as God-given and unchangeable apply them to radically different and changing social, political and intellectual situations? This course explores the literature of “Questions and Answers” (She’elot u-Teshuvot), the Jewish legal responsa which have struggled to match Jewish religious law to modern life for fifteen centuries. A sweeping survey of Jewish history as revealed by one of its most impenetrable yet fascinating sources. Cross-listed with Jewish Studies.
Instructor(s): D. Katz
Area: Humanities.

AS.130.352. History of Hasidism. 3 Credits.
Although it appears to be a relic of pre-modern Judaism, Hasidism is a phenomenon of the modern era of Jewish history. This course surveys the political and social history of the Hasidic movement over the course of the last three centuries. Students will also explore basic features of Hasidic culture and thought in their historical development. Cross-listed with Jewish Studies.
Instructor(s): D. Katz
Area: Humanities.

AS.130.359. Reading the Talmud in the Post-Talmudic Era. 3 Credits.
Instructor(s): D. Katz
Area: Humanities.

AS.130.361. The Politics of Sexuality in the Bible and the Ancient Near East. 3 Credits.
This course will explore the intersection of sexuality and power relationships in the forging of ethnic, political, and religious identities as presented in the Bible and ancient Near Eastern literature. Cross-listed with Jewish Studies and Women, Gender, and Sexuality.
Instructor(s): E. Fleming
Area: Humanities.

AS.130.366. Reading the Talmud in Pre-modern Jewish Culture. Attempting to Cope With Abusive Husbands: Annulment of Marriage in the Literature of Post Talmudic Rabbinic Judaism. 3 Credits.
The evolution of Talmudic thinking resulted in laws which made marriage too easy, divorce too difficult. This generated centuries of attempts to grapple with the consequences of this conundrum in real-life situations. This course analyzes the literature produced by these attempts. Students will read texts in original Hebrew.
Instructor(s): D. Katz
Area: Humanities.

AS.130.367. Jerusalem: The Holy City in History and Archaeology. 3 Credits.
Jerusalem has a global significance utterly disproportionate to its size or wealth, and it has been this way since the days when the city was first settled. On the one hand, this is due to Jerusalem’s role as a sacred space for all three of the world’s largest monotheistic religions: Christianity, Islam, and Judaism. On the other, Jerusalem has long been the fulcrum of geopolitical struggles in the Middle East and beyond. This lecture course explores Jerusalem’s political, cultural, and religious trajectory over the past three millennia through the lens of the city’s amazingly rich historical and archaeological records. In so doing, we unravel the mythical and historical threads that combine to create the powerful symbolic resonance of Jerusalem today, discovering en route that, when it comes to Jerusalem, identifying what is “myth” and what is “history” is a complex and contested undertaking.
Instructor(s): J. Osborne
Area: Humanities.

AS.130.372. Prophetic Lit-Hebrew Bib. 3 Credits.
A survey of the prophetic literature of the Hebrew Bible (Old Testament) as it is understood in its ancient Near Eastern cultural and historical context. Freshmen admitted with permission.
Area: Humanities.

AS.130.373. Prophets and Prophecy in the Bible. 3 Credits.
From thundering voices of social justice to apocalyptic visionaries, biblical prophets have been revered by Jews, Christians and Muslims for thousands of years. They have inspired civic leaders such as Martin Luther King Jr. yet also provided fodder for modern charlatans promising a utopian future. Yet who were these individuals (orators? politicians? diviners? poets?) and what was the full range of their message as set against the Realpolitik world of ancient Israel, Iraq, Egypt, Syria and Jordan?
Instructor(s): T. Lewis
Area: Humanities.

AS.130.441. Elementary Biblical Hebrew. 3 Credits.
Survey of grammar and reading of simple texts. (Credit given only on completion of AS.130.440 and AS.130.441). May not be taken on a satisfactory/unsatisfactory basis.
Instructor(s): M. Simone
Area: Humanities.

AS.130.442. Readings - Hebrew Prose. 3 Credits.
Reading of biblical Hebrew prose, especially from the Pentateuch, Joshua, Judges, Samuel, and Kings. Cross-listed with Jewish Studies.
Instructor(s): E. Guinn-Villareal
Area: Humanities.

AS.130.443. Reading Of Hebrew Prose. 3 Credits.
Reading of Biblical Hebrew prose, especially from the Pentateuch, Joshua, Judges, Samuel, and Kings.
Instructor(s): E. Guinn-Villareal
Area: Humanities.

AS.134.604. The Book Of Job.
Reading the Hebrew text of the book of Job with attention to philology, textual criticism, and various aspects of interpretation.
Instructor(s): T. Lewis.
A rapid reading course aimed at increasing proficiency in reading the Hebrew text of the book of Ezekiel. Various aspects of translation and interpretation will be studied (e.g., grammar, textual criticism, Philology) including literary, historical, and theological questions. Cross-listed with Jewish Studies.
Instructor(s): T. Lewis.

AS.134.652. Seminar in Ancient Israelite Religion.
Topics include history of scholarship, methodology, representations of deity, the aniconic tradition, solar Yahwism, sacred space, blood rituals, passover, royal cult, family religion, divination, prophecy, incantations, etc.
Instructor(s): T. Lewis.

Philosophy
AS.150.428. Spinoza’s Political Theology. 3 Credits.
“Political Theology” is a term that acquired significant resonance in recent years. The current class will study closely two texts by Spinoza, the founder of this discipline: the Theological-Political Treatise and the (incomplete) Political Treatise.
Instructor(s): Y. Melamed.

AS.150.435. The Philosophy and Theology of Maimonides. 3 Credits.
This course will examine the philosophic and theological thought of Judaism’s most renowned philosopher, Moses Maimonides (1138-1204). After a brief overview of Maimonides’ multifaceted life as philosopher, scientist, physician, Talmudic scholar, rabbi, and communal leader; we will consider Maimonides’ philosophic and religious background and, in particular, the ancient Greek and medieval Islamic philosophic works that influenced him. The course will delve into his views on topics such as the relation between faith and reason, the existence of God, creation/eternity of the world, free will/determinism, the nature of prophecy, the purpose of law, human happiness, ultimate perfection, and the Afterlife. Special attention will be given to Maimonides’ method of philosophic writing and the tension in his life between the vita activa and the vita contemplativa. The course will also trace the impact of Maimonides’ Guide of the Perplexed upon later Jewish thought and upon Western philosophy and theology from Thomas Aquinas to Leibniz.
Instructor(s): S. Harvey
Area: Humanities.

AS.150.483. Topics in Jewish Philosophy: Heresy. 3 Credits.
This course will study the history and transformations of the Jewish concept of ‘Apikorsut’ - a unique kind of heresy that refers to a rabbinic scholar turned into a heretic, while maintaining a tense dialogue with mainstream Rabbinic culture and community. We will particularly interested in the following questions: What makes a dissenter into an Apikoroi? How does the Apikories defer from the apostate? Why was philosophy as a whole considered (since the Late Middle Ages) as a discipline of Apikorsut?.

Political Science
AS.190.344. Seminar In Anti-Semitism. 3 Credits.
Jews exercise a good deal of power in contemporary America. They are prominent in a number of key industries, play important roles in the political process, and hold many major national offices. For example, though Jews constitute barely two percent of America’s citizens, about one-third of the nation’s wealthiest 400 individuals are Jewish and more than ten percent of the seats in the U.S. Congress are held by Jews. One recent book declared that, “From the Vatican to the Kremlin, from the White House to Capitol Hill, the world’s movers and shakers view American Jewry as a force to be reckoned with.” Of course, Jews have risen to power in many times and places ranging from the medieval Muslim world and early modern Spain through Germany and the Soviet Union in the 20th century. In nearly every prior instance, though, Jewish power proved to be evanescent. No sooner had the Jews become “a force to be reckoned with” than they found themselves banished to the political margins, forced into exile or worse. Though it may rise to a great height, the power of the Jews seems ultimately to rest on a rather insecure foundation. Cross-listed with Jewish Studies.
Instructor(s): B. Ginsberg
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.335. Arab-Israeli Conflict (IR). 3 Credits.
The course will focus on the origin and development of the Arab-Israeli conflict from its beginnings when Palestine was controlled by the Ottoman Empire, through World War I, The British Mandate over Palestine, and the first Arab-Israeli war (1947-1949). It will then examine the period of the Arab-Israeli wars of 1956, 1967, 1973, and 1982, the Palestinian Intifadas (1987-1993 and 2000-2005); and the development of the Arab-Israeli peace process from its beginnings with the Egyptian-Israeli treaty of 1979, the Oslo I and Oslo II agreements of 1993 and 1995, Israel’s peace treaty with Jordan of 1994, the Road Map of 2003; and the periodic peace talks between Israel and Syria. The conflict will be analyzed against the background of great power intervention in the Middle East, the rise of political Islam and the dynamics of Intra-Arab politics, and will consider the impact of the Arab Spring.
Instructor(s): R. Freedman
Area: Social and Behavioral Sciences.

AS.191.398. The International Politics of Genocide. 3 Credits.
This course examines the creation of the concept of genocide and explores its controversial evolution in international law, humanitarian efforts, and global politics. Dean’s Teaching Fellowship course.
Instructor(s): B. Meiches
Area: Social and Behavioral Sciences
Writing Intensive.

German Romance Languages Literatures
AS.210.163. Elementary Yiddish I. 3 Credits.
Year-long course. Includes the four language skills, reading, writing, listening, and speaking, and introduces students to Yiddish culture through text, song, and film. Emphasis is placed both on the acquisition of Yiddish as a tool for the study of Yiddish literature and Ashkenazi history and culture, and on the active use of the language in oral and written communication. Both semesters must be taken with a passing grade to receive credit.
Instructor(s): B. Caplan; E. Niborski; Staff.
AS.210.164. Elementary Yiddish II. 3 Credits.
Year-long course that includes the four language skills--reading, writing, listening, and speaking--and introduces students to Yiddish culture through text, song, and film. Emphasis is placed both on the acquisition of Yiddish as a tool for the study of Yiddish literature and Ashkenazi history and culture, and on the active use of the language in oral and written communication. Both semesters must be taken with a passing grade to receive credit. Recommended Course Background: AS.210.163 or instructor permission.
Area: Humanities.

AS.210.263. Intermediate Yiddish I. 3 Credits.
This course will focus on understanding the Yiddish language as a key to understanding the culture of Yiddish-speaking Jews. Emphasis will be placed on reading literary texts and historical documents. These primary sources will be used as a springboard for work on the other language skills: writing, listening, and speaking. Recommended Course Background: AS.210.164 or equivalent, or two years of German and permission of instructor.
Instructor(s): B. Caplan
Area: Humanities.

AS.210.264. Intermediate Yiddish II. 3 Credits.
Continuation to Intermediate Yiddish I. This course will focus on understanding the Yiddish language as a key to understanding the culture of Yiddish-speaking Jews. Emphasis will be placed on reading literary texts and historical documents. These primary sources will be used as a springboard for work on the other language skills: writing, listening, and speaking. Recommended Course Background: AS.210.263 or instructor permission.
Instructor(s): B. Caplan
Area: Humanities.

AS.210.367. Advanced Yiddish. 3 Credits.
This course will provide students who have completed at least two years of Yiddish with the opportunity to hone their skills in all four language areas: reading, writing, listening, and speaking. In addition to advanced grammar study and readings in Yiddish literature, the course will take into account the interests of each individual student, allowing time for students to read Yiddish texts pertinent to their own research and writing.
Instructor(s): B. Caplan
Area: Humanities.

AS.210.368. Advanced Yiddish II. 3 Credits.
Continuation of Advanced Yiddish I (AS.210.367). Students will continue to hone their skills in all four language areas: reading, writing, listening, and speaking. In addition to advanced grammar study and readings in Yiddish literature, the course will take into account the interests of each individual student, allowing time for students to read Yiddish texts pertinent to their own research and writing.
Prerequisites: AS.210.367
Instructor(s): B. Caplan
Area: Humanities.

AS.210.369. Advanced Yiddish Texts. 3 Credits.
This course will give students who have completed Advanced Yiddish the chance to improve their proficiency. The curriculum will be determined according to the research interests of the students with an emphasis placed on reading primary texts fluently. Since the course is taught in Yiddish, students will also have ample opportunity to practice the other language skills (listening, speaking, writing).
Prerequisites: AS.210.368 or permission of instructor.
Instructor(s): B. Caplan
Area: Humanities.

AS.211.174. Media of Propaganda. 3 Credits.
Today, promoting a particular political or personal point of view is not viewed as “propaganda,” but rather as building a community of equally minded people. But where do we draw the line, and when does the use of a medium in service of a certain message become intrusive and misleading? What role do democracy and cultural values play in this use or abuse of media? In this class the term “propaganda” will be evaluated carefully and applied to such historical media case studies as the informational use of the radio in World War One, Leni Riefenstahl’s Nazi propaganda films, the legendary success of advertisement campaigns in the 1950s and 1960s, the AIDS movement and other mobilization strategies from the 1980s to the 1990s, and the new values of friendship and propaganda in our current facebook nation.
Instructor(s): B. Wegenstein
Area: Humanities.

AS.211.202. Freshman Seminar: A Thousand Years of Jewish Culture. 3 Credits.
This course will introduce students to the history and culture of Ashkenazi Jews through their vernacular, Yiddish, from the settlement of Jews in German-speaking lands in medieval times to the present day. Particular emphasis will be placed on the responses of Yiddish-speaking Jews to the challenges posed by modernity to a traditional society. In addition to studying a wide range of texts—including fiction, poetry, memoir, song, and film—students will learn how to read the Yiddish alphabet, and will prepare a meal of traditional Ashkenazi dishes. No prior knowledge of Yiddish is necessary for this course.
Instructor(s): B. Caplan
Area: Humanities.

AS.211.212. Holocaust and Film. 3 Credits.
Taught in English. This class will examine the history of Holocaust films in regard to the possibilities of genre (documentary versus feature), the use of historical and archival materials, as well as general questions of representation and trauma. I CINEMA OF THE VICTIMS II CINEMA OF THE PERPETRATORS III CINEMA OF THE SECOND AND THIRD GENERATIONS WITNESSES Students will be writing weekly response papers to all screenings, and will choose to work with films in the original languages German, English, Italian, and French. This class will be writing-intensive. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies.
Area: Humanities
Writing Intensive.

AS.211.253. Freshman Seminar: Why is the Fiddler on the Roof?: The Shtetl in Modern Jewish Culture. 3 Credits.
The most familiar portrayal of the shtetl for an American audience is the setting of the Broadway musical Fiddler on the Roof, where the shtetl, or market town, is a bastion of traditional Jewish life. But what exactly was a shtetl? How did traditional Jews live there, and how were their lives affected by the sweep of modernity? How was the Yiddish language, spoken by all shtetl Jews, both a repository of tradition and an agent of change? How do representations of the shtetl—from corrupt backwater to pious haven—reflect the concerns of Jews from the nineteenth century up to our own day? Through memoir, literature, film and painting, this course will examine actual lives lived in the shtetl, as well as a selection of the many artistic representations of it. All readings will be in English.
Instructor(s): B. Caplan
Area: Humanities.
AS.211.344. Holocaust and Film. 3 Credits.
Taught in English. This class will examine the history of Holocaust films in regard to the possibilities of genre (documentary versus feature), the use of historical and archival materials, as well as general questions of representation and trauma. I CINEMA OF THE VICTIMS II CINEMA OF THE PERPETRATORS III CINEMA OF THE SECOND AND THIRD GENERATIONS WITNESSES Students will be writing weekly response papers to all screenings, and will choose to work with films in the original languages German, English, Italian, and French. This class will be writing-intensive. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies.
Instructor(s): B. Wegenstein
Area: Humanities
Writing Intensive.

AS.211.430. L’Affaire Dreyfus. 3 Credits.
This course proposes to look at persuasive strategies that were engaged during the Dreyfus Affair in order to either incriminate or discriminate the Jewish captain falsely accused of having betrayed the French army. Course will focus on the socio-political events that framed the Dreyfus Affair (anti-Semitism in 19th-century France, caricatures and polemical writings in the press, the consequences of the Franco-Prussian War and of the Commune, the bipolar division that split French society into Dreyfusards and anti-Dreyfusards), as well as its long-term effects (the rise of the extreme right, the creation of the “intellectual”, the consolidation of Zionism which ultimately led to the creation of a Jewish state). Recommended Course Background: AS.210.301-AS.210.302 or AS.210.301 or permission of instructor.
Instructor(s): K. Cook-Gailloud
Area: Humanities

AS.213.253. Freshman Seminar: Jewish Humor and the Construction of Cultural Discourse. 3 Credits.
With the fall of the Berlin Wall in 1989, one of the most powerful symbols of the Cold War came down. For decades, the division between East and West Germany had been a decisive factor in German literature and film from both states in several respects. Political censorship in the GDR and West German publishing policies determined the conditions for art production. They created specific audiences and shaped the role of the public intellectual. The Berlin Wall could also be said to have contributed to certain trends like the aesthetics of coldness and the poetics of observation. The course examines the relationship between aesthetics and politics in German-German literature and film from 1961 to the present. Readings include: Christa Wolf, Uwe Johnson, Reiner Kunze, Peter Schneider, Ingo Schulze, Anna Funder. Films: Wings of Desire (Wim Wenders, 1987), The Leading Role (Harun Farocki, 1994), The Tunnel (Roland Suso Richter, 2001), Good Bye, Lenin! (Wolfgang Becker, 2003), The Lives of Others (von Donnersmarck, 2007), Yella (Christian Petzold, 2007). The course will be taught in English.
Instructor(s): M. Caplan
Area: Humanities

AS.213.260. Modern Jewish Literature in North America. 3 Credits.
Taught in English. This course will survey the major trends in Yiddish, Hebrew, and English literature published in the United States, Canada, and Mexico since the turn of the 20th century. Our discussions will consider the connections this literature maintains with other “ethnic” schools of writing; what connections, or disruptions, it signifies with Jewish literatures in other eras or locales; to what degree Jewish writing in languages other than English participate in major trends of American literature—or whether this writing could even be considered to anticipate innovations in the American “mainstream.” Topics in this literature will include the disruptions of immigrant life, the shadows of the Holocaust and anti-Semitism, aspirations for social justice, the lure and trauma of the American suburbs, the collapse of the Great Society, gender in American Jewish life, and the new Jewish immigrants of the former Soviet Union. All readings and discussions available in English.
Instructor(s): M. Caplan
Area: Humanities

AS.213.309. Walter Benjamin and His World. 3 Credits.
All readings and class discussions in English. This course will provide an introduction to the thought, writing, and world of Walter Benjamin—one of the most interesting and influential German writers of the early 20th century. Although he died in exile having published only a single book in his lifetime, in the past three decades his ideas and preoccupations have changed the way we think about Cultural Studies, Media Studies, Literary Studies, German thought, Jewish mysticism, and the philosophy of history. We will be examining some of his major writings in tandem with precursors such as Charles Baudelaire and Louis Aragon; contemporaries such as Theodor Adorno and Gershom Scholem; and the legacy of his work among contemporary theorists, critics, and artists.
Instructor(s): M. Caplan
Area: Humanities
Writing Intensive.

AS.213.317. Berlin at the Crossroads of the 20th Century. 3 Credits.
This course will examine the location of Berlin at the heart of European and global culture over the course of the 20th century. In addition to its centrality to German national identity and political culture, Berlin between the World Wars was a weigh station and meeting ground for a variety of languages, cultures, and artistic trends—whether expatriates, refugees, nomads, touring companies, or vagabonds. In what ways did these travelers to Berlin change German popular or intellectual culture? In what ways did Berlin function as a center for avant-garde culture, and in what sense did it remain a peripheral space, in the shadow of grander culture centers such as Moscow, Paris, New York, or Hollywood? What lessons might be taken from the supposed glamour of Berlin between the World Wars and the continued attraction of that period for post-Holocaust adaptation and contemplation? These questions, among others, will be considered with reference to a variety of narratives, dramas, and films taken from German, English, Hebrew, Russian, and Yiddish sources. Authors to be considered will include Walter Benjamin, Joseph Roth, Irmgard Keun, Erich Kästner, Bertolt Brecht, Christopher Isherwood, Sh. Y. Agnon, Vladimir Nabokov, Viktor Shklovsky, and Dovid Bergelson. All readings and discussions in English.
Instructor(s): M. Caplan
Area: Humanities.
AS.213.332. Zionism in Modern Literature: Jewish or Israeli?. 3 Credits.
This course will be an examination of the themes of nationalism, Zionism, and the problems of the nation-state in modern Jewish literature of the past hundred years. Among the topics we will consider are the unique challenges of a diasporic culture relocating its national aspirations to an unfamiliar and often hostile environment, the controversies surrounding political nationalism within modern Jewish culture, the competition between languages in the formation of Israeli society, the character of Israeli national culture, the relationship of Israel's Jewish majority with its minority population, and the relationship of Israeli culture to the Jewish culture of the diaspora. To what extent does Israeli literature constitute a continuation of themes and techniques found in previous Jewish writing, and to what extent does it represent a new beginning? To what extent can Israeli literature be compared with other varieties of Jewish writing and to what extent is this writing a unique cultural phenomenon? Although the majority of works discussed will be translated from Hebrew—including such leading figures of Israeli literature as S. Y. Agnon, S. Yizhar, Amos Oz, and Orly Castel-Bloom—we will also be considering works translated from Yiddish (Mendele Moykher-Sforim), German (Theodor Herzl), and Arabic (Emile Habibiy), as well as contemporary American writers such as Philip Roth and Michael Chabon. All readings and discussions conducted in English. Cross-listed with Jewish Studies, English, and the Humanities Center.
Instructor(s): M. Caplan
Area: Humanities
Writing Intensive.

AS.213.336. Dancing About Architecture: Jewish Humor and the Construction of Cultural Discourse. 3 Credits.
Are all Jews funny, or only the ones from New York? This course will be an advanced-undergraduate examination of literary, theatrical, cinematic, and televised representations of Jewish culture focusing on the construction of cultural discourse through comedy. Taking as a point of departure Sigmund Freud's jokes and their relation to the Unconscious, we will consider the joke as a mode of narration and cultural coding with specific resonances for the Jewish encounter with modernity. Among the topics to be addressed in this course will be: the origins of modern Jewish humor in traditional modes of storytelling and study; the problems of anxiety and otherness articulated and neutralized through humor; the significance of Jews in creating popular culture through the mass media (particularly though not exclusively in the United States) as well as the role of these mediums in transmitting and translating Jewish references to the general culture; the status of the Yiddish language as a vehicle for satire and a vehicle of resistance between tradition and modernity; the uses and abuses of Jewish stereotypes and the relationship of Jewish humor to anti-Semitism; the connections between Jewish humor and other modes of minority discourse; and the question of translation of Jewish humor both from Yiddish into other languages and from the Jewish "in-group" to a "post-ethnic" audience. Authors and performers to be examined will include Avrom Goldfaden, Sholem Aleichem, Franz Kafka, Dzigan and Szumacher, Lenny Bruce, the Marx Brothers, Mel Brooks, Phillip Roth, Woody Allen, Larry David, Sarah Silverman, and the Coen Brothers. All readings and discussions conducted in English.
Instructor(s): M. Caplan
Area: Humanities.

AS.213.344. Holocaust and Film. 3 Credits.
Taught in English. This class will examine the history of Holocaust films in regard to the possibilities of genre (documentary versus feature), the use of historical and archival materials, as well as general questions of representation and trauma. I CINEMA OF THE VICTIMS II CINEMA OF THE PERPETRATORS III CINEMA OF THE SECOND AND THIRD GENERATIONS WITNESSES Students will be writing weekly response papers to all screenings, and will choose to work with films in the original languages German, English, Italian, and French. This class will be writing-intensive. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies.
Instructor(s): B. Wegenstein
Area: Humanities
Writing Intensive.

AS.213.348. Picturing Jews: Representing Jewish Identity in Modern Art, Film & Literature. 3 Credits.
This course will consider the different ways Jewish identity has been represented in the 19th and 20th centuries, focusing primarily on Central and Eastern Europe. Race, nationalism, religion, language, geography, politics—all helped shape different ways of understanding just what it meant to be a Jew, and all found expression in art and literature by both Jews and non-Jews. Looking at texts originally written in German, Yiddish, and Hebrew, including prose, poetry, journalism, and drama, as well as painting, photography, graphic design, architecture, and film we will gain an understanding of the range of ways that Jewish identity could be understood and expressed as well as of the ideological stakes and historical contexts of such representations. Writers and artists examined will include Chagall, Kafka, Sholem Aleichem, and Birol. All readings will be in translation.
Instructor(s): S. Spinner
Area: Humanities.

AS.213.403. Women and Their Representation in Modern Jewish Literature. 3 Credits.
If the development of modern literary forms such as the novel, the short story, and the autobiography in Jewish languages commences at a much later date than in other European cultures, the participation of women in the cultivation of these literary forms in Yiddish or Hebrew begins even later: only at the very beginning of the 20th century. What are some of the cultural and historical factors that account for this belatedness? How were women depicted in Jewish literature prior to their entry into the literary marketplace? How does the late start of female writers in these languages affect the formal and political character of their writing? What do aesthetic differences between poetry and prose genres signify about this writing? How do cultural assumptions in Jewish languages differentiate women's writing from similar forms and genres in other languages? These questions, among others, will be considered with reference to a variety of narratives and poems taken from Yiddish, Hebrew, German, and English sources. Authors to be considered will include Esther Singer Kreitman, Anna Margolin, Kadya Molodowsky, Chava Rosenfarb, Rachel Blustein, Leah Goldberg, Orly Castel-Bloom, Else Lasker-Schüler, and Gertrude Stein. All readings and discussions in English.
Area: Humanities.

Though every conventional description of modernist aesthetics dates its origins to the era preceding World War I—in some versions several decades before 1914—there has always been an understanding of the War’s “catalytic” influence on the aesthetic of chaos, madness, violence, and despair that comes to characterize at least one major strain of modernistic art. Taking the after-effects of the First World War as well as the Russian Revolution(s) as its point of origin, this graduate-level seminar will consider such writers as Sigmund Freud, Walter Benjamin, Sh. Y. Agnon, Sh. Ansky, Guillaume Apollinaire, Isaac Babel, Georges Perec, Erich Maria Remarque, Joseph Roth, Virginia Woolf, and Stefan Zweig. All readings and discussions available in English.

Instructor(s): M. Caplan
Area: Humanities
Writing Intensive.

AS.213.725. Proto-, Modern, and Post-: Locating the -ism in Modernism.

All discussions in English. This graduate seminar will seek to disentangle the interrelationship among “proto-modernism,” “modernism,” and “post-modernism” from the straightjacket of periodization and taxonomy by focusing instead on questions of temporality and phenomenology. When is the time of modernity? What precedes modernism? How is post-modernism a continuation of modernism and a break with modernity? What follows the “post” or precedes the “proto”? How does literature establish a dialogue not just across linguistic borders but temporal ones as well? And when do these processes repeat themselves due to historical and political factors? By way of complicating all of these questions we will be considering writers from “across” the 20th century, including Walter Abish, Thomas Bernhard, André Breton, Orly Castel-Bloom, Henry Dumas, Moyshe Kulbak, Machado de Assis, Mendele Moykher-Sforim, Joseph Roth, Anton Shammas, Gertrude Stein, and Robert Walser.

Instructor(s): M. Caplan.

AS.214.340. Holocaust & Film. 3 Credits.

Taught in English. This course examines the question of the Holocaust and its representation in the filmic media. We will analyze such themes as post-traumatic documentary (e.g., Night and Fog, Alain Resnais 1955), the resistance to representation (Shoah, Claude Lanzmann 1985), Holocaust drama and the ethics of entertainment (e.g., Schindler’s List, Steven Spielberg 1993), the question of filmic adaptation (e.g., The Grey Zone, Tim Blake Nelson 2002—based on Primo Levi’s The Drowned and the Saved 1986), and the new genre of confessional first person video-diary (e.g., Two or Three Things I know About him, Malte Ludin 2005). On this last theme we will also host the two-day symposium “The Holocaust: Children of the Perpetrators Confront Their Parents’ Nazi Past through Documentary Film,” in March 09. The symposium will feature three international documentary filmmakers and their recent films The End of the Neubacher Project, Marcus Carney 2007, Fatherland, Manfred Becker 2006, and Two or Three Things I know About him, Malte Ludin 2005, in which the filmmakers—children of Nazi perpetrators—are asking the question “who am I in relation to my father’s deeds?” The symposium will further include a number of experts on the topic of Holocaust, commemoration, and documentary film. Students will be involved in the preparation and, if interested, in the panel-discussions of the symposium. All films will be screened with English subtitles; this class is reading-intensive and writing-intensive; weekly response papers will be written about the films and the course topic at large. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies

Instructor(s): M. Caplan.

AS.216.300. Contemporary Israeli Poetry. 3 Credits.

This course examines the works of major Israeli poets such as Yehuda Amichai, Nathan Zach, David Avidan, Dan Pagis, Dalila Rabikovitch, Yona Wollach, Yair Horwitz, Maya Bejerano, and Yitzhak Laor. Through close reading of the poems, the course traces the unique style and aesthetic of each poet, and aims at presenting a wide picture of contemporary Hebrew poetry. Students may receive credit for AS.216.300 or AS.300.413, but not both.

Prerequisites: Students may receive credit for AS.216.300 or AS.300.413, but not both.

Instructor(s): N. Stahl; Z. Cohen
Area: Humanities.

AS.216.307. Reflective Mirrors: Israeli and Palestinian Cinema. 3 Credits.

Palestinian and Israeli cinemas have emerged side by side, each depicting its Other as a deceiving mirror of its own self. This course will analyze the different images of these Others in both cinemas.

Instructor(s): N. Stahl
Area: Humanities
Writing Intensive.

AS.216.342. The Holocaust in Israeli Society and Culture. 3 Credits.

This course examines the role of the Holocaust in Israeli society and culture. We will study the emergence of the discourse of the Holocaust in Israel and its development throughout the years. Through focusing on literary, artistic and cinematic responses to the Holocaust, we will analyze the impact of its memory on the nation, its politics and its self-perception.

Instructor(s): N. Stahl
Area: Humanities
Writing Intensive.

AS.216.398. Zionism, Post-Zionism and Modern Hebrew Literature. 3 Credits.

This course studies the development of modern Hebrew literature through its relation to Zionism and Post-Zionism. Based on a close reading of both literary and non-literary Zion and Post-Zionist texts, we will explore the thematic, social, political, aesthetic and stylistic influences that these two movements have had on modern Hebrew literature. Writers to be discussed include: Hertzl, Nordau, Achad ha-am, Jabotinsky, Kluasner, Brenner, Berdyczewski, Agnon, Greenberg, Kahana-Carmon, Oz, Yehoshua, Grossman, Castel-Bloom, and Laor. Students may receive credit for AS.216.398 or AS.300.398, but not both.

Prerequisites: Students may receive credit for AS.216.398 or AS.300.398, but not both.

Instructor(s): N. Stahl
Area: Humanities.

AS.216.412. The Divine in Literature and Cinema. 3 Credits.

This course studies various issues concerning literary and cinematic representations of the divine. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and will familiarize ourselves with the general problem of the relation between religion, literature and cinema. Among the topics to be discussed are, negative theology in literature and film, theodicy and anti-theodicy, the question of religion and literary modernism, providence and narratology in the modern novel and in contemporary cinema.

Instructor(s): N. Stahl.
**AS.216.612. The Divine in Literature and Cinema.**
This course studies various issues concerning literary and cinematic representations of the divine. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and will familiarize ourselves with the general problem of the relation between religion, literature and cinema. Among the topics to be discussed are, negative theology in literature and film, theodicy and anti-theodicy, the question of religion and literary modernism, providence and narratology in the modern novel and in contemporary cinema.
Instructor(s): N. Stahl.

**Humanities Center**

**AS.300.308. The Israeli Novel. 3 Credits.**
This course studies the Israeli novel through close reading of the works of major Israeli writers such as, Ya’akov Shabtai, Amos Oz, A.B Yeshoshua, Amalia Kahana-Carmon, Yehoshua Knaz, David Grossman, Orly Castel-Bloom, Yoel Hoffmann and Etgar Keret. We will focus on questions of style, genres and thematic choices. Among the topics to be discussed are Jewish history and tradition, social and political critiques and minority representations. Classes conducted in English, but students with knowledge of Hebrew are encouraged to read texts in the original.
Instructor(s): N. Stahl
Area: Humanities.

**AS.300.313. Contemporary Israeli Cinema. 3 Credits.**
This course examines Israeli cinema of the last two decades. Among the films to be discussed are: Oscar nominees Adjami and Waltz with Bashir, Late Marriage, A Matter of Size, Year Zero, Lemon Tree, Sweet Mud, and Lebanon. We will study the different influences and the innovative use of style and genres in these films, as well as the new themes and agendas that they offer.
Instructor(s): N. Stahl
Area: Humanities.

**AS.300.330. Trauma in Theory, Film, and Fiction. 3 Credits.**
An examination of the representation of trauma in literary theory, psychiatry, survivor literature, films, novels, and comics. Works by Sebald (“The Emigrants”), Lanzmann (“Shoaah”), Spiegelman (“In the Shadow of No Towers”), McCarthy (“Remainder”), and others.
Instructor(s): R. Leys
Area: Humanities, Social and Behavioral Sciences.

**AS.300.356. From Literature to Film - the case of Israeli Cinema. 3 Credits.**
This course explores the differences and similarities between two artistic mediums: literature and cinema. Our case study will be the interesting transformation of Hebrew fiction into Israeli films-- a dominant phenomenon in Israeli cinema since its very beginning. Our main framework will be narrative theories, but we will also consider the specific historical, ideological and geo-political aspects involved in this transformation. By comparing the two artistic modes and studying the transformation of 5 literary works into films, students will become familiar with the history of modern Hebrew literature, contemporary Israeli cinema, and the relationship between these two artistic mediums. Cross-listed with Jewish Studies, Film and Media Studies, and Writing Seminars
Instructor(s): N. Stahl
Area: Humanities
Writing Intensive.

**AS.300.374. The Other in Israeli Culture. 3 Credits.**
This course examines the representations of the Other in Israeli society and culture. Relying on Self-Other theories we will study the role of the Other in contemporary Israeli cinema, prose, poetry, theater and visual art, and will investigate the political, social and cultural context of its representations. Cross-listed with Jewish Studies and Film and Media Studies
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**AS.300.375. The God of the Hebrew Writer. 3 Credits.**
Who is the God of the Hebrew poet and what kind of being is he? This course will examine the ways in which Hebrew writers conceived God. Against the background of Medieval Hebrew poetry we will read modern Hebrew poetry, prose and drama and analyze the changes in the notion of God and its depictions from the Middle Ages through Jewish Enlightenment to modernity. We will study the role of the poet as a mediator between God and his people and his or her understanding of God in the aftermath of World War I and the Holocaust.
Area: Humanities.

**AS.300.379. Israeli Film and Literature. 3 Credits.**
This course examines representations of various aspects of Israeli society and culture in contemporary Israeli cinema and literature. The course will follow both a thematic and chronological path in order to study the ways in which Israeli cinema and literature reflect political, ideological, social, and cultural aspects of contemporary Israel. In this context, we will read well-known works by several major authors and will watch major Israeli films from the 1940s to these days. We will also use a comparative approach to study the different artistic means of both mediums and to evaluate their successes in representing the various tensions of Israeli society and culture.
Instructor(s): N. Stahl; Z. Cohen
Area: Humanities
Writing Intensive.

**AS.300.380. Realism and Anti Realism in Modern Jewish Literature. 3 Credits.**
This course seeks to trace the narrative dynamics and literary means of Modern Jewish Literature. The course will focus on the ideological, political and artistic context of the break with the conventions of realism in Jewish modernism. Reading includes: Erich Auerbach, Franz Kafka, S.Y Agnon, S.Y Abramovitch, Sholem Asch, A.B Yehoshua, Yoel Hoffmann and Orly Castel-Bloom. Cross-listed with Jewish Studies and GRL.
Area: Humanities.

**AS.300.381. The Moses Complex. 3 Credits.**
Instructor(s): R. Leys
Area: Humanities.
AS.300.398. Zionism, Post-Zionism and Modern Hebrew Literature. 3 Credits.
This course studies the development of modern Hebrew literature through its relation to Zionism and Post-Zionism. Based on a close reading of both literary and non-literary Zionist and Post-Zionist texts, we will explore the thematic, social, political, aesthetic and stylistic influences that these two movements have had on modern Hebrew literature. Writers to be discussed include: Hertzel, Nordau, Achad ham, Jabotinsky, Kluasner, Brenner, Berdyczewski, Agnon, Greenberg, Kahana-Carmon, Oz, Yehoshua, Grossman, Castel-Bloom, and Laor. Students may receive credit for AS.216.398 or AS.300.398, but not both.
Prerequisites: Students may receive credit for AS.216.398 or AS.300.398, but not both.
Area: Humanities
Writing Intensive.

AS.300.404. The Israeli Novel. 3 Credits.
This course studies the Israeli novel through close reading of the works of major Israeli writers such as, Ya'akov Shabbai, Amos Oz, A.B Yehoshua, Amalia Kahana-Carmon, Yehoshua Knaz, David Grossman, Orly Castel-Bloom, Yoel Hoffmann and Etgar Keret. We will focus on questions of style, genres and thematic choices. Among the topics to be discussed are Jewish history and tradition, social and political critiques and minority representations. Classes conducted in English, but students with knowledge of Hebrew are encouraged to read texts in the original. Cross-listed with Jewish Studies and Writing Seminars.
Area: Humanities.

AS.300.413. Israeli poetry. 3 Credits.
This course examines the works of major Israeli poets such as Yehuda Amichai, Nathan Zach, David Avidan, Dalia Rabikovitch, Yona Wollach, Maya Bejerano, and Yitzhak Laor. These works will be read against the background of the poetry of previous literary generations of writers such as H.N Bialik, Avraham Shlonsky, Natan Alterman and Lea Goldberg in an attempt to uncover changes in style, themes and aesthetic. Through close reading of the poems, the course traces the unique style and aesthetic of each poet, and aims at presenting a wide picture of contemporary Hebrew poetry. Class will be conducted in English and texts will be read in both English translation and the Hebrew original. Open for both Hebrew and non-Hebrew speakers. Students may receive credit for AS.216.300 or AS.300.413, but not both.
Prerequisites: Students may receive credit for AS.216.300 or AS.300.413, but not both.
Instructor(s): N. Stahl
Area: Humanities.

AS.300.417. Modern Jewish Thought and Literature. 3 Credits.
Open to graduate students. This course studies a wide range of texts dealing with questions concerning the Jewish experience in the modern world. Relying on a comparative mode, we will analyze the historical, philosophical, ideological, and political aspects of these texts, as well as parallel literary and artistic depictions of similar topics. Crosslisted with Jewish studies.
Area: Humanities.

AS.300.419. Reflective Mirrors in Israeli and Palestinian Cinema. 3 Credits.
Open to graduate students. Palestinian and Israeli cinemas have emerged side by side, each depicting its Other as a deceiving mirror of its own self. This course will explore the different images of these Others in both cinemas and study their political, ideological, historical and sociological contexts. Crosslisted with Jewish studies.
Area: Humanities.

AS.300.425. Literature and the Divine. 3 Credits.
This course studies various issues concerning literary representations of the divine. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and will familiarize ourselves with the general problem of the relation between religion and literature. Among the topics to be discussed are, negative theology in literature, theodicy and anti-theodicy, the question of religion and literary modernism and providence and narratology in the modern novel.
Area: Humanities.

AS.300.606. Realism and Anti Realism in Modern Jewish Literature.
This course seeks to trace the narrative dynamics and literary means of Modern Jewish Literature. The course will focus on the ideological, political and artistic context of the break with the conventions of realism in Jewish modernism. Reading includes: Erich Auerbach, Franz Kafka, S.Y Agnon, S.Y Abramovitch, Sholem Asch, A.B Yehoshua, Yoel Hoffmann and Orly Castel-Bloom. Cross-listed with GRLL and Jewish Studies.

AS.300.691. The Jewish Jesus.

Interdepartmental

This class will survey the various ways in which women, sexuality, and violence are linked in the Hebrew Bible (often referred to as the Old Testament). We will employ a variety of perspectives, including philosophical, historical, and literary. No prior familiarity with the Hebrew Bible is presupposed.
Area: Humanities, Social and Behavioral Sciences.

Center for Language Education

AS.384.115. First Year Hebrew. 4 Credits.
Designed to provide reading and writing mastery, to provide a foundation in Hebrew grammar and to provide basic conversational skills. Cross-listed with Jewish Studies. Final day/time will be determined during the first week of classes based on students' schedules.
Instructor(s): Z. Cohen.

AS.384.116. First Year Modern Hebrew II. 4 Credits.
Designed to provide reading and writing mastery, to provide a foundation in Hebrew grammar and to provide basic conversational skills. Cross-listed with Jewish Studies.
Prerequisites: AS.384.115
Instructor(s): Z. Cohen.

AS.384.215. Second Year Hebrew. 3 Credits.
Designed to enrich vocabulary and provide intensive grammatical review, and enhance fluency in reading, writing and comprehension. Cross-listed with Jewish Studies. Final day/time will be determined during the first week of classes based on students' schedules.
Prerequisites: ( AS.384.115 AND AS.384.115 ) OR ( AS.130.450 AND AS.130.451)
Instructor(s): Z. Cohen
Area: Humanities.

AS.384.216. Second Year Modern Hebrew II. 4 Credits.
Designed to enrich vocabulary and provide intensive grammatical review, and enhance fluency in reading, writing and comprehension. Recommended Course Background: AS.384.215 or permission required.
Cross-listed with Jewish Studies.
Prerequisites: AS.384.215
Instructor(s): Z. Cohen
Area: Humanities.
AS.384.315. Third Year Hebrew. 4 Credits.
Designed to maximize comprehension and the spoken language through literary and newspaper excerpts providing the student with the language of an educated Israeli. Cross-listed with Jewish Studies. Final day/time will be determined during the first week of classes based on students’ schedules.
Prerequisites: (AS.384.215 AND AS.384.216) OR (AS.130.452 AND AS.130.453)
Instructor(s): Z. Cohen
Area: Humanities.

AS.384.316. Third Year Modern Hebrew II. 4 Credits.
Designed to: maximize comprehension and the spoken language through literary and newspaper excerpts providing the student with the language of an educated Israeli. Recommended Course Background: AS.384.315 or permission required. Cross-listed with Jewish Studies.
Prerequisites: AS.384.315
Instructor(s): Z. Cohen
Area: Humanities.

Program in Museums and Society
AS.389.350. Staging Suburbia with the Jewish Museum of Maryland-Community Based Learning. 3 Credits.
Work as a public historian alongside Jewish Museum of Maryland curators and staff, researching primary documents and artifacts to develop an exhibition about Baltimore’s Jewish suburbs. The show will travel throughout Baltimore. M&S practicum course. Cross-listed with History and Jewish Studies.
Area: Humanities, Social and Behavioral Sciences.

Center for Language Education
The Center for Language Education (CLE) was established in 1992 and presently offers foreign-language courses in Arabic, Chinese, Hebrew, Hindi, Japanese, Korean, and Russian.

The CLE also offers evening, non-credit English as a Second Language (ESL) courses, English for International Teaching Assistants (ITA), and a Summer Intensive English Language Program for visiting and pre-college students. The Summer Program consists of classes in Oral Communication, Academic and Professional Writing, Accent Reduction, American Culture, and TOEFL Preparation.

The Goucher-Hopkins Cooperative Program in Russian
The Goucher College-Johns Hopkins University Cooperative Program in Russian Language, Literature, and Culture offers a full range of courses to be drawn from for JHU students to complete either a second major or minor in Russian.

Second Major in Russian
The Russian double-major, designed to give students a working command of both the written and spoken language and a deeper understanding of the cultural and literary development of the Russian people from the advent of Christianity to the present day, consists of 30 credits beyond, but not including, the course AS.377.208 Intensive Intermediate Russian. Russian may only be completed as an additional major; students must have a different primary major. A grade of C- or better must be earned in all courses applied towards the major and courses may not be taken satisfactory/unsatisfactory.

Russian majors are strongly encouraged to enroll in a summer immersion or spend a semester abroad in Moscow, St. Petersburg, or Vladimir through the Bard-Smolny, ACTR, or CIEE programs. A three-week summer immersion to Odessa, Ukraine is offered some years as part of the language study. Completion of AS.377.209 Advanced Russian Grammar is typically a prerequisite to study abroad. All credits earned during approved study abroad summer and semester programs may be applied toward the minor or double-major.

Minor in Russian
The minor consists of 18 credits beyond, but not including, the course AS.377.208 Intensive Intermediate Russian. A grade of C- or better must be earned in all courses applied towards the minor and courses may not be taken satisfactory/unsatisfactory.

Grading and Course Progression for Languages Offered by the Center for Language Education
For beginning courses, only AS.377.131 Elements of Russian I may be taken satisfactory/unsatisfactory. Other languages may be taken satisfactory/unsatisfactory only at the intermediate level and above. A student earning a D in a course is not eligible to pass to the next higher level course. Students are granted credit for each semester course successfully completed, regardless of enrollment or performance in a subsequent course.

For current faculty and contact information go to http://cledu.jhu.edu/ directory/index.html

Faculty
Director
Yuki Johnson
Teaching Professor: Japanese.

Lecturers
Aiguo Chen
Lecturer: Chinese.
Zvi Cohen
Lecturer: Hebrew.
Sana Jafire
Lecturer: Arabic.
Satoko Katagiri
Lecturer: Japanese.
Jing-Yun Chen
Lecturer: Chinese.
Yanfei Chen
Lecturer: Chinese.
Makiko Nakao
Lecturer: Japanese.
Uma Saini
Sr. Lecturer: Hindi.
Baraa Rajab  
Lecturer: Arabic.

Jayoung Song  
Lecturer: Korean.

Julia Yarmolinskaya  
Lecturer: ESL.

Nan Zhao  
Lecturer: Chinese.

Adjunct Associate Professor  
Olya Samilenko  
(Goucher): Russian language and literature.

Adjunct Assistant Professor  
Annalisa Czeczulin  
(Goucher): Russian language and culture.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

AS.370.010. Listening/Speaking - High Beginner.  
This course is designed to help students develop their confidence to sepak in a variety of simple situations. Students will learn how to participate in social conversations, request information from others, explain their ideas and give opinions about subjects of their interests. Students must be able to read and write English and must be able to speak simple sentences at least in the present tense with limited vocabulary.  
Instructor(s): K. Brillon.

Area: Humanities.

AS.370.022. Reading & Writing English - Intermediate.  
Instructor(s): A. Carroll; S. Lee  
Writing Intensive.

Instructor(s): S. Lee.

AS.370.032. Reading & Writing English 3.  
Instructor(s): C. Waddail  
Writing Intensive.

AS.370.034. American Culture Through Film.  
Instructor(s): C. Waddail  
Writing Intensive.

Instructor(s): M. Suniewick.

AS.370.042. Reading & Writing English - Advanced Plus.  
Instructor(s): E. Dunn; Staff  
Writing Intensive.

AS.370.044. Accent Reduction.  
In person registration only This course is designed to help non-native American English speakers tackle American English language skills and improve their pronunciation and manner of speaking dramatically. The course incorporates the learning of language skills such as the sounds, stress patterns, rhythm, and intonation patterns of American English. This is a separate process from learning the grammar and vocabulary of American English. The completion of this course will result in accent modification, accent improvement and easily understandable conversational speech and will help the learner to function more effectively at work and outside of work.  
Instructor(s): M. Suniewick.

AS.370.050. Strengthening English for the TOEFL.  
Instructor(s): K. Brillon  
Writing Intensive.

AS.370.060. English:Med Professional. 3 Credits.  
Writing Intensive.

Description: This course will be an in-depth study of higher level English grammar. Students will build on their foundational grammar skills, gaining confidence in the more subtle nuances of grammar. Sentence structure will be studied at length giving students the ability to more clearly express their ideas. Other focus areas will include but are not limited to, the perfect tenses, higher level punctuation, and modal verbs.  
Instructor(s): E. Dunn.

Perm. Req’d. No Auditors/Open to Graduate students only Oral Skills for International Teaching Assistants is intended for international TAs who are not native speakers of English. In addition to improving listening comprehension in everyday interactions, students will improve their fluency, accuracy, and intelligibility in a variety of speaking situations. The core curriculum is designed to include a wide range of performance-based communicative activities. Open to international TAs and other full-time graduate students in Arts and Sciences and Engineering.  
Instructor(s): N. Gooding.

Perm. Req’d. Graduate students only. Communication Strategies in the American Classroom is designed to introduce international TAs to the culture of the American classroom. Students will continue to strengthen their English speaking skills, practice basic teaching techniques, and develop strategies for clear, cross-cultural communication. The core curriculum includes many performance-based activities intended to help students interact more effectively with undergraduates in a variety of speaking situations. Open to international TAs and other full-time graduate students in Arts and Sciences and Engineering.  
Instructor(s): N. Gooding.

AS.370.602. Accent Reduction for ITAs.  
This course is designed to help non-native American English speakers tackle American English language skills and improve their pronunciation and manner of speaking dramatically. The course incorporates the learning of language skills such as the sounds, stress patterns, rhythm, and intonation patterns of American English. This is a separate process from learning the grammar and vocabulary of American English. The completion of this course will result in accent modification, accent improvement and easily understandable conversational speech and will help the learner to function more effectively at work and outside of work.  
Instructor(s): J. Yarmolinskaya.
AS.370.603. Culture and Communication in American Academia.  This course is intended for international Teaching Assistants (TAs) who are not well acquainted with the culture of American universities. It focuses on improving students' understanding of the culture and communication norms in American academia. Students learn the basics of conversation and e-mail etiquette in America, as well as the norms of interacting with college students they teach, professors, and colleagues in situations such as classes, office hours, lab meetings, and scientific meetings. Students practice designing and presenting lectures, supporting materials, tests, and assignments for classes they TA, as well as scholarly presentations of their research to the scientific community. This course is open only to graduate students in AS/EN. Instructor(s): J. Yarmolinskaya.

AS.373.111. First Year Heritage Chinese. 3 Credits.  This course is designed for students who were raised in an environment in which Chinese is spoken by parents or guardians at home and for those who are familiar with the language and possess native-like abilities in comprehension and speaking. The course therefore focuses on reading and writing (including the correct use of grammar). Cross-listed with East Asian Studies  Instructor(s): N. Zhao.

AS.373.112. First Year Heritage Chinese II. 3 Credits.  For students who have significant previously-acquired ability to understand and speak Modern Standard Chinese. Course focuses on reading and writing. Teaching materials are the same as used in AS.373.115-116; however, both traditional and simplified versions of written Chinese characters are used. Lab required. Continuation of AS.373.111. Recommended Course Background: AS.373.111 or permission required. Instructor(s): L. Lievens.

AS.373.115. First Year Chinese. 4 Credits.  This course is designed primarily for students who have no prior exposure to Chinese. The objective of the course is to help students build a solid foundation of the four basic skills—listening, speaking, reading, and writing in an interactive and communicative learning environment. The emphasis is on correct pronunciation, accurate tones and mastery of basic grammatical structures. Note: Students with existing demonstrable skills in spoken Chinese should take AS.373.111-112. No Satisfactory/ Unsatisfactory. Students may choose to attend either lecture at 9am or 3pm on TTh. Cross-listed with East Asian Studies  Instructor(s): J. Chen; N. Zhao.

AS.373.116. First Year Chinese II. 4 Credits.  Introductory course in Modern Standard Chinese. Goals: mastery of elements of pronunciation and control of basic vocabulary of 800-900 words and most basic grammatical patterns. Students work first with Pin-Yin system, then with simplified version of written Chinese characters. Continuation of AS.373.115. Note: Student with existing demonstrable skills in spoken Chinese should take AS.373.111-112. Recommended Course Background: AS.373.115 or permission required. Instructor(s): N. Zhao; Y. Chiang.

AS.373.211. Second Year Heritage Chinese. 3 Credits.  This course is designed for students who finished AS.373.112 with C+ and above (or equivalent). Students in this course possess native-like abilities in comprehension and speaking. The course focuses on reading and writing. Cross-listed with East Asian Studies  Prerequisites: AS.373.112 or equivalent. Instructor(s): A. Chen  Area: Humanities.

AS.373.212. Second Year Heritage Chinese II. 3 Credits.  For students who have significant previously-acquired ability to understand and speak Modern Standard Chinese. Course focuses on reading and writing. Teaching materials are the same as used in AS.373.115-116; however, both traditional and simplified versions of written Chinese characters are used. Continuation of AS.373.211. Recommended Course Background: AS.373.211 or permission required. Instructor(s): A. Chen  Area: Humanities.

AS.373.215. Second Year Chinese. 4 Credits.  Consolidation of the foundation that students have laid in their first year of study and continued drill and practice in the spoken language, with continued expansion of reading and writing vocabulary and sentence patterns. Students will work with both simplified and traditional characters. Note: Students who have native-like abilities in comprehension and speaking should take AS.373.211-212. Cross-listed with East Asian Studies  Instructor(s): A. Chen; Y. Chen  Area: Humanities.

AS.373.216. Second Year Chinese II. 4 Credits.  Consolidation of the foundation that students have laid in their first year of study and continued drill and practice in the spoken language, with continued expansion of reading and writing vocabulary and sentence patterns. Students will work with both simplified and traditional characters. Note: Students who have native-like abilities in comprehension and speaking should take AS.373.211-212. Recommended Course Background: AS.373.215 or Permission Required. Cross-listed with East Asian Studies  Instructor(s): A. Chen; N. Zhao  Area: Humanities.


AS.373.271. Intermediate Workshop and Practicum in Health Sciences Chinese. 2 Credits.  JHU China-STEM Program: Engineering: Specialized intermediate language instruction for students of Mandarin in fields of science and engineering. Courses offered at the Nanging Center in Nanjing, China. By application only. Two years of College-level Mandarin required for admission to the China-STEM Program. Instructor(s): N. Yu; Staff  Area: Humanities.

AS.373.303. Chinese Calligraphy. 3 Credits.  This is an introductory course on Chinese brush writing. Knowledge of the Chinese language is useful but not essential. You will hear lectures on history, theory and techniques of brush writing plus aspects of Chinese culture associated with characters used. Remaining time will be used for hands-on practice. Taught in English. Cross-listed with East Asian Studies Cross-listed with East Asian Studies  Area: Humanities.
AS.373.313. Third Year Heritage Chinese. 3 Credits.
This course is designed for those who have already taken AS.373.212 or equivalent. Students need to have native-level fluency in speaking and understanding Chinese. The course focuses on reading and writing. In addition to the textbooks, downloaded articles on current affairs may also be introduced on a regular basis. Cross-listed with East Asian Studies
Prerequisites: Prereq: AS.373.211 AND AS.373.212 or instructor's permission
Instructor(s): A. Chen
Area: Humanities.

AS.373.314. Third Year Heritage Chinese II. 3 Credits.
This course is a continuation of AS.373.313. Students need to have native-level fluency in speaking and understanding Chinese. The course focuses on reading and writing. In addition to the textbooks, downloaded articles on current affairs may also be included on a regular basis. Recommended Course Background: AS.373.313 or Permission Required. Lab required.
Prerequisites: AS.373.313 or equivalent
Instructor(s): A. Chen
Area: Humanities.

AS.373.315. Third Year Chinese. 3 Credits.
This two-semester course consolidates and further expands students’ knowledge of grammar and vocabulary and further develops reading ability through work with textbook material and selected modern essays and short stories. Class discussions will be in Chinese insofar as feasible and written assignments will be given. Cross-listed with East Asian Studies
Prerequisites: Prereq: AS.373.216 or equivalent
Instructor(s): Y. Chen
Area: Humanities.

AS.373.316. Third Year Chinese II. 3 Credits.
This two-semester course consolidates and further expands students’ knowledge of grammar and vocabulary and further develops reading ability through work with textbook material and selected modern essays and short stories. Class discussions will be in Chinese insofar as feasible, and written assignments will be given. Continuation of AS.373.315. Recommended Course Background: AS.373.315 or permission required.
Instructor(s): L. Lievens
Area: Humanities.

AS.373.361. Chinese for Engineers. 6 Credits.
JHU China-STEM Program: Engineering: Specialized intermediate language instruction for students of Mandarin in fields of science and engineering. Courses offered at the Nanging Center in Nanjing, China. By application only. Two years of College-level Mandarin required for admission to the China-STEM Program.
Instructor(s): N. Yu
Area: Humanities.

AS.373.362. Advanced Workshop & Practicum in Engineering Chinese. 2 Credits.
JHU China-STEM Program: Engineering: Specialized intermediate language instruction for students of Mandarin in fields of science and engineering. Courses offered at the Nanging Center in Nanjing, China. By application only. Two years of College-level Mandarin required for admission to the China-STEM Program.
Instructor(s): Staff
Area: Humanities.

AS.373.371. Health Sciences Chinese. 6 Credits.
JHU China-STEM Program: Engineering: Specialized intermediate language instruction for students of Mandarin in fields of science and engineering. Courses offered at the Nanging Center in Nanjing, China. By application only. Two years of College-level Mandarin required for admission to the China-STEM Program.
Instructor(s): N. Yu; Staff
Area: Humanities.

AS.373.372. Advanced Workshop & Practicum in Health Sciences Chinese. 2 Credits.
JHU China-STEM Program: Engineering: Specialized intermediate language instruction for students of Mandarin in fields of science and engineering. Courses offered at the Nanging Center in Nanjing, China. By application only. Two years of College-level Mandarin required for admission to the China-STEM Program.
Instructor(s): N. Yu; Staff
Area: Humanities.

AS.373.415. Fourth Year Chinese. 3 Credits.
This course is designed for students who finished AS.373.316 with a C+ or above (or equivalent). Readings in modern Chinese prose, including outstanding examples of literature, newspaper articles, etc. Students are supposed to be able to understand most of the readings with the aid of a dictionary, so that class discussion is not focused primarily on detailed explanation of grammar. Discussion, to be conducted in Chinese, will concentrate on the cultural significance of the readings’ content. Cross-listed with East Asian Studies
Prerequisites: AS.373.315
Instructor(s): N. Zhao
Area: Humanities.

AS.373.416. Fourth Year Chinese II. 3 Credits.
Continuation of AS.373.415. Readings in modern Chinese prose, including outstanding examples of literature, newspaper articles, etc. Students should understand most of the readings with the aid of a dictionary, so that class discussion need not focus primarily on detailed explanations of grammar. Discussion, to be conducted in Chinese, will concentrate on the cultural significance of the readings’ content. Recommended Course Background: AS.373.415 or Permission Required. Cross-listed with East Asian Studies
Instructor(s): L. Lievens
Area: Humanities.

AS.373.421. Classical Chinese. 3 Credits.
Classical Chinese will introduce key features of grammar, syntax, and usage, along with the intensive study of a set of readings in the language. Readings are drawn from a variety of philosophical and historical texts. Students are required to have knowledge of traditional Chinese characters in order to read short selections of early literary prose. Recommended Course Background: Four years of Chinese Language courses at JHU or equivalent language skills.
Area: Humanities.
**AS.375.451. Topics in Chinese Media. 3 Credits.**
The main focus of this course is to expand the student's knowledge of four essential skills in Chinese language and to deepen the student's knowledge of Chinese culture. The course is taught based on various written and visual materials (including newspapers, journals, TV, movies, and short novels) to improve students' reading comprehension, maintain conversation skills through class discussion, increase understanding of the culture and society of China, and enhance writing ability through short compositions and a writing project. Recommended Course Background: Completion of four years of Chinese language or permission required. Instructor(s): N. Zhao
Area: Humanities.

**AS.373.452. Topics in Chinese Media II. 3 Credits.**
The main focus of this course is to expand the student's knowledge of four essential skills in Chinese language and to deepen the student's knowledge of Chinese culture. The course is taught based on various written and visual materials (including newspapers, journals, TV, movies, and short novels) to improve students' reading comprehension, maintain conversation skills through class discussion, increase understanding of the culture and society of China, and enhance writing ability through short compositions and a writing project. Continuation of 373.451. Recommended Course Background: AS.373.451 or its equivalent.
Area: Humanities.

**AS.373.491. 5th Year Chinese. 3 Credits.**
Fifth Year Chinese is designed for students who finished fourth year regular or third year heritage Chinese course at JHU or its equivalent and wish to achieve a higher advanced proficiency level in Chinese. The goal of the course is to help students further develop their listening, speaking, reading and writing skills cohesively and to enhance students' understanding of Chinese culture and society through language learning. Instructor: N Zhao
Prerequisites: AS.373.416 or AS.373.314 or equivalent. Instructor(s): N. Zhao.

**AS.373.501. Independent Study - Chinese. 0 - 4 Credit.**

**AS.373.502. Independent Study - Chinese. 2 Credits.**
Independent Study - Chinese.

**AS.375.119. Beginning Arabic I. 3 Credits.**
Introductory course in speaking, listening, reading, and writing Modern Standard Arabic. Presents basic grammatical structures and a basic vocabulary. Through oral-aural drill in classroom, tapes in Language Laboratory, and reading/writing exercises, students attain a basic level of competence on which they can build in subsequent years of study.

**AS.375.120. Beginning Arabic II. 3 Credits.**
Continuation of Beginning Arabic I. Introductory course in speaking, listening, reading, and writing Modern Standard Arabic. Presents basic grammatical structures and a basic vocabulary. Through oral-aural drill in classroom, tapes in Language Laboratory, and reading/writing exercises, students attain a basic level of competence on which they can build in subsequent years of study.

**AS.375.215. Second Year Arabic. 4 Credits.**
Designed to bring students up to competency level required for third/fourth year Arabic. Students will consolidate and expand their mastery of the four basic skills acquired in AS.375.115-116. More authentic material--written, audio, and visual--will be used, and culture will be further expanded on as a fifth skill. Recommended Course Background: AS.375.115-116 or equivalent. Instructor(s): B. Rajab
Area: Humanities.

**AS.375.216. Second Year Arabic II. 4 Credits.**
Continuation of AS.375.215. Designed to bring students up to competency level required for third/fourth year Arabic. Students will consolidate and expand their mastery of the four basic skills acquired in AS.375.115-116. More authentic material--written, audio, and visual--will be used, and culture will be further expanded on as a fifth skill. Accelerated students should register for Section 01. Recommended Course Background: AS.375.215 or permission required. Instructor(s): F. Abdallah
Area: Humanities.

**AS.375.301. Third Year Arabic. 3 Credits.**
Designed to enhance students' ability to read, discuss, and write about various topics covered in traditional and contemporary Arabic texts. Recommended Course Background: AS.375.216 or equivalent. Instructor(s): S. Jafire
Area: Humanities.

**AS.375.302. Third Year Arabic II. 3 Credits.**
Designed to enhance students' ability to read, discuss, and write about various topics covered in traditional and contemporary Arabic texts. Continuation of AS.375.301. Recommended Course Background: AS.375.301 or permission required. Instructor(s): F. Abdallah
Area: Humanities.

**AS.375.401. Fourth Year Arabic. 3 Credits.**
This is an introductory course to different periods of the Arabic literature. Selections of famous Arabic poetry and short prose works are the substance of the course. Instructor(s): B. Rajab
Area: Humanities.

**AS.375.402. Fourth Year Arabic. 3 Credits.**
This is an introductory course to different periods of the Arabic literature. Selections of famous Arabic poetry and short prose works are the substance of the course. Continuation of AS.375.401. Recommended Course Background: AS.375.302 or equivalent. Instructor(s): K. Tahrawi
Area: Humanities.
AS.375.501. Independent Study-Arabic. 0 - 3 Credit.

AS.375.502. Independent Study-Arabic. 0 - 3 Credit.
Instructor(s): K. Tahrawi.

AS.377.100. Linguistic Crossroads: Where Cultures (Con)/ (Di)verge. 3 Credits.
This course provides an investigation of the world’s language families from a linguistic perspective. Students will be introduced to the IPA transliteration system, followed by an examination of the structures that are common to several families, as well as others that are uniquely their own. Emphasis will be placed on the historic context of language apropos to a discussion of phonetics, morphology, and basic syntax of representative languages from around the world, including English, German, Japanese, Russian, and Spanish. A course project will consist of students interviewing and noting in phonetics several words and phrases from two different languages (using native speakers) with an analysis of observed similarities and differences. In English.
Instructor(s): A. Czeczulin.

AS.377.131. Elements of Russian I. 4 Credits.
Designed to give student a firm foundation in the language, with special emphasis on the development of vocabulary, basic reading, and conversational skills. (Section 02 taught at Goucher College)
Instructor(s): A. Czeczulin; O. Samilenko.

AS.377.132. Elementary Russian II. 4 Credits.
Designed to give students a firm foundation in the language, with special emphasis on the development of vocabulary, basic reading, and conversational skills. Continuation of AS.377.131. Section 02 taught at Goucher. May not be taken Satisfactory/Unsatisfactory. Recommended Course Background: AS.377.131.
Instructor(s): A. Czeczulin; O. Samilenko.

AS.377.208. Intensive Intermediate Russian. 4 Credits.
Intensive oral work; continued emphasis on grammar and reading comprehension.
Prerequisites: AS.377.132
Instructor(s): A. Czeczulin
Area: Humanities.

AS.377.209. Advanced Russian Grammar. 4 Credits.
Continuation of AS.377.208. Intensive oral work; continued emphasis on grammar and reading comprehension.
Instructor(s): A. Czeczulin
Area: Humanities.

AS.377.210. Russian Conversation & Composition. 3 Credits.
Discussions based on readings, films, and multimedia exercises. Special attention is paid to the active use of grammar structures in fourth semester Russian. Taught at Goucher. Recommended Course Background: AS.377.209 or instructor’s permission.
Prerequisites: AS.377.135
Instructor(s): O. Samilenko
Area: Humanities.

AS.377.211. Introduction to Russian Literature I. 3 Credits.
This first intensive reading course of the literary sequence focuses on a survey of major writers, genres, and literary movements of mid-nineteenth century Russia including select works of Pushkin, Gogol, Lermontov, Turgenev, Tolstoy and Dostoeyevsky adapted to the intermediate level. Taught in Russian
Prerequisites: AS.377.209 and AS.377.210 or permission of instructor.
Instructor(s): O. Samilenko
Area: Humanities.

AS.377.237. The Russian Press. 3 Credits.
Reading and discussion of topics drawn from the Russian press and contemporary literature. Designed to strengthen the student’s command of Russian vocabulary, especially in the areas of history, political science, and economics, while providing a deeper insight into the dynamics of everyday life in Russia today.
Prerequisites: AS.377.209 or AS.377.210
Instructor(s): A. Czeczulin
Area: Humanities.

AS.377.235. The Soul of Russia: Culture and Civilization. 3 Credits.
The evolution of Russian culture and civilization from the Mongol invasion to the present day conducted through a study of literary texts, architecture, art, music, film, and multimedia. Taught in English. Held at Goucher.
Instructor(s): A. Czeczulin
Area: Humanities
Writing Intensive.

AS.377.234. Soul of Russia: Culture and Civilization. 3 Credits.
The evolution of Russian culture and civilization from the Mongol invasion to the present day conducted through a study of literary texts, architecture, art, music, film, and multimedia. Taught in English. Taught at Goucher.
Area: Humanities.

AS.377.269. The Russian Fairy Tale. 3 Credits.
A survey course of Russian oral and subsequent written tradition using multimedia and presented against the background of the Indo-European tradition. Taught in English at Goucher College
Instructor(s): A. Czeczulin
Area: Humanities.

AS.377.318. Chekov and the Short Story. 3 Credits.
Chekhov’s short stories and plays studied against the social, political, and philosophic background of his time. Close readings and in-depth stylistic analysis. Designed for advanced students. Taught in Russian
Instructor(s): O. Samilenko
Area: Humanities.

AS.377.335. Technical Translation. 3 Credits.
Advanced work in translating-- Russian into English-- in the sciences and social sciences. Taught at Goucher.
Area: Humanities.

AS.377.395. Seminar I: Russian Satire. 3 Credits.
This course will cover the development of satire in 18-20th century Russian literature, authors covered include Fonvizin, Gogol, Saltykov-Schedrin, Bulgakov, and Voinovich. Taught in Russian.
Instructor(s): O. Samilenko
Area: Humanities
Writing Intensive.

AS.377.396. Senior Seminar II: 20th Century Masterpieces. 3 Credits.
An examination of major poets, styles, and poetic genres of 18-21C Russian poetry.
Instructor(s): O. Samilenko
Area: Humanities.

AS.377.501. Independent Study-Russian. 3 Credits.
Through arrangement with the instructor.
Instructor(s): A. Czeczulin; O. Samilenko.

AS.377.506. Russian-Independent Study. 0 - 3 Credit.
Instructor(s): O. Samilenko.
AS.377.599. Independent Study. 3 Credits.
Instructor(s): O. Samilenko.

This course is intended for international Teaching Assistants (TAs) who are not well acquainted with the culture of American universities. It focuses on improving students’ understanding of the culture and communication norms in American academia. Students learn the basics of conversation and e-mail etiquette in America, as well as the norms of interacting with college students they teach, professors, and colleagues in situations such as classes, office hours, lab meetings, and scientific meetings. Students practice designing and presenting lectures, supporting materials, tests, and assignments for classes they TA, as well as scholarly presentations of their research to the scientific community. This course is open only to graduate students in Arts & Sciences and Engineering. Permission Required.

AS.378.101. Slow-Paced Beg Japanese I. 3 Credits.
Part one of a two-semester introductory course for students who want to study Beginning Japanese at a slower pace, attending three classes rather than five classes per week. Lab required. Note: Those who wish to continue beyond these two semesters must enroll in Beginning Japanese 378.116 the following Spring. Cross-listed with East Asian Studies.

AS.378.102. Slow-Paced Beg Jap II. 3 Credits.
Part two of a four-semester introductory course for students who want to study Beginning Japanese at a slower pace, attending three classes rather than five classes per week. Lab required. A continuation of 378.101. Note: Students who wish to continue beyond these two semesters must enroll in Beginning Japanese AS.378.116 the following spring. Recommended Course Background: AS.378.101 or permission required.

AS.378.115. First Year Japanese. 4 Credits.
This course is designed for students who have no background or previous knowledge in Japanese. The course consists of lectures on Tuesday/Thursday and conversation classes on Monday/Wednesdays/ Fridays. The goal of the course is the simultaneous progression of four skills (speaking, listening, writing, and reading) as well as familiarity with aspects of Japanese culture. By the end of the year, students will have basic speaking and listening comprehension skills, a solid grasp of basic grammar items, reading and writing skills, and a recognition and production of approximately 150 kanji in context. Knowledge of grammar will be expanded significantly in AS.378.215. No Satisfactory/Unsatisfactory. Student may choose to attend either lecture at 10:30 am or 12 pm on TTh. Cross-listed with East Asian Studies.

AS.378.116. First Year Japanese II. 4 Credits.
This course is designed for students who have no background or previous knowledge in Japanese. The course consists of lectures on Tuesday/Thursday and conversation classes on Monday/Wednesdays/ Fridays. The goal of the course is the simultaneous progression of four skills (speaking, listening, writing, and reading) as well as familiarity with aspects of Japanese culture. By the end of the fall term, students will have basic speaking and listening comprehension skills, a solid grasp of basic grammar items, reading and writing skills, and a recognition and production of approximately 60 kanji in context. Knowledge of grammar will be expanded significantly in 2nd year Japanese. May not be taken Satisfactory/Unsatisfactory. Recommended Course Background: AS.378.115

AS.378.215. Second Year Japanese. 4 Credits.
Training in spoken and written language, increasing their knowledge of more complex patterns. At completion, students will have a working knowledge of about 250 Kanji. Recommended Course Background: AS.378.115 and AS.378.116 or equivalent.

AS.378.216. Second Year Japanese II. 4 Credits.
Continuation of Beginning Japanese and Intermediate Japanese I. Training in spoken and written language, increasing students’ knowledge of more complex patterns. At completion, students will have a working knowledge of about 250 Kanji. Lab required. Recommended Course Background: AS.378.215 or equivalent.

AS.378.311. Japanese Conversation. 2 Credits.
Advanced training in spoken Japanese, at the completion of Intermediate Japanese, available to those with equivalent proficiency. Students will develop more interactive skills, using authentic audio/video materials. No reading/writing instructions. Recommended Course Background: AS.378.216 or equivalent.

AS.378.312. Japanese Conversation. 2 Credits.

AS.378.313. Third Year Japanese. 3 Credits.
Emphasis shifts toward reading, while development of oral-aural skills also continues apace. The course presents graded readings in expository prose and requires students to expand their knowledge of Kanji, grammar, and both spoken and written vocabulary. Cross-listed with East Asian Studies.

Prerequisites: AS.378.215-216
Instructor(s): M. Nakao
Area: Humanities.

AS.378.314. Third Year Japanese II. 3 Credits.
Emphasis shifts toward reading, while development of oral-aural skills also continues apace. The course presents graded readings in expository prose and requires students to expand their knowledge of Kanji, grammar, and both spoken and written vocabulary. Lab required. Continuation of AS.378.313. Recommended Course Background: AS.378.313 or equivalent.

Instructor(s): S. Katagiri
Area: Humanities.

AS.378.316. Fourth Year Japanese. 3 Credits.
This course is intended for those who have already studied 1st-year Japanese grammar and wish to develop a thorough knowledge of Japanese grammar in order to advance all aspects of language skills to a higher level. It is also appropriate for graduate students who need to be able to read materials written in Japanese. Recommended Course Background: AS.378.115-116 or equivalent.

Instructor(s): M. Johnson
Area: Humanities.

AS.378.396. Fundamentals of Japanese Grammar. 2 Credits.
This course is designed for students who have already studied 1st-year Japanese grammar and wish to develop a thorough knowledge of Japanese grammar in order to advance all aspects of language skills to a higher level. It is also appropriate for graduate students who need to be able to read materials written in Japanese. Recommended Course Background: AS.378.115-116 or equivalent.

Instructor(s): M. Johnson
Area: Humanities.
AS.378.397. Fundamentals of Japanese Grammar. 2 Credits.
Continued from 378.396: Fundamentals of Japanese Grammar. This course is designed for students who have already studied 1st-year Japanese grammar and wish to develop a thorough knowledge of Japanese grammar in order to advance all aspects of language skills to a higher level. It covers complex grammatical items introduced in the 2nd year level from a higher level, linguistic perspective. It is also appropriate for graduate students who need to be able to read materials written in Japanese.
Prerequisites: 378.116 or equivalent or 378.396
Instructor(s): M. Johnson
Area: Humanities.

AS.378.415. Fourth Year Japanese. 3 Credits.
By using four skills in participatory activities (reading, writing, presentation, and discussion), students will develop reading skills in modern Japanese and deepen and enhance their knowledge on Kanji and Japanese culture. Recommended Course Background: AS.378.315 and AS.378.316 or equivalent.
Instructor(s): S. Katagiri
Area: Humanities.

AS.378.416. Fourth Year Japanese II. 3 Credits.
By using four skills in participatory activities (reading, writing, presentation, and discussion), students will develop reading skills in modern Japanese and deepen and enhance their knowledge on Kanji and Japanese culture. Lab required. Recommended Course Background: AS.378.415
Instructor(s): M. Nakao
Area: Humanities.

Instructor(s): M. Johnson.

This course is designed for graduate students (particularly in East Asian Studies) and undergraduate students whose proficiency level is higher than 4th-year Japanese as offered at Johns Hopkins University or equivalent and those who plan to pursue studies utilizing written Japanese materials. Students will learn effective methods for reading Japanese materials, varying from works of literature to modern academic articles on topics of students’ interest.

AS.378.612. Readings in Japanese Studies II.
This course is designed for graduate students (particularly in East Asian Studies) and undergraduate students whose proficiency level is higher than 4th-year Japanese as offered at Johns Hopkins University or equivalent and those who plan to pursue studies utilizing written Japanese materials. Students will learn effective methods for reading Japanese materials, varying from works of literature to modern academic articles on topics of students’ interest. Cross-listed with East Asian Studies.

AS.379.151. Beginning Kiswahili I. 3 Credits.
This introductory course presents some of the basic grammatical, phonological, and sociological elements of the Kiswahili language. Students are exposed to different facets of the cultures of eastern Africa (especially Tanzanian and Kenyan). The focus in the course is on vocabulary, which is developed through the use of pictures, dialogues, question and answer exercises, audio and/or video tapes. Resources in the Language Lab are incorporated in the course.
Instructor(s): J. Kamau.

AS.379.152. Beginning Kiswahili II. 3 Credits.
Instructor(s): J. Kamau.

AS.379.251. Intermed Kiswahili I. 3 Credits.
This course places emphasis on conversational skills as well as reading and writing skills. It includes analyses of the culture, history, and social aspects of this linguistic group. Resources in the Language Lab are incorporated in the course.
Prerequisites: AS.379.151-152
Area: Humanities.

AS.379.252. Intermediate Kiswahili. 3 Credits.
Area: Humanities.

AS.379.501. Indep Study Kiswahili. 0 - 3 Credit.
Instructor(s): J. Kamau.

AS.379.502. Ind Study - Kiswahili. 2 Credits.
Instructor(s): J. Kamau.

AS.380.101. First Year Korean. 3 Credits.
Introduces the Korean alphabet, hangeul. Covers basic elements of the Korean language, high-frequency words and phrases, including cultural aspects. Focuses on oral fluency reaching Limited Proficiency where one can handle simple daily conversations. No Satisfactory/ Unsatisfactory. Cross-listed with East Asian Studies
Instructor(s): Staff.

AS.380.102. First Year Korean II. 3 Credits.
Focuses on improving speaking fluency to Limited Proficiency so that one can handle simple daily conversations with confidence. It provides basic high-frequency structures and covers Korean holidays. Continuation of AS.380.101. Recommended Course Background: AS.380.101 or permission required.
Instructor(s): C. Kang.

AS.380.201. Second Year Korean. 3 Credits.
Aims for improving oral proficiency and confident control of grammar with vocabulary building and correct spelling intended. Reading materials of Korean people, places, and societies will enhance cultural understanding and awareness. Project due on Korean cities. Existing demonstrable skills in spoken Korean preferred.
Prerequisites: Prereqs: AS.380.101 and AS.380.102
Instructor(s): Staff
Area: Humanities.

AS.380.202. Second Year Korean II. 3 Credits.
Aims for improving writing skills with correct spelling. Reading materials of Korean people, places, and societies will enhance cultural understanding and awareness, including discussion on family tree. Continuation of AS.380.201. Recommended Course Background: AS.380.201 or equivalent.
Instructor(s): C. Kang
Area: Humanities.

AS.380.301. Third Year Korean. 3 Credits.
Emphasizes reading literacy in classic and modern Korean prose, from easy essays to difficult short stories. Vocabulary refinement and native-like grasp of grammar explored. Project due on Korean culture. Cross-listed with East Asian Studies
Instructor(s): Staff
Area: Humanities.
AS.380.302. Third Year Korean II. 3 Credits.
Emphasizes reading literacy in classic and modern Korean prose. By reading Korean newspapers and professional articles in one’s major, it enables one to be well-versed and truly literate. Continuation of AS.380.301. Cross-listed with East Asian Studies Prerequisite: AS.380.301 or equivalent.
Instructor(s): C. Kang
Area: Humanities.

AS.381.101. First Year Hindi I. 3 Credits.
Course focuses on acquisition of additional vocabulary and grammatical structures in culturally authentic contexts, listening, speaking, reading, and writing comprehension. No Satisfactory/ Unsatisfactory Lab Req’d.
Instructor(s): U. Saini.

AS.381.102. First Year Hindi II. 3 Credits.
This course prepares students to function in everyday situations in the Hindi speaking world. Focuses on the acquisition of basic vocabulary and grammatical structures in culturally authentic contexts through listening, speaking, reading, and writing comprehension. Hindi reading and writing is taught in its original Dayva-nagari script. Oral-aural drills in class and work in the Language Lab is required.
Instructor(s): U. Saini.

AS.381.201. Second Year Hindi I. 3 Credits.
Course provides refinement of basic language skills in cultural context. Emphasis will be on expansion of vocabulary and grammatical structures and further development of communicative skills. Recommended Course Background: AS.381.101, AS.382.102
Instructor(s): U. Saini
Area: Humanities.

AS.381.202. Second Year Hindi II. 3 Credits.
Course provides refinement of basic language skills in cultural context. Emphasis will be on expansion of vocabulary and grammatical structures and further development of communicative skills. Continuation of AS.381.201. Recommended Course Background: AS.381.201 or permission required.
Instructor(s): U. Saini
Area: Humanities.

AS.381.301. Third Year Hindi I. 3 Credits.
Promotes the active use of Hindi in culturally authentic contexts. Development of fluency in oral and written communication is emphasized.
Prerequisites: AS.381.201 AND AS.381.202
Instructor(s): U. Saini
Area: Humanities
Writing Intensive.

AS.381.302. Third Year Hindi II. 3 Credits.
This course is geared towards listening comprehension, enrichment of vocabulary and exposure to various social situations. Students will get an opportunity to learn to narrate and support their views in informal and formal styles. The course will promote a meaningful interaction to understand the cultural nuances.
Prerequisites: AS.381.101 AND AS.381.201
Instructor(s): R. Datla
Area: Humanities.

AS.381.311. Hindi/Urdu Conversation Through Films. 3 Credits.
Advanced training in spoken Hindi for students who have completed Intermediate Hindi or have equivalent knowledge and fluency. Communicative activities such as task-oriented acts, role plays, and group discussions will assist in the development of good interactive skills. Recommended Course Background: AS.381.202 or equivalent.

AS.381.312. Hindi/Urdu Conversation through Movies and Songs. 3 Credits.
This course is geared towards listening comprehension, enrichment of vocabulary and exposure to various social situations. Students will get an opportunity to learn to narrate and support their views in informal and formal styles. The course will promote a meaningful interaction to understand the cultural nuances. The socio-cultural rules would help the students to monitor their own language performance and enhance one’s appreciation for language. Attaining the native competency through films is quite exciting. It is an eye-tonic for students to learn language specific features.

AS.382.101. Beginning Persian I. 3 Credits.
The basic modern Persian enables students to learn the Persian alphabet’s phonology, morphology, and the basic syntax. Students will also be reading, writing, and translating basic sentences. Course taught in Persian.
Instructor(s): D. Dehghan.

AS.382.102. Beginning Persian II. 3 Credits.
Beginning Persian II (102) continues developing all four communicative skills. It will begin with a review of basic Persian structures and proceeds to more complex structures. Themes from Persian history, culture, and contemporary life are introduced.
Instructor(s): D. Dehghan.

AS.382.501. Independent Study-Persian. 0 - 3 Credit.
Instructor(s): D. Dehghan.

AS.383.111. Beginning Sanskrit. 3 Credits.
This course has been designed for students with no knowledge of the Sanskrit language. Emphasis will be placed on the basic listening, reading, and writing of the language. The reading and writing system will be introduced in a very systematic manner, thereby, students will not have to learn all the vowels and the consonants at once before getting to read the words. Basic sentences will be drawn from the Sanskrit Literature. Simple Vedic Mantras from the Vedas and Ishopanishad, verses from the Bhagavad Gita and the sootras from the Yoga Sookas will be read.
Instructor(s): U. Saini.

AS.383.112. Beginning Sanskrit II. 3 Credits.
This course is a continuation of 383.111. Additional emphasis will be placed on listening, reading, and writing of the language. Basic sentences will be drawn from the Sanskrit Literature. Simple Vedic Mantras from the Vedas and Ishopanishad, verses from the Bhagavad Gita, and the sootras from the Yoga Sookas will be read.
Prerequisites: AS.383.111.

AS.384.115. First Year Hebrew. 4 Credits.
Designed to provide reading and writing mastery, to provide a foundation in Hebrew grammar and to provide basic conversational skills. Cross-listed with Jewish Studies. Final day/time will be determined during the first week of classes based on students’ schedules.
Instructor(s): Z. Cohen.

AS.384.116. First Year Modern Hebrew II. 4 Credits.
Designed to provide reading and writing mastery, to provide a foundation in Hebrew grammar and to provide basic conversational skills. Cross-listed with Jewish Studies.
Prerequisites: AS.384.115
Instructor(s): Z. Cohen.
AS.384.215. Second Year Hebrew. 3 Credits.
Designed to enrich vocabulary and provide intensive grammatical review, and enhance fluency in reading, writing and comprehension. Cross-listed with Jewish Studies. Final day/time will be determined during the first week of classes based on students’ schedules.
Prerequisites: (AS.384.115 AND AS.384.116) OR (AS.130.450 AND AS.130.451)
Instructor(s): Z. Cohen
Area: Humanities.

AS.384.216. Second Year Modern Hebrew II. 4 Credits.
Designed to enrich vocabulary and provide intensive grammatical review, and enhance fluency in reading, writing and comprehension. Recommended Course Background: AS.384.215 or permission required. Cross-listed with Jewish Studies.
Prerequisites: AS.384.215
Instructor(s): Z. Cohen
Area: Humanities.

AS.384.315. Third Year Hebrew. 4 Credits.
Designed to maximize comprehension and the spoken language through literary and newspaper excerpts providing the student with the language of an educated Israeli. Cross-listed with Jewish Studies. Final day/time will be determined during the first week of classes based on students' schedules.
Prerequisites: (AS.384.215 AND AS.384.216) OR (AS.130.452 AND AS.130.453)
Instructor(s): Z. Cohen
Area: Humanities.

AS.384.316. Third Year Modern Hebrew II. 4 Credits.
Designed to maximize comprehension and the spoken language through literary and newspaper excerpts providing the student with the language of an educated Israeli. Recommended Course Background: AS.384.315 or permission required. Cross-listed with Jewish Studies.
Prerequisites: AS.384.315
Instructor(s): Z. Cohen
Area: Humanities.

AS.384.503. Summer Internship-Hebrew. 1 Credit.
Instructor(s): Z. Cohen.

Cross Listed Courses

East Asian Studies
AS.310.316. First Year Classical Chinese: Language and Literature of the Ancient Period. 3 Credits.
Readings in prose and poetic texts of the Zhou and Han Dynasties. Class emphasizes language acquisition, especially grammar and vocabulary memorization. In addition we will read and discuss works in western languages that treat the culture and writers of the Ancient period. Quizzes and Tests (Midterm and Final) will cover both language and cultural data. A short paper also required.
Instructor(s): V. Cass
Area: Humanities.

AS.310.321. Classical Chinese. 3 Credits.
This course introduces the basic syntax, grammar and vocabulary of Classical Chinese or Literary Chinese (guwen##/wenyan wen ###), the written language from Old Chinese to the early twentieth century. Classical Chinese, which differs substantially from modern colloquial Chinese, is the language in which traditional Chinese historical, philosophical, religious and literary works are written. The structure, grammar and vocabulary of Classical Chinese still have large influence on modern Chinese formal documents and newspaper. Therefore, studying Classical Chinese is crucial not only to those who wish to understand original Chinese texts correctly but also to anyone who wants to attain a high level of reading proficiency in modern Chinese.
Prerequisites: AS.373.111 OR AS.373.112 OR AS.373.115 OR AS.373.116 AND AS.373.211 AND AS.373.212 OR AS.373.215 OR AS.373.216
Instructor(s): F. Chao
Area: Humanities.

Latin American Studies

The Program in Latin American Studies (PLAS) at Johns Hopkins University seeks to build interdisciplinary understanding among faculty and students of the histories, cultures, societies, and politics of countries in Latin America and the Caribbean.

PLAS courses enhance the Hopkins curriculum by offering students an opportunity to explore the rich political, aesthetic, intellectual, and scientific traditions of Latin America, and by encouraging critical perspectives on Latin America’s history and role in the modern world. Workshops by PLAS-affiliated faculty, graduate students, and visiting scholars complement the curriculum with discussions of current events and ongoing research projects.

PLAS offers an undergraduate major and minor in Latin American studies. The program encourages undergraduate students to take an active interest in Latin America; in their course work and extracurricular life, and by engaging their other disciplinary and area interests through summer research and study abroad programs in Latin America. The program also supports graduate students whose research focuses on Latin America.

PLAS contributes to the professional training of graduate students through interdisciplinary discussions of ongoing research projects, pre-dissertation summer research travel grants, and student initiated exhibitions, conferences, and special events.

Major/Minor in Latin American Studies

Also see Requirements for a Bachelor’s Degree (p. 24).

The Program in Latin American Studies aims to provide undergraduate students with a broad understanding of the complexity of Latin American social, political, and cultural problems. As a result of completing the major (or minor) students will have a deeper understanding of Latin American politics, economy, and culture, as well as of the intricate relationship between the region and the U.S.

The Program in Latin American Studies at The Johns Hopkins University offers a variety of courses across the disciplines and promotes research partnerships between students and faculty.

1. The program offers both a major and a minor. To complete either option, students are required to demonstrate the appropriate
Department, Program Requirements, and Courses

level of proficiency in either Spanish or Portuguese. Language requirements can be waived for those who demonstrate suitable knowledge of Spanish, Portuguese, or in an Amerindian language such as Quechua or Guarani.

2. An introductory course in Latin American studies is required (AS.361.130 Introduction to Latin American Studies) and it is suggested students take this course early in their studies.

3. Though students may choose to emphasize a particular area of specialization within Latin American studies (such as politics, health, literature, etc.), the program requires a distribution of courses in a variety of areas, at different levels.

Students may major in this program in conjunction with other departments. No more than two independent studies are acceptable toward the major or minor in the program. No grade below C- will be accepted for major or minor requirements and courses may not be taken satisfactory/unsatisfactory.

Requirements for the Major

The requirements for a major in Latin American Studies are as follows:

- Four lower-level courses (100- and 200-level courses) dealing with Latin America, one of which must be the general introductory course (AS.361.130 Introduction to Latin American Studies) to Latin America.
- Five upper-level courses (300-level courses and above) focused on Latin America.
- Three electives courses relevant or with reference to Latin America.
- Language proficiency (i.e., reading fluidity and basic conversational skills) through the advanced level in either Spanish or Portuguese will be required. Language requirements can be waived for those who demonstrate a suitable proficiency in either Spanish or Portuguese.

Language proficiency in Spanish or Portuguese through the advanced level

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.361.130 Introduction to Latin American Studies</td>
<td>3</td>
</tr>
<tr>
<td>Three 100- or 200-level courses relating to Latin America</td>
<td>9</td>
</tr>
<tr>
<td>Five 300-level or higher courses relating to Latin America</td>
<td>15</td>
</tr>
<tr>
<td>Three elective courses relating to Latin America chosen with advisor’s approval</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>36-58</strong></td>
</tr>
</tbody>
</table>

* Language proficiency can be demonstrated by the completion of AS.210.312 Advanced Spanish II or AS.210.392 Advanced Portuguese: Language and Literature II or via placement exam.

Honors in the Major

To be eligible for honors, a student needs a GPA of 3.5 or better in courses required of the major and register for two independent studies courses (AS.361.501 Independent Study and AS.361.502 Independent Study) that lead to the completion of the senior thesis.

Requirements for the Minor

The requirements for a minor in Latin American Studies are as follows:

- Four upper-level courses (300 or above) focused on Latin America. Intersession courses may not be used to fulfill this requirement.
- Two additional courses at any level dealing with Latin America.
- Language proficiency through the intermediate level in either Spanish or Portuguese.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two courses at any level relating to Latin America</td>
<td>6</td>
</tr>
<tr>
<td>Four courses at the 300-level or higher relating to Latin America</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>18-34</strong></td>
</tr>
</tbody>
</table>

* Language proficiency can be demonstrated by the completion of AS.210.122 Intermediate Spanish II or AS.210.278 Intermed/Adv Portuguese or via placement exam.

For current course information and registration go to https://isis.jhu.edu/classes/

Latin American Studies

**AS.361.124. Latin American Film: Mini-Course. 1 Credit.**
This course provides a brief, four-week, one-credit introduction to the cultural, political and aesthetic domains of Latin American cinema through thematically focused discussions of four feature-length films.

Instructor(s): E. Cervone
Area: Humanities, Social and Behavioral Sciences

**AS.361.130. Introduction to Latin American Studies. 3 Credits.**
Within a chronological frame that starts with early American-Indian civilizations and moves on to issues in contemporary culture and politics, the course introduces students to an interdisciplinary understanding of Latin American History and Culture. The course draws from historical geography, anthropology, history, politics, art, film, and literature.

Instructor(s): S. Castro-Klaren
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**AS.361.215. Ni de aqui, ni de alla: An Introduction to Latino Culture in the U.S.. 3 Credits.**
Area: Humanities, Social and Behavioral Sciences

**AS.361.502. Independent Study. 0 - 3 Credit.**
Instructor(s): D. Poole; E. Cervone; E. Gonzalez; S. Castro-Klaren.

**AS.361.550. Internship. 1 Credit.**
Instructor(s): D. Poole
Area: Humanities, Social and Behavioral Sciences.
Cross-Listed Course Offerings

Anthropology

AS.070.285. Understanding Aid: Anthropological Perspectives for Technology-Based Interventions. 3 Credits.
This course combines anthropological perspectives with the discussion and examination of technology-based interventions in the field of development and aid policies, with particular focus on activities related to water resources, sanitation, and hygiene. Readings and discussions analyze some of the theoretical, historically rooted, and practical issues that challenge those who hope to provide effective aid. A key aim of this course is to provide students with better understanding of cultural, social, environmental and economic issues relevant to technical intervention in developing countries.
Instructor(s): E. Cervone; W. Ball
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.299. Visual Economies in the Americas. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

German and Romance Languages & Literatures

AS.211.380. Modern Latin American Culture. 3 Credits.
Taught in Spanish. This course will explore the fundamental aspects of Latin-America culture from the formation of independent states through the present—in light of the social, political, and economic histories of the region. The course will offer a general survey of history of Latin-America, and will discuss texts, movies, songs, pictures, and paintings, in relation to their social, political, and cultural contexts. May not be taken satisfactory/unsatisfactory.
Instructor(s): S. Castro-Klaren; Staff
Area: Humanities.

AS.211.394. Brazilian Cult & Civ. 3 Credits.
This course is intended as an introduction to the culture and civilization of Brazil. It is designed to provide students with basic information about Brazilian history, art, literature, popular culture, theater, cinema, and music. The course will focus on how indigenous African, Asian, and European cultural influences have interacted to create the new and unique civilization that is Brazil today. The course is taught in English, but ONE extra credit will be given to students who wish to do the course work in Portuguese. Those wishing to do the course work in English for 3 credits should register for section 01. Those wishing to earn 4 credits by doing the course work in Portuguese should register for section 02. The sections will be taught simultaneously. Section 01: 3 credits Section 02: 4 credits (instructor’s permission required)
Instructor(s): M. Bensabat Ott
Area: Humanities
Writing Intensive.

AS.215.456. Gauchos, Negros, Gitanos. 3 Credits.
Study of the music and literature inspired by three groups of great liminal influence in the cultural and political affairs of their respective nations. Gauchos (Argentina), Afro Hispanics (Cuba, Puerto Rico, Santo Domingo), Gitanos (Spain). Attention given to popular and learned myths and stereotypes and the history of efforts to establish self-identity. Conducted in Spanish. Recommended Course Background:
AS.210.326
Instructor(s): E. Gonzalez
Area: Humanities.

History

AS.100.438. Modern Mexico and the Mexican Revolution. 3 Credits.
An examination of the political, social, and economic factors between 1810 and 2010 that produced incessant civil war in Mexico during the 19th century and a revolution in the early 20th century. Cross listed with PLAS
Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.439. Cuban Revolution and the Contemporary Caribbean. 3 Credits.
A lecture course dealing with the development of the Cuban Revolution and the tortuous history of the Caribbean during the 19th and 20th centuries.
Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.440. The Revolutionary Experience in Latin America. 3 Credits.
Comparative examinations of revolutionary political changes in Haiti, Mexico, Bolivia, and Cuba. Cross-listed with Latin American Studies
Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.441. Society, Politics, and Economics in Latin America. 3 Credits.
This course traces the complex relationship between politics, economics, and social changes in Latin America and the Caribbean since World War II.
Instructor(s): F. Knight
Area: Humanities, Social and Behavioral Sciences.

History of Art

AS.010.105. Art of the Ancient Americas. 3 Credits.
Surveys the art of Olmec, West Mexico, Teotihuacan, Maya, and Aztec.
Instructor(s): L. DeLeonardis
Area: Humanities.
AS.010.320. Art of Colonial Peru. 3 Credits.
The visual arts of viceregal Peru (16th-18th c) are considered in historical context. Religious orders, art schools, artisan guilds and cofradia are examined as are the social and political implications of art patronage.
Instructor(s): L. Deleonisardis
Area: Humanities.

AS.010.334. Problems in Ancient American Art. 3 Credits.
Selected topics which may include collecting the pre-Columbian past and connoisseurship, the formation of national museums, post-Columbian appropriations. Collections study in museums. May also be used toward credit for the Archaeology major. Cross-listed with PLAS and Program in Museum and Society
Instructor(s): L. Deleonisardis
Area: Humanities
Writing Intensive.

AS.010.365. Art of the Ancient Andes. 3 Credits.
The visual arts of Andean South America and their respective cultural contexts form the basis of this seminar. Collections study in museums.
Instructor(s): L. Deleonisardis
Area: Humanities.

History of Science
AS.140.390. Science and Technology in Latin America. 3 Credits.
The course surveys various national contexts to illustrate major themes in western science and technology in Hispanic America (1492 to the present). Cross-listed with Program in Latin American Studies
Instructor(s): M. Portuondo
Area: Humanities, Social and Behavioral Sciences.

Political Science
AS.190.331. Comparative Racial Politics. 3 Credits.
Students will learn to utilize qualitative, interpretive methods of comparative politics to examine dynamics of racial and/or ethnic politics in the nation-states of Cuba, Brazil, Britain and France, Germany, and the United States. Readings will emphasize the role of the state, political economy, national culture, racist ideologies and anti-racist politics in the formation, maintenance and transformation of conditions of race-based inequalities. Students will also become familiar with theories and concepts of race and ethnicity, and the histories of social movements in the aforementioned societies founded, in part, on racial and/or ethnic identification as a response to inequality. Formerly titled: Race and Racism in Comparative Perspective.
Instructor(s): M. Hanchard
Area: Social and Behavioral Sciences.

AS.190.392. Introduction to Latin American Politics. 3 Credits.
Instructor(s): M. Keck
Area: Social and Behavioral Sciences.

AS.190.411. Environment and Development in the Third World. 3 Credits.
A research seminar examining the politics of environmental issues in developing countries, with special focus on Latin America.
Instructor(s): M. Keck
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.419. Identity and Nations in Latin American Politics. 3 Credits.
This seminar class explores formation and political mobilization of identities - group, ethnic, gendered, national, cosmopolitan - in Latin America. Although some of the reading will be broadly comparative, the spring 2013 version of the class will focus especially on Brazil. Requirements will include short response papers and a term paper. Portuguese or Spanish desirable but not required. Enrolled students must be juniors or seniors and must have taken at least one prior course in comparative politics.
Instructor(s): M. Keck
Area: Social and Behavioral Sciences
Writing Intensive.

Sociology
AS.230.203. Intro Latin American Societies. 3 Credits.
This course is designed as an introduction to Latin America’s societies for beginners. The course is organized thematically, providing a survey of Latin America through its historical, economic, social, political and cultural dimensions. We will analyze the pre-Columbian civilizations and the legacy of colonialism to understand the origins of the multiethnic societies and then focus on the contemporary development. It will offer fundamental background information to build a solid base for further specialization in a region or a theme.
Area: Social and Behavioral Sciences.

AS.230.343. Political Sociology of Latin America. 3 Credits.
This course provides an overview of Latin America through its historical, economic, social, and political dimensions. Emphasis will be given to the analysis of social structures: class, race and ethnicity, and the contemporary social movements. The course begins with an overview of the pre-Columbian civilizations and colonial legacies that gave rise to the multiethnic societies and the ethnic conflicts which characterize contemporary Latin America.Cross-listed with Program in Latin American Studies and International Studies (CP)
Instructor(s): M. von der Heydt-Coca
Area: Social and Behavioral Sciences.

AS.230.346. Economic Sociology of Latin America. 3 Credits.
This course will offer an overview of Latin America’s economic reality as an intertwined process of economic and political domestic factors within the constraints of the world economy. Latin American development will be analyzed from a historical perspective. The first half of the semester the course will focus on the analysis of the economic developmental patterns starting in the middle of the 19thcentury to the populist era in the middle of the 20thcentury. In the second half of the semester, we will analyze in depth the contemporary neoliberal approach to development. Globalization is the force that drives economic, social and political processes in Latin America. The course will include case studies as well the social conflicts generated by the increasing polarization of the society. Students will be exposed to important sociological theories. Fulfills Comparative Politics and/or History requirement for International Studies. Fulfills Economics for GSCD students.
Instructor(s): M. von der Heydt-Coca
Area: Social and Behavioral Sciences.

For current faculty and contact information go to http://anthropology.jhu.edu/plas/people.html

Faculty
Director
Mary M. Bensabat-Ott
Director, Portuguese Language Program, Senior Lecturer (German and Romance Languages and Literatures): Portuguese language; Brazilian literature and culture.

**Associate Director**

Emma Cervone
Associate Director, Assistant Professor (Anthropology): social movements, Andes, Ecuador; indigenous movements, race and gender in Latin America; development and applied anthropology.

**Professors**

Sara Castro-Klarén
(German and Romance Languages and Literatures): Latin American literature, colonial studies, discourse analysis, contemporary novel.

Lisa DeLeonardis
Austen-Stokes Professor (History of Art): Art and archaeology of the ancient Americas.

William Egginton
(German and Romance Languages and Literatures): Spanish and Latin American literatures; literary theory; and the relation between literature and philosophy.

Eduardo González
Latin American Literature and Cinema. (German and Romance Languages and Literatures): Spain, Latin America and Caribbean literature and cinema.

James D. Goodyear
Associate Director of Public Health Studies Program, Professor (History of Science, Medicine and Technology): history of medicine, Latin American history, Brazil.

Michael Hanchard
(Political Science): comparative politics, Latin American politics, and comparative racial politics.

Ben Vinson III
(History): Latin American history with a particular interest in race relations, especially the experience of African Diaspora.

Richard L. Kagan
(History): Spain, Iberian expansion, and the Spanish Empire in the New World, especially iconography and cities.

Margaret E. Keck
(Political Science): comparative politics, Latin American politics, and the environment.

Franklin Knight
(History): Latin American and Caribbean social and economic history, comparative history, comparative slave systems.

Deborah Poole
(Anthropology): visuality and representation in Latin America, Peru, and Mexico; race and ethnicity; violence, liberalism, and the state; law and judicial reform.

Beverly J. Silver
(Sociology): historical sociology, labor and social movements, political sociology, international development.

Lea Ybarra
(German and Romance Languages and Literatures): Chicano and Latino studies.

**Assistant Professors**

Clara Han
(Anthropology): Medical Anthropology, Health and the Economy, Public Health, Social Studies of Medicine and Technology, Inequality, Latin America, Chile.

Juan Obarrio
(Anthropology): Law, temporality and the political, state and economy, memory and subjectivity, magic, value and violence, Southern Africa, Latin America.

Maria Portuondo
(History of Science): science and exploration, science and technology in Latin America, early modern Spanish and Latin American Cosmography and geography.

**Lecturer**

Magda von der Heydt-Coca
(Sociology): contemporary sociology, Andean region.

**Mathematics**

Mathematics, more than the fundamental language and underlying analytical structure of science and technology, is a formal way of thinking—an art that ties together the abstract structure of reason and the formal development of the logic that defines the scientific method. From the study of just how arguments and theories are formed in language and technology to the framework of quantitative and qualitative models of the natural and social sciences, mathematics is based upon the development of precise expressions, logical arguments, and the search for and exposure of pattern and structure.

The undergraduate program in the Department of Mathematics is intended both for students interested in attaining the proper preparation for graduate study and research in pure mathematics, and for students interested in using mathematics to define, properly pose, and solve problems in the sciences, engineering, and other areas. With either purpose, the focus of the program is to help those who wish to understand further the logical content, geometric meaning, and abstract reasoning of mathematics itself. A flexible program involving a broad selection of courses is a department tradition. The program begins by introducing students to the basics of algebra and mathematical analysis and then gives them the choice of exploring topics in theoretical mathematics or studying applications to physics, economics, engineering, computer science, probability, statistics, or mechanics.

The graduate program is designed primarily to prepare students for research and teaching in mathematics. It is naturally centered around the research areas of the faculty, which include algebraic geometry, algebraic number theory, differential geometry, partial differential equations, topology, several complex variables, algebraic groups, and representation theory. The program can be supplemented in applied directions by courses in theoretical physics, computer science, mechanics, probability, and statistics offered in other departments of the Krieger School of Arts and Sciences and in the Department of Applied Mathematics in the Whiting School of Engineering.
Facilities
The Mathematics Department resides in Krieger Hall on the Keyser Quad of Homewood. Adjacent to Krieger Hall, The University’s Milton S. Eisenhower Library has an unusually extensive collection of mathematics literature, including all the major research journals, almost all of which are accessible electronically. The stacks are open to students. The department also has a useful reference library, the Philip Hartman Library. Graduate students share departmental offices, and study space can also be reserved in the university library. Graduate students may access the department’s Linux and Windows servers, as well as computers in graduate student offices. The department also hosts numerous research seminars, special lectures, and conferences throughout the academic year.

Math Course Placement and Sequencing for All Students
There are different versions of Calculus I and II offered by the Mathematics Department and students should select their first course in math at JHU based on their major intentions and placement. Students intending to major in mathematics, the physical sciences, or engineering are encouraged to begin with the AS.110.108 Calculus I - AS.110.109 Calculus II sequence or AS.110.113 Honors Single Variable Calculus. Students majoring in other subjects may wish to take the AS.110.106 Calculus I - AS.110.107 Calculus II sequence which relates the methods of calculus to the biological and social sciences. A one-semester pre-calculus course (AS.110.105 Introduction to Calculus) is offered for students who could benefit from additional preparation in the basic tools (algebra and trigonometry) used in calculus.

Entering students may receive course credit for Calculus I or Calculus I and II on the basis of the College Board Advanced Placement (AP) or International Baccalaureate (IB) exams (p. 31). All students, regardless of completion of advanced placement exams previously, must take a departmental placement exam to determine their appropriate first course in mathematics. Additional placement information can be found here (http://www.mathematics.jhu.edu/new/undergrad/advising_placement.htm).

After completing a Calculus II course, the courses AS.110.201 Linear Algebra, AS.110.202 Calculus III, or AS.110.302 Differential Equations and Applications may be taken in any order. The department offers honors courses in both AS.110.212 Honors Linear Algebra and AS.110.211 Honors Multivariable Calculus.

Requirements for the B.A. Degree
In addition to the Requirements for a Bachelor’s Degree (p. 24), a candidate for the bachelor’s degree in mathematics is required to have completed the major requirements listed below. All courses used to meet these requirements must be completed with a grade of C- or better and may not be taken satisfactory/unsatisfactory.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>AS.110.106</td>
<td>Calculus I</td>
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<td>or AS.110.108</td>
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<tr>
<td>or AS.110.113</td>
<td>Honors Single Variable Calculus</td>
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<tr>
<td>AS.110.109</td>
<td>Calculus II</td>
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<tr>
<td>AS.110.202</td>
<td>Calculus III *</td>
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<tr>
<td>or AS.110.211</td>
<td>Honors Multivariable Calculus</td>
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</tbody>
</table>

Approved courses in areas of application:

**Physics**
- AS.171.204 Classical Mechanics II 4
- AS.171.301 Electromagnetic Theory II 4
- AS.171.302 Topics in Advanced Electromagnetic Theory 4
- AS.171.303 Quantum Mechanics I 4
- AS.171.304 Quantum Mechanics II 4
- AS.171.312 Statistical Physics-Thermodynamics 4

**Chemistry**
- AS.030.302 Physical Chemistry II 3
- AS.030.345 Chemical Applications of Group Theory 3
- AS.030.453 Intermediate Quantum Chemistry 3

**Economics**
- AS.180.301 Microeconomic Theory 4
- AS.180.302 Macroeconomic Theory 4

**Computer Science**
- EN.600.435 Artificial Intelligence 3
- EN.600.463 Algorithms I 3
- EN.600.464 Randomized Algorithms 3
- EN.600.488 Foundations of Computational Biology & Bioinformatics II 3

Requirements for a Minor in Mathematics
All courses used to meet the mathematics minor requirements must be completed with a grade of C- or better and may not be taken satisfactory/unsatisfactory. One course in the Applied Mathematics and
Statistics Department (at the 300-level or above) may be substituted for one of the elective courses for the minor.

- AS.110.106: Calculus I
- or AS.110.108: Calculus I
- AS.110.107: Calculus II
- or AS.110.109: Calculus II
- or AS.110.113: Honors Single Variable Calculus

AS.110.202: Calculus III

One 200-level or above math course (excluding AS.110.202)

Three 300-level or above math courses

Total Credits: 28

Honors Program in Mathematics

As a general guideline, departmental honors are awarded to recipients of the B.A. degree who have completed AS.110.311 Methods of Complex Analysis, as well as AS.110.401 Advanced Algebra I-, AS.110.415 Honors Analysis I-, AS.110.416 Honors Analysis II, and one more course at the 400-level or above with at least a 3.6 average in these six courses.

J.J. Sylvester Prize

The J.J. Sylvester Prize in Mathematics, which carries a cash award, is given each year to the one of two top-performing graduating seniors majoring in mathematics for outstanding achievement.

The B.A./M.A. Program

By applying the same courses simultaneously toward the requirements for the B.A. and M.A. degrees, an advanced student can qualify for both degrees in four years. Admission to the program is by the standard graduate application form, which should be completed in the junior year. At least a 3.0 average is required in the 400-level mathematics courses taken while resident at the university. Students may contact the graduate program assistant for further information.

Undergraduate Teaching Assistantships

The department awards many upper-level undergraduates the opportunity to act as recitation instructors to our freshman courses, enabling them to practice the art of teaching and talking mathematics and to earn a valuable credential while studying for their degree.

Admission

Admission to the Ph.D. program is based on academic records, letters of recommendation, and Graduate Record Examination scores. International applicants are required to submit a TOEFL or IELTS score if English is not their native language.

Basic Program

Graduate study is centered around three core areas:

- **Analysis**
  - AS.110.605: Real Variables
  - AS.110.607: Complex Variables
  - AS.110.608: Riemann Surfaces
  - AS.110.631: Partial Differential Equations
  - & AS.110.632: Partial Differential Equations

- **Algebra**
  - AS.110.601: Algebra
  - & AS.110.602: Algebra
  - AS.110.617: Number Theory
  - AS.110.619: Lie Groups and Lie Algebras
  - AS.110.643: Algebraic Geometry
  - & AS.110.644: Algebraic Geometry

- **Topology**
  - AS.110.615: Algebraic Topology
  - & AS.110.616: Algebraic Topology

These 600-level graduate courses are preliminary to research and are built upon the foundations constituted by the 400-level courses: AS.110.401 Advanced Algebra I-, AS.110.402 Advanced Algebra II, AS.110.405 Introduction to Real Analysis-AS.110.406 Analysis II or AS.110.311 Methods of Complex Analysis, and AS.110.413 Introduction To Topology.

The 700-level courses are designed to bring students abreast of recent developments and to prepare them for research in the area of their choice.

Requirements for the M.A. Degree

Although the Mathematics Department does not admit students seeking a terminal M.A. degree, students in the Ph.D. program may earn an M.A. degree. Advanced undergraduate students may also apply to be admitted to the accelerated B.A./M.A. program.

M.A. candidates must complete:

- Four graduate courses given by the Johns Hopkins Mathematics Department;
- Two additional courses at the graduate or 400-level, other than AS.110.401, AS.110.405, and AS.110.415, given by the Johns Hopkins Mathematics Department, or, with the permission of the graduate program director, graduate mathematics courses given by other departments or universities.

All courses used to satisfy the requirements must be completed with a grade of B- or better. (Advanced graduate courses completed with a grade of P can also be used to satisfy the requirements.)

Requirements for the Ph.D. Degree

The departmental requirements for the Ph.D. degree are:

1. Candidates must show satisfactory work in Algebra (AS.110.601-AS.110.602), Real Variables (AS.110.605), Complex Variables (AS.110.607), Algebraic Topology (AS.110.615), and one additional mathematics graduate course in their first year. The seminars and qualifying exam preparation course cannot be used to fulfill this requirement. The algebra and analysis requirements can be satisfied by passing the corresponding written qualifying exam in September of the first year; these students must complete at least two courses each semester. Students having sufficient background in topology can substitute an advanced topology course for AS.110.615, with the permission of the instructor.
2. Candidates must pass written qualifying exams by the beginning of their second year in Analysis (Real and Complex) and in Algebra. Exams are scheduled for September and May of each academic year.

3. Candidates must show satisfactory work in at least two mathematics graduate courses each semester of their second year, and, if they have not passed their oral qualifying exam, in the first semester of their third year.

4. Candidates must pass a departmental oral qualifying examination in the student’s chosen area of research by April 8th of the third year. The topic of the exam is chosen in consultation with the faculty member who has agreed (provisionally) to be the student’s thesis advisor, who will also be involved in administering the exam.

5. There is no longer a Mathematics Department foreign language requirement. With the vast majority of articles written in English, the importance of having the capability of reading another language has diminished. However, important earlier literature in certain areas of mathematics may be written in French, German, or Russian. Moreover, some articles are still being written in French. It is now at the discretion of the student’s thesis advisor whether to impose a language requirement.

6. Candidates must produce a dissertation based upon independent and original research.

7. Candidates will gain teaching experience in mathematics as a teaching assistant for undergraduate courses. The student will be under the supervision of both the faculty member teaching the course and the director of undergraduate studies. First year students are given a reduced TA workload in the spring semester (this is related to item #2).

8. After completion of the thesis research the student will defend their dissertation by means of the Graduate Board Oral Exam. The exam must be held at least three weeks before the Graduate Board deadline the candidate wishes to meet.

Financial Aid
Students admitted to the Ph.D. program receive teaching assistantships and full tuition fellowships. Exceptional applicants become candidates for one of the university’s George E. Owen Fellowships.

William Kelso Morrill Award
The William Kelso Morrill Award for excellence in the teaching of mathematics is awarded every spring to the graduate student who best exemplifies the traits of Kelso Morrill: a love of mathematics, a love of teaching, and a concern for students.

Excellence in Teaching Awards
Three awards are given each year to a junior faculty member and graduate student teaching assistants who have demonstrated exceptional ability and commitment to undergraduate education.

For current faculty and contact information go to http://www.mathematics.jhu.edu/new/people/people-faculty.htm

Faculty
Chair
Nitu Kitchloo

Professor; symplectic geometry, topology of Kac-Moody groups, classical algebraic topology.

Professors
Caterina Consani
Arithmetic geometry, number theory, and non-commutative geometry.

Hans Lindblad
Harmonic analysis, PDE, fluid dynamics and relativity.

Chikako Mese
Geometric analysis.

Jack Morava
Algebraic topology, mathematical physics.

Kate Okikiolu
Harmonic analysis, spectral theory, and geometry.

Bernard Shiffman
Professor; several complex variables, complex geometry

Vyacheslav V. Shokurov
Algebraic geometry.

Christopher Sogge
J.J. Sylvester Professor; Fourier analysis, partial differential equations.

Joel Spruck
J.J. Sylvester Professor; partial differential equations, geometric analysis.

W. Stephen Wilson
Algebraic topology, and homotopy theory.

Steven Zucker
Hodge theory, algebraic geometry.

Assistant Professors
Jacob Bernstein
Minimal surface theory, mean curvature flow.

Benjamin Dodson
Partial differential equations, harmonic analysis.

Brian Smithling
Arithmetic and algebraic geometry.

Associate Teaching Professor
Richard Brown
Director of Undergraduate Studies; dynamical systems, low-dimensional topology.

Emeriti
J. Michael Boardman
Differential and algebraic topology.

Philip Hartman
Differential equations and differential geometry.

Takashi Ono
Algebra, number theory, and algebraic groups.

J.J. Sylvester Assistant Professor
Giovanni DiMatteo
number theory

Jesse Gett-Redman
PDE, microlocal analysis

Jesus Martinez Garcia
Birational geometry, algebraic surfaces.

Carl McTague
Topology.

Mona Merling
Homotopy Theory

Vamsi Pingali
Differential geometry, PDE, several complex variables.

Yi Wang
Geometric analysis, PDE, Harmonic Analysis, and Conformed Geometry

YingYing Zhang
Geometric analysis, complex geometry

Jiuyi Zhu
PDE, harmonic analysis, geometric analysis.

**Associate Research Scientist/Lecturer**

Jian Kong
IT Senior Lecturer; algebraic geometry.

**Joint Appointments**

Gregory Eyink
Professor (Applied Mathematics); mathematical physics, fluid mechanics, turbulence, and dynamical systems.

For current course information and registration go to https://isis.jhu.edu/classes/

**Courses**

**AS.110.105. Introduction to Calculus. 4 Credits.**
This course starts from scratch and provides students with all the background necessary for the study of calculus. It includes a review of algebra, trigonometry, exponential and logarithmic functions, coordinates and graphs. Each of these tools will be introduced in its cultural and historical context. The concept of the rate of change of a function will be introduced. Not open to students who have studied calculus in high school.

Instructor(s): K. Mincheva; Staff

Area: Quantitative and Mathematical Sciences.

**AS.110.106. Calculus I. 4 Credits.**
Differential and integral calculus. Includes analytic geometry, functions, limits, integrals and derivatives, introduction to differential equations, functions of several variables, linear systems, and applications for systems of linear differential equations, probability distributions. Many applications to the biological and social sciences will be discussed.

Instructor(s): Staff

Area: Quantitative and Mathematical Sciences.

**AS.110.107. Calculus II. 4 Credits.**
Differential and integral calculus. Includes analytic geometry, functions, limits, integrals and derivatives, introduction to differential equations, functions of several variables, linear systems, and applications for systems of linear differential equations, probability distributions.

Instructor(s): W. Wilson

Area: Quantitative and Mathematical Sciences.

**AS.110.108. Calculus I. 4 Credits.**
Differential and integral calculus. Includes analytic geometry, functions, limits, integrals and derivatives, polar coordinates, parametric equations, Taylor’s theorem and applications, infinite sequences and series.

Instructor(s): Staff

Area: Quantitative and Mathematical Sciences.

**AS.110.109. Calculus II. 4 Credits.**
Differential and integral calculus. Includes analytic geometry, functions, limits, integrals and derivatives, polar coordinates, parametric equations, Taylor’s theorem and applications, infinite sequences and series. Some applications to the physical sciences and engineering will be discussed, and the courses are designed to meet the needs of students in these disciplines.

Instructor(s): J. Martinez Garcia

Area: Quantitative and Mathematical Sciences.

**AS.110.113. Honors Single Variable Calculus. 4 Credits.**
This is an honors alternative to the Calculus sequences AS.110.106-AS.110.107 or AS.110.108-AS.110.109 and meets the general requirement for both Calculus I and Calculus II (although the credit hours count for only one course). It is a more theoretical treatment of one variable differential and integral calculus and is based on our modern understanding of the real number system as explained by Cantor, Dedekind, and Weierstrass. Students who want to know the “why’s and how’s” of Calculus will find this course rewarding. Previous background in Calculus is not assumed. Students will learn differential Calculus (derivatives, differentiation, chain rule, optimization, related rates, etc), the theory of integration, the fundamental theorem(s) of Calculus, applications of integration, and Taylor series. Students should have a strong ability to learn mathematics quickly and on a higher level than that of the regular Calculus sequences.

Instructor(s): N. Kitchloo; R. Brown

Area: Quantitative and Mathematical Sciences.

**AS.110.160. Discover Hopkins: Mathematics of Infinity. 1 Credit.**
An interdisciplinary introduction to the history of infinity in mathematics, from Zeno’s paradox to the development of calculus to the crisis in the foundations of mathematics in the early 20th century. We will read about history, discuss philosophy, and learn some mathematics (including a crash course in mathematical logic and proof, building up to the rigorous definition of limits). A previous course in calculus is not required, but some mathematical maturity will be necessary.

Instructor(s): V. Lorman

Area: Quantitative and Mathematical Sciences.

**AS.110.201. Linear Algebra. 4 Credits.**

**Prerequisites:** Grade of C- or better in 110.107 or 110.109 or 110.113, or a 5 on the AP BC exam.

Instructor(s): J. Gell-redman

Area: Quantitative and Mathematical Sciences.

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AS.110.202. Calculus III. 4 Credits.
Calculus of functions of more than one variable: partial derivatives, and applications; multiple integrals, line and surface integrals; Green’s Theorem, Stokes’ Theorem, and Gauss’ Divergence Theorem.
Prerequisites: Grade of C- or better in 110.107 or 110.109 or 110.113, or a 5 on the AP BC exam.
Instructor(s): H. Lindblad
Area: Quantitative and Mathematical Sciences.

AS.110.211. Honors Multivariable Calculus. 4 Credits.
This course includes the material in AS.110.202 with some additional applications and theory. Recommended for mathematically able students majoring in physical science, engineering, or especially mathematics. AS.110.211-AS.110.212 used to be an integrated yearlong course, but now the two are independent courses and can be taken in either order.
Prerequisites: Pre-Requisite: Grade of B+ or better in 110.107 or 110.109 or 110.113, or a 5 on the BC AP exam.
Instructor(s): V. Pingali
Area: Quantitative and Mathematical Sciences.

AS.110.212. Honors Linear Algebra. 4 Credits.
This course includes the material in AS.110.201 with some additional applications and theory. Recommended for mathematically able students majoring in physical science, engineering, or mathematics. AS.110.211-AS.110.212 used to be an integrated yearlong course, but now the two are independent courses and can be taken in either order. This course satisfies a requirement for the math major that its non-honors sibling does not.
Prerequisites: Grade of B+ or better in 110.107 or 110.109 or 110.113, or a 5 on the AP BC exam.
Instructor(s): S. Zucker
Area: Quantitative and Mathematical Sciences.

AS.110.215. Fundamentals of Advanced Math. 4 Credits.
Area: Quantitative and Mathematical Sciences.

AS.110.225. Putnam Problem Solving. 2 Credits.
Area: Quantitative and Mathematical Sciences.

AS.110.302. Differential Equations and Applications. 4 Credits.
This is an applied course in ordinary differential equations, which is primarily for students in the biological, physical and social sciences, and engineering. The purpose of the course is to familiarize the student with the techniques of solving ordinary differential equations. The specific subjects to be covered include first order differential equations, second order linear differential equations, applications to electric circuits, oscillation of solutions, power series solutions, systems of linear differential equations, autonomous systems, Laplace transforms and linear differential equations, mathematical models (e.g., in the sciences or economics).
Prerequisites: Grade of C- or better in 110.107 or 110.109 or 110.113, or a 5 on the AP BC exam.
Instructor(s): H. Lindblad
Area: Quantitative and Mathematical Sciences.

AS.110.304. Elementary Number Theory. 4 Credits.
The student is provided with many historical examples of topics, each of which serves as an illustration of and provides a background for many years of current research in number theory. Primes and prime factorization, congruences, Euler’s function, quadratic reciprocity, primitive roots, solutions to polynomial congruences (Chevalley’s theorem), Diophantine equations including the Pythagorean and Pell equations, Gaussian integers, Dirichlet’s theorem on primes.
Prerequisites: Grade of C or better in AS.110.201 OR AS.110.212 OR EN.550.291
Instructor(s): G. Di Matteo
Area: Quantitative and Mathematical Sciences.

AS.110.306. Honors Differential Equations. 4 Credits.
This course includes the material in 110.302 Differential Equations but with a strong emphasis on theory and proofs. Recommended only for mathematics majors or mathematically able students majoring in physical science or engineering.
Prerequisites: Grade of B+ or better in AS.110.107 or AS.110.109 or AS.110.113 or a 5 on the Advanced Placement BC exam.
Instructor(s): J. Bernstein
Area: Quantitative and Mathematical Sciences.

AS.110.311. Methods of Complex Analysis. 4 Credits.
This course is an introduction to the theory of functions of one complex variable. Its emphasis is on techniques and applications, and it serves as a basis for more advanced courses. Functions of a complex variable and their derivatives; power series and Laurent expansions; Cauchy integral theorem and formula; calculus of residues and contour integrals; harmonic functions.
Prerequisites: Grade of C- or better in 110.202 or 110.211
Instructor(s): J. Kong
Area: Quantitative and Mathematical Sciences.

AS.110.328. Non-Euclidean Geometry. 4 Credits.
For 2,000 years, Euclidean geometry was the geometry. In the 19th century, new, equally consistent but very different geometries were discovered. This course will delve into these geometries on an elementary but mathematically rigorous level.
Instructor(s): M. Merling
Area: Quantitative and Mathematical Sciences.

AS.110.401. Advanced Algebra I. 4 Credits.
An introduction to the basic notions of modern algebra. Elements of group theory: groups, subgroups, normal subgroups, quotients, homomorphisms. Generators and relations, free groups, products, commutative (Abelian) groups, finite groups. Groups acting on sets, the Sylow theorems. Definition and examples of rings and ideals. Introduction to field theory. Linear algebra over a field. Field extensions, constructible polygons, non-trisectability.
Prerequisites: Grade of C- or better in 110.201 or 110.212
Instructor(s): B. Smithling
Area: Quantitative and Mathematical Sciences.

AS.110.402. Advanced Algebra II. 4 Credits.
Splitting field of a polynomial, algebraic closure of a field. Galois theory: correspondence between subgroups and subfields. Solvability of polynomial equations by radicals.
Instructor(s): C. Consani
Area: Quantitative and Mathematical Sciences.
AS.110.405. Introduction to Real Analysis. 4 Credits.
This course is designed to give a firm grounding in the basic tools of analysis. It is recommended as preparation (but may not be a prerequisite) for other advanced analysis courses. Real and complex number systems, topology of metric spaces, limits, continuity, infinite sequences and series, differentiation, Riemann-Stieltjes integration.
Prerequisites: Grade of C- or better in 110.201 or 110.212 and 110.202 or 110.211
Instructor(s): C. Sogge
Area: Quantitative and Mathematical Sciences.

AS.110.406. Analysis II. 4 Credits.
This course continues AS.110.405 with an emphasis on the fundamental notions of modern analysis. Sequences and series of functions, Fourier series, equicontinuity and the Arzela-Ascoli theorem, the Stone-Weierstrass theorem, functions of several variables, the inverse and implicit function theorems, introduction to the Lebesgue integral.
Prerequisites: Grade of C- or better in 110.201 or 110.211
Instructor(s): Y. Yuan
Area: Quantitative and Mathematical Sciences.

AS.110.407. Analysis III. 4 Credits.
This course is designed to give a firm grounding in the basic tools of analysis. It is recommended as preparation (but may not be a prerequisite) for other advanced analysis courses. Real and complex number systems, topology of metric spaces, limits, continuity, infinite sequences and series, differentiation, Riemann-Stieltjes integration.
Prerequisites: Grade of C- or better in 110.201 or 110.211
Instructor(s): C. Sogge
Area: Quantitative and Mathematical Sciences.

AS.110.410. Topology. 4 Credits.
This course is an introduction to modern topology. It covers the fundamental group, covering spaces, homology, and applications to analysis.
Prerequisites: Grade of C- or better in 110.201 or 110.211
Instructor(s): C. McTague
Area: Quantitative and Mathematical Sciences.

AS.110.411. Algebraic Topology. 4 Credits.
This course is an introduction to algebraic topology, covering topics such as homology, cohomology, and duality.
Prerequisites: Grade of C- or better in 110.201 or 110.211
Instructor(s): Y. Yuan
Area: Quantitative and Mathematical Sciences.

AS.110.412. Introduction to Functional Analysis. 4 Credits.
This course is an introduction to functional analysis, covering topics such as Hilbert spaces, Banach spaces, and operator theory.
Prerequisites: Grade of C- or better in 110.201 or 110.211
Instructor(s): Y. Yuan
Area: Quantitative and Mathematical Sciences.

AS.110.413. Introduction To Topology. 4 Credits.
Topological spaces, connectedness, compactness, quotient spaces, metric spaces, function spaces. An introduction to algebraic topology: covering spaces, the fundamental group, and other topics as time permits.
Prerequisites: Grade of C- or better in 110.201 or 110.211
Instructor(s): B. Smithling
Area: Quantitative and Mathematical Sciences.

AS.110.415. Honors Analysis I. 4 Credits.
This highly theoretical sequence in analysis is reserved for the most able students. The sequence covers the real number system, metric spaces, basic functional analysis, the Lebesgue integral, and other topics.
Instructor(s): C. McTague
Area: Quantitative and Mathematical Sciences.

AS.110.416. Honors Analysis II. 4 Credits.
Prerequisites: Grade of B+ or better in 110.405 or a grade of B- or better in 110.415 AND permission of the instructor.
Instructor(s): J. Zhu
Area: Quantitative and Mathematical Sciences.

AS.110.417. Partial Diff Equations. 4 Credits.
Characteristics. classification of second order equations, well-posed problems, separation of variables, Fourier series and expansions of solutions. The wave equation: Cauchy problem, Poisson’s solution, energy inequalities, uniqueness, Green’s functions, the Stone-Weierstrass theorem, eigenvalue problems. The heat equation: fundamental solutions, maximum principles. Recommended Course Background: AS.110.405 or AS.110.415
Prerequisites: Grade of C- or better in 110.202 or 110.211
Instructor(s): J. Zhu
Area: Quantitative and Mathematical Sciences.

AS.110.421. Dynamical Systems. 4 Credits.
This is a course in the modern theory of Dynamical Systems. Topic include existence and uniqueness of general ODEs, nonlinear analysis and stability, including bifurcation theory and stable and unstable manifold, smooth flows, limit sets, Hamiltonian mechanics, perturbation theory and structural stability.
Prerequisites: Grade of C- or better in 110.201 or 110.212 OR 110.202 and 110.211
Instructor(s): M. Tohaneanu; R. Brown
Area: Quantitative and Mathematical Sciences.

AS.110.423. Lie Groups for Undergraduates. 4 Credits.
This course is an introduction to Lie Groups and their representations at the undergraduate level. It will cover basic Lie Groups such as SU(2), U(n) , the Euclidean Motion Group and Lorentz Group. This course is useful for students who want a working knowledge of group representations. Some aspects of the role of symmetry groups in particle physics such as some of the formal aspects of the electroweak and the strong interactions will also be discussed. Recommended Course Background: AS.110.202; prior knowledge of group theory (AS.110.401) would be helpful.
Area: Quantitative and Mathematical Sciences.

AS.110.427. Introduction Calculus of Variations. 4 Credits.
The calculus of variations is concerned with finding optimal solutions (shapes, functions, etc.) where optimality is measured by minimizing a functional (usually an integral involving the unknown functions) possibly with constraints. Applications include mostly one-dimensional (often geometric) problems: brachistochrone, geodesics, minimum surface area of revolution, isoperimetric problem, curvature flows, and some differential geometry of curves and surfaces. Recommended Course Background: Calculus III
Prerequisites: Grade of B+ or better in AS.110.201 and AS.110.202.
Area: Quantitative and Mathematical Sciences.

AS.110.439. Introduction To Differential Geometry. 4 Credits.
Linear Algebra Theory of curves and surfaces in Euclidean space: Frenet equations, fundamental forms, curvatures of a surface, theorems of Gauss and Mainardi-Codazzi, curves on a surface; introduction to tensor analysis and Riemannian geometry; theorema egregium; elementary global theorems.
Prerequisites: Grade of C- or better in 110.201 or 110.212 and 110.202 or 100.211
Instructor(s): J. Spruck
Area: Quantitative and Mathematical Sciences.

AS.110.443. Fourier Analysis. 4 Credits.
Prerequisites: Grade of C- or better in (AS.110.201 OR AS.110.212 ) AND ( AS.110.202 OR AS.110.211)
Instructor(s): J. Zhu
Area: Quantitative and Mathematical Sciences.

AS.110.586. Independent Study. 0 - 4 Credit.
Area: Quantitative and Mathematical Sciences.
AS.110.595. Internship. 1 Credit.
Area: Quantitative and Mathematical Sciences.

AS.110.601. Algebra.
An introductory graduate course on fundamental topics in algebra to provide the student with the foundations for number theory, algebraic geometry, and other advanced courses. Topics include group theory, commutative algebra, Noetherian rings, local rings, modules, rudiments of category theory, homological algebra, field theory, Galois theory, and non-commutative algebras.
Instructor(s): V. Shokurov
Area: Quantitative and Mathematical Sciences.

AS.110.602. Algebra.
An introductory graduate course on fundamental topics in algebra to provide the student with the foundations for Number Theory, Algebraic Geometry, and other advanced courses. Topics include group theory, commutative algebra, Noetherian rings, local rings, modules, and rudiments of category theory, homological algebra, field theory, Galois theory, and non-commutative algebras. Recommended Course Background: AS.110.401-AS.110.402
Instructor(s): H. Lindblad; S. Zucker
Area: Quantitative and Mathematical Sciences.

AS.110.605. Real Variables.
Measure and integration on abstract and locally compact spaces (extension of measures, decompositions of measures, product measures, the Lebesgue integral, differentiation, Lp-spaces); introduction to functional analysis; integration on groups; Fourier transforms.
Instructor(s): C. Mese
Area: Quantitative and Mathematical Sciences.

AS.110.607. Complex Variables.
Analytic functions of one complex variable. Topics include Mittag-Leffler Theorem, Weierstrass factorization theorem, elliptic functions, Riemann-Roch theorem, Picard theorem, and Nevanlinna theory. Recommended Course Background: AS.110.311, AS.110.405
Instructor(s): C. Mese
Area: Quantitative and Mathematical Sciences.

AS.110.608. Riemann Surfaces.
Abstract Riemann surfaces. Examples: algebraic curves, elliptic curves and functions on them. Holomorphic and meromorphic functions and differential forms, divisors and the Mittag-Leffler problem. The analytic genus. Bezout's theorem and applications. Introduction to sheaf theory, with applications to constructing linear series of meromorphic functions. Serre duality, the existence of meromorphic functions on Riemann surfaces, the equality of the topological and analytic genera, the equivalence of algebraic curves and compact Riemann surfaces, the Riemann-Roch theorem. Period matrices and the Abel-Jacobi mapping, Jacobian inversion, the Torelli theorem. Uniformization (time permitting).
Instructor(s): C. Dodson; H. Lindblad
Area: Quantitative and Mathematical Sciences.

AS.110.612. Complex Geometry.

AS.110.615. Algebraic Topology.
Polyhedra, simplicial and singular homology theory, Lefschetz fixed-point theorem, cohomology and products, homological algebra, K"unneth and universal coefficient theorems, Poincaré and Alexander duality theorems.
Prerequisites: AS.110.401 AND AS.110.413
Instructor(s): J. Morava.

AS.110.616. Algebraic Topology.
Polyhedra, simplicial and singular homology theory, Lefschetz fixed-point theorem, cohomology and products, homological algebra, K"unneth and universal coefficient theorems, Poincaré and Alexander duality theorems.
Prerequisites: AS.110.401 AND AS.110.413
Instructor(s): N. Kitchloo
Area: Quantitative and Mathematical Sciences.

AS.110.617. Number Theory.
Topics in advanced algebra and number theory, including local fields and adeles, Iwasawa-Tate theory of zeta functions and connections with Hecke's treatment, semisimple algebras over local and number fields, adeles geometry.
Instructor(s): B. Smithling
Area: Quantitative and Mathematical Sciences.

Lie groups and Lie algebras, classification of complex semi-simple Lie algebras, compact forms, representations and Weyl formulas, symmetric Riemannian spaces.
Prerequisites: AS.110.402
Instructor(s): J. Morava
Area: Quantitative and Mathematical Sciences.

Prerequisites: AS.110.605[C] AND AS.110.606[C]
Instructor(s): J. Spruck.

An introductory graduate course in partial differential equations. Classical topics include first order equations and characteristics, the Cauchy-Kowalevski theorem, Laplace's equation, heat equation, wave equation, fundamental solutions, weak solutions, Sobolev spaces, maximum principles. The second term focuses on special topics such as second order elliptic theory.

AS.110.633. Harmonic Analysis.
Fourier multipliers, oscillatory integrals, restriction theorems, Fourier integral operators, pseudodifferential operators, eigenfunctions. Undergrads need instructor's permission.
Instructor(s): B. Dodson; H. Lindblad
Area: Quantitative and Mathematical Sciences.

AS.110.635. Microlocal Analysis.

AS.110.643. Algebraic Geometry.
Affine varieties and commutative algebra. Hilbert's theorems about polynomials in several variables with their connections to geometry. General varieties and projective geometry. Dimension theory and smooth varieties. Sheaf theory and cohomology. Applications of sheaves to geometry; e.g., the Riemann-Roch theorem. Other topics may include Jacobian varieties, resolution of singularities, geometry on surfaces, connections with complex analytic geometry and topology, schemes.
Instructor(s): V. Shokurov.
AS.110.644. Algebraic Geometry.
Affine varieties and commutative algebra. Hilbert's theorems about polynomials in several variables with their connections to geometry. General varieties and projective geometry. Dimension theory and smooth varieties. Sheaf theory and cohomology. Applications of sheaves to geometry; e.g., the Riemann-Roch Theorem. Other topics may include Jacobian varieties, resolution of singularities, geometry on surfaces, schemes, connections with complex analytic geometry and topology.
Instructor(s): V. Shokurov
Area: Quantitative and Mathematical Sciences.

AS.110.645. Riemannian Geometry.
Differential manifolds, vector fields, flows, Frobenius' theorem. Differential forms, deRham's theorem, vector bundles, connections, curvature, Chern classes, Cartan structure equations. Riemannian manifolds, Bianchi identities, geodesics, exponential maps. Geometry of submanifolds, hypersurfaces in Euclidean space. Other topics as time permits, e.g., harmonic forms and Hodge theorem, Jacobi equation, variation of arc length and area, Chern-Gauss-Bonnet theorems.
Instructor(s): Y. Zhang

AS.110.646. Riemannian Geometry.
The goal is to give a self-contained course on mean curvature flow, starting with the basic linear heat equation in Euclidean space and - hopefully - getting to topics of current research. Mean curvature flow is a geometric heat equation that shares many properties with Ricci flow, harmonic map heat flow, Yang-Mills flow and the Navier-Stokes equations. Recommended Course Background: AS.110.605 and an undergraduate course in differential geometry; AS.110.645 and AS.110.631
Instructor(s): C. Mese.

AS.110.660. Qualifying Exam Problems.
Instructor(s): Staff.

AS.110.665. Representation Theory.

AS.110.712. Topics in Mathematical Physics.
Instructor(s): H. Lindblad.

AS.110.726. Topics in Analysis.

AS.110.727. Tpcs/Algebraic Topology.
Instructor(s): J. Lind.

AS.110.728. Topics in Algebraic Topology.
Instructor(s): N. Kitchloo.

AS.110.731. Topics in Geometric Analysis.

AS.110.734. Topics in Algebraic Number Theory.
Instructor(s): T. Ono.

AS.110.735. Topics in Hodge Theory.
Instructor(s): S. Zucker.

AS.110.737. Topics Algebraic Geometry.
Instructor(s): C. Consani.

AS.110.738. Tpcs Algebraic Geometry.
Introduction to toric varieties. This class is a general introduction to toric varieties. Toric varieties are special kinds of algebraic varieties which can be described by lattices and convex sets. They provide a rich source of concrete examples in complex geometry or mathematical physics. If time permits, we discuss in the end the stability of toric embeddings. Students should know basic notions of algebraic geometry (schemes, sheaves, linear systems), as covered in AS.110.643.
Instructor(s): V. Shokurov
Area: Quantitative and Mathematical Sciences.

Instructor(s): H. Lindblad.

AS.110.742. Topics In Partial Differential Equations.
Instructor(s): J. Spruck.

AS.110.744. Topics in Harmonic Maps.
Instructor(s): W. Minicozzi.

AS.110.747. Topics in Commutative Algebra.

AS.110.748. Topics in Geometry.

AS.110.753. Topics in Mathematical Physics.
Instructor(s): H. Lindblad.

AS.110.758. Topics in Complex Physics.
Instructor(s): B. Shiffman.

AS.110.761. Topics in Topology.
Instructor(s): N. Kitchloo
Area: Quantitative and Mathematical Sciences.

AS.110.762. Topics in Topology II.
Instructor(s): N. Kitchloo.

AS.110.764. Topics in Riemannian Geometry.
Topics courses are restricted to graduate students only.
Instructor(s): J. Bernstein.

AS.110.790. Seminar in Complex Geometry.
Presentations of current research papers by faculty, graduate students and invited guest speakers. For graduate students only.
Instructor(s): B. Shiffman; V. Pingali
Area: Quantitative and Mathematical Sciences.

Presentations of current research papers by faculty, graduate students and invited guest speakers. For graduate students only.
Instructor(s): C. Sogge
Area: Quantitative and Mathematical Sciences.

AS.110.792. Seminar in Algebraic Geometry and Number Theory.
Presentations of current research papers by faculty, graduate students and invited guest speakers. For graduate students only.
Instructor(s): B. Smithling
Area: Quantitative and Mathematical Sciences.

AS.110.793. Seminar in Topology.
For graduate students only. Presentations of current research papers by faculty, graduate students and invited guest speakers.
Instructor(s): W. Wilson
Area: Quantitative and Mathematical Sciences.

AS.110.794. Current Topics Seminar.
Area: Quantitative and Mathematical Sciences.

Area: Quantitative and Mathematical Sciences.

AS.110.796. Seminar in Complex Analysis.
Seminar on current research in functions of several complex variables. Graduate students only.

AS.110.797. Seminar in Chromatic Homotopy.
Undergraduates with instructors permission or signature from the Program Coordinator.
Instructor(s): J. Morava.
AS.110.798. Seminar in Number Theory.
Presentations of current research papers by faculty, graduate students and invited guest speakers. For graduate students only.
Instructor(s): B. Smithling; C. Consani.

AS.110.799. Seminar in Algebraic Geometry.
For graduate students only. Presentations of current research papers by faculty, graduate students and invited guest speakers.
Instructor(s): J. Martinez Garcia; V. Shokurov.

AS.110.800. Independent Study-Graduates.
Instructor(s): C. Sogge.

AS.110.801. Thesis Research.
Instructor(s): Staff.

Military Science

The JHU Army Reserve Officers’ Training Corps (ROTC) was among the first to be established by Congress in 1916 and is routinely ranked at the top of the Nation’s 273 programs. Nearly 3,000 Hopkins students have received Army officer commissions through the program, with over 40 attaining the rank of general officer. Students can enter the program with as little as two years remaining as an undergraduate or may complete the requirements while pursuing a graduate degree. Upon graduation, Hopkins students are commissioned as a second lieutenant in the U.S. Army. Some are selected to attend a funded law school or several medical programs, while others serve in the Active Army, Reserves or National Guard. ROTC basic classes are open to all students. The Leadership and Management class specializes in leader development and is an excellent course for students aspiring to become leaders on campus and beyond. Additional information on military science or ROTC can be obtained at our building (behind the athletic center), by asking a current cadet, and by calling 1-800-JHU-ROTC or 410-516-7474. You can also email us at rotc@jhu.edu or visit the JHU ROTC website at http://jhurotc.com/page.php?page=home.

Scholarship and Financial Assistance

To apply for an ROTC scholarship go to http://www.goarmy.com/rotc/scholarships.html. Scholarship opportunities are regularly improved and incentives are added. Applications for scholarships by qualified students are awarded throughout the semester, and are often retroactive. A non-scholarship program is also available. For health profession and nursing students, ROTC can offer numerous opportunities to achieve specialized education, additional postgraduate scholarships and accession/graduation bonuses.

Curriculum

The curriculum normally consists of a two-year Basic Course (freshmen / sophomores) and a two-year Advanced Course (juniors / seniors). Some modification to this curriculum is common, as with graduate or transfer students. Completing the 30-day Leader’s Training Course (LTC) at Fort Knox, KY, is equivalent to the Basic Course. Successful graduates of LTC are normally offered ROTC scholarships and an opportunity to enroll in the Advanced Course. Junior-ROTC experience, prior military service and military academy attendance may also qualify for Basic Course completion.

All Advanced Course students are cadets and have a contractual agreement with the Army. These students attend the National Leadership Development and Assessment Course (LDAC) at Fort Lewis, WA, between the 300- and 400-level courses. This is a core requirement to commission in the Army and cannot be waived.

Army ROTC strives to develop values-based graduates who offer expert leadership to the campus, the community and the Army. As such, we offer and encourage cadets to participate in: paid leadership and technical internships; cultural and language immersion programs; a number of Army military school opportunities in: Europe, South America, the Republic of Korea, Alaska, Hawaii, and across the continental United States.

Extracurricular activities may also include: community assistance, Red Cross blood drives, tutoring for at-risk children, and volunteering at the Veterans Administration. Cadets may apply for additional military training such as skydiving, helicopter rappelling, mountaineering, and cold weather training. New and challenging opportunities routinely become available.

Air Force ROTC Program

Admission to the Air Force ROTC program is available to JHU students through an agreement with UMCP. AFROTC courses have been scheduled to enable students to complete all the requirements in one morning per week at the College Park campus. JHU students are eligible to compete for all AFROTC scholarships and flying programs. The two-, three-, and four-year scholarships pay tuition, books, fees, and a monthly stipend during the school year. After graduation and the successful completion of AFROTC requirements, students are commissioned second lieutenants in the Air Force.

Those interested in this program should call 301-314-3242 or write to: AFROTC Det 330 University of Maryland Cole Field House, Room 2126 College Park, MD 20742-1021

For more information see the website at http://www.afrotc.com/

For current faculty and contact information go to http://www.jhurotc.com/page.php?page=about_the_battalion

Faculty

Director
Paul Carroll
Professor; Lieutenant Colonel.

Assistant Professors
Matt Dusablon
Captain.
Rolando Rodriguez
Major
Jeff Wood
Captain.

Adjunct Professor
Glen Stambone
Captain.

Senior Military Instructor
Garth Ambersley
Instructor(s): J. Edwards; J. Louden.

**Counseling. Freshmen only.**

Improving speaking and listening skills, and an introduction to problem solving, communications, effective writing, goal setting.

Establishes a foundation of basic leadership fundamentals such as:

- Army, time management, ethics, values, mission statements and goal setting.
- Corequisite: AS.374.110 for ROTC students; none for non-ROTC.

AS.374.100. **Leadership Lab. 1 Credit.**

ROTC students only (Required for all ROTC cadets) Students practice their leadership skills in a variety of settings to build a better understanding of leadership strengths and weaknesses and to provide a forum for discussion of leader development.

AS.374.101. **Leadership and Management I. 2 Credits.**

This is an introductory course in basic leadership and management concepts, theories and principles of decision making for application to any professional environment. This course is recommended for those who have leadership aspirations or are currently in student leadership positions. This course is intended to provide a foundation for those desiring to establish and improve their personal leadership philosophy. It establishes a baseline understanding of the US Army’s leadership and management principles. This course is taught through a series of lectures and small group discussions. Students are required to conduct research in the areas of leadership and management and present their findings in an oral presentation or written report to their small group. In addition to learning the foundations of leadership, students will learn about the corporate and non-corporate aspects and operations of the US Army, time management, ethics, values, mission statements and goal setting. Corequisite: AS.374.110 for ROTC students; none for non-ROTC students.

Instructor(s): J. Louden.

AS.374.102. **Introduction to Leadership II. 2 Credits.**

Establishes a foundation of basic leadership fundamentals such as:

- Problem solving, communications, effective writing, goal setting, improving speaking and listening skills, and an introduction to counseling. Freshmen only.

Instructor(s): J. Edwards; J. Louden.

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**AS.374.110. Basic Leadership Laboratory I. 1 Credit.**

These introductory courses in a laboratory environment are designed to expose students to practical experiences, challenges and individual learning opportunities in a small group. Students learn the fundamentals of an organization and apply principles of leadership and management at the foundation level. Students develop military courtesy, organizational discipline, communication and basic leadership and management skills. Ultimately, students understand how to facilitate and lead a small group of four to five people as an integral part of a larger organization of 75-100 people through situational training opportunities in a variety of conditions. As a leadership practicum, students have the opportunity to serve in leadership positions and receive tactical and technical training. In addition to learning to lead groups of five to one hundred people, students will also be exposed to training on first aid, operating Army equipment, Army activities such as rappelling and drill and ceremony. These laboratories are required for enrolled ROTC participants who desire to be considered for a commission in the Army. Corequisite: AS.374.101-AS.374.102.

Instructor(s): J. Louden.

AS.374.120. **Basic Leadership Laboratory II. 1 Credit.**

Students learn and apply team echelon leadership at an entry level. They continue development of military courtesy, discipline, communication and basic Soldier skills. Ultimately, students understand how to operate in and lead 4-5 persons through a program of training opportunities in a variety of conditions. Freshmen only.

Instructor(s): J. Edwards; J. Louden.

AS.374.201. **Leadership & Teamwork I. 2 Credits.**

The focus of this course is on developing leadership and communication skills. Case studies will provide a tangible context for learning and applying aspects of team building, values, the Army Warrior Ethos, and principles of war as they apply in the contemporary operating environment. The key objective of this course is to develop knowledge of the Army’s leadership philosophies and integrate this knowledge into personal skills and team development. At the end of this course, students will be able to describe and perform tasks during the four basic phases of team building; demonstrate the types and elements of interpersonal communication; illustrate, explain, and apply the Principles of War; identify and apply problem solving steps, and apply basic leadership procedures in simple and complex situations. Corequisite: AS.374.210 for ROTC students; none for non-ROTC students.

Instructor(s): T. ONeil.

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**AS.374.202. Leadership & Teamwork II. 2 Credits.**

Class examines how to build effective teams, various methods for influencing action, effective communication in setting and achieving goals, decision-making, creativity in problem solving, and providing feedback. Recommended Course Background: AS.374.201 or permission required.

Instructor(s): D. Xhakolli; J. Edwards.

AS.374.210. **Basic Team Leadership. 1 Credit.**

Students lead and assist in leading 4-5 person teams through a variety of training opportunities. They learn the troop-leading procedures, basic problem solving, and tactical skills aimed at military leadership. Students will mentor and assist members of their team with improving their own skills and leadership as well. Corequisite: AS.374.201.

Instructor(s): J. Wood.
AS.374.220. Advanced Team Leadership. 1 Credit.
Students perform duties of and develop their leadership, as team leaders during a variety of induced training opportunities. Continued emphasis is placed on troop-leading-procedures and simple problem solving. Students lead physical fitness training and mentor subordinates in military, academic and extra-curricular activities. Successful completion of advanced team leadership allows students to progress into ROTC Advanced Courses. Sophomores only.
Instructor(s): D. Xhakolli; J. Edwards.

AS.374.301. Leadership and Tactical Theory I. 2 Credits.
Students will be introduced to the tenets of Army leadership, officership, Army values, ethics and personal development. Students will learn the fundamentals of physical training, land navigation, orders production, and small unit tactics at the squad and platoon level. Each student will be given multiple opportunities to plan and lead squad level tactical missions in the classroom and during Leadership Laboratories. Corequisite: AS.374.310. Recommended Course Background: Basic Course completion.
Instructor(s): B. Sime; J. Wood
Writing Intensive.

AS.374.302. Leadership and Tactics. 2 Credits.
Examines the role communications, values, and ethics play in effective leadership through application of principles in tactical scenarios. Emphasis is on improving written and oral communications skills and military tactics proficiency. ROTC cadets only. Corequisite: AS.374.320.
Prerequisites: AS.374.301 in the Fall
Corequisites : AS.374.320
Instructor(s): B. Sime; J. Wood; P. Carroll
Writing Intensive.

AS.374.307. Leadership in Military History. 2 Credits.
This course provides students with a historical perspective to decisions made by American military leaders: battlefield complexity, resource limitations, and teamwork deficiencies. Students cover major military engagements from the colonial period through the current operating environment. Students examine how leaders motivated their men, devised battle strategies, implemented rules of engagement, and managed supplies, transportation, and logistics for their troops. Requires permission of the Director of Military Science. Registration restricted to contracted ROTC cadets only.
Instructor(s): J. Louden; J. Wood
Writing Intensive.

AS.374.310. Basic Tactical Leadership Lab. 1 Credit.
In Leadership Laboratory, students are given the opportunity to apply what they have learned in the classroom, in a tactical or field environment. Students learn and demonstrate the fundamentals of leadership by planning, coordinating, navigating, motivating, and leading squads in the execution of both garrison and tactical missions. Students are evaluated as part of the Leadership Development Program and FM 6-22, Army Leadership. Ultimately, prepares students to excel at the four-week National Leadership Development and Assessment Course at Fort Lewis, WA. Corequisite: AS.374.301.
Instructor(s): B. Sime; J. Wood.

AS.374.320. Advanced Tactical Leadership. 1 Credit.
Students further develop their leadership skills by directing and coordinating the efforts of 9-60 personnel on offensive, defensive and civil-support tactical-tasks. Develop written plans for garrison and field environments while supervising its execution. Ultimately, prepares students to excel at the four-week National Leadership Development and Assessment Course at Fort Lewis, WA. Permission required. Juniors only.
Instructor(s): B. Sime; J. Wood.

AS.374.401. Adaptive Leadership. 2 Credits.
Students are assigned the duties and responsibilities of an Army battalion staff officer and must apply the fundamentals of principles of training, the training management, the Army writing style and military decision making to weekly training meetings. Students plan, execute and assess ROTC training and other Mission Essential Tasks. Students will study how Army values and leader ethics are applied in the Contemporary Operating Environment and how these values and ethics are relevant to everyday life. The student will study the Army officer’s role in developing subordinates via counseling and administrative actions, as well as managing their own career. Students will be given numerous opportunities to train, mentor and evaluate underclass students enrolled in the ROTC Basic Course while being mentored and evaluated by experienced ROTC cadre. Corequisite: AS.374.410. Recommended Course Background: AS.374.301-AS.374.302, AS.374.310-AS.374.320 and the Basic Course.
Instructor(s): J. Wood; P. Carroll.

AS.374.402. Adaptive Leadership/Professionalism. 2 Credits.
Study includes practical exercises on establishing an ethical command climate and developing values required of a professional officer. Students apply their leadership skills in the ROTC battalion and prepare for commissioning. Corequisite: AS.374.002. ROTC cadets only.
Instructor(s): J. Wood; P. Carroll.

AS.374.407. Being a Platoon Leader. 1 Credit.
This course prepares Cadets for actual challenges not necessarily described in text books that junior officers may face in today’s Army. Topics include: serving during war, conflict management, ethical dilemmas, time-constrained planning, and change management. This course also serves as prerequisite for the Basic Officer Leadership Course “B” phase by providing students with reinforced development on: deployment preparation, the military style of writing, supply management, human resources management, family support and operations management. Students will also learn how the Army’s organizational structure and administration affects Soldiers across ranks and over time. Finally, students will learn ways to leverage automation to improve their efficiency and effectiveness of records management and developing presentations for superiors.
Instructor(s): G. Stambone; J. Wood; P. Carroll.

AS.374.410. Advanced Planning & Decision Making I. 1 Credit.
Students develop a semester-long progression of programmed training activates that support completion of the unit’s Mission Essential Task List. The laboratory builds from fall to spring semester as students master advanced problem solving, resource synchronization and executive decision making. Students evaluate, mentor and develop subordinate leaders as part of the Leadership Development Program and FM 6-22, Army Leadership. The course serves as the final evaluation and determination on a student’s ability to lead Soldier’s as a Second Lieutenant in the US Army. Co-require: AS.374.401-AS.374.402. Recommended Course Background: AS.374.301-AS.374.302, AS.374.310-AS.374.320 and Basic Course.
Instructor(s): J. Wood; P. Carroll.
AS.374.420. Advanced Organizational Planning. 1 Credit.
Students develop a semester-long progression of training activates that support completion of the unit’s Mission Essential Task List. The laboratory builds on the first semester’s achievements through advanced problem solving, resource synchronization and executive decision making. Students evaluate and develop subordinate leaders as part of the Leadership Development Program and FM 6-22, Army Leadership. The course serves as the final evaluation and determination on a student’s ability to lead Soldier’s as a Second Lieutenant in the US Army. Permission required. Seniors only.
Instructor(s): J. Wood; P. Carroll.

AS.374.501. Independent Study. 1 Credit.
Instructor(s): J. Wood; P. Carroll
Writing Intensive.

AS.374.512. Internship-Military Science. 0 - 3 Credit.
Students will select a topic relevant to the study of military leadership and will complete a project based on current military doctrine and the contemporary operating environment of current military operations. Permission required.
Instructor(s): J. Wood; P. Carroll
Writing Intensive.

AS.374.555. US Intelligence Community: Theory & Practice. 3 Credits.
US Intelligence Community (3 credits, letter grade) Taught by former U.S. Intelligence Officers and members of U.S. Defense and Intelligence Community, “US Intelligence Community: Theory & Practice” (USIC) is a course designed to introduce and familiarize the student with the function, organization, and operational elements of the U.S. Intelligence Community (IC). Explore the USIC and gain experience in developing raw data into intelligence products through individual coursework & group production. The full-spectrum of US intelligence will be covered to include All-Source Intelligence production, multi-source data fusion processes, Special Operations, Counter-Terrorism, current affairs and future projections.
Instructor(s): J. Wood; M. Boston
Area: Social and Behavioral Sciences.

AS.374.556. USIC Individual Research Topics (IRT) Independent Study Seminar. 3 Credits.
Extension of AS.374.555 USIC Theory and Practices to formalize the research, analysis and production processes of United States Intelligence Cycle (USIC). The research topics will focus on collaboration of USIC thru specific topics in USIC sectors of HUMINT, SIGINT, OSINT, MASINT, Cyber-Security and Intelligence affairs.
Instructor(s): E. Mineo; M. Boston
Writing Intensive.

AS.374.557. US Intelligence Community: National Security Analysis. 3 Credits.
Extension of AS.374.555 USIC Theory and Practices to formalize the research, analysis and production processes of United States Intelligence Community (USIC). The research topics will focus on US National Security issues.
Prerequisites: (AS.374.555 AND AS.374.556)
Instructor(s): J. Wood; M. Boston
Area: Social and Behavioral Sciences
Writing Intensive.

AS.374.558. US Intelligence Community: Advanced Concepts. 3 Credits.
Taught by former U.S. Intelligence Officers and members of U.S. Defense and Intelligence Community, “US Intelligence Community: Advanced Concepts” (USIC-AC) is an advanced course designed to further familiarize the student with the function, organization, and operational elements of the U.S. Intelligence Community (IC). Gain advanced knowledge of the USIC and expand the development of raw data into intelligence products through individual coursework.
Prerequisites: AS.374.555 AND AS.374.556 AND AS.374.557
Instructor(s): J. Wood; M. Boston
Area: Social and Behavioral Sciences
Writing Intensive.

AS.374.570. Independent Study. 0 - 3 Credit.
Instructor(s): M. Boston
Writing Intensive.

Museums and Society

The Program in Museums and Society is concerned with the institutions that shape knowledge and understanding through the collection, preservation, interpretation, and/or presentation of material culture. It focuses on the role of museums (broadly defined) and their contents in societies past and present, including their cultural, intellectual, and political significance.

A minor in Museums and Society complements study in a range of fields, including but not limited to anthropology, archaeology, history, history of art, and history of science and technology. Many courses include visits to or focused work in local and regional institutions, as well as in on-campus collections (Archaeological Museum, Homewood Museum, Evergreen Museum and Library, and the Sheridan Libraries).

Whether they are researching a historical artifact or debating the obligations of public institutions, students in the program are challenged to approach their discipline from a new angle. While some may choose to pursue a museum career, the program has the larger goal of encouraging critical, careful thinking about some of the most influential cultural institutions of our day.

Requirements for a Minor in Museums and Society

Course requirements are designed to introduce students to a broad set of historical, theoretical, and practical museum issues and to give them the opportunity to explore museums first-hand. Prospective minors should consult with the Director for guidance in designing a program of study.

- A minimum of six different courses (amounting to at least 18 credits) selected from those approved by the program.
- With the exception of up to three credits of museum internship, courses used to satisfy major requirements must be taken for a letter grade. Students must earn a "C-" or higher grade in all other courses used to satisfy minor requirements.
- At least two different primary departments/disciplines must be represented in the students coursework beyond the introductory courses.
- At least three courses must be taken at the 300-level or higher.
**Introductory Courses**

AS.389.201  
Introduction to the Museum: Past and Present  
3

AS.389.202  
Introduction to the Museum: Issues and Ideas  
3

**Four Upper-Level Electives**  
12

At least three must be 300-level or higher courses

Three credits of practicum work

Two courses must be from at least two different primary departments beyond Museums and Society

**Total Credits**  
18

**Additional details:**

*Introduction to the Museum sequence:* Ideally, students should take at least one of the two introductory courses or 389.103, *Museum Matters*, before enrolling in more focused courses, but this is not required.

*Departmental distribution:* In keeping with the interdisciplinary nature of the program, students are encouraged to explore various fields and must complete courses in at least two different primary disciplines beyond Museums and Society. Primary disciplines are defined either from the home department for the course (identified by the course's three-digit prefix), from the first cross-listing beyond Museums and Society, or from the home discipline of the instructor. Students should seek guidance from the program to ensure they are fulfilling this requirement, and should note that internship and capstone credits cannot be applied to it.

*Practicum Work:* Practicum credits can be earned from courses designated as Museums and Society "practicum" in the course description [POS-Tag PMUS-PRAC] or from internship work (AS.389.511/AS.389.512 Museums and Society Internship).

*Internships and Independent Study:* Students interested in doing an internship for Museums and Society credit must first consult the University’s Independent Work Policy (http://eng.jhu.edu/wse/asen_undergraduate_handbook/2011_2012_academic/registration-policies) from the student handbook and secure the support of a faculty sponsor, ideally a specialist in the particular field of study. Then, in consultation with the Director, the faculty sponsor, and the on-site museum mentor, the student will write a proposal for the internship that explains the work to be undertaken at the museum and defines a related academic project for which credit will be given and the terms for its completion. Approval for credit will not be given until this proposal is approved by all three advisors.

The same general guidelines should be followed in setting up Capstone or Independent Study work for credit (for a description of the Capstone and Independent study, please see courses). In all cases, early and frequent consultation with the Program’s Director is strongly recommended.

Museums and Society offers some basic guidelines for locating internships, including hosting an annual internship and career workshop and supporting a regularly updated internship list (https://sites.google.com/site/jhumuseums), but students are responsible for seeking out and securing such opportunities on their own.

**Other information:** No course, other than the 1-credit internship or a 1-2 credit Capstone or Independent Study (up to a maximum of three credits), may be counted toward the minor more than once.

For current faculty and contact information go to http://krieger.jhu.edu/museums/directory/

**Faculty**

**Director**

Elizabeth Rodini  
Teaching Professor, History of Art: museum history, theory, and practice; histories of translation and exchange.

**Assistant Director**

Jennifer P. Kingsley  
Assistant Director and Lecturer, Museums and Society: museum history, theory and practice, medievalism, collecting history.

**Affiliates Board**

James Archer Abbott  
Curator and Director, Evergreen Museum and Library.

Sanchita Balachandran  
Curator/Conservator, Johns Hopkins Archaeological Museum and Lecturer, Near Eastern Studies.

Rebecca M. Brown  
History of Art: Southeast Asian art, politics of display.

Gabrielle Dean  
Curator, Modern Literary Rare Books and Manuscripts and Lecturer, Museums and Society.

Linda DeLibero  
Associate Director, Film and Media Studies Program.

Jane Guyer  
Professor, Anthropology.

Deana Haggag  
Director, The Contemporary Museum of Baltimore.

Stuart W. Leslie  
Professor, History of Science and Technology.

Mitchell Merback  
Associate Professor, History of Art.

Jacqueline M. O’Regan  

Jason Vaughan  
Director, Historic Preservation and Interpretation at Baltimore National Heritage Area.

**Curator/Director/Conservator**

James Archer Abbott  
Curator and Director, Evergreen Museum and Library: 19th- and 20th-century American decorative arts and furniture; historic houses; curatorial practice, including collections management and exhibitions.

Catherine Rogers Arthur
Curator and Director, Homewood Museum and Lecturer, History: American decorative arts, historic house museums, museum practice.

Sanchita Balachandran
Curator/Conservator, Johns Hopkins Archaeological Museum and Lecturer, Near Eastern Studies: conservation history and ethics; archaeological conservation and site management; collections management and museum practice.

Gabrielle Dean
Curator, Rare Books and Manuscripts and Lecturer, Museums and Society: history of books, libraries, reading, literary culture; books as objects.

Lori Beth Finkelstein
Vice-President of Education, Interpretation and Volunteer Programs, Maryland Zoo in Baltimore.

Deanna Haggag
Director, The Contemporary Museum of Baltimore

Earl Havens
William Kurrelmeyer Curator of Rare Books and Manuscripts and Adjunct Assistant Professor, Department of History: early modern Europe, history of collecting, early libraries.

Jacqueline M. O’Regan
Curator of Cultural Properties, Homewood Museum: acquisitions, documentation, and preservation of artifacts and art objects; development of institutional practices and guidelines; collection databases.

**Professors**

Betsy M. Bryan
Alexander Badawy Chair in Egyptian Art and Archaeology, Near Eastern Studies: Egyptian art and archaeology, Egyptology.

Stephen Campbell
Henry M. and Elizabeth P. Wiesenfeld Professor and Chair, History of Art: Italian Renaissance art, the studiolo and Renaissance collecting.

Lisa DeLeonardis
Austen Stokes Professor in Art of the Ancient Americas, History of Art: ancient art of the Americas.

Robert H. Kargon
Willis K. Shepard Professor of the History of Science, History of Science and Technology: history of physics, science, social change.

Stuart W. Leslie
History of Science and Technology: history of technology, science-based industry, 20th-century American science.

Tobie Meyer-Fong
History: social, cultural history of China since 1600.

Mary Ryan
John Martin Vincent Professor, History.

Judith Walkowitz
History: modern European cultural and social history with special interest in Great Britain, comparative women’s history.

Ronald G. Walters

History: social and cultural history of the United States with special interest in radicalism, reform, race, and popular culture.

**Associate Professor**

Rebecca M. Brown
History of Art: Southeast Asian art, politics of display.

**Adjunct/Visiting Appointments**

Martina Bagnoli
Visiting Lecturer, History of Art: Associate Curator of Medieval Art, The Walters Art Museum.

Doreen Bolger
Adjunct Professor, History of Art: Director, The Baltimore Museum of Art.

Rena Hoisington
Visiting Lecturer, History of Art: Associate Curator of Prints, Drawings and Photographs, The Baltimore Museum of Art.

Walter G. Lehmann
Visiting Lecturer, Museums and Society: Managing Partner, law firm of Lehmann and Strobel.

Elizabeth Maloney
Visiting Lecturer, Museums and Society: Museum Educator and Independent Scholar.

Nancy Micklewright
Visiting Lecturer, Museums and Society: Head of Scholarly Publications and Programs, The Smithsonian Institution’s Freer and Sackler Galleries of Art.

Robert Mintz
Visiting Lecturer, Museums and Society: Mr. and Mrs. Thomas Quincy Curator of Asian Art and Chief Curator, The Walters Art Museum.

Arthur Molella
Visiting Lecturer, History of Science and Technology: Director, Lemelson Center for the Study of Invention and Innovation, National Museum of American History, Smithsonian Institution.

Thomas Primeau
Visiting Lecturer, Museums and Society: Head of Conservation and Associate Paper Conservator, The Baltimore Museum of Art.

For current course information and registration go to https://isis.jhu.edu/classes/

**Courses**

**AS.389.103. Freshman Seminar: Museum Matters. 3 Credits.**
Museums are crucibles, places where public memory, identity, and cultural values are shaped and debated. We examine this premise through weekly visits to Baltimore museums of art, science, history (and many more), critical group discussion, and intensive writing assignments. Freshmen only. Area: Humanities, Social and Behavioral Sciences Writing Intensive.
AS.389.120. Discover Hopkins: Examining Archaeological Objects. 1 Credit.
In this course, we examine artifacts from the Johns Hopkins Archaeological Museum in order to learn about the role of materials such as ceramics, metal, glass, faience and stone in the history, art and culture of the ancient world. We will visit local artists’ studios to understand how these materials are utilized today, and examine comparative examples in local art museums. Students will work hands on with artifacts each day.
Instructor(s): S. Balachandran.

AS.389.130. Mini Course: Conservation, An Introduction to Technical Art History. 1 Credit.
Look through the eyes of a conservator and learn how to answer historical questions by analyzing the physical nature of works of art. Objects examined will include paintings, sculpture and works on paper from the collection of the Baltimore Museum of Art. Class meets 4 times, on February 7, 14, 21 and 28, at the BMA. Syllabus and organizational meeting at JHU on Thursday, January 31, 5:30pm.
Instructor(s): T. Primeau
Area: Humanities.

AS.389.201. Introduction to the Museum: Past and Present. 3 Credits.
This course surveys museums, from their origins to their most contemporary forms, in the context of broader historical, intellectual, and cultural trends. Anthropology, art, history, and science museums are considered. Cross-listed with Anthropology, History, and History of Art.
Instructor(s): E. Rodini
Area: Humanities, Social and Behavioral Sciences.

AS.389.202. Introduction to the Museum: Issues and Ideas. 3 Credits.
This course considers the practical, political, and ethical challenges facing museums today, including the impact of technology and globalization, economic pressures, and debates over the ownership and interpretation of culture.
Instructor(s): J. Kingsley
Area: Humanities, Social and Behavioral Sciences.

AS.389.203. Museum Matters. 3 Credits.
Through weekly field trips, group discussion, and analytical writing assignments, this course examines how museums organize, interpret, and present their holdings. Museum controversies, challenges, conflicts are examined. M&S practicum course.
Area: Humanities
Writing Intensive.

AS.389.205. Examining Archaeological Objects. 3 Credits.
This course considers the role of materials in the production, study and interpretation of objects by examining artifacts from the Johns Hopkins Archaeological Museum. Students will consider materials such as ceramics, stone, metal, glass, wood and textiles, and visit artists’ studios to gain an understanding of historical manufacturing processes. M&S practicum course. Cross-listed with Archaeology, Near Eastern Studies, Classics, and History of Art.
Instructor(s): S. Balachandran
Area: Humanities.

AS.389.261. Curating Homewood. 3 Credits.
Students explore early American life related to the region and the Carroll family of Homewood. Primary research and object study culminate in student-curated thematic exhibition. Optional intersession practicum experience is also possible. For more on exhibit theme, contact instructor. M&S practicum course.
Instructor(s): C. Arthur
Area: Humanities.

AS.389.275. Interpreting Collections: An Introduction to Museum Education-Community Based Learning. 3 Credits.
Part public history, part introduction to museum practices, this hands-on course invites students into a local collection to develop interpretive materials for diverse audiences. Students consider the issues and ideas that inform object-based learning and learn about the history, theory and practice of museum education. Course culminates in the creation of interpretive text for the Baltimore Museum of Industry. M&S practicum course.
Instructor(s): E. Maloney
Area: Humanities, Social and Behavioral Sciences.

AS.389.301. Twenty-First Century Approaches to Material Culture. 4 Credits.
JHU pioneered the concept of the modern research university in the United States, but what does that mean for the everyday experiences of its students, faculty, staff and friends? Excavate the history of this place through the things collected, made and used here since the university’s founding in 1876. Students research the material culture of Hopkins and present their findings on an interactive website: collectionsweb.jhu.edu. Course includes digital media labs. Cross-listed with History and History of Science. M&S practicum.
Instructor(s): J. Kingsley
Area: Humanities, Social and Behavioral Sciences.

AS.389.320. Photographs on the Edge: Ara Güler in Archives of the Smithsonian's Freer and Sackler Galleries. 3 Credits.
Work as a curator alongside Smithsonian staff, researching the work of Turkish photographer Ara Güler to develop an exhibit that considers relationships between the history of photography, archives and the museum. Class will travel several times to the Freer and Sackler Galleries in Washington D.C. M&S practicum course.
Instructor(s): N. Micklewright
Area: Humanities, Social and Behavioral Sciences.

AS.389.330. Critique of the Museum in Contemporary Art. 3 Credits.
Since the 1960s, many artists have challenged art museum conventions, contesting the assumption that museums are ideologically neutral spaces of display. This institutional critique is examined in artworks, installations, literature. Cross-listed with History of Art.
Instructor(s): R. Haywood
Area: Humanities.

AS.389.340. Critical Issues in Art Conservation. 3 Credits.
The course examines recent controversies in the conservation of major global art works and sites, raising questions concerning the basic theoretical assumptions, practical methods and ethical implications of art conservation. Cross-Listed with History of Art and Anthropology
Instructor(s): S. Balachandran
Area: Humanities.
AS.389.343. Conservation of Modern and Contemporary Art. 3 Credits.
We examine how museums care for, interpret, and preserve modern and contemporary artworks that defy the traditional materials, display methods, and uses of ancient or historic art. Cross-listed with History of Art.
Area: Humanities.

AS.389.345. Introduction to Museum Practice. 3 Credits.
Taking the JHU Archaeological Museum as a case study and working closely with its holdings, we discuss the principles and practice of managing and preserving museum collections. Earns M&S Practicum credit. Cross-listed with History of Art, Anthropology, Near Eastern Studies, and Classics.
Instructor(s): S. Balachandran
Area: Humanities.

AS.389.349. Art, Museums and the Law. 3 Credits.
The course encourages students to consider how artistic processes and cultural institutions are shaped by legal principles and vice versa. The interplay between art, museums and the law will be explored from historical, cultural and legal perspectives using a variety of source material.
Instructor(s): W. Lehmann
Area: Humanities.

AS.389.350. Staging Suburbia with the Jewish Museum of Maryland-Community Based Learning. 3 Credits.
Work as a public historian alongside Jewish Museum of Maryland curators and staff, researching primary documents and artifacts to develop an exhibition about Baltimore's Jewish suburbs. The show will travel throughout Baltimore. M&S practicum course. Cross-listed with History and Jewish Studies.
Area: Humanities, Social and Behavioral Sciences.

AS.389.354. Paper Museums: Exhibiting Prints at the BMA. 3 Credits.
In this advanced seminar, students work with BMA curator to organize an exhibition about the printed series. Covers various aspects of museum work, including research, installation, programming. M&S practicum course. Cross-listed with History of Art
Instructor(s): R. Hoisington
Area: Humanities.

AS.389.355. Reading Culture in the Nineteenth-Century Library. 3 Credits.
Students reconstruct the culture of reading in nineteenth-century America through an investigation of the Peabody Library (founded 1856) as a space and collection. Meets at Peabody. M & S practicum course. Cross-listed with English
Area: Humanities Writing Intensive.

AS.389.356. Halls of Wonder: Art, Science, and Literature in the Age of the Marvelous, 1500-1800. 3 Credits.
Explore the material culture of "wonder" from the Renaissance to the Enlightenment in literature, science, and art, with Hopkins' rare book collections and the Walters Art Museum. M&S practicum course.
Instructor(s): E. Havens
Area: Humanities.

AS.389.357. Heaven on Earth: Art, Culture and Wonder in the Vatican Museum and Library. 3 Credits.
This interdisciplinary course will explore the institutional, cultural, artistic and architectural history of St. Peter's and the Vatican Museum and Library from Antiquity through the Renaissance, up to the present day. Class meets in the Dick Macksey Seminar Room of the Brody Learning Commons. Cross-listed with History.
Instructor(s): E. Havens
Area: Humanities.

AS.389.358. Curators, Connoisseurship, and Museum Collections. 3 Credits.
Long-time curator leads practical and theoretical discussion of curatorial work on art museum permanent collections: connoisseurship, conservation, presentation, interpretation, exhibitions, acquisitions, and provenance. Some meetings at BMA and Walters.

AS.389.359. Literary Archive. 3 Credits.
This course invites students to grapple with the theory and practice of building literary archives in 19th- and 20th-century American culture. For the final project students will work collaboratively to build a digital archive and exhibit of selected materials from the JHU rare book and manuscript collections. Meets in Special Collections. Cross-listed with English. M&S practicum course.
Area: Humanities.

AS.389.360. American Literature on Display. 3 Credits.
Focusing on late 19th and early 20th c American literature, course examines representations of "display" within different literary genres and track how display simultaneously shapes print culture and social concerns of the period. Course culminates in the creation of a student-curated digital exhibit using archival and rare book materials to contextualize the work of the journalist, poet and fiction writer Stephen Crane. M&S practicum course.
Instructor(s): G. Dean
Area: Humanities.

AS.389.361. Introduction to Material Culture: Early Views of Baltimore. 3 Credits.
Students explore early American life relating to the region and Homewood House. Primary research, object study culminate in exhibit focused on trades and crafts, training and work practices. M&S practicum course. Meets at Homewood Museum. Cross-listed with History.
Instructor(s): C. Arthur
Area: Humanities.

AS.389.362. Behind the Scenes at the Walters Art Museum: Material Migrations. 3 Credits.
Work with Walters and STSci staff to learn about the workings of a professional art museum while developing an exhibition of images from the Hubble Space Telescope. M&S practicum course.
Area: Humanities.

AS.389.363. Curating Culture at JHU's Evergreen Museum & Library: Excellence in Twentieth Century Design. 3 Credits.
In this hands-on course, students research Evergreen and develop an innovative, public exhibition or presentation. History of the house, grounds, books, artifacts are all subject to investigation. M&S practicum course. Cross-listed with History of Art.
Area: Humanities.
AS.389.366. Interpreting Warhol: An Introduction to Museum Education and Interpretation. 3 Credits.
A hybrid between art history and an introduction to museum practices, this course culminates in developing education programs for the BMA’s upcoming exhibition dedicated to Andy Warhol. M&S practicum course. Cross-listed with History of Art.
Area: Humanities.

AS.389.367. Walking with Reliquaries. 3 Credits.
Students will study medieval objects from the Walters Art Museum collection and design interpretative tools that will be used in an upcoming exhibition at the museum. The class meets at Walters, and is M&S practicum course. Cross-listed with History of Art.
Instructor(s): M. Bagnoli
Area: Humanities.

AS.389.368. Artists, Museums, and Social Purpose: Contemporary Models. 3 Credits.
How do artists working today engage with museums? Students explore these partnerships in theory and practice, proposing a local installation in collaboration with artist-instructor Peter Bruun. M&S practicum course. Cross-listed with Homewood Art Workshops; History of Art.
Instructor(s): P. Bruun
Area: Humanities.

AS.389.369. Encountering the Art of East Asia: Museum Display, Theory and Practice. 3 Credits.
Students reconsider the exhibition and interpretation of East Asian Art at the Walters Art Museum, developing a pilot installation to suggest a new permanent display. M&S Practicum Course. Class meets at the Walters Art Museum (extended time to allow for travel). Cross-listed with East Asian Studies.
Instructor(s): R. Mintz
Area: Humanities.

AS.389.370. Camera Arts: Photographing Evergreen Museum and Library. 3 Credits.
Area: Humanities.

AS.389.371. The Artist in the Museum: Making Books. 3 Credits.
Hopkins curatorial staff and photography instructor introduce the concept of books as art. Students create artist’s books inspired by campus collections for inclusion in an Evergreen exhibition. FIRST CLASS IS MANDATORY. M&S practicum course. Cross-listed with Homewood Art Workshops.
Instructor(s): J. Abbott; P. Berger
Area: Humanities.

AS.389.373. Encountering the Art of South Asia: Museum Display, Theory and Practice. 3 Credits.
Students reconsider the exhibition and interpretation of South Asian Art at the Walters Art Museum to suggest a new permanent display. Class meets at the Walters Art Museum. M&S practicum course.
Instructor(s): R. Brown; R. Mintz
Area: Humanities.

AS.389.385. Global Perspectives on the Museum. 3 Credits.
Course examines practices of collecting, display and preservation beyond the western museum tradition, focusing on how these practices reflect and construct political, historical, ethnic and nationalist narratives. Counts towards the international studies major. Cross-listed with Anthropology.
Instructor(s): E. Rodini; S. Balachandran
Area: Humanities, Social and Behavioral Sciences.

AS.389.389. Global Perspectives on the Museum. 3 Credits.
This interdisciplinary and project-driven class investigates the library as a site of experimentation and an expression of different knowledge regimes. Material includes literary treatments of the library, historical and critical readings, guest lectures, rare materials from special collections and field work.
Instructor(s): G. Dean
Area: Humanities.

AS.389.440. Who Owns Culture?. 3 Credits.
This seminar explores the complicated, often explosive concept of cultural property, including questions surrounding the ownership, preservation, and interpretation of artifacts, monuments, heritage sites, and living traditions. Cross-listed with Anthropology and History of Art.
Instructor(s): E. Rodini
Area: Humanities, Social and Behavioral Sciences.

AS.389.450. Readings in Material Culture. 3 Credits.
Objects, things, “stuff” - this seminar will pursue classic texts and emerging methodologies to explore the myriad ways materials and materiality have been theorized across disciplines. For graduate/advanced undergraduate students.
Instructor(s): E. Rodini; R. Brown
Area: Humanities.

AS.389.460. Inventing the Middle Ages from the Renaissance to Today. 3 Credits.
Investigate the history of the collection, interpretation and display of medieval art by nations, museums and private collectors. Topics range from antiquarian interest to conception of medieval sculpture as “primitive”, from the use of medieval objects in nationalistic displays and from early American museums such as the Cloisters in NY to current exhibits such as the Walters. Cross-listed with History and History of Art.
Instructor(s): J. Kingsley
Area: Humanities.

AS.389.501. Independent Study-Museums & Society. 3 Credits.
Instructor(s): E. Rodini.

AS.389.502. Independent Study- Museum and Society. 0 - 3 Credit.

AS.389.511. Museum & Society Internship. 1 Credit.
Instructor(s): E. Rodini.

AS.389.512. Museum & Society Internship. 0 - 3 Credit.
Instructor(s): J. Kingsley.

AS.389.521. Capstone in Museums and Society. 1 - 3 Credit.
The Capstone allows students to develop and carry out their own, hands-on research project in a museum, collection, archive, or other living resource. Final projects must involve some form of public presentation (exhibition, lecture, poster, web-based, etc.) and a work of self-reflection (journal, brief paper, blog, or other). Projects must be approved and overseen by a supervising faculty member and approved by the Program’s Director, in keeping with the University’s Independent Work Policy. Instructor permission required.
Instructor(s): E. Rodini
Area: Humanities.
AS.389.522. Capstone in Museum and Society. 1 - 3 Credit.
The Capstone allows students to develop and carry out their own, hands-on research project in a museum, collection, archive, or other living resource. Final projects must involve some form of public presentation (exhibition, poster, web-based, etc.) and a work of self-reflection (journal, brief paper, blog, or other). Projects must be approved and overseen by a supervising faculty member and approved by the Program’s Director, in keeping with the University’s Independent Work Policy.
Prerequisites: AS.389.201
Instructor(s): E. Rodini
Area: Humanities, Social and Behavioral Sciences.

AS.389.594. Independent Study. 0 - 3 Credit.

AS.389.599. Museum & Society Internship. 1 Credit.

AS.389.650. Readings in Material Culture.
Objects, things, "stuff"- this seminar will pursue classic texts and emerging methodologies to explore the myriad ways materials and materiality have been theorized across disciplines. For graduate/advanced undergraduate students.
Instructor(s): E. Rodini; R. Brown
Area: Humanities.

Cross Listed Courses

History of Art

AS.010.192. Move over Michelangelo: Renaissance Sculpture in Northern Italy. 3 Credits.
Michelangelo's heroic figure has dominated our conception of Renaissance sculpture, but outside of Florence & Rome, a princely aesthetic for small, intimate, tactile works dominated. We will explore the alternate paradigms for the figure and sculpture in the North, centering around Padua, Mantua, and Venice. The course is built around the collection at the Walters Art Museum, from which students will choose an object as the subject of a semester-long research project. We also take advantage of MICA to visit a bronze workshop, and will visit the Antico exhibition in NY at the Frick. Dean's Teaching Fellowship
Instructor(s): L. Blom
Area: Humanities.

AS.010.311. Japanese Print Culture and Western Collecting. 3 Credits.
The first half of this seminar will examine issues in Japanese print culture, especially the development and circulation of ukiyo-e prints, during the Edo and Meiji periods (1615-1912). Topics will include technological innovations, the role of publishers, censorship, and prints as didactic objects. The second half of the course will explore the popularity of Japanese prints in the West, including their impact on Japonisme and incorporation into Western collections Cross-list with East Asian Studies
Instructor(s): H. Snow
Area: Humanities.

AS.010.312. Surrealism. 3 Credits.
Topics include: art and the unconscious; "psychic automatism" and its implications for theories of medium, genre, and composition; objects, journals, and exhibitions. Visits to Special Collections and the BMA. Students will curate and install an exhibition of Surrealist journals from MSEL Special Collections, to open in April 2014.
Instructor(s): M. Warnock
Area: Humanities
Writing Intensive.

AS.010.334. Problems in Ancient American Art. 3 Credits.
Selected topics which may include collecting the pre-Columbian past and connoisseurship, the formation of national museums, post-Columbian appropriations. Collections study in museums. May also be used toward credit for the Archaeology major. Cross-listed with PLAS and Program in Museum and Society
Instructor(s): L. Deleonardis
Area: Humanities
Writing Intensive.

AS.010.366. Native American Art. 3 Credits.
Survey of the principle visual arts of North America (1500 BC - AD 1600). Introduction to interpretive theory and methodology. Collections study in local and regional museums. Cross-listed with Programs in Museums and Society, Archaeology, and PLAS.
Instructor(s): L. Deleonardis
Area: Humanities
Writing Intensive.

AS.010.382. The Politics of Display in South Asia. 3 Credits.
Through examining collecting, patronage, colonial exhibitions, and museums, this course examines how South Asia has been constructed in practices of display. Themes: politics of representation, spectacle, ethnography, and economies of desire related to colonialism and the rise of modernity. Cross-list with Anthropology, Museums and Society and Political Science.
Instructor(s): R. Brown
Area: Humanities
Writing Intensive.

AS.010.398. Tombs for the Living. 3 Credits.
Centering on the tomb as a unit of analysis, this course examines how death and funerary ritual reflect the cultural values of the living and are an active force in shaping them. Drawing on case studies from Mesoamerica and the Andes we consider various approaches to entombment and funerary ritual.
Instructor(s): L. Deleonardis
Area: Humanities
Writing Intensive.

AS.010.424. Collecting Roman Art: From Antiquity to Present. 3 Credits.
A survey of the most important collections of Greek and Roman sculpture, from the late-Republican age through the Middle Ages and the Renaissance, until the creation of the main museums in Europe and in the United States.
Instructor(s): P. Tucci
Area: Humanities

AS.010.634. The Politics of Visual Culture.
In-depth reading and discussion at the intersection of visual culture and the political. Issues may include photography and colonialism, national symbolism, commodification of culture, visual and ethnographic display, the national museum, repatriation, modernity and the spectacle.
**AS.010.666. Exhibiting the Other.**
Despite challenges to museum practices in the 1970s and 1980s, the approach to displaying the art and visual culture of regions and periods outside of the European and North American mainstream remains caught between scholarly theorizing and demands for the commodification of the exotic. The ongoing exclusionary logic of collecting and display practices and the shrinking budgets for museums undermine efforts to rethink and challenge longstanding institutionalized patterns. In this seminar we will assess the politics, theory, and practice of displaying what still operates as the "other", reading across art history, museum studies, politics, and anthropology. Open to senior undergraduates with permission of instructor. Cross-listed with Political Science and Programs in Museums and Society. Instructor(s): R. Brown.

**Classics**

**AS.040.119. The World of Pompeii. 3 Credits.**
This course will focus on the history and archaeology of Pompeii. Close attention will also be paid to the reception of Pompeian materials in European and American culture. Cross-listed with History of Art and the Program in Museums and Society.
Instructor(s): H. Valladares
Area: Humanities.

**AS.040.137. Freshman Seminar: Archaeology at the Crossroads: The Ancient Eastern Mediterranean through Objects in the JHU Archaeological Museum. 3 Credits.**
This seminar investigates the Eastern Mediterranean as a space of intense cultural interaction in the Late Bronze Age, exploring how people, ideas, and things not only came into contact but deeply influenced one another through maritime trade, art, politics, etc. In addition to class discussion, we will work hands-on with artifacts from the JHU Archaeological Museum, focusing on material from Cyprus.
Instructor(s): E. Anderson
Area: Humanities
Writing Intensive.

**AS.040.235. Past is Present: Cultural Heritage and Global Interactions. 3 Credits.**
The uncovering, collection and valuation of the archaeological past is deeply embroiled in global interactions - diplomatic, economic, cultural. We examine the complex role of cultural heritage through consideration of case studies and analytic approaches. Frequent visits to area museums.
Instructor(s): E. Anderson
Area: Humanities

**AS.040.360. The Archaeology of Daily Life. 3 Credits.**
Limited to juniors and seniors from Classics, History of Art, Archaeology, and Museum and Society. Others with permission of instructor only. This course will examine objects of daily life from the Greco-Roman world in the Johns Hopkins University Archaeological Museum. Students will collaborate on an online catalogue, featuring their research. Cross-listed with History of Art, Near Eastern Studies, and Museums and Society.
Instructor(s): H. Valladares
Area: Humanities.

**AS.040.368. The Authority of Ruins: Antiquarianism in Italy, 1690-1890. 3 Credits.**
(Same as 040.668) This seminar will focus on the transformation of antiquarianism in Italy after the discovery of Herculaneum and Pompeii. Students will work primarily with rare books from the collections at JHU. Cross-listed with History of Art and Museums and Society and Interdepartmental.
Area: Humanities.

**Film and Media Studies**

**AS.061.223. Special Topics: Performance Art and Video. 3 Credits.**
This course will explore the history and current state of video and performance art, two of the most important movements in contemporary art. How have they influenced each other and how have they affected mainstream media and cultural notions of art? Students will view significant works and their presentation in galleries, museums, and public spaces, and will create individual and collaborative performance pieces of their own.
Instructor(s): S. Barber
Area: Humanities.

**Anthropology**

**AS.070.103. Community Based Learning - Africa & The Museum. 3 Credits.**
An introduction to Africa, artistic creativity, collection and exhibition: as African history, as anthropology of art and objects, and as public controversy in our national institutions. Works with the Baltimore Museum of Art. Cross-listed with Africana Studies and Programs in Museums and Society.
Instructor(s): J. Guyer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**AS.070.126. Enframings: The Politics of Display. 3 Credits.**
From “cabinets of curiosities” to modern-day museums of art, cultural and natural histories, practices of collection and display are neither banal nor apolitical. In this course, we will examine the politics of display through anthropological and philosophical texts while taking advantage of Baltimore’s vibrancy as a city of museums, art, and artists through site visits.
Area: Humanities, Social and Behavioral Sciences.

**AS.070.287. Displaying Race. 3 Credits.**
Through hands-on archival and museum research, students in this class will develop a proposal for displaying a small collection of plaster busts that were cast in the late 19th century from live indigenous subjects. Readings from the class will explore the ethical, legal and political issues surrounding the public display of anthropological and historical artifacts that were collected as part of now discredited regimes of racial classification. How can displays be used to reveal the distance that separates 19th century racial thought from our modern day understandings of physical and cultural difference? How can we responsibly display likenesses that may have been collected under coercive conditions? How can such objects be used to educate people about the place of indigenous peoples in the museum? What laws and ethical conventions govern the display of such objects? In addition to regular class meetings, students will be expected to carry out archival research and interviews in local archives and museums.
Instructor(s): D. Poole
Area: Humanities, Social and Behavioral Sciences.
History

AS.100.249. Baltimore as Historical Site. 3 Credits.
The city of Baltimore will serve as a laboratory in which to study American History. We will explore the urban landscape on foot as well as through written sources.
Instructor(s): M. Ryan
Area: Humanities, Social and Behavioral Sciences.

AS.100.350. The Art of Collecting in America’s Gilded Age, 1880-1920. 3 Credits.
Course is organized as an upper division seminar for students with interest in history, art history, and museum studies, focuses on the art collections of wealthy Americans during the fabled Gilded Age, ca. 1880 - ca. 1920. Topics to be discussed include the motives, both personal and patriotic, underlying the formation of these collections, the ideas and circumstances that contributed to the creation of municipal museums such as New York City’s Metropolitan Museum of Art, and the relationship between these collections, both private and public, and America’s national identity. Cross-listed with Museums and Society
Instructor(s): R. Kagan
Area: Humanities, Social and Behavioral Sciences

AS.100.372. The Victorians. 3 Credits.
This course focuses on the politics of everyday life, consumption, intimate relations, and concepts of the self in Victorian Britain (1837-1901). Particular attention will be devoted to Victorian visual culture, including exhibitions, built environment, decorative arts and leisure culture. Other themes include popular nationalism, class cultures, feminism and body politics, Empire and racial thought. Cross-listed with WGS and Program in Museums and Society
Instructor(s): J. Walkowitz
Area: Humanities, Social and Behavioral Sciences

AS.100.470. Monuments and Memory In Asian History. 3 Credits.
Instructor(s): T. Meyer-Fong
Area: Humanities, Social and Behavioral Sciences

Near Eastern Studies

AS.130.251. Made for the Gods: Votive Egyptian Objects in the Archaeological Museum. 3 Credits.
This course investigates Egyptian votive objects made as gifts to the Gods. Students will learn about Egyptian religious practices and study groups of objects in the Archaeological Museum to learn to identify how they were produced, when, and for what functions. Physical analyses of the objects will be part of the class and facilitated by museum staff.
Instructor(s): B. Bryan
Area: Humanities.

AS.133.706. Egyptian Funerary Arts in the Archaeological Museum.
This class will aim to cover the production and choice of funerary objects for Egyptian elite tombs in several eras of antiquity: the Middle and New Kingdoms, the Third Intermediate Period, and the Late Periods. Students will work with specific objects after learning generally about them, and they will carry out analyses of materials, pigments, construction methods, and erosion and degradation effects. They will create a virtual exhibition for the Museum’s website and present their results for inclusion in the museum cataloguing project.
Instructor(s): B. Bryan; S. Balachandran
Area: Humanities.

AS.140.115. Freshman Seminar: Humans and Artifacts. 3 Credits.
Instructor(s): Y. Frumer
Area: Humanities, Social and Behavioral Sciences

AS.140.123. Johns Hopkins: The Idea of a University. 3 Credits.
Who was Ira Remsen and why is he interred in the building bearing his name? Was the School of Medicine’s best surgeon really a life-long drug addict? This freshman seminar will explore the history of our university since its founding in 1876, including its schools of medicine, public health, nursing, the Applied Physics Laboratory and SAIS. We’ll look carefully at the archives and develop a thematic class exhibit. Research and writing intensive.
Instructor(s): S. Leslie
Area: Humanities, Social and Behavioral Sciences

AS.140.215. Monuments and Memory. 3 Credits.
Why do some places, whether manmade or natural, capture and hold our imaginations? Why, and how, do we commemorate particular sites? This course will explore the construction or discovery, and the enduring significance, of selected monuments in the West, beginning with the Great Pyramid and ending with the World Trade Center. We will consider national memorials by which the West has measured itself. We will study how they were made, interpreted and represented in art, literature, popular culture, and tourism. Cross-listed with Program in Museums and Society.
Instructor(s): S. Leslie
Area: Humanities, Social and Behavioral Sciences.

AS.140.320. Modernity on Display: Technology and Ideology in the Era of World War II. 3 Credits.
Seminar focuses on ideological warfare over technological modernity at world’s fairs 1937-1942. France, United States, Japan, Germany and Italy.
Instructor(s): A. Molella; R. Kargon
Area: Humanities, Social and Behavioral Sciences.

AS.140.332. Science Moderne: Inventing a Culture for the Future. 3 Credits.
This undergraduate seminar examines the impact of new ideas of time and space and of the second Industrial Revolution (the transformations induced by science-based technologies) on art, music, dance, urban design, architecture, and social and political thought in the first half of the 20th century. Cross-listed with Program in Museums and Society.
Instructor(s): A. Molella; R. Kargon
Area: Humanities, Social and Behavioral Sciences.
AS.140.359. Museums and Globalization. 3 Credits.
Examines how museums are linked to wider national, cultural, communities, and mobilize resources to address political, economic and social concerns and questions of heritage. Jointly with Case Western Reserve University. Cross-listed with Program in Museums & Society. Instructor(s): R. Kargon
Area: Humanities, Social and Behavioral Sciences.

AS.140.372. Science on Display. 3 Credits.
History of collecting, exhibiting and interpreting science and technology, from Renaissance cabinets of curiosity to modern world’s fairs, zoos, aquariums, films and science centers. Students will present their own exhibits as dioramas, web sites, documentaries or other formats. Cross-listed with Program in Museums and Society. Instructor(s): S. Leslie
Area: Humanities, Social and Behavioral Sciences.

AS.140.657. Science on Display.
History of collecting, exhibiting and interpreting science and technology, from Renaissance cabinets of curiosity to modern world’s fairs, zoos, aquariums, films and science centers. Students will present their own exhibits as dioramas, web sites, documentaries or other formats. Cross-listed with Program in Museums and Society. Instructor(s): S. Leslie.

German Romance Languages Literatures

AS.211.330. Curating Media Artists in Residence at JHU. 3 Credits.
Curating Media Artists in Residence at JHU: students will be closely involved with JHU’s Program in Museum & Society, JHU’s Center for Advanced Media Studies (CAMS), and the Baltimore Museum of Art (curator Kristen Hileman) in efforts to research and propose new media artists in residence as well as prepare the residency for 2015. This process will include examining cutting-edge media artists whose work will be discussed both in the classroom as well as on sponsored class trips to media art exhibits in DC and NYC. Students will also assist with the CAMS media art residency of acclaimed French artist Camille Henrot in March 2014.
Instructor(s): B. Wegenstein
Area: Humanities.

Center for Africana Studies

AS.362.306. Seeing Baltimore History: Race & Community. 3 Credits.
This course will explore major topics in 20th century Baltimore history, using local newspapers and the archival collections of the Baltimore Afro American Newspaper.
Instructor(s): M. Hinderer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

Music

The Peabody Institute of The Johns Hopkins University is an internationaly acclaimed music conservatory. The Peabody campus, located at historic Mount Vernon Place, is on the university shuttle bus route between Homewood campus and the medical institutions in East Baltimore. Faculty of the Peabody Institute offer some classes on the Homewood campus that are open to all undergraduates.

Qualified Hopkins undergraduates may, for no extra charge, register for classes in music history, music theory, music education, recording techniques, and computer music offered on the Peabody campus. There are also limited opportunities to take private lessons and participate in ensembles.

Concerts

Homewood students are welcome to attend Peabody’s many concerts and are entitled to student prices for most concerts, provided they present their Hopkins ID and pick up the ticket during daytime Box Office hours, Monday through Friday, 10 a.m. to 4 p.m. Declared music minors can receive complimentary tickets to select concerts. The Box Office is in the lower level of the Grand Arcade in the Conservatory building; call 410-234-4800.

Private Lessons

Private lessons are available to students at varying levels of accomplishment on a musical instrument.

- Half-hour or hour lessons are offered for credit in the Peabody Conservatory for the intermediate to advanced musician.
- Non-credit lessons are available in the Peabody Preparatory, space permitting.

The annual registration fee will be waived for all JHU students. School of Arts and Sciences and Engineering students are eligible to receive a cross-registration discount of 25 percent for Preparatory lessons by obtaining a cross-registration form from their division each semester.

Students wishing to take advantage of this opportunity should consult the Peabody Conservatory and/or Preparatory catalogs for more information.

Auditions for lesson assignments at the intermediate or advanced level take place at the beginning of each term. Students wishing to audition should contact the Peabody Registrar’s Office, 410-234-4578, for information. Hopkins students may arrange for instrumental practice facilities through the Homewood Office of Student Activities, 410-516-8209.

Ensemble Membership

Membership in the Hopkins Symphony Orchestra, the Johns Hopkins University Band, and the Hopkins Glee Club, all of which rehearse and perform on the Homewood campus, is open to all university students. Membership in the Hopkins Symphony Orchestra is by audition on a space-available basis. Seating is limited, especially in the winds. Contact the HSO Office in Shriver Hall at 410-516-6542 for audition information, which can also be found online at http://www.jhu.edu/jhso/about/audition_info.html.

Participation in the Peabody-Hopkins Chorus and Peabody Singers is open to all university students upon completion of a satisfactory audition. Please contact Senior Ensemble Coordinator Paul Faatz at pfaatz1@peabody.jhu.edu if you wish to schedule an audition or would like additional information.

Advanced instrumentalists who wish to be considered for membership in Peabody’s large instrumental ensembles—the Peabody Symphony Orchestra, Peabody Concert Orchestra, Peabody Wind Ensemble, Peabody Camerata (contemporary music), Peabody Improvisation and Multimedia Ensemble, and Peabody Jazz Orchestra—are welcome to take part in the placement audition process which takes place each fall during the week prior to Peabody’s registration process. In order to be given an audition slot, instrumentalists must be taking private minor
lessons with a Peabody instructor, and that instructor must inform the Peabody Ensemble Office that they've evaluated the player's ability to be on par with that of the student's peers at Peabody. Occasional exceptions to this policy have been made for players of instruments which are uncommon or currently under-represented at Peabody. Due to the fact that each of the instrumental ensembles can accommodate only a certain number of players of each instrument, placement into these ensembles is made on a space-available basis, with priority given to Peabody instrumental majors for whom participation in large ensembles is a degree requirement.

Please direct any questions regarding participation in Peabody's large ensemble program to Senior Ensemble Coordinator Paul Faatz at pfaatz1@peabody.jhu.edu.

Minor in Music

The School of Arts and Sciences offers a music minor to students majoring in other fields. The minor is intended for students who have some training and background in music and wish to pursue their interest in a systematic way without getting their degree in the field. It consists of a selection of music courses, including music history, music theory, ensembles, and/or lessons at Peabody. Students must earn a grade of C- or better in all courses applied towards the minor and courses cannot be taken satisfactory/unsatisfactory.

Requirements for the Music Minor

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AS.376.231</td>
<td>Western Classical Music</td>
<td>3</td>
</tr>
<tr>
<td>AS.376.211</td>
<td>Music Theory I</td>
<td>3</td>
</tr>
<tr>
<td>AS.376.221</td>
<td>Musicianship I</td>
<td>2</td>
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<tr>
<td>AS.376.212</td>
<td>Music Theory II</td>
<td>3</td>
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<tr>
<td>AS.376.222</td>
<td>Musicianship II</td>
<td>2</td>
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<tr>
<td>One additional music theory III course:</td>
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<td>3</td>
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<tr>
<td>AS.376.214</td>
<td>Music Theory III - Formal Analysis</td>
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<tr>
<td>AS.376.215</td>
<td>Music Theory III - Twentieth Century Music</td>
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<tr>
<td>AS.376.216</td>
<td>Theory III - Counterpoint</td>
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<td>AS.376.217</td>
<td>Music Theory III - Song</td>
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<tr>
<td>AS.376.258</td>
<td>Jazz Improvisation and Theory</td>
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<tr>
<td>One music history course at any level</td>
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<td>3</td>
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<tr>
<td>One 300- or 400-level music history course</td>
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<td>3</td>
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<tr>
<td>Applied music experience (lessons/ensembles) *</td>
<td>0-2</td>
<td></td>
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<tr>
<td>Total Credits</td>
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<td>22-24</td>
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</tbody>
</table>

* Two semesters of lessons or ensembles with the approval of minor advisor.

Applied Music Experience

Since the study of music should always take place in the context of practical music making, students completing the minor in music must participate in an applied music experience for at least two semesters. Students must select an applied music experience in consultation with their advisor, who will approve the applied music experience. These experiences are not required to be for academic credit. Most students will select either private instrument lessons at Peabody or participation in an ensemble at Peabody or on the Homewood campus.

For current faculty and contact information go to http://www.peabody.jhu.edu/about/people/

Faculty

Peabody Faculty on Homewood Campus

Richard Giarusso
Department of Musicology: 19th- and 20th-century music, German song, Wagner, Mahler, English music, music appreciation.

Sharon Gail Levy
Department of Music Theory: Piano literature 1750–1950, music analysis, baroque counterpoint, music appreciation.

David Smooke
Department of Music Theory: Song Analysis, Theories of Rhythm, Popular Music.

Stephen Stone
Department of Music Theory: music theory courses. Advisor for the minor in music theory.

Andrew Talle
Department of Musicology: J.S. Bach, German music, 18th- and 19th-century music, music appreciation.

Elizabeth D. Tolbert
Department of Musicology: expressive culture and intercultural aesthetics, performance, gender, ritual, ethnomusicology, music and language.

Susan Forscher Weiss
Department of Musicology (joint appointment in Romance Languages and Literatures): medieval and Renaissance music, social history, performance practice, history of instruments.

Peabody Adjunct Faculty

Samuel Burt
Adjunct Computer Music Faculty

Faye Chiao
Adjunct Theory Faculty

John Crouch
Adjunct Theory Faculty

Travis Hardaway
Adjunct Theory Faculty

Alexander Norris
Adjunct Jazz Faculty

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

AS.376.111. Rudiments of Music Theory and Musicianship. 3 Credits.

This course introduces written and aural music fundamentals including notation, scales, intervals, chords, rhythm, meter and sight-singing. Students will compose melodies and short pieces and complete listening projects.

Instructor(s): J. Crouch; M. Rickelton.
Welcome to the world of J-rock. This course will introduce 100 of the hottest, most significant, and just plain terrific artists in Japanese rock history. We will discuss J-rock’s origins, its subgenres, and its gradual and recent enjoyment in the West. Learn to identify bands by their vocalists and musical styles. Discover the poetry of Japanese lyrics. Above all, get ready to listen to a whole lot of music!
Area: Humanities, Social and Behavioral Sciences.

AS.376.176. Music and Narrative. 3 Credits.
Although hundreds of years have been spent on the development of musical and narrative theories, only relatively recently have these theories been put in conversation with one another. How does the development of new ways of structuring stories reflect similar historical progressions in musical form? Are there ways in which we could think of authors as composers, invoking sounds to create unique and specific voices? In exploring such questions, we will look at musical selections ranging from Beethoven to Berlioz to Blues; theorists such as Benjamin, Adorno, and Peter Kivy; authors including Chekhov, Woolf, and Alice Munro. We will spend two classes discussing the art and politics of film music. Some music theory experience preferred, but not required.
Area: Humanities.

AS.376.211. Music Theory I. 3 Credits.
Introduction to basic principles of tonal music through listening, analysis and music making. Students study melody, harmony, voice leading, figured bass and dissonance treatment, and will also undertake short composition projects. Must have taken the qualifying examination or AS.376.111.
Instructor(s): J. Crouch; S. Cho.

AS.376.212. Music Theory II. 3 Credits.
This course continues the written and aural work of the previous course but focuses on chromatic harmony while continuing the study of melody, counterpoint and figured bass. To be taken with AS.376.211, Music Theory I.
Prerequisites: AS.376.211
Instructor(s): T. Hardaway.

AS.376.214. Music Theory III - Formal Analysis. 3 Credits.
An examination of the musical forms of the Common Practice Period and the logic of their structures. Forms studied will include variation, binary, rounded binary, ternary, rondo, sonata-allegro, and sonata-rondo. Recommended Course Background: AS.376.212
Instructor(s): S. Stone.

AS.376.215. Music Theory III - Twentieth Century Music. 3 Credits.
An exploration of the music and analytical tools of the twentieth century. Topics will include set analysis, serial techniques, exotic and synthetic scales, neo-tonality, and geometric proportions. Recommended Course Background: AS.376.212
Instructor(s): T. Hardaway.

AS.376.216. Theory III - Counterpoint. 3 Credits.
A study of contrapuntal music, emphasizing composition in both the sixteenth- and eighteenth-century styles as epitomized by Palestrina and Bach.
Instructor(s): S. Stone.

AS.376.217. Music Theory III - Song. 3 Credits.
An examination of text-setting and song-writing in a variety of eras and styles. Topics will include art song, lieder, jazz standards, and pop tunes.
Prerequisites: AS.376.212
Instructor(s): M. Rickelton.

AS.376.221. Musicianship I. 2 Credits.
Study in the basic skills of reading and hearing music. To be taken concurrently with AS.376.211, Music Theory I.
Instructor(s): K. Wile.

AS.376.222. Musicianship II. 2 Credits.
Further studies in the basic skills of reading and hearing music. To be taken concurrently with AS.376.212, Music Theory II.
Prerequisites: AS.376.221.

AS.376.231. Western Classical Music. 3 Credits.
A study of the musical forms of the Common Practice Period. Composers studied will include Bach, Handel, Haydn, Mozart, Beethoven, Schubert, Chopin, Brahms, Debussy, Schoenberg, and Stravinsky.
Instructor(s): K. Wile
Area: Humanities.

AS.376.233. Music History I: Antiquity to 1750. 3 Credits.
A survey of the stylistic features and social contexts of American popular music since the 1950s.
Instructor(s): D. Smooke; R. Fulton; S. Stone
Area: Humanities.

AS.376.242. Introduction to Popular Music. 3 Credits.
A survey of the stylistic features and social contexts of American popular music since the 1950s.
Instructor(s): D. Smooke; R. Fulton; S. Stone
Area: Humanities.

AS.376.250. Introduction to Computer Music. 3 Credits.
Introduction to Computer Music is an opportunity for people with no specialized training in music to explore electronic art music as a long-standing, if obscure, body of art, then to participate in creative work in the style. Participants will gain a heuristic understanding of forms of musical composition that operate outside the conventions of regular rhythm and harmony as they record and manipulate sound to sculpt it into original musical works. The lecture portion combines an historical overview of electronic music, rudiments of acoustics and musical perception, and instruction in compositional techniques and in using computers as creative musical tools. The laboratory portion, given at the Digital Media Center, serves as a workshop for creative exploration and for the completion of assigned creative projects including original works of digital sound art.
Instructor(s): S. Burt
Area: Humanities.

AS.376.252. Jazz History. 3 Credits.
A survey of the stylistic features and social contexts of American popular music since the 1950s.
Instructor(s): D. Smooke; R. Fulton; S. Stone
Area: Humanities.

AS.376.258. Jazz Improvisation and Theory. 3 Credits.
Study of the theory and practice of Jazz Improvisation. Basic knowledge of music notation skills is required.
Instructor(s): A. Norris.
AS.376.280. Creative Musical Improvisation. 3 Credits.
A musical performance class and workshop in which we will explore many different aspects of and approaches to creative musical improvisation through readings, lectures, recordings, videos, and personal experience. The emphasis will be placed on free improvisation, without pre-set song forms, chord progressions or other pre-determined structures. Most improvising will be done in small sub-groupings of anywhere from 2 to 5 students who will take turns performing short improvised pieces for the rest of the class and will be followed up with open discussions about the effectiveness of musical choices made by the participants. Ear training exercises and game pieces, such as John Zorn’s Cobra will be used to help students gain experience and build confidence improvising in this way. This course is open to any University student who plays an instrument or sings, and is interested in gaining experience with and knowledge about free improvisation.
Instructor(s): M. Formanek
Area: Humanities.

AS.376.302. History of Opera from Monteverdi to Wagner. 3 Credits.
This course will provide a historical survey of opera from its origins in the early 17th century through the late 19th century. Focusing on a specific repertoire of works and representative genres of the tradition, we will emphasize critical listening and analytical skills to demonstrate characteristic musical, dramatic, literary, and sociological aspects of the operas under examination. We will also discuss contextual issues such as libretti, staging, operatic production, the role of singers, the reception of operas.
Area: Humanities
Writing Intensive.

AS.376.303. Musical Theater from Aristophanes to Leonard Bernstein. 3 Credits.
This course examines the birth of musical theatre from Greek tragedy through the liturgical and secular plays of the middle ages and Renaissance, to the classical and romantic singspiels, operettas, and zarzuelas of the modern era, by such figures as Aristophanes, Adam de la Halle, Hildegard of Bingen, Angela Poliziano, Juan del Encina, Wolfgang Amadeus Mozart, Gilbert and Sullivan, Ernesto Lecuona, Igor Stravinsky, and Kurt Weill. These will serve as a backdrop for a closer examination of the musicals of Jerome Kern, Cole Porter, George Gershwin, Irving Berlin, Richard Rodgers, Harold Arlen, Frank Loesser, Leonard Bernstein and others. In addition to studying and placing the works of these Broadway giants into a social, political, and economic context, we will study and perform from representative musicals and attend a performance at the Lyric Theatre. Student will be expected to write a capstone project.
Instructor(s): S. Weiss
Area: Humanities
Writing Intensive.

AS.376.331. Music in Late Medieval and Early Modern Europe. 3 Credits.
In this class we will explore the repertoire, history, and current scholarship of Western European music in the period ca. 1380-1600. Topics will include compositional history, patronage, the dissemination of music, reception, performance practice, and authenticity. Class time will involve a moderate amount of lecturing, in addition to class discussion, musical analysis, and listening.
Instructor(s): Z. Saunders
Area: Humanities
Writing Intensive.

AS.376.335. Mozart's Piano Music. 3 Credits.
Instructor(s): S. Levy
Area: Humanities
Writing Intensive.

AS.376.340. Music and Literature: Thomas Mann’s Doctor Faustus. 3 Credits.
Area: Humanities
Writing Intensive.

AS.376.341. Music and Literature: 20th Century Opera. 3 Credits.
The varied repertoire of 20th-century opera offers a rewarding context for the study of the rich and complex relationship between music and text. In this course, we will study a select group of 20th -century operas and the source texts (plays, short stories, and poems) upon which they are based. We will consider the changes that occur in translating the texts from one genre to the other, along with ways in which each opera influences our understanding of the source, and vice versa. As part of this focused study, we will also gain a broader familiarity with the styles of some of the most important composers of the last century. Major works to be studied include Pelléas et Mélisande (Maeterlinck & Debussy), Wozzeck (Büchner & Berg), Peter Grimes (Crabbe & Britten), Death in Venice (Mann & Britten), and The Tempest (Shakespeare & Adès).
Instructor(s): R. Giarusso
Area: Humanities
Writing Intensive.

AS.376.343. Nineteenth-Century Piano Music: Forms and Meanings. 3 Credits.
This course will explore some of the highlights of the 19th-century piano repertoire with a focus both on the composers’ specific musical choices and the expressive effects of those choices. Works will be drawn from such diverse possibilities as the sonatas of Beethoven and Schubert, the titled and character pieces of Schumann and Liszt, and the masterworks of Chopin and Brahms. Live demonstration as well as recorded performances will be used. We will also read and consider the views of other scholars and musicians on this repertoire, all in an attempt to answer, at least in part, the question of why this music is so beloved and thought so great by so many.
Instructor(s): S. Levy
Area: Humanities
Writing Intensive.

AS.376.350. Ways of Learning Music from Aristotle to Leopold Mozart. 3 Credits.
Area: Humanities
Writing Intensive.

AS.376.351. Music and Literacy in Western Culture Before 1800. 3 Credits.
This seminar examines the history of written music in the larger context of western textual culture before the modern era, applying ideas from the fields of book history and history of literacy to the study of music. We will examine the history of notation and consider issues of orality, literacy, and education as they relate to the composition, copying, circulation, and use of written music. Issues include: the role of written music in religious and political contexts, the distinction between “popular” and “learned” culture, and the effects of textual technologies (especially printing) on the circulation of music. Students will work with rare books and manuscripts in the University’s collections to examine these issues.
Instructor(s): E. Archibald
Area: Humanities.
Instructor(s): E. Tolbert

**AS.376.371. Topics in Music Cognition I. 3 Credits.**
What underlies our aesthetic response to music? How and why are we able to identify certain sounds as music? To what extent are music and natural language similar? What is it about music that evokes such powerful emotions such as happiness and sadness? What is unique to musical creativity? Examining such questions from cognitive science, neuroscience, psychology, and philosophical perspectives, this course explores relevant research and theory in the emerging domain of music perception and cognition. Students will complete a final research paper on the topic of their choice that integrates the course material.
Instructor(s): M. Lopez-Gonzalez
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.376.372. Introduction to Music Cognition II. 3 Credits.**
Continuing from Topics in Music Cognition I, this course explores further the similarities and differences between music and language, the effects of musical training on cognitive development, and the expressive power of music, with an introduction to music and its role in film. We will read relevant research and theory on these topics from cognitive science, neuroscience, psychology, musicology, and philosophical perspectives.
Instructor(s): M. Lopez-Gonzalez
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.376.404. History of Musical Instruments. 3 Credits.**
The history, technology, and performance of Western European musical instruments, their precursors, and their non-western counterparts, addressed by experts and explored on visits to historic collections.
Area: Humanities
Writing Intensive.

**AS.376.407. Music and Evolution. 3 Credits.**
This course will examine the bi-cultural evolution of music in light of recent interdisciplinary research on the social bases of human cognitive evolution, and explore its implications for current debates in musicology, ethnomusicology, psychology of music, and human cognitive evolution.
Instructor(s): E. Tolbert
Area: Humanities
Writing Intensive.

**AS.376.415. Transnationalism and Globalization in World Music. 3 Credits.**
How has the increase in the speed and spread of people, information, symbols, capital and commodities affected the kinds of music that are created and consumed both locally and globally? How does music contribute to discourses of authenticity, difference, and global homogeneity? How do we understand the meanings of music when local, culture-bound explanations are insufficient? How has the historical development of Western ideologies of music and art contributed to current forms of hegemonic control over music such as copyright law and the transnational music business? What have been the political, musical, ideological, and financial consequences of the development of “world music”? In this course we will addresses issues such as the above, with emphasis on an ethnomusicological approach to music in its transnational and global contexts.
Instructor(s): E. Tolbert
Area: Humanities
Writing Intensive.

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**Cross Listed Courses**

**History**

**AS.100.317. Jewish Music. 3 Credits.**
What is “Jewish music,” and what roles has it played in global and Jewish cultures? This course will address these questions, considering genres and contexts of Jewish music from cantillation to klezmer and from art music to Yiddish cinema. Cross listed with Jewish Studies
Instructor(s): J. Walden
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

**German Romance Languages Literatures**

**AS.212.678. Guillaume de Machaut: exploring medieval authorship in the digital age.**

Using new websites devoted to the lyrics and music of Guillaume de Machaut, the foremost poet and composer of the 14th-century French royal court, this seminar will explore the role of music and literature during the Hundred Years War. Students will learn to use digital tools to view and analyze original illustrated musical manuscripts of Machaut’s work.
Instructor(s): T. Rose-Steel.

**AS.214.377. Gendered Voices. 3 Credits.**

The course will explore the notion of ‘voice’ in order to show how poetry, literature, philosophy, and music have been dealing with it throughout the ages. In particular, by focusing on classical figures such as the Sirens, Circe and Echo, as well as by considering the seminal discussions of the ‘voice’ in Plato and Aristotle, the course will address the gendered nature of the voice as a tool to seduce and manipulate the human mind. More specifically, the course will discuss the ways in which male and female voices embody different functions. Examples to be analyzed include texts by Dante, Petrarch, Ariosto, and Tasso. The course will also consider later rewritings of myths concerned with the voice such as Giuseppe Tomasi di Lampedusa’s The Siren and Italo Calvino’s A King Listens.
Instructor(s): Staff
Area: Humanities
Writing Intensive.

**AS.214.603. Michelangelo’s Echo: Performing Identities through Poetry and Music.**

The course aims to outline the musical reception of Michelangelo’s poems from the 16th to the 21st century. Moving from a critical introduction to Michelangelo’s Rime, the course will address Michelangelo’s own ideas on music and the few musical settings of his poems by contemporary composers. The course will turn then to the Post-Romantic renaissance of Michelangelo’s myth as the context within which the main bulk of musical settings of the artist’s poems was produced. What did composers such as Wolf, Britten, Dallapiccola, Shostakovich and Reinmann find in Michelangelo’s poetry? Through a close reading of the poems chosen by the composers, the course will explore the biographical, philosophical and socio-historical implications suggested by the different musical settings. No training in music performance or theory is required.
Instructor(s): Staff
Area: Humanities
Writing Intensive.

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**Natural Sciences Area Major**

The natural sciences area major offers students an opportunity to fashion a major according to their needs from appropriate upper-level
courses in two different areas of natural science. Students may elect to construct a program bridging biology and chemistry, chemistry and physics, or some other combination as long as the program forms a sensible, coherent whole.

The natural sciences area major can be used as preparation for a career in medicine, dentistry, or veterinary science, if the introductory courses chosen by the student include those prescribed for admission to these professional schools. Students selecting the natural sciences area major can also go on to do graduate work in natural science, though they may find that they will have to take some remedial work in graduate school if their undergraduate program does not include the courses usually required by a traditional major in a particular subject.

Requirements for a B.A. Degree

Also see Requirements of a Bachelor’s Degree (p. 24).

Requirements of the natural sciences area major are:

**Science Electives**

- At least five courses of upper level science electives at the 300- or 400-level in at most 2 departments **

- **Laboratory, research, internship, independent study, and summer courses outside JHU may not be used. Permission to count courses from more than two departments is often granted if the material involved constitutes a coherent program (for example, biochemistry courses from Biology, Biophysics and Chemistry). No more than two (2) courses and no more than six (6) credits may be taken in appropriate areas of engineering, mathematics, applied math and statistics, or (N)-coded psychology.**

- **At least 9 credits must be in the humanities and at least 9 credits must be in the social sciences.**

- **While students typically take these credits at the 100- or 200-level, 300- or 400-level H or S credits not used to fulfill the upper level humanities or social science electives may be used.**

- **These courses must be JHU courses. Summer courses outside JHU, intersession, research, internship, independent study, Bloomberg School of Public Health, Carey Business School, and the School of Education courses are not allowed.**

**Minimum GPA Standards**

Students must maintain an overall grade point average of 2.0 in their major. Satisfactory/unsatisfactory graded courses may not count towards major requirements.

**Near Eastern Studies**

The Department of Near Eastern Studies offers programs in four main areas: Egyptology, Assyriology, Northwest Semitic languages and literatures (including the Hebrew Bible), and Near Eastern Archaeology. The department approaches Near Eastern civilizations primarily through their own records, and language study is therefore an important part of the curriculum. However, many undergraduate courses require no knowledge of foreign languages and any interested student may take them.

**Facilities**

The university’s Milton S. Eisenhower Library contains an outstanding collection of books and journals in the branches of Near Eastern studies pursued by the department. The Johns Hopkins Archaeological Museum has a collection of Near Eastern antiquities, including excellent study collections of Egyptian artifacts and Palestinian pottery. The Baltimore-Washington area is especially rich in library and museum facilities. Of special interest to students of the Near East are the Walters Art Museum, the Smithsonian Institution, and the Library of Congress.

The ancient Near East is where history begins. It is where the first crops were sown, the first towns built, and where writing was first invented. The origins of Western culture are to be found in its great civilizations, from the three great monotheistic religions—Christianity, Islam, and Judaism—to everyday aspects of our life that we take for granted, such as the alphabet and marking time by hours and minutes. The Near Eastern studies major can be the focal point of a broad liberal arts education, as well as a basis for graduate study. An undergraduate major can specialize in one of the four main areas of specialization of the department - Egyptology, Assyriology, Northwest Semitic languages and literatures (including the Hebrew Bible), and Near Eastern Archaeology - or in the civilizations of the ancient Near East in general.
Near Eastern Studies Major Requirements

Also see Requirements for a Bachelor’s Degree (p. 24).

Students must earn a “C-” or higher grade in all courses used to satisfy major requirements and courses may not be taken satisfactory/unsatisfactory.

Two Introductory Courses (Select two of the following): 6
- AS.130.101 Ancient Near Eastern Civilizations
- or AS.130.126 Gods and Monsters in Ancient Egypt
- or AS.130.135 Pyramids, Temples and Tombs

Two Upper-Level Core Courses (Select two of the following): 6
- AS.130.301 History of Ancient Syria-Palestine
- or AS.130.302 History: Ancient Syria-Palestine II
- or AS.130.303 Seminar Near Eastern History: Egypt
- or AS.130.300 History Anc Mesopotamia when offered

Four 300-level courses in a focus area of art and archaeology, history and culture, or language * 12

Three Near Eastern Studies courses at any level 9


Total 36

* Students pursuing the language focus area need to select four courses from the following languages: Akkadian, Arabic, Ancient Egyptian, Biblical Hebrew, Modern Hebrew or Sumerian. These may not be 300-level.

Honors

Those seniors wishing to be considered for departmental honors may choose to write a senior thesis. A student must maintain a 3.5 GPA in the major (through the junior year) to be eligible for departmental honors. It is advisable for such students to contact a faculty member to supervise the thesis during the spring semester of their junior year. The student should then register for two semesters of independent study in the senior year.

The graduate program, the oldest of its kind in the nation, is designed to train professional scholars and teachers in the above-mentioned areas. The courses listed below may be modified in particular years to suit the needs of students currently in residence. Reading and private study under the direction of the faculty are considered as important as work in class. The seminars allow small groups of students and faculty to engage in close study of special problems. As the program is intended to lead to the Ph.D., students are admitted as candidates for the M.A. only in unusual cases.

Requirements for the Ph.D. Degree

Students working full time toward the Ph.D. may expect to do three to four years of course work, after which comprehensive examinations must be written before work on the dissertation begins. The examinations cover a student’s major and minor fields of concentration. After passing these examinations, the student, in consultation with the faculty, prepares a dissertation proposal for faculty consideration and then proceeds to write the dissertation.

An ability to read scholarly French and German is necessary, and an examination in one of these must be passed within the first semester of residence at Hopkins. The examination in the other may be delayed not more than one year. Some command of Greek and Latin is necessary to pursue biblical studies.

Financial Aid

The department awards most students admitted to the Ph.D. program who are in need of financial aid a basic annual fellowship covering full tuition and a full stipend for living expenses for up to five years. For some of this period, the department’s support may take the form of a teaching assistantship. In addition, the period of support may be extended by the various competitive awards available to advanced students within the university. When appropriate, the department will award travel stipends for graduate students to participate in archaeological excavations in the Near East or visit collections in this country and abroad.

For further information on graduate study in Near Eastern Studies, visit the departmental website at http://neareast.jhu.edu/.

For current faculty and contact information go to http://neareast.jhu.edu/directory/

Faculty

Chair
Glenn M. Schwartz
Whiting Professor of Archaeology: Near Eastern archaeology.

Professors
Betsy M. Bryan
Alexander Badawy Chair in Egyptian Art and Archaeology: Egyptian art and archaeology, Egyptology.

Marian Feldman
Ancient Near East and Eastern Mediterranean Art

Richard Jasnow
Egyptology.

Theodore J. Lewis
Blum-Iwry Professor: Hebrew Bible, Northwest Semitic philology and religion.

P. Kyle McCarter Jr.

Assistant Professors
Paul Delnero
Assyriology.

Michael Harrower
Archaeology.

Jacob Lauinger
Assyriology.

Professors Emeriti
Jerrold S. Cooper
W.W. Spence Professor Emeritus of Semitic Languages.

Hans Goedicke
Adjunct
Susan McCarter
Adjunct Assistant Professor: prehistory.
Melinda Zeder
Adjunct Professor: Near Eastern archaeology.

Lecturers
Sanchita Balachandran
Lecturer: museum studies.
Ellen Robbins
Lecturer: Hebrew Bible.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

AS.130.101. Ancient Near Eastern Civilizations. 3 Credits.
Review of important issues in ancient Near Eastern history and culture from the Neolithic era to the Persian period. Included will be an examination of the Neolithic agricultural revolution, the emergence of cities, states and writing, and formation of empires. Cultures such as Sumer and Akkad, Egypt, the Hittites, Israelites, Assyrians, Babylonians, and Persians will be discussed.
Instructor(s): G. Schwartz
Area: Humanities.

AS.130.102. From the Neanderthals to the Neolithic. 3 Credits.
Emphasizing theories about human biological and cultural development, this course consists of an in-depth survey of Neanderthal morphology and culture, a brief discussion of evolutionary theory and our fossil ancestors, and concludes with an exploration of the mechanisms and results of the shift from hunting and gathering to farming. (Course formerly known as Introduction: Human Prehistory.) Cross-listed with Anthropology.
Instructor(s): S. McCarter
Area: Humanities.

AS.130.106. Freshman Seminar: Ancient Empires. 3 Credits.
Freshman Only A case-study approach to the political, social, and cultural history of one of the ancient Near Eastern states commonly described as an “empire,” such as the Akkadian Empire, the Neo-Assyrian Empire, the Neo-Babylonian Empire, or the Achaemenid (Persian) Empire. Individual classes mix a discussion of theoretical issues relevant to the study of ancient empires with close attention to primary sources.
Instructor(s): J. Lauinger
Area: Humanities
Writing Intensive.

AS.130.107. Freshman Seminar - BIG: Monumental Buildings and Sculpture in Antiquity and Today. 3 Credits.
The building of sculpted monuments and monumental architecture seems to be a universal human trait in all parts of the world, from the pyramids of ancient Egypt to the inuksuit cairns of the Inuit. What explains our urge to create monumental things? Why are monuments built, and how do we experience them? This course explores various answers to these questions through the disciplines that most frequently address monuments: archaeology, architecture, and art history. We will examine the archaeological record through a series of famous case studies from around the world to investigate the social significance of monuments in their original ancient contexts. We will also determine whether lessons learned from the past can be applied to the study of monuments today, and whether studying modern monuments—including those from our immediate surroundings in Baltimore—can help us understand those of the past. As a writing intensive seminar, students will also be taught techniques in academic essay writing, culminating in a final paper analyzing the social significance of a monument from the past or present.
Instructor(s): J. Osborne
Area: Humanities
Writing Intensive.

AS.130.108. Freshman Seminar, Demons & Doctors: Magic and Medicine in the Ancient Near East. 3 Credits.
This course will provide an introduction to the magical and medical arts of ancient Mesopotamia and Syria-Palestine by engaging with ritual texts dealing with disease, exorcisms, sorcery, and harmful ghosts.
Instructor(s): E. Guinn-Villareal
Area: Humanities
Writing Intensive.

AS.130.110. Introduction To Archaeology. 3 Credits.
An introduction to archaeology and to archaeological method and theory, exploring how archaeologists excavate, analyze, and interpret ancient remains in order to reconstruct how ancient societies functioned. Specific examples from a variety of archaeological projects in different parts of the world will be used to illustrate techniques and principles discussed. Cross-listed with Anthropology.
Instructor(s): S. McCarter
Area: Humanities, Social and Behavioral Sciences.

AS.130.111. Freshman Seminar: Cleopatra's Egypt. 3 Credits.
Egypt in the time of Cleopatra was a fascinating mix of peoples and cultures. Jews, Greeks, and other ethnic groups lived in this unique landscape along with the native Egyptians. In this class we will consider the rich civilization and complex history of Egypt during the reign of this legendary Queen.
Instructor(s): R. Jasnow
Area: Humanities
Writing Intensive.

AS.130.114. The Archaeology of Ancient Israel. 3 Credits.
This course will explore the intersection of sexuality and power relationships in the forging of ethnic, political, and religious identities as presented in the Bible and ancient Near Eastern literature. Cross-listed with Jewish Studies.
Instructor(s): L. Wright
Area: Humanities.
AS.130.118. Ancient Israel: In Their Own Words. 3 Credits.
This course will focus on the inscriptions of ancient Israel and its neighbors from the first millennium BCE. Texts speak to us directly in ways that other nonverbal archaeological remains – such as architecture or pottery – cannot. Also, secondary sources written by later historians and commentators are similarly limited, as they are separated from original events by space, time, and cultural situation. Considering how individuals from an ancient culture articulate thoughts “in their own words” is invaluable to any meaningful reconstruction of history. Participants will learn to glean information from inscriptions, including those that are fragmentary or seemingly mundane. They will experience hands-on history writing, using primary sources in translation, though those with any knowledge of ancient languages, especially Classical Hebrew, will be able and encouraged to engage with the texts in their original vernacular. Basic knowledge of world history will be helpful though not prerequisite.
Prerequisites: AS.130.134
Instructor(s): H. Parker
Area: Humanities.

AS.130.126. Gods and Monsters in Ancient Egypt. 3 Credits.
Not open to those that have taken AS.130.326, Egyptian Religion and Mythology. The world of Ancient Egypt was populated by a vast array of gods, goddesses, and demons of an amazing variety in nature and form. In this class we will explore that world in the hope of gaining some insight into Egyptian concepts of divinity and of the relationship between humans and deities.
Prerequisites: Not open if you have taken AS.130.326
Instructor(s): R. Jasnow
Area: Humanities.

AS.130.135. Pyramids, Temples and Tombs. 3 Credits.
Introduction to the monuments and culture of Egypt from 3500 B.C. to 100 A.D. From the pyramids at Giza to Hellenistic Alexandria, this course surveys in slide illustrated lectures the remains of one of the world’s greatest early cultures.
Instructor(s): B. Bryan
Area: Humanities
Writing Intensive.

AS.130.140. Hebrew Bible / Old Testament. 3 Credits.
The Bible is arguably the most read and yet most misinterpreted book of all time, one of the most influential and yet most misapplied work of literature. The Hebrew Bible (Old Testament) is Scripture to Jews and Christians yet also a rich collection of literature w/ numerous literary genres that has been highly influential on secular Western culture. At its core, it is our most important literary source that has by and large been preserved in the Babylonian Talmud and parallel sources. After studying the basic forms and grammar we will read various texts from the Babylonian Talmud as well as karaites and geonic literature and magical bowls. We will survey some of the main corpora written in Babylonian Aramaic and open a gateway to deeper understanding of this heritage.
Instructor(s): T. Lewis
Area: Humanities.

AS.130.142. Discover Hopkins Archaeology: The Technologies of Clay. 1 Credit.
Get your hands dirty as you experience firsthand the production of ancient clay artifacts that tell the stories of history. In lab, we will work with clays of different molecular structures to determine the technological constraints under which ancient craftsmen worked.
We will also examine ancient clay artifacts in local archaeological collections. Then we will discuss how history is constructed with these artifacts.
Area: Humanities, Social and Behavioral Sciences.

AS.130.170. Diplomacy and Conflict in the Ancient Middle East. 3 Credits.
The Middle East is home to the invention of agriculture, cities, and writing. It is also in the Middle East that we find evidence of humanity’s earliest diplomatic activity in, for instance, the actual letters sent by ancient kings to one another, the treaties drawn up after their conflicts, and the inscriptions that commemorate their conquests. In this course, we examine texts such as these to explore questions such as: How do we characterize the international system of the ancient Middle East? Does this system change over the approximately two millennia for which we have documentation? Is it better to approach ancient diplomacy through present-day eyes or in the context of ancient worldviews? Is an understanding of diplomacy in the ancient Middle East relevant to our understanding of modern international relations? All texts read in translation.
Instructor(s): J. Lauinger
Area: Humanities.

AS.130.172. Introduction to Aramaic. 3 Credits.
Cross-listed with Jewish Studies Aramaic, a Semitic language attested from 1100 BCE and spoken to this day, is central to some of the core texts of Western culture such as the Hebrew Bible, the Talmuds and the New Testament. This course will focus on Babylonian Aramaic, as preserved in the Babylonian Talmud and parallel sources. After studying the basic forms and grammar we will read various texts from the Babylonian Talmud as well as karaites and geonic literature and magical bowls. We will survey some of the main corpora written in Babylonian Aramaic and open a gateway to deeper understanding of this heritage.
Instructor(s): Y. Monnickendam
Area: Humanities.

AS.130.177. World Prehistory. 3 Credits.
How and why did our nomadic hunting and gathering ancestors become farmers? What led agricultural societies to build cities, develop writing, religious institutions, wage war, and trade for exotic goods? This course surveys prehistory and ancient history from the origins of human culture to the emergence civilization. Although prehistory and ancient history yield evidence of tremendous cultural diversity this course emphasizes common elements of past human experience, culture, and culture change. These include the origins of modern humans and their adjustment to a variety of post-ice age environments, shifts from hunting and gathering to agricultural lifeways, and the initial development of the world’s earliest cities and civilizations.
Instructor(s): M. Harrower
Area: Humanities, Social and Behavioral Sciences.
AS.130.201. Cleopatra. 3 Credits.
Few individuals in history have left as lasting an impression as that of Cleopatra. In this seminar-style class we will examine both the "fact" and "fiction" associated with her eventful life (and death). All readings in translation.
Instructor(s): R. Jasnow
Area: Humanities
Writing Intensive.

AS.130.212. The Archaeology of Death, Burial and The Human Skeleton. 3 Credits.
This course will introduce students to the archaeological investigation of past human populations through their mortuary and physical human remains. To this end, major theories and methodologies will be introduced, along with pertinent case studies for discussion. Dean’s Teaching Prize Fellowship Course.
Instructor(s): C. Brinker
Area: Humanities.

AS.130.215. David and Solomon in History and Legend. 3 Credits.
TBD
Area: Humanities.

AS.130.241. Introduction to Christianity in Late Antiquity. 3 Credits.
In the first century CE, a century of crisis and change, a Jew named Jesus was born, and with him Christianity. In this course we will discuss the development of Christianity in late antiquity, its historical background and its later influences. We will survey the main texts which are the foundation of this new religion, starting from sectarian literature, through the New Testament and ending with patristic literature. Using the main Christian dogmas as test cases, we will get acquainted with the main writers and literary sources of late antiquity, and discuss some of the arguments and agreements between Jews, Christians and Pagans of the era. We will seek to reveal the different sources of Christianity, Judaism on the one hand, and Greek and Latin cultures on the other, and try to understand the processes which led the early Christians to separate themselves from their Jewish origin and become an independent religion.
Area: Humanities.

AS.130.242. Aramaic for Beginners. 3 Credits.
Aramaic, a Semitic language dating from 1100 BCE, is spoken to this day. In this period it developed various dialects, and was used in some of the core texts of the western culture such as the Bible, the Talmud and the New Testament. It is used today in various modern vernacular, spoken by Jews and Christians across the middle east. In this course we will focus on Palestinian Aramaic, as preserved in the Palestinian Talmud and the Targum. After studying the basic forms and grammar we will read various Jewish Palestinian texts, and will also refer to some verses from the New Testament and the Dead Sea scrolls.

AS.130.251. Made for the Gods: Votive Egyptian Objects in the Archaeological Museum. 3 Credits.
This course investigates Egyptian votive objects made as gifts to the Gods. Students will learn about Egyptian religious practices and study groups of objects in the Archaeological Museum to learn to identify how they were produced, when, and for what functions. Physical analyses of the objects will be part of the class and facilitated by museum staff.
Instructor(s): B. Bryan
Area: Humanities.

AS.130.252. New Kingdom Egypt: Empire and Cosmopolitanism. 3 Credits.
This class surveys the history and art of Egypt empire period when pharaoh ruled over an area reaching from the Sudan to the north of Syria. Tutankhamun, Akhenaten, and Ramesses the Great represent the period, and the class will study how Egypt’s interaction outside its borders affected the political, social, and artistic environment at home and abroad.
Instructor(s): B. Bryan
Area: Humanities.

AS.130.255. From Feast to Famine in the Ancient World. 3 Credits.
Biological life, on its most basic level, is the quest for sustenance. However, in human societies, food transcends mere sustenance to become a major actor in each society’s structure and beliefs. This dual nature of food as basic necessity and cultural touchstone makes its study of great importance to our understanding of civilization, both past and present. This class will explore the role food has played in Mesopotamian, Egyptian, Mesoamerican, and Andean cultures as evidenced in the archaeological record. Dean’s Teaching Prize Fellowship Course.
Instructor(s): A. Maskevich
Area: Humanities, Social and Behavioral Sciences.

AS.130.258. Ceramic Analysis in Archaeology. 3 Credits.
At archaeological sites following the invention of pottery roughly 10,000 BCE, ceramics are the single most frequent and ubiquitous class of artefact that archaeologists uncover. This class, which will be conducted in the Hopkins Archaeological Museum as a combination of lectures, discussions, and hands-on interactions with ancient and modern ceramics, surveys the methods and interpretive techniques that archaeologists use when studying this important category of material culture. Specific topics include manufacturing techniques, craft specialization, typology and chronology, production and exchange, scientific analyses, stylistic and functional analysis, and socio-political organization.
Instructor(s): J. Osborne
Area: Humanities.

AS.130.259. Ancient Science and Technology. 3 Credits.
A survey of scientific practices and technological innovations in the ancient world, including astronomy, medicine, law, and divination. Special attention will be devoted to the relationship between magic and science during the periods covered.
Instructor(s): P. Delnero
Area: Humanities, Social and Behavioral Sciences.

AS.130.270. Ancient Demonology. 3 Credits.
After identifying the character of demons, ghosts, and zombies in modern literature and popular culture, this class will investigate similar disruptive and threatening creatures in the literature of Ancient Egypt, Mesopotamia, Israel, and Greece, as well as early Christian traditions. By the end of the term, students will be able to address the question, “What makes an evil spirit ‘evil?’”
Instructor(s): M. Simone
Area: Humanities.

AS.130.301. History of Ancient Syria-Palestine. 3 Credits.
A survey of the history of Ancient Syria and Cannan, including Ancient Israel.
Instructor(s): P. McCarter
Area: Humanities.
AS.130.302. History: Ancient Syria-Palestine II. 3 Credits.
A survey of the history of Ancient Syria and Cannan, including ancient Israel. Taught with AS.134.661. Cross-listed with Jewish Studies.
Instructor(s): P. McCarter
Area: Humanities.

AS.130.303. Seminar Near Eastern History: Egypt. 3 Credits.
This class is one of the upper level choices for majors in Near Eastern Studies. It includes Graduate Students. Taught jointly with AS.131.600
Instructor(s): B. Bryan
Area: Humanities
Writing Intensive.

AS.130.304. Ancient Cities. 3 Credits.
This course is a survey of cities in the ancient world from Uruk, around 3000 BC until the conquest of Babylon in 539 BC. The most important cities from this period will be studied and discussed from a historical, literary, and anthropological perspective. The topics covered include (1) the archaeological and textual evidence for these cities, (2) the depiction of these cities in literary and mythological works, and (3) contemporary theoretical approaches to understanding ancient urbanism.
Instructor(s): P. Delnero
Area: Humanities.

AS.130.308. Creation: Man, the Gods, and the Cosmos in Ancient Myth. 3 Credits.
Area: Humanities.

AS.130.309. The Obelisks of Ancient Egypt. 3 Credits.
Area: Humanities.

AS.130.310. Mythology of the Ancient World. 3 Credits.
This course explores the mythology of the ancient Near East from the invention of writing in Sumer in 3000 B.C. until the conquest of Alexander the Great near the end of the first millennium B.C. Mythological texts from Mesopotamia, Egypt, Anatolia, the Levant, and the Bible will be read from a comparative perspective. Special attention is paid to the origin and development of the epic, culminating in the great Epic of Gilgamesh, but considerable time is also given to the vast mythological and historical literature, and such diverse genres as love poetry, proverbs, humorous dialogues, Omens, and legal and medical texts. All readings are in English translation.
Instructor(s): P. Delnero
Area: Humanities.

AS.130.311. Gilgamesh. 3 Credits.
An examination of the development of both the character of Gilgamesh and the composition of epic narrative in ancient Mesopotamia, beginning with the earliest Sumerian Gilgamesh stories of the third millennium B.C. The bulk of the course will consist of a close reading in English of the Akkadian Gilgamesh epic, focusing on its concerns with homosocial bonding, human sexuality, and mortality. Some attention will be paid to the influence of Gilgamesh on Greek epic, and the reception of Gilgamesh in the modern world since its recovery in the late 19th century.
Area: Humanities
Writing Intensive.

AS.130.312. Ancient Medicine. 3 Credits.
A study of medicine in the ancient Near Eastern and Aegean worlds, including an examination of the practices of medicine in these ancient societies but with primary emphasis given to ideas about health and disease. Readings are selected from primary sources in the writings of ancient Egypt, Mesopotamia, Israel, Greece, and Rome. Topics treated include the sources of our knowledge; the nature of medical practitioners, medical treatment, and surgery; beliefs about disease and the etiology of illness; concepts of contagion and ritual purity. Special attention is given to Hippocratic medicine, the synthesis of Galen, and the rise of humorism.
Instructor(s): P. McCarter
Area: Humanities.

AS.130.320. A Good Scribe & Learned Man: Wisdom & Knowledge in Ancient Egypt. 3 Credits.
Already in Antiquity, the Egyptians had a reputation for wisdom and "secret" knowledge. But what was the reality behind this reputation? Who was a "wise man" or "wise woman" in Egypt? How did they organize and teach scientific ideas and concepts? How did they compose, maintain, and transmit the "books" containing their canon of knowledge? From the abundant ethical, scientific, literary, magical, and religious writings of the Egyptians we will attempt to understand what wisdom and knowledge meant to the Ancient Egyptians.
Instructor(s): R. Jasnow
Area: Humanities.

AS.130.323. Cleopatra's Egypt: Ptolemaic-Roman Egypt. 3 Credits.
This lecture course is a survey of the history, society, and culture of Graeco-Roman Egypt. We will concentrate on Ptolemaic Egypt (ca. 332-30 B.C.), but will also devote some time to Roman Egypt, especially to the subjects of the decline of paganism and spread of Christianity in Egypt.
Instructor(s): R. Jasnow
Area: Humanities.

AS.130.328. Ancient Egypt /Africa. 3 Credits.
Recent excavation and research have shed light on several ancient cultures of the Nile and its tributaries. We will look at the available archaeological and textual (all Egyptian) evidence for these societies and their interactions with Egypt between 3500 and 300 B.C. We will also discuss research aims and methods employed now and in the past in Egypt and the Sudan.
Instructor(s): B. Bryan
Area: Humanities
Writing Intensive.

AS.130.329. Ancient Egyptian Art and Archaeology. 3 Credits.
A survey of Egyptian art as seen in the temples, tombs, funerary, and minor arts of Egypt between 3000 and 100 B.C. Slide lectures will provide a survey of art from the Pyramids to Augustus Caesar and will focus on such topics as the principles of Egyptian art; can the term art apply to early Egypt? How were artisans trained and what techniques and materials were utilized in their work? Co-listed (meets with) AS.133.750.
Instructor(s): B. Bryan
Area: Humanities
Writing Intensive.
AS.130.330. The Garden of Eden. 3 Credits.
A seminar on the history of interpretation of Genesis 2-3, with a focus on the uses of the biblical story of the Garden of Eden in Jewish, Christian, and Muslim traditions. Class attendance and participation are mandatory.
Instructor(s): E. Robbins
Area: Humanities.

AS.130.331. Sex, Drugs, and Rock & Roll in Ancient Egypt. 3 Credits.
This seminar explores the social roles of sexuality, alcohol, other drugs, music, fragrance, and sensuality in secular and religious areas of Egyptian life, largely but not exclusively during the New Kingdom, ca. 1500 to 1000 B.C. The ancient attitudes towards these elements will be explored through the ancient textual sources in translation and the artistic representations.
Instructor(s): B. Bryan
Area: Humanities
Writing Intensive.

AS.130.334. Egyptian Funerary Arts in the Archaeological Museum. 3 Credits.
This class will aim to cover the production and choice of funerary objects for Egyptian elite tombs in several eras of antiquity: the Middle and New Kingdoms, the Third Intermediate Period, and the Late Periods. Students will work with specific objects after learning generally about them, and they will carry out analyses of materials, pigments, construction methods, and erosion and degradation effects. They will create a virtual exhibition for the Museum's website and present their results for inclusion in the museum cataloging project.
Instructor(s): B. Bryan; S. Balachandran
Area: Humanities.

AS.130.336. Human Sacrifice in the Ancient Near East and Beyond. 3 Credits.
A survey of the phenomenon of human sacrifice, primarily focusing on the practice in the ancient Near East but also covering examples from other societies, both ancient and modern.
Instructor(s): H. Dewrell
Area: Humanities, Social and Behavioral Sciences.

AS.130.338. The Talmud as Read in the Middle Ages: The Sugya of Kavod HaBriot (Human Dignity). 3 Credits.
In the early Middle Ages the Talmud emerged as the defining document of official Jewish religion and culture, and remained so until the dawn of the Modern Era. Jewish scholars in many different countries, and in a wide variety of cultural contexts, developed certain ways of reading, interpreting, and applying the Talmud. In the process, they produced an immense corpus of commentary and law. This course will examine how and why the Talmud was studied in these centuries by Jews who mined it, subject by subject, for emotional, philosophical, and legal meaning.
Instructor(s): D. Katz
Area: Humanities.

AS.130.340. History Religion/Israel. 3 Credits.
A study of the origins of ancient Israelite religion, its emergence from and continuities with ancient West Semitic religion and culture. Students will be exposed to comparative and historical approaches for reconstructing this time period including the utilization of new sources of knowledge (e.g., Syro-Palestinian archaeology and epigraphy; neighboring ancient Near Eastern religions).
Instructor(s): T. Lewis
Area: Humanities, Social and Behavioral Sciences.

AS.130.341. Traditionalism vs. Orthodoxy in the Modern Era: The Case of Judaism. 3 Credits.
During the Modern Era in European history, the Traditionalist Jewish civilization of Europe that had evolved over many centuries went into deep crisis. The new political, social, and intellectual realities which characterized Modernity seriously challenged, overwhelmed, and indeed threatened to destroy the Jewish Traditionalist culture and society. In response, different Traditionalist thinkers and communities evolved a number of strategies for surviving in a modern environment, strategies that unexpectedly transformed Traditionalism into something different, which came to be called Orthodox Judaism. This course explores this process of transformation, which has had an important impact on Jewish life in the modern and post-modern eras. Cross-listed with Jewish Studies.
Instructor(s): D. Katz
Area: Humanities.

AS.130.343. Dead Sea Scrolls-English. 3 Credits.
A survey of the manuscripts found at Qumran and other sites near the Dead Sea.
Instructor(s): P. McCarter
Area: Humanities.

AS.130.346. Introduction to the History of Rabbinic Literature. 3 Credits.
Area: Humanities.

AS.130.348. Religious Law Wrestles With Change: The Case of Judaism. 3 Credits.
Description: "How does a religious system which defines its ancient laws as God-given and unchangeable apply them to radically different and changing social, political and intellectual situations? This course explores the literature of "Questions and Answers"(She’elot u-Teshuvot), the Jewish legal responsa which have struggled to match Jewish religious law to modern life for fifteen centuries. A sweeping survey of Jewish history as revealed by one of its most impenetrable yet fascinating sources. Cross-listed with Jewish Studies.
Instructor(s): D. Katz
Area: Humanities.

AS.130.350. Issues in Near Eastern Archaeology. 3 Credits.
Selected problems are reviewed within a time span ranging from the Neolithic to the Hellenistic period. The focus is on the reasons for societal change (and societal stasis), with particular reference to transformations in social organization, economy, and ideology.
Area: Humanities, Social and Behavioral Sciences.

AS.130.351. The Emergence of Civilization: A Cross-Cultural Examination. 3 Credits.
A comparative study of the origins of urban, literate civilizations in five culture areas: Mesopotamia, China, the Indus Valley, Egypt, and Mesoamerica. For each area, we will review the physical setting, the archaeological and textual evidence for the development of states and urban civilization, and theories advanced to explain the rise (and eventual collapse) of these complex societies.
Instructor(s): G. Schwartz
Area: Humanities, Social and Behavioral Sciences.
AS.130.352. History of Hasidism. 3 Credits.
Although it appears to be a relic of pre-modern Judaism, Hasidism is a phenomenon of the modern era of Jewish history. This course surveys the political and social history of the Hasidic movement over the course of the last three centuries. Students will also explore basic features of Hasidic culture and thought in their historical development. Cross-listed with Jewish Studies.
Instructor(s): D. Katz
Area: Humanities.

AS.130.353. Space Archaeology: An Introduction to Satellite Remote Sensing, GIS and GPS. 3 Credits.
This course introduces technologies archaeologists use to map ancient landscapes. These include Geographic Information Systems (GIS) mapping software, advanced Global Positioning System (GPS) receivers, and various types of satellite imagery. Taught together with AS.131.657.
Instructor(s): M. Harrower
Area: Humanities, Natural Sciences, Social and Behavioral Sciences.

AS.130.354. Archaeological Method and Theory. 3 Credits.
What questions do archaeologists ask about the ancient past, how do they collect relevant evidence, and how do they arrive at satisfying answers to their questions? This course will review approaches to method and theory including evolutionary archaeology, culture-historical archaeology, processualist and post-processualist archaeologies, and explores the future of archaeology as a scientific and humanistic discipline. Previous coursework in archaeology or Permission of instructor required. Meets with AS.131.654.
Instructor(s): M. Harrower
Area: Humanities, Social and Behavioral Sciences.

Introduces students to the methods of analysis involved in the study of archaeological ceramics. In addition to the history of ceramic analysis and its place in archaeology, students will be introduced to the basic skills needed for processing ceramics in an archaeological setting, and introduce them to the basic corpus of ancient East Mediterranean ceramics, from the Neolithic until the Hellenistic period, with an emphasis on assemblages from the region of Near East, Egypt, Aegean, Greece, and Rome. They will learn more technical forms of analysis aimed at identifying methods of production, and the function and use of ceramic vessels. The aim is to prepare students who intend to participate in archaeological field projects with the appropriate knowledge of the ceramics of the Eastern Mediterranean Region. Emphasis will be placed on linking analytical methods with the appropriate research questions they can address. Students will have the opportunity to work directly with existing collections at the university, and in the Walters Art Gallery.
Area: Humanities.

AS.130.357. Geographic Information Systems in Archaeology. 3 Credits.
Applications of GIS in archaeology have recently expanded dramatically and GIS has now become an indispensable tool for archaeological research worldwide. This course will introduce the major applications of Geographic Information Systems (GIS) in archaeology. These include the history of GIS in archaeology, air photography and satellite imagery, predictive modeling, hydrological modeling, viewsheds, and least-cost routes. It will grapple with theoretical issues manifest in archaeological GIS including conflicts between environment and social understandings of the ancient past, and will foster discussion of issues that affect outcomes of analyses including spatial scale and boundary delineation choices that can dramatically influence results. Students will learn the basics of ESRI’s ArcGIS software. Taught with AS.131.657.
Instructor(s): M. Harrower
Area: Humanities, Natural Sciences.

AS.130.359. Reading the Talmud in the Post-Talmudic Era. 3 Credits.
Instructor(s): D. Katz
Area: Humanities.

AS.130.361. The Politics of Sexuality in the Bible and the Ancient Near East. 3 Credits.
This course will explore the intersection of sexuality and power relationships in the forging of ethnic, political, and religious identities as presented in the Bible and ancient Near Eastern literature. Taught with AS.130.364.
Instructor(s): E. Fleming
Area: Humanities.

AS.130.364. Archaeology of Arabia. 3 Credits.
This course examines the archaeology of the Arabian Peninsula from the earliest Paleolithic in the region (c. 1.5 million years ago) through the first few centuries of the Islamic era (c. 1000 AD). We will review basic geology and environmental conditions, examine the development of animal herding and crop cultivating lifeways, and scrutinize the rise of ancient South Arabian complex societies and civilizations. Co-listed with AS.131.664.
Instructor(s): M. Harrower
Area: Humanities.

AS.130.366. Reading the Talmud in Pre-modern Jewish Culture. Attempting to Cope With Abusive Husbands: Annulment of Marriage in the Literature of Post Talmudic Rabbinic Judaism. 3 Credits.
The evolution of Talmudic thinking resulted in laws which made marriage too easy, divorce too difficult. This generated centuries of attempts to grapple with the consequences of this conundrum in real-life situations. This course analyzes the literature produced by these attempts. Students will read texts in original Hebrew.
Instructor(s): D. Katz
Area: Humanities.
AS.130.367. Jerusalem: The Holy City in History and Archaeology. 3 Credits.
Jerusalem has a global significance utterly disproportionate to its size or wealth, and it has been this way since the days when the city was first settled. On the one hand, this is due to Jerusalem's role as a sacred space for all three of the world's largest monotheistic religions: Christianity, Islam, and Judaism. On the other, Jerusalem has long been the fulcrum of geopolitical struggles in the Middle East and beyond. This lecture course explores Jerusalem's political, cultural, and religious trajectory over the past three millennia through the lens of the city's amazingly rich historical and archaeological records. In so doing, we unravel the mythical and historical threads that combine to create the powerful symbolic resonance of Jerusalem today, discovering en route that, when it comes to Jerusalem, identifying what is "myth" and what is "history" is a complex and contested undertaking.
Instructor(s): J. Osborne
Area: Humanities.

AS.130.368. Nomads, Tyrants and Kings: Water in the Ancient Near East. 3 Credits.
This course explores economic and social histories of water in the ancient Near East. It examines water's diverse roles in ancient Mesopotamian, Egyptian, Levantine and South Arabian agriculture, politics, ritual and religion, including water's interconnected significance in Judaism, Christianity, and Islam. Taught jointly with AS.131.615.
Instructor(s): M. Harrower
Area: Humanities.

AS.130.370. Ritual and Magic in Ancient Egypt. 3 Credits.
This course will serve to introduce students to the study of religion, ritual, and magic through the lens of a specific culture: ancient Egypt. Throughout the course students will be introduced to ancient Egyptian culture and will interact with Egyptian texts and artifacts, including those found in the collections of The Johns Hopkins Archaeological Museum, in order to illustrate key concepts. Dean’s Teaching Fellowship course.
Instructor(s): M. Fraser
Area: Humanities.

AS.130.371. Ritual and Magic in Ancient Egypt. 3 Credits.
A survey of the prophetic literature of the Hebrew Bible (Old Testament) as it is understood in its ancient Near Eastern cultural and historical context. Freshmen admitted with permission.
Area: Humanities.

AS.130.372. Prophetic Lit-Hebrew Bib. 3 Credits.
From thundering voices of social justice to apocalyptic visionaries, biblical prophets have been revered by Jews, Christians and Muslims for thousands of years. They have inspired civic leaders such as Martin Luther King Jr. yet also provided fodder for modern charlatans promising a utopian future. Yet who were these individuals (orators? politicians? diviners? poets?) and what was the full range of their message as set against the Realpolitik world of ancient Israel, Iraq, Egypt, Syria and Jordan?
Instructor(s): T. Lewis
Area: Humanities.

AS.130.374. The Archaeology of Imaginary, Entangled, Hybrid Globalizations. 3 Credits.
In this course students will read and examine two recent books, Michael Shanks’ (2012) “The Archaeological Imagination”, Ian Hodder’s (2012) “Entangled: An Archaeology of the Relationships between Humans and Things” and critically compare them with readings on archaeologies of world systems, colonialism, hybridity, and globalization. In particular, we will examine how post-colonial social theory can inform and enhance understandings of ancient past and how it might interface with scientific, empirically oriented archaeological field research and history building. Course requirements will include a short weekly written response to the readings - no exams or term paper will be required.
(Taught jointly with AS.131.674)
Instructor(s): M. Harrower
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.130.400. Introduction to Middle Egyptian. 3 Credits.
Introduction to the grammar and writing system of the classical language of the Egyptian Middle Kingdom (ca. 2055-1650 B.C.). In the second semester, literary texts and royal inscriptions will be read. Course meets with AS.133.600.
Instructor(s): K. Davis
Area: Humanities.

AS.130.401. Introduction To Middle Egyptian. 3 Credits.
Introduction to the grammar and writing system of the classical language of the Egyptian Middle Kingdom (ca. 2011-1700 B.C.). Co-listed with AS.133.601.
Instructor(s): K. Davis
Area: Humanities.

AS.130.402. Intermediate Middle Egyptian. 3 Credits.
Second year reading course in Middle Egyptian. In this course we will read a variety of Middle Egyptian hieroglyphic compositions and documents. Knowledge of Middle Egyptian required.
Instructor(s): A. Arico; M. Fraser.

In this writing intensive seminar, we will explore how the Ancient Egyptians engaged with their own past and how they understood “history.” AS.130.420 is required of NES Majors, who usually will take it in their senior year. This seminar will also be open to non-majors who have taken at least one 100-level Near Eastern Civilization course and one 300-level Near Eastern Civilization course.
Instructor(s): B. Bryan; R. Jasnow
Area: Humanities
Writing Intensive.

AS.130.436. Seminar on Amarna Art and History. 3 Credits.
This course will tackle several topics relating to the reigns of Akhenaten through Tutankhamun, combining historical and art/archaeological methodologies. The seminar will be taught at a graduate level but will accept undergraduate majors with the instructor’s permission. Background knowledge of ancient Egypt is required. A separate section will meet in addition to read primary sources in original language. Topics will include the nature of the Aten and Amarna monotheism; foreign policy in the period; extent of Akhenaten’s control and his administration, etc.; the DNA evidence and its evaluation.
Prerequisites: EN.600.107
Instructor(s): B. Bryan
Writing Intensive.
AS.130.440. Elementary Biblical Hebrew. 3 Credits.
Introduction to the grammar, vocabulary, and writing system of biblical Hebrew.
Instructor(s): W. Reed
Area: Humanities.

AS.130.441. Elementary Biblical Hebrew. 3 Credits.
Survey of grammar and reading of simple texts. (Credit given only on completion of AS.130.440 and AS.130.441). May not be taken on a satisfactory/unsatisfactory basis.
Instructor(s): M. Simone
Area: Humanities.

A three-year history cycle required of all graduate students and forming the core of our graduate program. One year each will be devoted to Egyptian history, Mesopotamian history, and Syro-Palestinian history.
Instructor(s): J. Lauinger.
Area: Humanities.

AS.131.602. Readings - Hebrew Prose. 3 Credits.
Reading of biblical Hebrew prose, especially from the Pentateuch, Joshua, Judges, Samuel, and Kings. Cross-listed with Jewish Studies.
Instructor(s): E. Guinn-Villareal
Area: Humanities.

AS.131.603. Reading Of Hebrew Prose. 3 Credits.
Reading of Biblical Hebrew prose, especially from the Pentateuch, Joshua, Judges, Samuel, and Kings.
Instructor(s): E. Guinn-Villareal
Area: Humanities.

AS.130.501. Readings & Research. 3 Credits.
Instructor(s): P. Delnero; R. Jasnow; Staff.

AS.130.502. Readings & Research. 3 Credits.

AS.130.503. Independent Study. 3 Credits.
Instructor(s): G. Schwartz; R. Jasnow.

AS.130.504. Independent Study. 1 - 4 Credit.
Instructor(s): B. Bryan; G. Schwartz; P. Delnero; P. McCarter; R. Jasnow.

AS.130.505. Independent Study-Archaeology Fieldwork. 1 Credit.
Instructor(s): E. Anderson; G. Schwartz; L. Deleonardis
Area: Humanities, Social and Behavioral Sciences.

AS.130.506. Independent Study-Archaeology Fieldwork. 1 - 3 Credit.
Instructor(s): G. Schwartz
Area: Humanities, Social and Behavioral Sciences.

AS.130.510. Archaeology Major Honors Thesis I. 3 Credits.
Instructor(s): G. Schwartz; L. Deleonardis; M. Roller
Area: Humanities
Writing Intensive.

AS.130.511. Archaeology Major Honors Thesis II. 3 Credits.
Prerequisites: AS.130.510
Instructor(s): G. Schwartz; L. Deleonardis; M. Roller
Area: Humanities
Writing Intensive.

AS.130.590. Independent Study. 1 Credit.
Instructor(s): M. Harrower.

AS.131.600. Seminar Near Eastern History: Egypt.
Seminar in Near Eastern History: Egypt. Taught jointly with AS.130.303
Instructor(s): B. Bryan.

Area: Humanities, Natural Sciences.
AS.131.664. Archaeology of Arabia.
This course examines the archaeology of the Arabian Peninsula from the earliest Paleolithic in the region (c. 1.5 million years ago) through the first few centuries of the Islamic era (c. 1000 AD). We will review basic geology and environmental conditions, examine the development of animal herding and crop cultivating lifeways, and scrutinize the rise of ancient South Arabian complex societies and civilizations. Co-listed with AS.130.364.
Instructor(s): M. Harrower.

AS.131.674. The Archaeology of Imaginary, Entangled, Hybrid Globalizations.
In this course students will read and examine two recent books, Michael Shanks’ (2012) “The Archaeological Imagination”, Ian Hodder’s (2012) “Entangled: An Archaeology of the Relationships between Humans and Things” and critically compare them with readings on archaeologies of world systems, colonialism, hybridity, and globalization. In particular, we will examine how post-colonial social theory can inform and enhance understandings of ancient past and how it might interface with scientific, empirically oriented archaeological field research and history building. Course requirements will include a short weekly written response to the readings - no exams or term paper will be required.
(Taught jointly with AS.130.374)
Instructor(s): M. Harrower
Area: Humanities, Social and Behavioral Sciences.

AS.132.600. Elementary Akkadian.
An introduction to the paleography, grammar and lexicon of the Akkadian language, and the reading of simpler texts in that language. Undergraduates admitted to this course earn 4.5 credits per semester.
Instructor(s): P. Delnero.

AS.132.601. Elementary Akkadian.
An introduction to the paleography, grammar and lexicon of the Akkadian language, and the reading of simpler texts in that language. Undergraduates admitted to this course earn 4.5 credits per semester.
Instructor(s): P. Delnero.

In this course a selection of intermediate level Akkadian texts from different genres and period will be read, analyzed and discussed. To build on skills learned in Introduction to Akkadian, specific emphasis will be placed on understanding more advanced grammatical forms and learning how to critically use research tools like the Chicago Assyrian Dictionary and von Soden’s Akkadisches Handwoerterbuch.
Instructor(s): J. Lauinger
Area: Humanities.

In this course a selection of intermediate level Akkadian texts from different genres and period will be read, analyzed and discussed. To build on skills learned in Introduction to Akkadian, specific emphasis will be placed on understanding more advanced grammatical forms and learning how to critically use research tools like the Chicago Assyrian Dictionary and von Soden’s Akkadisches Handwoerterbuch.
Prerequisites: AS.132.600 OR AS.132.601
Instructor(s): J. Lauinger
Area: Humanities.

This course introduces students to letters written in the Akkadian language from a variety of historical periods. Recommended course background: AS.132.600 and AS.132.601.
Instructor(s): J. Lauinger
Area: Humanities.

Instructor(s): P. Delnero.

AS.132.640. Historical Texts.
Instructor(s): J. Lauinger.

AS.132.641. Historical Texts.

AS.132.644. Treaties And Diplomacy.
Reading treaties and related materials in Akkadian.
Instructor(s): J. Lauinger.

AS.132.650. Peripheral Akkadian.
Instructor(s): J. Lauinger.

AS.132.658. Akkadian Wisdom Literature.
This course introduces students to the group of Akkadian compositions typically described as ‘Wisdom Literature,’ such as The Babylonian Theodicy, the Poem of the Righteous Sufferer, fables, proverbs, instructions, and disputes.
Instructor(s): J. Lauinger.

Instructor(s): J. Lauinger.

AS.132.700. Elementary Sumerian.
TBD
Instructor(s): P. Delnero
Area: Humanities.

AS.132.701. Elementary Sumerian.
Instructor(s): A. Glenn; J. Bowen
Area: Humanities.

AS.132.710. Advanced Sumerian.
We will read Letter Collection B and related materials in the original cuneiform.
Instructor(s): P. Delnero.

AS.132.711. Advanced Sumerian.
In this course a selection of Sumerian texts from different periods and genres will be read and discussed from a linguistic, philological, historical, and literary perspective.
Instructor(s): P. Delnero.

AS.132.800. Mesopotamian Seminar.
Research and discussion on topics of current interest.
Instructor(s): G. Schwartz; J. Lauinger; M. Harrower; P. Delnero.

AS.132.801. Mesopotamian Seminar.
Research and discussion on topics of current interest.
Instructor(s): G. Schwartz; J. Lauinger; P. Delnero.
AS.133.320. Wisdom and Knowledge in Ancient Egypt. 3 Credits.
Already in Antiquity, the Egyptians had a reputation for wisdom and “secret” knowledge. But what was the reality behind this reputation? Who was a “wise man” or “wise woman” in Egypt? How did they organize and teach scientific ideas and concepts? How did they compose, maintain, and transmit the “books” containing their canon of knowledge? From the abundant ethical, scientific, literary, magical, and religious writings of the Egyptians we will attempt to understand what wisdom and knowledge meant to the Ancient Egyptians.
Area: Humanities.

AS.133.600. Introduction to Middle Egyptian.
Introduction to the grammar and writing system of the classical language of the Egyptian Middle Kingdom (ca. 2135-2000 B.C.). In the second semester, literary texts and royal inscriptions will be read.

AS.133.601. Introduction To Middle Egyptian (Hieroglyphs).
Introduction to the grammar and writing system of the classical language of the Egyptian Middle Kingdom (ca. 2011-1700 B.C.). Co-listed with AS.130.401
Instructor(s): K. Davis.

AS.133.610. Middle Egyptian Texts.
In this course we read a variety of Middle Egyptian hieroglyphic compositions and documents. Knowledge of Middle Egyptian Required.
Instructor(s): B. Bryan; R. Jasnow.

AS.133.611. Middle Egyptian Texts.
In this course we read a variety of Middle Egyptian hieroglyphic compositions and documents. Knowledge of Middle Egyptian Required.
Instructor(s): B. Bryan; R. Jasnow.

AS.133.614. Funerary Texts.
Advanced Middle Egyptian texts course covering Coffin Texts and the Book of the Dead, and other afterlife ritual texts.
Instructor(s): B. Bryan; R. Jasnow
Area: Humanities.

AS.133.620. Hieratic.
Instructor(s): R. Jasnow.

AS.133.630. Old Egyptian.
Instructor(s): B. Bryan.

AS.133.631. Old Egyptian.
Instructor(s): B. Bryan.

AS.133.640. Late Egyptian.
Instructor(s): R. Jasnow.

AS.133.641. Late Egyptian Texts.
An introduction to the grammar and texts of Late Egyptian.
Instructor(s): R. Jasnow
Area: Humanities.

AS.133.646. Demotic Texts.
Instructor(s): R. Jasnow.

AS.133.647. Demotic Texts.
Instructor(s): R. Jasnow.

AS.133.648. Intro To Coptic.

AS.133.649. Advanced Coptic.
In this class we will read Coptic texts of various genres.
Instructor(s): R. Jasnow.

AS.133.652. The “Chapelle Rouge” of Queen Hatshepsut at Karnak.
Despite its undeniable importance, the Red Chapel of Hatshepsut at Karnak is still not fully understood. The class will deal in detail with the following main issues: • Formal structure and dogma of the relief program. • The historical value of the coronation inscription. • The significance of the Red Chapel in the religious landscape in Karnak under Queen Hatshepsut.
Area: Humanities.

AS.133.653. Introduction to Ptolemaic Hieroglyphs.
An introduction to the grammar and hieroglyphic writing system employed in Graeco-Roman Period Egyptian temple texts.
Instructor(s): R. Jasnow
Area: Humanities.

AS.133.656. Advanced Demotic Texts.
Reading of texts of varying content in Demotic Egyptian.
Instructor(s): R. Jasnow.

AS.133.706. Egyptian Funerary Arts in the Archaeological Museum.
This class will aim to cover the production and choice of funerary objects for Egyptian elite tombs in several eras of antiquity: the Middle and New Kingdoms, the Third Intermediate Period, and the Late Periods. Students will work with specific objects after learning generally about them, and they will carry out analyses of materials, pigments, construction methods, and erosion and degradation effects. They will create a virtual exhibition for the Museum’s website and present their results for inclusion in the museum cataloguing project.
Instructor(s): B. Bryan.

AS.133.721. Egyptian Art of the Old thru Middle Kingdom.
Instructor(s): B. Bryan.

AS.133.736. Seminar on Amarna Art and History.
This course will tackle several topics relating to the reigns of Akhenaten through Tutankhamun, combining historical and art/archaeological methodologies. The seminar will be taught at a graduate level but will accept undergraduate majors with the instructor’s permission. Background knowledge of ancient Egypt is required. A separate section will meet in addition to read primary sources in original language. Topics will include the nature of the Aten and Amarna monotheism; foreign policy in the period; extent of Akhenaten’s control and his administration, etc.; the DNA evidence and its evaluation.
Instructor(s): B. Bryan.

AS.133.750. Seminar in Egyptian Art and Archaeology.
The theme for this course will be archaeology of the Mut precinct in Luxor where Johns Hopkins is excavating. Study of the comparative materials from other sites will be central with the publication of the work approaching.
Instructor(s): B. Bryan.

Instructor(s): B. Bryan.

AS.134.300. Who Wrote the Bible? The Documentary Hypothesis in Modern Research.
In the course “Who wrote the Bible? The Documentary Hypothesis in Modern Research” we will explore Wellhausen’s thesis according to which the first five books of the Bible consist of four sources: J, E, D and P. In our discussions we will focus on the historical and cultural background of the individual sources and their alleged authors.
Area: Humanities.
AS.134.602. Wisdom Literature of the Hebrew Bible.  
Area: Humanities.

AS.134.603. Graduate Seminar in Rabbinc Text.  
Readings from the Talmud, the Suga, and the Codes, in the original Hebrew and Aramaic: Emphasis on skills in reading, interpreting, and historical and cultural contextualization.  
Instructor(s): D. Katz  
Area: Humanities.

AS.134.604. The Book Of Job.  
Reading the Hebrew text of the book of Job with attention to philology, textual criticism, and various aspects of interpretation.  
Instructor(s): T. Lewis.

A rapid reading course aimed at increasing proficiency in reading the Hebrew text of the book of Ezekiel. Various aspects of translation and interpretation will be studied (e.g., grammar, textual criticism, Philology) including literary, historical, and theological questions. Cross-listed with Jewish Studies.  
Instructor(s): T. Lewis.

AS.134.610. Historic Hebrew Grammar.  
Phonology and morphology of Biblical Hebrew.  
Instructor(s): P. McCarter.

AS.134.621. Textual Criticism.  
An introduction to the ancient witnesses of the biblical text and the principles of textual criticism.  
Instructor(s): P. McCarter.

AS.134.630. Qumran (Dead Sea) Texts.  
Instructor(s): P. McCarter.

AS.134.650. Seminar in Hebrew.  
Translation and analysis of selected texts in Biblical Hebrew giving attention to advanced features of grammar and syntax. Topic: “The Book of Judges”  
Instructor(s): P. McCarter.

AS.134.652. Seminar in Ancient Israelite Religion.  
Topics include history of scholarship, methodology, representations of deity, the aniconic tradition, solar Yahwism, sacred space, blood rituals, passover, royal cult, family religion, divination, prophecy, incantations, etc.  
Instructor(s): T. Lewis.

AS.134.656. Comparative Semitics.  
Comparative and historical analysis of the Semitic languages in their Afro-Asiatic context.  
Instructor(s): P. McCarter.

AS.134.660. History of Ancient Syria/Palestine.  
A survey of the history of Ancient Syria and Cannan, including Ancient Israel.  
Instructor(s): P. McCarter.

AS.134.661. History: Ancient Syria-Palestine II.  
Instructor(s): P. McCarter.

AS.134.700. N.W. Semitic Epigraphy.  
Instructor(s): P. McCarter.

Instructor(s): P. McCarter.

AS.134.711. Alphabetic Cuneiform.  
Study of alphabetic writing in cuneiform script during the second half of the second millennium B.C.E.  
Instructor(s): P. McCarter.

AS.134.720. Ugaritic I.  
A year-long course studying Ugaritic language and literature. The first semester will focus on grammar and translating a representative selection of mythological texts. The second semester will concentrate on ritual texts. The course will also be epigraphic in nature using both conventional and digital techniques.  
Instructor(s): T. Lewis.

AS.134.721. Ugaritic II.  
A continuation of AS.134.720 with emphasis on the mythological and ritual texts from Ugarit. A digital epigraphy lab will also form part of the course.  
Instructor(s): T. Lewis.

Instructor(s): Y. Monnickendam.

AS.134.744. Survey Of Aramaic Texts.  
Instructor(s): T. Lewis  
Area: Humanities.

An advanced course in Aramaic devoted to the study of Old Aramaic inscriptions. We will be translating and analyzing a selection of texts from Northern Syria (e.g. Bar-Rakib; Hadad; Kuttabmuwa, Nerab, Panamuwa, Sefire, Zakkur), Southern Syria (e.g. Bar-Hadad/ Melqart Stela, Hazerel, Tel Dan) and Northern Mesopotamia (e.g. Tell Fakhariyah). Students will be expected to vocalize such texts as a study in historical and comparative linguistics and to clarify their understanding of the morphology and syntax.  
Instructor(s): T. Lewis  
Area: Humanities.

Cross Listed Courses

History of Art

AS.010.105. Art of the Ancient Americas. 3 Credits.  
Surveys the art of Olmec, West Mexico, Teotihuacan, Maya, and Aztec.  
Instructor(s): L. Deleonardis  
Area: Humanities.

AS.010.236. Palaces, Temples and Tombs in Mesopotamia. 3 Credits.  
Mesopotamia, the “land between the rivers,” is considered the cradle of civilization. Its earliest urban centers appeared by 3500 BCE in the region of modern-day Iraq, Iran, and Syria. Along with urbanism came the emergence of temples and palaces as large-scale elite institutions (replete with written records). Their arts manifest some of the earliest complex representations. This course explores the art and architecture within the social, political and cultural context of ancient Sumer, Babylonia and Assyria. It provides an integrated picture of the arts of Mesopotamia from 3500 to 330 BCE with an emphasis on the development of visual narrative and the use of art in the expression of authority and legitimacy.  
Instructor(s): M. Feldman  
Area: Humanities.
AS.010.301. Art and Interactions in the Eastern Mediterranean from 2000-500 BCE. 3 Credits.
The Mediterranean Sea has always acted as a connector for the many great civilizations that flourished around its shores. From 2000 to 500 BCE, these interactions were particularly dynamic, resulting in a diversity of arts including painting wall frescoes, precious jewelry, and elaborate furnishings and weaponry. This course examines the arts of the interactions among the Egyptians, Near Easterners, and Greeks, considering the role of artistic products in intercultural relations.
Instructor(s): M. Feldman
Area: Humanities.

AS.010.364. Babylon: Myth and Reality. 3 Credits.
“Babylon - the name resonates, from the Biblical whore of Revelations to sci-fi. But what do we really know about the ancient city and its civilization?”
Instructor(s): M. Feldman
Area: Humanities.

AS.010.389. The Stone and the Thread. 3 Credits.
This course examines the built environment of the Inka and considers architecture in its social, historical, and cultural contexts. Shared forms and ideas implicit in the fiber arts offer comparative points for analysis and discussion.
Instructor(s): L. Deleonardis
Area: Humanities
Writing Intensive.

AS.010.398. Tombs for the Living. 3 Credits.
Centering on the tomb as a unit of analysis, this course examines how death and funerary ritual reflect the cultural values of the living and are an active force in shaping them. Drawing on case studies from Mesoamerica and the Andes we consider various approaches to entombment and funerary ritual.
Instructor(s): L. Deleonardis
Area: Humanities
Writing Intensive.

AS.010.470. Power and Politics in Assyrian Art. 3 Credits.
Assyria, centered in northern Iraq, created one of the world’s first great empires that dominated the ancient Near Eastern world from around 900 to 612 BCE. In concert with imperial expansion came an explosion of artistic production ranging from palace wall reliefs to small-scale luxury objects. This seminar examines the close relationship between the arts and politics in the Assyrian empire. Some themes that will be explored are: historical narrative, text and image, portable luxury arts and gender, politics and religion. The course will engage in close visual analysis of the ancient materials and readings of critical scholarship.
Instructor(s): M. Feldman
Area: Humanities
Writing Intensive.

AS.010.611. Selected Topics in Near Eastern Art.
Topics will vary but will explore current art historical theories and approaches and their application and/or relevance to Near Eastern art.
Instructor(s): M. Feldman.

AS.040.137. Freshman Seminar: Archaeology at the Crossroads: The Ancient Eastern Mediterranean through Objects in the JHU Archaeological Museum. 3 Credits.
This seminar investigates the Eastern Mediterranean as a space of intense cultural interaction in the Late Bronze Age, exploring how people, ideas, and things not only came into contact but deeply influenced one another through maritime trade, art, politics, etc. In addition to class discussion, we will work hands-on with artifacts from the JHU Archaeological Museum, focusing on material from Cyprus.
Instructor(s): E. Anderson
Area: Humanities
Writing Intensive.

AS.040.360. The Archaeology of Daily Life. 3 Credits.
Limited to juniors and seniors from Classics, History of Art, Archaeology, and Museum and Society. Others with permission of instructor only. This course will examine objects of daily life from the Greco-Roman world in the Johns Hopkins University Archaeological Museum. Students will collaborate on an online catalogue, featuring their research. Cross-listed with History of Art, Near Eastern Studies, and Museums and Society.
Instructor(s): H. Valladares
Area: Humanities.

AS.040.363. Craft and Craftpersons of the Ancient World: Status, Creativity and Tradition. 3 Credits.
This course explores the dynamic work and social roles of craftpersons in early Greece, the eastern Mediterranean and Near East. Readings and discussion will query the identities and contributions of these people—travelers, captives, lauded masters, and even children—through topics including gender, class, and ethnicity. Special focus on late third-early first millennia BCE; local field trips. Cross-listed with Near Eastern Studies.
Instructor(s): E. Anderson
Area: Humanities
Writing Intensive.

AS.040.366. The Archaeology of Ancient Cyprus: Investigating a Mediterranean Island World in the JHU Museum. 3 Credits.
This course explores the visual and materials worlds of ancient Cyprus from the earliest human evidence through the Iron Age. Class involves regular analysis of artifacts based in the Archaeological Museum with History of Art, Near Eastern Studies, and Museums and Society. Others with permission of instructor only. This course will examine objects of daily life from the Greco-Roman world in the Johns Hopkins University Archaeological Museum. Students will collaborate on an online catalogue, featuring their research. Cross-listed with History of Art, Near Eastern Studies, and Museums and Society.
Instructor(s): H. Valladares
Area: Humanities
Writing Intensive.

AS.040.668. The Authority of Ruins: Antiquarianism in Italy, 1690-1890.
(Transposed from 340.068) This seminar will focus on the transformation of antiquarianism in Italy after the discovery of Herculaneum and Pompeii. Students will work primarily with rare books from the collections at JHU. Cross-listed with History of Art and Near Eastern Studies.
Area: Humanities.
Jewish Studies Program

**AS.193.301. Reading the Bible and Encountering its World. 3 Credits.**
The course examines the interactions between travel and biblical interpretation between the seventeenth and twentieth centuries, paying particular attention to the ways in which travelers to the Middle East and then scholars saw its residents as relics of an unchanging biblical world, whose practices could be used to interpret scriptural texts from both the Old and New Testaments.
Instructor(s): E. Horowitz
Area: Social and Behavioral Sciences
Writing Intensive.

Earth Planetary Sciences

**AS.270.205. Introduction to Geographic Information Systems and Geospatial Analysis. 3 Credits.**
The course provides a broad introduction to the principles and practice of Geographic Information Systems (GIS) and related tools of Geospatial Analysis. Topics will include history of GIS, GIS data structures, data acquisition and merging, database management, spatial analysis, and GIS applications. In addition, students will get hands-on experience working with GIS software.
Instructor(s): X. Chen
Area: Engineering, Natural Sciences.

Program in Museums and Society

**AS.389.205. Examining Archaeological Objects. 3 Credits.**
This course considers the role of materials in the production, study and interpretation of objects by examining artifacts from the Johns Hopkins Archaeological Museum. Students will consider materials such as ceramics, stone, metal, glass, wood and textiles, and visit artists' studios to gain an understanding of historical manufacturing processes. M&S practicum course. Cross-listed with Archaeology, Near Eastern Studies, Classics, and History of Art.
Instructor(s): S. Balachandran
Area: Humanities.

**AS.389.345. Introduction to Museum Practice. 3 Credits.**
Taking the JHU Archaeological Museum as a case study and working closely with its holdings, we discuss the principles and practice of managing and preserving museum collections. Earns M&S Practicum credit. Cross-listed with History of Art, Anthropology, Near Eastern Studies, and Classics.
Instructor(s): S. Balachandran
Area: Humanities.

Neuroscience

**Cellular and Molecular Neuroscience (CM)** focuses on the mechanisms by which information flows within and between cells in the nervous system, and the mechanisms through which the cellular structure of the nervous system develops and is maintained. Topics include the molecular basis of membrane permeability, action potentials, sensory transduction, synaptic transmission, neuronal modulation, mechanisms of drug action, and the molecular basis of genetic disorders of the nervous system.

**Systems Neuroscience (ST)** seeks to relate brain structure and functioning to behaviors and related physiological processes. Research in this area explores the description and analysis of neural circuits. This includes identifying the brain nuclei and interconnections making up a circuit, identifying and investigating the implicated neurotransmitters, and characterizing the intrinsic and extrinsic factors that modulate the development and adult functioning of the circuit. Topics as diverse as learning and memory, communication, sensory systems, and motivated behaviors (e.g., reproduction, feeding, and aggression) are explored from this perspective.

**Cognitive Neuroscience (CG)** focuses on how cognitive functions, such as vision or language, are implemented by the brain. Drawing upon a variety of techniques for probing the working brain at cognitive and neural levels, including functional neuroimaging, analysis of cognitive impairments in brain-damaged patients, and electrophysiological techniques, research in cognitive neuroscience seeks to relate mental representations and computations to brain mechanisms and processes.

Neuroscience Program Committee

The Neuroscience Program Committee coordinates course offerings, oversees the program's interdepartmental courses, reviews and updates the administration of the program, makes decisions about admission to the B.A./M.S. program, approves proposed research programs and mentors for students in the B.A./M.S. mentored research program, and evaluates the final reports and presentations from the research year.

The neuroscience major consists of two degree programs: a four-year B.A. based primarily on course work and 6 credits of research; and a five-year concurrent B.A./M.S. involving additional course work and a yearlong intensive laboratory experience. (Under special circumstances, a student may be able to complete the B.A./M.S. program in less than five years.) Both programs are designed to provide rigorous preparation for advanced study in either a Ph.D., M.D. or Ph.D./M.D. programs. The concurrent B.A./M.S. program accepts students every spring semester.

Additional information regarding the undergraduate degree and the B.A./M.S. programs is available through our website at http://krieger.jhu.edu/neuroscience. You may also contact our Program Administrator, Ms. Hope Stein, hope.stein@jhu.edu or 410-516-6196.

This curriculum is being reviewed on a regular basis. Please consult our website for the most recent updates, http://krieger.jhu.edu/neuroscience/courses/index.html.

Requirements for the B.A. Degree

Also see Requirements for a Bachelor's Degree (p. 24).

General Information

- Students are encouraged to complete an optional introductory course in their freshman year, such as AS.080.105 An Introduction
to Neuroscience, AS.050.105 Intro to Cognitive Neuropsychology, or AS.200.141 Foundations of Brain, Behavior and Cognition.

• Students interested in attending medical school will need to take a second semester of organic chemistry and its corresponding laboratory to meet medical school admission requirements; however, these courses are not major requirements.

• Students are required to select their advanced neuroscience elective courses from one of three approved focus areas: systems neuroscience, cognitive neuroscience, or cellular and molecular neuroscience. Approved courses fulfilling this requirement are found on the neuroscience website (http://krieger.jhu.edu/neuroscience/courses) or in the schedule of classes.

• To apply towards the major, all courses must be taken for a letter grade and a grade of C- or better is required.

### Neuroscience Sequence *

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AS.080.203</td>
<td>Cognitive Neuroscience (spring)</td>
<td>3</td>
</tr>
<tr>
<td>AS.080.250</td>
<td>Neuroscience Laboratory (fall/spring)</td>
<td>3</td>
</tr>
<tr>
<td>AS.080.305</td>
<td>The Nervous System I (fall)</td>
<td>3</td>
</tr>
<tr>
<td>AS.080.306</td>
<td>The Nervous System II (spring)</td>
<td>3</td>
</tr>
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</table>

### Mathematics, Statistics, and Science Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.550.211</td>
<td>Probability and Statistics for the Life Sciences (spring)</td>
<td>4</td>
</tr>
<tr>
<td>or EN.550.111</td>
<td>Statistical Analysis I &amp; Statistical Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>or EN.550.310</td>
<td>Probability &amp; Statistics for the Physical Sciences &amp; Engineering</td>
<td>3</td>
</tr>
<tr>
<td>or EN.550.311</td>
<td>Probability and Statistics for the Biological Sciences and Engineering</td>
<td>3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AS.110.106</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.108</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>AS.110.107</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.109</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.113</td>
<td>Honors Single Variable Calculus</td>
<td>4</td>
</tr>
<tr>
<td>AS.030.101</td>
<td>Introductory Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>AS.030.105</td>
<td>Introductory Chemistry Lab I</td>
<td>1</td>
</tr>
<tr>
<td>AS.030.102</td>
<td>Introductory Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; AS.030.106</td>
<td>and Introductory Chemistry Laboratory II</td>
<td>4</td>
</tr>
<tr>
<td>or AS.030.103</td>
<td>Applied Chemical Equilibrium and Reactivity w/lab</td>
<td>4</td>
</tr>
<tr>
<td>or AS.030.205</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>AS.171.101</td>
<td>General Physics:Physical Science Major I</td>
<td>4</td>
</tr>
<tr>
<td>or AS.171.103</td>
<td>General Physics I for Biological Science Majors</td>
<td>4</td>
</tr>
<tr>
<td>or AS.171.107</td>
<td>General Physics for Physical Sciences Majors (AL)</td>
<td>4</td>
</tr>
<tr>
<td>AS.173.111</td>
<td>General Physics Laboratory I</td>
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</tr>
<tr>
<td>AS.171.102</td>
<td>General Physics: Physical Science Majors II</td>
<td>4</td>
</tr>
<tr>
<td>or AS.171.104</td>
<td>General Physics/Biology Majors II</td>
<td>4</td>
</tr>
<tr>
<td>or AS.171.108</td>
<td>General Physics for Physical Science Majors (AL)</td>
<td>4</td>
</tr>
<tr>
<td>AS.173.112</td>
<td>General Physics Laboratory II</td>
<td>1</td>
</tr>
</tbody>
</table>

### One Biology Sequence (Select Option A or Option B)

**Option A:** Required of the cellular and molecular neuroscience focus 12 area, optional for the systems and cognitive focus areas

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AS.020.305</td>
<td>Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.315</td>
<td>Biochemistry Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.306</td>
<td>Cell Biology</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.316</td>
<td>Cell Biology Lab</td>
<td>3</td>
</tr>
</tbody>
</table>

**Option B:** Allowed for the systems and cognitive focus areas, not permitted for the cellular and molecular neuroscience focus area

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.020.151</td>
<td>General Biology I</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.152</td>
<td>General Biology II</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.153</td>
<td>General Biology Laboratory I</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.154</td>
<td>General Biology Lab II</td>
<td>3</td>
</tr>
</tbody>
</table>

### Advanced Neuroscience Elective Courses and Focus Area

Nine credits of 300-level or higher approved courses from one of the focus areas: systems neuroscience, cognitive neuroscience, or cellular and molecular neuroscience

Three credits of 300-level or higher approved course outside of focus area selected above

### Research **

Six credits of neuroscience research

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.080.500</td>
<td>Scientific Communication: Neuroscience</td>
<td>6</td>
</tr>
</tbody>
</table>

* These courses are normally completed during the sophomore and junior years. We recommend that students complete these courses in the sequence listed.

** Research must be conducted in one of the neuroscience laboratories participating in the program. Students must register for AS.080.500 Scientific Communication: Neuroscience concurrently with neuroscience research each time they register for research.

### Honors in the Major

To receive honors in Neuroscience, students must meet the following criteria:

• Earn a GPA of 3.5 or better in major requirements
• Conduct research and give a research presentation
• Receive a recommendation from research mentor

### Requirements for the B.A./M.S. Degree

Students who wish to apply for the B.A./M.S. Program in their junior or senior year must meet the following minimum requirements (prior to applying):

• A minimum 3.5 GPA in all required courses for the undergraduate major and cumulative GPA of 3.5,
• Completion of no fewer than three credits of undergraduate research, and,
• Completion of all courses required for the B.A. degree.

### Advanced Seminars in Neuroscience (6 credits)

The Advanced Seminar in Neuroscience is offered in the fall and spring terms.

### Final Spring Courses (12 credits)

Degree requirements include 12 credits of additional advanced course work (300-level or above). At least three credits must be at 400-level or above. Courses must be related to the study of neuroscience and ideally focused on the student’s concentration of study and area of research. Students may choose courses from the approved list of undergraduate advanced courses. (In addition, up to six additional credits of the Advanced Seminar in Neuroscience, and/or statistics courses, graduate
Courses and seminars may be taken with the approval of the program director.

**Mentored Research (24 credits)**

During the research year, students will complete a total of 24 credits of mentored research. Students must complete nine credits of research in a spring academic term, six in the summer and an additional nine in the fall.

**B.A./M.S. Commencement Project (1 credit)**

After completing the research year, students must register for a one-credit independent study course intended to track the progress and defense of the student’s final research project.

For current faculty and contact information go to http://neuroscience.jhu.edu/people.php#

**Faculty**

**Chair**
Gregory Ball  
Professor: Psychological and Brain Sciences.

**Director**
Linda Gorman  
Director of Undergraduate Studies, Teaching Professor; Psychological and Brain Sciences.

**Professors**
Susan Courtney  
Chair, Professor; Psychological and Brain Sciences

Michael McCloskey  
Cognitive Science.

Brenda Rapp  
Cognitive Science.

Eric Young  
Biomedical Engineering.

**Associate Professors**
Samer Hattar  
Associate Professor, Biology.

Haiqing Zhao  
Biology.

**Assistant Professors**
Veit Stuphorn  
Psychological and Brain Sciences, Mind/Brain Institute.

Michael Yassa  
Psychological and Brain Sciences.

**Courses**

**AS.080.105. An Introduction to Neuroscience. 3 Credits.**

Our knowledge of brain function from the level of single molecules to human behavior continues to expand at something approaching light speed. That knowledge invades our lives every day. And decisions are made based on that knowledge from every corner of life...from physician to politician and every stop in between. This course is meant to provide a fundamental understanding of how the cells and molecules as well as the regions and systems of the brain work to have you see and hear and move and remember. The course is divided into four sections that progress from the cells of the brain and spinal cord to circuits then systems and finally behaviors. Introduction to Neuroscience is designed for any college student who has an interest in the range of disciplines we call neuroscience.

Instructor(s): S. Hendry  
Area: Natural Sciences.

**AS.080.203. Cognitive Neuroscience. 3 Credits.**

This course surveys theory and research concerning how the human brain carries out mental processes. Co-listed as AS.050.203 in Cognitive Science.

Instructor(s): B. Rapp; S. Park  
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.080.250. Neuroscience Laboratory. 3 Credits.**

This course will give students the “hands-on” experience of the interdisciplinary nature of neuroscience. Students will use anatomical and neuro-physiological techniques to understand the basic underlying principles of neuroscience.

**Prerequisites:** (AS.080.305 AND AS.080.306) or Instructor’s Permission Required  
Instructor(s): J. Trageser; L. Gorman  
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.080.301. Stress and the Brain. 3 Credits.**

The purpose of this course is to explore the phenomenon of stress by investigating the neural, endocrine and molecular mechanisms involved. By reviewing both animal and human research, this course will consider disorders of the stress control system and the adverse impact of stress on human physical and mental health. Topics in this class will include, but are not limited to I) disorders such as PTSD, anxiety, major depression; II) interactions between stress and neurodegenerative disorders; III) stress-immune-inflammatory interactions; IV) the role of stress in obesity, hypertension, and other metabolic syndromes; V) stress effects on reproduction. Students will finish this course with a greater understanding for the fundamental neuroendocrine responses to stress and its consequent and/or associated adverse effects on human health.

**Prerequisites:** AS.050.203 AND AS.080.305 AND AS.080.306  
Instructor(s): F. Madison  
Area: Natural Sciences.

For current course information and registration go to https://isis.jhu.edu/classes/
AS.080.302. Applied Neuroscience & Neurotechnology. 1 Credit.
Seminar course in which applications of neuroscience and neurotechnologies are explored. The class meets once a week for an hour. Each week, an application of neuroscience or a neurotechnology will be discussed. Readings will be assigned in preparation for each class. At each meeting of the class, the readings will be discussed, and if possible there will be a demonstration of the technology or application. Each student will choose one neurotechnology or application of neuroscience and prepare a short presentation, which will be given towards the end of the semester. Topics to be covered include but are not limited to: brain recording technologies, neuroimaging, deep brain stimulation, transcranial magnetic stimulation, optogenetics, brain-computer interfaces, neuroprosthetics, neuroeconomics, neurolaw, and neuromorphic engineering. Grading is pass/fail.
Prerequisites: AS.080.305 OR AS.080.306 OR AS.200.141 OR AS.020.306
Area: Natural Sciences.

AS.080.303. Structure of the Nervous System. 3 Credits.
This course takes a structural biological approach to studying the nervous system. In using a systems approach it provides students of cellular-molecular and computational neuroscience with a thorough introduction to functional, microscopic and submicroscopic organization of the brain, spinal cord and peripheral nervous system.
Prerequisites: AS.080.305 AND AS.080.306
Instructor(s): S. Hendry
Area: Natural Sciences.

AS.080.305. The Nervous System I. 3 Credits.
The Nervous System is a fully integrated, two-semester course that surveys the cellular and molecular biology of neurons as well as the structure and function of the nervous system. Cross-listed with Biology. No Freshmen.
Prerequisites: AS.080.203 OR AS.050.203 OR AS.200.141 or 080.105 or Permission
Instructor(s): H. Zhao; S. Hendry
Area: Natural Sciences.

AS.080.306. The Nervous System II. 3 Credits.
The course uses the functional organization of the somatosensory system as a means to examine mechanisms of neural development. Generation and maturation of neurons, guidance of axons, formation of synapses and the regressive events that shape the adult nervous system will be examined. At the same time we will explore the structure and function of brain regions that allow us to feel pain and temperature, detect vibration, recognize shape and perceive where we are in space. Finally, the single-neuron events that lead to adaptive changes in function will be explored in the context of central nervous system control of movement and of higher order functions of speech and memory.
Prerequisites: Prereg: AS.080.305
Instructor(s): H. Zhao; S. Hendry
Area: Natural Sciences.

AS.080.307. Neurobiology of Addiction. 3 Credits.
Broadly defined, addiction is a chronic, relapsing brain disease. It is a compulsive, uncontrollable behavior to seek and use a substance, even in the face of negative social consequences or health consequences. But, addiction is also a condition in which an individual overindulges in just about anything that is reinforcing....from physical exercise, to video games, to food, and to sex. In this course, we will use current literature to try and understand what is currently known about the underlying neural mechanisms of this very real disorder. Recommended Course Background: AS.080.305 and AS.080.306 or AS.020.312 or AS.020.306 or AS.200.141 and AS.020.306 or permission.
Instructor(s): L. Gorman.

AS.080.308. Neuroeconomics. 3 Credits.
Every day decisions often require us to weigh the costs and benefits of engaging in a particular course of action in order to obtain some expected outcome. Unfortunately, we often lack the information necessary to obtain our desired goal with complete certainty. Economists have long been interested in understanding human decision-making under these circumstances. In parallel, neuroscientists have made great strides at describing the underlying neural basis of simple decision-making. However, despite much progress in both fields, our understanding of how the brain makes decisions is incomplete. In order to strengthen and further research in both fields, the interdisciplinary field of Neuroeconomics arose. This course will survey the field of Neuroeconomics focusing on theoretical concepts developed by economists and the role these theories are playing in guiding current experimental neuroscience. Recommended Course Background: AS.080.305 and AS.080.306 or AS.020.312 and AS.020.306 or AS.200.141 and AS.020.306 or permission.
Instructor(s): J. Trageser
Area: Natural Sciences.

AS.080.309. Frontiers in Neuroscience. 1 Credit.
Modern neuroscience has advanced enough for us to contemplate some issues we could not address before. In this course, we will examine the recent advances in neuroscience research such as neuroprosthetics, deep brain stimulation (DBS), brain computer interface (BCI), and optogenetics. We will focus on understanding the new technology and its limits, and learn how it may shape the future of science, medicine, and society. We will also explore issues related to carbon-nanotube molecular computing and the latest neuro-imaging techniques in lectures and reading original articles. Recommended Course Background: AS.080.305, AS.080.306 or AS.080.203 or permission of instructor.

AS.080.310. Synaptic Function and Plasticity. 3 Credits.
The function of the nervous system is based on synaptic transmission between neurons. Synapses are not static structures, but dynamically change with experience. Experience-dependent synaptic plasticity not only allows proper development of the nervous system in tune with the environment, but also is the basis for learning and memory. This course will cover the structure and function of synapses, and how they are altered by experience to encode information.
Prerequisites: (AS.020.305 OR AS.020.306) OR (AS.080.305 OR AS.080.306)
Instructor(s): A. Kirkwood; H. Lee
Area: Natural Sciences.
AS.080.311. Neural Control of Movement. 3 Credits.
This course will explore how neural activity controls movement. We will examine the neural basis of both reflexive as well as volitional motor control focusing on cortical and sub-cortical neural circuits. Additionally, because it is becoming increasingly evident that “motor” regions of the brain process sensory information as well, we will discuss how sensory and motor information is integrated in order to influence and coordinate appropriate action.
Prerequisites: AS.080.305 and AS.080.306 or permission of instructor.
Area: Natural Sciences.

AS.080.313. The Biology of Neural Development. 3 Credits.
Discoveries of the molecular and cellular mechanisms of nervous system development have come at a rapid pace over the past two decades. We will explore those discoveries with the use of the primary scientific literature and scientific reviews. Topics we will examine include proliferation, migration, specification, differentiation, axon pathway finding, synapse formation and regressive events. Lectures by faculty will alternate with student presentations. This course requires students to write extensively about one of the above topics and present their understanding of the material twice during the semester.
Prerequisites: 080.305 (Nervous System I) 080.306 (Nervous System II) 020.305 (Biochemistry) 020.306 (Cell Biology)
Instructor(s): S. Hendry
Area: Natural Sciences, Social and Behavioral Sciences Writing Intensive.

AS.080.317. Developmental Neurobiology: Signaling in Development and Disease. 3 Credits.
An advanced undergraduate level seminar on current topics on signal transduction mechanisms underlying neuronal morphology, development and function. The proper functioning of the nervous system relies on the establishment of precise neuronal circuits through a developmental program including proliferation, neuronal migration, axonal growth, and neuronal survival. This course pertains to the extracellular cues and downstream neuronal signaling pathways that coordinate these key events during neuronal development. The course will also cover the role of aberrant signaling mechanisms in neuronal degeneration and disease. Recommended Course Background: AS.020.305, AS.020.306, and AS.080.306
Instructor(s): R. Kuruvilla.

AS.080.318. Practicum in Language Disorders. 1 Credit.
Please see additional instructions on http://krieger.jhu.edu/ neuroscience/courses/index.html This course provides the opportunity to learn about adult aphasias; language disorders which are one of the most common consequences of stroke. You will receive training in Supportive Communication Techniques and work as a communication partner with an individual with aphasia for two hours per week. Three class meetings for orientation and reading assignments will be held on campus; training and practicum will be conducted at a local aphasia support center. Transportation required.
Prerequisites: Juniors and Seniors Only Prerequisite: An A - or above in one of the following courses: AS.080.203[C] OR AS.050.203[C] OR AS.050.105[C] OR AS.050.311[C]
Instructor(s): B. Rapp.

AS.080.319. Practicum in Language Disorders. 1 Credit.
This course provide the opportunity to learn about adult aphasias; language disorders which are one of the most common consequence of stroke. You will receive training in Supportive Communication Techniques and work as a communication partner with an individual with aphasia for two hours per week. Three class meetings for orientation and reading assignments will be held on campus; training and practicum will be conducted at a local aphasia support center. Transportation required. A valid driver’s license for zip car; use of public transportation or van certification for student van driver.
Prerequisites: 1 - JR Status 2- An A- or above in one of the following courses: 080.203 Cognitive Neuroscience, 050.203 Cognitive Neuroscience: Exploring the Living Brain,050.105 Introduction to Cognitive Neuropsychology 050.311 Written Language: Normal Processing and Disorders 3 - Minimum major GPA of 3.5
Instructor(s): B. Rapp
Area: Natural Sciences, Social and Behavioral Sciences.

AS.080.320. The Auditory System. 3 Credits.
This course will cover the neuroanatomy and neurophysiology of the human auditory system from the ear to the brain. Behavioral, electrophysiological, and neuroimaging methods for assessing peripheral and central auditory function will be discussed. Acquired and developmental disorders of auditory function will be reviewed using clinical case studies.
Prerequisites: AS.080.305 OR AS.020.312 or Instructor approval.
Instructor(s): D. Boatman
Area: Natural Sciences.

AS.080.322. Cellular and Molecular Biology of Sensation. 3 Credits.
Leading scientists in sensory biology from the Johns Hopkins community will present the most current knowledge in the cellular and molecular biology of sensation. A lecture and a student presentation of an exemplar manuscript will be presented each week on a different topic of sensory systems.
Prerequisites: AS.080.304 OR AS.080.305 OR AS.080.306 OR AS.020.306 OR AS.020.305.
Instructor(s): P. Fuchs; S. Hendry
Area: Natural Sciences.

AS.080.324. Neuroscience Journal Club. 1 Credit.
Classic Journal Club course where the students will read and discuss and review articles on differing topics depending on student interests. Open to Neuroscience and Behavioral Biology sophomores, juniors and seniors.

AS.080.325. Neuroscience Journal Club. 1 Credit.
Open to Neuroscience and Behavioral Biology Sophomores, Juniors and Seniors. Classic Journal Club course where the students will read and discuss and review articles on differing topics depending on student interests.

AS.080.327. Neuroscience Journal Club. 1 Credit.
Being able to meet with a small group and discuss some key journal articles in a particular area of Neuroscience is one of the experiences that we hope to fulfill with this course. Topics will be chosen every semester. Classes will consist of reading an assortment of journal articles; both review and primary literature. Students will take turn leading the discussions of the theoretical and practical implications of the papers.
Prerequisites: AS.080.203 AND AS.080.305 AND AS.080.306.
AS.080.329. Practicum in Language Disorders. 1 Credit.
This course provide the opportunity to learn about adult aphasias; language disorders which are one of the most common consequence of stroke. You will receive training in Supportive Communication Techniques and work as a communication partner with an individual with aphasia for two hours per week. Three class meetings for orientation and reading assignments will be held on campus; training and practicum will be conducted at a local aphasia support center. Transportation required.
Prerequisites: 1 - SR Status 2- An A- or above in one of the following courses: 080.203 Cognitive Neuroscience, 050.203 Cognitive Neuroscience: Exploring the Living Brain, 050.105 Introduction to Cognitive Neuropsychology 050.311 Written Language: Normal Processing and Disorders 3 - Minimum major GPA of 3.5
Instructor(s): B. Rapp
Area: Natural Sciences, Social and Behavioral Sciences.

AS.080.330. Brain Injury & Recovery. 3 Credits.
This course investigates numerous types of brain injuries and explores the responses of the nervous system to these injuries. The course’s primary focus is the cellular and molecular mechanisms of brain injury and the recovery of function. Discussions of traumatic brain injury, stroke, spinal cord, and tumors, using historical and recent journal articles, will facilitate students’ understanding of the current state of the brain injury field. Cross-listed with Psychological and Brain Sciences and Behavioral Biology.
Prerequisites: ( AS.080.305 AND AS.080.306) OR (AS.020.306) OR (200.141 and 020.306) OR Permission of Instructor
Instructor(s): L. Gorman
Area: Natural Sciences
Writing Intensive.

AS.080.333. Writing About the Nervous System. 3 Credits.
To write clearly and cogently about the nervous system demands two things in equal measure. One is serious understanding and the other is skill. Neither is a gift since both must be acquired. We will strive to do both in this course by taking an extant document - either a slim text on a restricted subject in neuroscience or a set of class notes - and, through revision and addition of recently published findings, substantially improve that document. Students will be required to read, write and revise extensively - at least two assignments each week.
Instructor(s): S. Hendry
Area: Natural Sciences, Social and Behavioral Sciences
Writing Intensive.

AS.080.340. Neuroplasticity. 3 Credits.
Prerequisites: ( AS.080.305 AND AS.080.306 ) OR ( AS.020.312 AND AS.020.306 ) OR ( AS.200.141 AND AS.020.306 )
Instructor(s): L. Gorman
Area: Natural Sciences
Writing Intensive.

AS.080.345. Great Discoveries in Neuroscience. 3 Credits.
This course examines the historical and intellectual context of selected, key advances in neuroscience, how they were made and the impact they had on an understanding of the nervous system. Particular attention will be paid to advances in cellular and molecular neuroscience. Among the topics covered will be the discovery of monoamine neurotransmitters and of endocannabinoids, the role of neurotrophins in neural development, and prion-based diseases of the brain.
Prerequisites: ( AS.080.305 AND AS.080.306) OR AS.020.306 OR AS.020.312 OR Permission of Instructor
Instructor(s): J. Baraban
Area: Natural Sciences.

AS.080.346. Sensorimotor Processing. 3 Credits.
Our brains evolved the capacity to sort this madness into reliable and coherent perceptual representations of not only our environment, but also our corporeal selves. Through lectures and reading discussions, this course explores how our sensory modalities work together with our movements, enabling us to perceive and interact with our environment. Topics include object and body perception, motor adaptation, and the biological bases of sensorimotor integration. This course summarizes the current understanding of these topics, synthesizing recent findings from behavioral, neurophysiological, and neuroimaging studies.
Prerequisites: AS.080.305 AND AS.080.306 or permission of instructor.
Area: Natural Sciences.

AS.080.352. Higher Brain Function. 3 Credits.
Neuroscience is approaching the time when it can offer a compelling explanation for how the brain works. This course takes advantage of work done in humans and non-human primates to survey concepts in sensory perception, motor command, and memory mechanisms. Lectures are given by faculty whose research explores these issues. Each subject is explored as a three-lecture sequence: 1) a background lecture that lays out the general principles and over-riding questions of the field; 2) an in-depth lecture that covers the most recent scientific literature; and 3) a summary lecture that brings together the major questions and their Resolution. Recommended Course Background: AS.080.305
Instructor(s): S. Hendry
Area: Natural Sciences.

AS.080.355. Visual System. 3 Credits.
From outer segments of photoreceptors to the Fusiform Face Area of the cerebral cortex we have come to understand how the visual system works at each of many fundamental levels. This course examines the basis for perception of visible objects at each of these levels. We will use the secondary literature (scientific reviews) to accent the hard-won truths about visual system functional organization and to highlight ongoing controversies. Students will be lead through carefully chosen reviews in a series of lectures and written summaries prepared by faculty. Three exams and a final exam will test students not on their memorization of minutiae but on their understanding of fundamental principles.
Prerequisites: AS.080.306 OR AS.020.306 OR Permission
Instructor(s): S. Hendry
Area: Natural Sciences.
AS.080.360. Diseases & Disorders of the Nervous System. 3 Credits.
Prerequisites: ( EN.580.421 AND EN.580.422 ) OR ( AS.020.305 AND AS.020.306 ) OR ( AS.080.305 AND AS.080.306 ) OR By Permission
Instructor(s): G. Mckhann; S. Hendry
Area: Natural Sciences.

AS.080.362. Neurobiology of Hearing. 3 Credits.
The course focuses on sound processing, including current research topics in Auditory Neuroscience, including synaptic physiology, neural circuitry, acoustics, physiology, and behavior. Course taught in Salamanca. This course fulfills upper-level Neuroscience electives. Course must be taken for a grade.
Instructor(s): L. Gorman
Area: Natural Sciences
Writing Intensive.

AS.080.364. Methods in Neuroscience and Orgo?. 3 Credits.
Who would have thought that organic chemistry would be playing a role in our understanding of the anatomy of the nervous system?! In this course, you will work in both the Organic Chemistry and Neuroscience labs to compare the new CLARITY technique, introduced by Karl Deisseroth, with another technique known as SeeDB, introduced by Takeshi Imai. Both techniques are used to make the brain “invisible” and allow subsequent staining to visually examine neuronal circuits. Students will work independently in teams to determine which technique is more amenable to use by students in the Neuroscience Lab course. Permission Required from Instructor to register.
Instructor(s): C. Falzone; E. Hill; L. D’Souza; L. Gorman
Area: Natural Sciences.

AS.080.366. Neuroscience of Pain. 3 Credits.
This course is a systems-oriented course focusing on the basic neural processing of pain signals in both the spinal cord and the brain. Class lectures will cover the anatomical and molecular basis for the transmission and perception of pain signals, basic concepts such as allodynia, hyperalgesia, peripheral and central sensitization, remodeling, the pathophysiology of chronic pain disorders and the cognitive and emotional aspects of pain. We will also discuss the regulation of pain signals by descending systems, and current practices and new advances in the treatment of pain.
Prerequisites: ( AS.080.305 AND AS.080.306 ) OR AS.020.312 OR AS.020.316 OR AS.200.141 OR INSTRUCTOR’S PERMISSION
Instructor(s): H. Adwanikar
Area: Natural Sciences, Social and Behavioral Sciences.

AS.080.370. The Cerebellum: Is it just for motor control??. 3 Credits.
The cerebellum is traditionally thought to be involved in movement and motor control, and observations of patients with cerebellar damage do in fact show motor deficits. However, since the proliferation of functional MRI, cerebellar activations have been observed in a surprising number of brain activation studies that were designed to investigate the neural correlates of cognitive function. Over the past 2 decades, an increasing number of investigators have tried to characterize the role of the cerebellum in cognitive function. Through lectures and reading discussions this course will survey cerebellar circuitry, neuroimaging and neuromodulatory methods for investigating the cerebellum, and traditional and non-traditional functions of the cerebellum, including cerebellar involvement in cognitive functions such as language, working memory, and executive control.
Prerequisites: Prereqs: AS.080.305 AND AS.080.306 AND AS.080.203 OR AS.050.203
 Instructor(s): J. Desmond
Area: Natural Sciences, Social and Behavioral Sciences.

AS.080.375. The Neural Control of Movement. 3 Credits.
Every day, our brains produce adaptable and complex movements in a constantly changing environment. These motoric abilities are so complex that they are still largely unmatched by current technology. The goal of this course is to provide an understanding of the neural mechanisms underlying movement planning and execution. We will cover the structures and systems that are responsible for feedback and motor control. These include sensory perception, reflex arcs, spinal cord organization, pattern generators, muscle function, locomotion, eye movement, and cognitive aspects of motor control. The roles of cortical motor structures and their interaction with the cerebellum, thalamus, and basal ganglia will be examined in the normally functioning brain as well as in individuals with motor disorders. In addition, we will discuss various theories of motor control using both classical and recent experimental data in order to develop your abilities to review, critique, and report on the scientific motor control literature. By the end of this course you will (1) have an understanding of how muscles and the brain work, how movements are planned and performed, and the computations required to carry out movements and (2) summarize major themes in the motor control literature and assess how new papers contribute to the larger body of work in this field.
Prerequisites: AS.080.305 AND AS.080.306
 Instructor(s): E. Emeric
Area: Social and Behavioral Sciences.

AS.080.400. Research Practicum: Language Disorders. 2 Credits.
This course provide the opportunity to learn about adult aphasias; language disorders which are one of the most common consequence of stroke. You will receive training in Supportive Communication Techniques and work as a communication partner with an individual with aphasia for two hours per week. Three class meetings for orientation and reading assignments will be held on campus; training and practicum will be conducted at a local aphasia support center.
Transportation required. A valid driver’s license for zip car; use of public transportation or van certification for student van driver.
Instructor(s): B. Rapp
Area: Natural Sciences, Social and Behavioral Sciences.
AS.080.401. Research Practicum: KEEN (Kids Enjoying Exercise Now). 1 Credit.
KEEN (Kids Enjoying Exercise Now) This is a one (1) credit S/U course, organized by the Undergraduate Neuroscience Program Committee. This course provides the opportunity to learn and interact with children who have neurological disabilities, including autism, cerebral palsy and Down syndrome in weekend exercise and recreational activities. You will receive a profile for the KEEN athlete that you will be paired with during a session. You will receive initial training and then volunteer three (3) hours per week for 3 weeks on consecutive Sundays during the first or second half of the semester. One class meeting for orientation will be held on campus; one exit meeting will be held on campus; practicum will take place at KEEN centers in Maryland. Transportation will be either a zip car (you will need a driver’s license), public transportation or JHU bus. Neuroscience and Behavioral Biology Majors ONLY.
Instructor(s): L. Gorman.

AS.080.402. Teaching Practicum: Making Neuroscience Fun (MNF). 1 Credit.
This is a one (1) credit S/U course organized by the Undergraduate Neuroscience Program Committee. Making Neuroscience Fun (MNF) is a community outreach program which brings age-appropriate interactive presentations about the brain and nervous system to Baltimore City and County elementary school students. MNF is an effort aimed at fostering appreciation for science in general, emphasizing the importance of the brain and the nervous system in everyday life, and enhancing the science curriculum in Baltimore’s City and County schools. You will receive initial training and then volunteer for 3 visits during the semester. There will be one (1) class meeting for Orientation and one (1) class for an Exit Meeting that will be held on campus; the practicum will take place at Baltimore City and County Schools. Specific days and times will be discussed at the Orientation Meeting. Students are encouraged to become ZipCar certified through the Neuroscience & Behavioral Biology Program Office by contacting Allie DiGirola.
Instructor(s): L. Gorman.

AS.080.403. Teaching Practicum: HOP Kids. 1 Credit.
This course provides the opportunity to learn and interact with children recovering from brain, spinal, and musculoskeletal injuries. You will travel to the Kennedy Krieger Institute to volunteer in the Child Life Department where you will participate in a variety of therapeutic activities including playing with the children and helping them achieve goals. Students will gain valuable clinical experience while learning patient empathy. You must attend (3) three sessions per semester either from 2-4 on Fridays, or 2-4 on the first Saturday of each month.
Instructor(s): Staff.

AS.080.411. Advanced Seminar: Neuroscience I. 3 Credits.
For students in the first semester of the BA/MS Program. Instructor permission required.
Instructor(s): J. Baraban
Area: Natural Sciences.

AS.080.412. Advanced Seminar: Neuroscience II. 3 Credits.
For students in the 2nd semester of the BA/MS Program. Permission Required.
Instructor(s): J. Baraban
Area: Natural Sciences.

AS.080.413. Advanced Seminar: Neuroscience III. 3 Credits.
For students in the 3rd semester of the BA/MS Program. Permission Required.
Instructor(s): J. Baraban
Area: Natural Sciences.

AS.080.414. Advanced Seminar: Neuroscience. 3 Credits.
For students in 4th year of the Neuroscience BA/MS Program only. Permission Required.
Instructor(s): J. Baraban
Area: Natural Sciences.

Scientific communication is crucial to advancing science. The Scientific Communication section is taken concurrently with Neuroscience Research and consists of a two hour research orientation session held at the beginning of the semester and a two hour exit session held at the end of the semester. The student is also expected to meet with their lab supervisor or attend a lab meeting once a week to understand the research the lab is currently working on and receive feedback on the work they are doing. See special notes section for specific meeting day/time.
Instructor(s): J. Trageser; L. Gorman.

AS.080.512. Independent Study. 0 - 3 Credit.
Instructor(s): G. Ball; L. Gorman.

AS.080.531. Research Neuroscience-Freshmen. 0 - 3 Credit.
Corequisites : AS.080.500 (Scientific Communication)
Instructor(s): Staff.

AS.080.534. Neuroscience Research- Freshmen. 1 - 3 Credit.
Corequisites : AS.080.500[C]
Instructor(s): Staff.

AS.080.541. Research Neuroscience - Sophomores. 0 - 3 Credit.
Corequisites : AS.080.500 (Scientific Communication)
Instructor(s): Staff.

AS.080.544. Neuroscience Research-Sophomores. 1 - 3 Credit.
Corequisites : AS.080.500
Instructor(s): Staff.

AS.080.551. Research Neuroscience for Juniors. 0 - 3 Credit.
Corequisites : AS.080.500 (Scientific Communication)
Instructor(s): Staff.

AS.080.554. Neuroscience Research - Juniors. 1 - 3 Credit.
Corequisites : AS.080.500
Instructor(s): Staff.

AS.080.561. Research Neuroscience for Seniors. 0 - 3 Credit.
Corequisites : AS.080.500 (Scientific Communication)
Instructor(s): Staff.

AS.080.564. Neuroscience Research - Seniors. 1 - 3 Credit.
Corequisites : AS.080.500
Instructor(s): Staff.

AS.080.572. Direct Readings/Independent Study. 0 - 3 Credit.
Instructor(s): J. Baraban.

AS.080.582. Neuroscience: Internship. 0 - 3 Credit.
Instructor(s): L. Gorman.

AS.080.590. Independent Study. 1 - 3 Credit.
Corequisites : AS.080.500
Instructor(s): L. Gorman.

AS.080.592. Research-Freshmen. 1 - 3 Credit.
Corequisites : AS.080.500
Instructor(s): Staff.

AS.080.594. Research-Sophomores. 1 - 3 Credit.
Corequisites : AS.080.500
Instructor(s): Staff.
AS.080.595. Internship-Summer. 1 - 3 Credit.  
Corequisites : AS.080.500  
Instructor(s): L. Gorman.

AS.080.596. Research-Juniors-Summer. 1 - 3 Credit.  
Corequisites : AS.080.500  
Instructor(s): Staff.

AS.080.597. Internship: Neuroscience. 1 - 3 Credit.  
Instructor(s): L. Gorman.

AS.080.598. Research-Seniors-Summer. 1 - 3 Credit.  
Corequisites : AS.080.500  
Instructor(s): Staff  
Area: Natural Sciences.

AS.080.600. Neuroscience Research: BA/MS Undergraduate.  
This course is ONLY for Neuroscience BA/MS students that are in the program during their undergraduate senior year. This course is similar to the course that the BA/MS graduate students take but is for BA/MS Seniors in their 7th semester summer period.  
Instructor(s): J. Baraban.

AS.080.601. Neuroeconomics - Graduate Level.  
Every day decisions often require us to weigh the costs and benefits of engaging in a particular course of action in order to obtain some expected outcome. Unfortunately, we often lack the information necessary to obtain our desired goal with complete certainty. Economists have long been interested in understanding human decision-making under these circumstances. In parallel, neuroscientists have made great strides at describing the underlying neural basis of simple decision-making. However, despite much progress in both fields, our understanding of how the brain makes decisions is incomplete. In order to strengthen and further research in both fields, the interdisciplinary field of Neuroeconomics arose. This course will survey the field of neuroeconomics focusing on theoretical concepts developed by economists and the role these theories are playing in guiding current experimental neuroscience. Only graduate students can register for this course. Instructor signature is required.  
Prerequisites: (AS.080.305 AND AS.080.306) OR (AS.020.312 AND AS.020.306) OR (AS.200.141 AND AS.020.306) OR Permission  
Instructor(s): J. Trageser.

AS.080.620. Theoretical Neuroscience.  
Topics of theoretical neuroscience and computational neuroscience will be discussed based on the original literature. Students are expected to actively participate in the discussion and also to present selected material to the class.  
Instructor(s): E. Niebur.

AS.080.621. Theoret/Comp Neuroscience.  
Permission Required.

AS.080.630. Bodian Seminar Series.  
The Bodian Seminar is an interdisciplinary colloquium for discussion of current research into the neural basis of mental processes. Leading researchers, generally from outside the University, are invited to give lectures, which will be announced per e-mail. Undergraduate students who register for this course are asked to study a publication by the speaker, as provided with the announcement, and to prepare a question for each speaker together with a brief discussion of the possible answers. Permission required for undergraduate students.  
Instructor(s): J. Von Der Heydt.

Graduate students and Seniors with instructor permission. The Bodian Seminar is an interdisciplinary colloquium for discussion of current research into the neural basis of mental processes. Leading researchers, generally from outside the University, are invited to give lectures. About 12 lectures are scheduled per semester (see http://www.mb.jhu.edu/seminars.asp). Speakers, titles of lectures, and dates are announced to participants per e-mail (contact Debby Kelly, 410 516-8640). The announcements also include links to one or two recent publications of the speaker. Undergraduate students who register for this course are asked to study these papers and to prepare a question for each speaker together with a brief discussion of the possible answers. Question and discussion have to be in writing and turned in the day before the lecture. Undergraduates must e-mail the instructor for permission (von.der.heydt@jhu.edu) prior to registering for the course.  
Instructor(s): J. Von Der Heydt.

AS.080.660. Commencement Project.  
BA/MS students only. Signature required.

AS.080.810. Readings/Systems Neuro I.  
This is a graduate-level seminar series on current literature in systems neuroscience. It also serves as a discussion group/journal club for students and faculty at the Krieger Mind/Brain Institute, and is open to the wider systems/cognitive neuroscience community at Homewood and other Hopkins campuses. Each week, a student or faculty member will present a recent article selected in consultation with the course directors. The selected readings will focus on the neural mechanisms of perception, attention, motor behavior, learning and memory. Pass/Fail only. Permission required for undergraduate students.  
Instructor(s): E. Niebur; V. Stuphorn.

AS.080.811. Readings/System Neuro II.  
Graduate students only or permission required. The combined journal club functions as a graduate-level seminar series on the current literature in systems neuroscience. It will also serve as a discussion group for systems neuroscience post-docs and faculty from the Homewood and Medical School campuses. All participants interested in systems/cognitive neuroscience are welcome. Each week, a student or faculty member will present a recent article selected in consultation with the course directors. The selected readings will focus on the neural mechanisms of perception, attention, motor behavior, learning and memory, as studied using physiological, psychophysical, computational and imaging techniques. Discussions and open exchanges of opinions are strongly encouraged.  
Instructor(s): E. Niebur; V. Stuphorn.

AS.080.850. Mentored Research: Neuroscience I.  
Permission required. For students in the BA/MS Program.  
Instructor(s): J. Baraban.

Instructor(s): L. Gorman  
Writing Intensive.

AS.080.852. Mentored Research: Neuroscience II.  
Permission Required. For students in the BA/MS Program.  
Instructor(s): J. Baraban.

AS.080.854. Mentored Research: Neuroscience III.  
For students in the BA/MS Program Permission required.  
Instructor(s): J. Baraban.
Cross Listed Courses

Biology

**AS.020.317. Signaling in Development and Disease. 3 Credits.**
An advanced undergraduate level seminar on current topics on signal transduction mechanisms underlying neuronal morphology, development and function. The proper functioning of the nervous system relies on the establishment of precise neuronal circuits through a developmental program including proliferation, neuronal migration, axonal growth, and neuronal survival. This course pertains to the extracellular cues and downstream neuronal signaling pathways that coordinate these key events during neuronal development. The course will also cover the role of aberrant signaling mechanisms in neuronal degeneration and disease. Recommended Course Background: AS.020.305, AS.020.306, and AS.080.306
Instructor(s): R. Kuruvilla
Area: Natural Sciences.

**AS.020.370. Emerging Strategies and Applications in Biomedical Research. 3 Credits.**
Up-to-date primary literature manuscripts related to new discoveries and new strategies that are allowing scientists to make amazing progress in biomedical research will be presented. Examples include: labeling neurons with up to 90 different colors to trace their circuitry, evolution studies in glowing bacteria, detecting several viruses on a single chip and using fiber optics and channel rhodopsin to induce sleep. Students should be interested in reading primary literature research papers and discussing them in class. Recommended Course Background: AS.020.305 or AS.020.306 or AS.080.305 or AS.080.306. Juniors and Seniors only.
Instructor(s): S. Hattar
Area: Natural Sciences.

**AS.020.371. Emerging Strategies in Understanding Innate Behaviors. 3 Credits.**
The hypothalamus is the central regulator of a broad range of homeostatic behaviors essential to survival, and plays a key role in controlling emotional and appetitive behaviors. This course offers an overview of both historical and recent work on this vital brain region. Topics covered will include the evolution and development of the hypothalamus, control of circadian rhythms and sleep, regulation of hunger and body temperature, as well as hypothalamic regulation of sexual, defensive, and affiliative behavior.
**Prerequisites:** AS.020.305 OR AS.020.306 OR AS.080.301 OR AS.080.302
Instructor(s): S. Blackshaw; S. Hattar
Area: Natural Sciences
Writing Intensive.

Cognitive Science

**AS.050.102. Language and Mind. 3 Credits.**
Introductory course dealing with theory, methods, and current research topics in the study of language as a component of the mind. What it is to “know” a language: components of linguistic knowledge (phonetics, phonology, morphology, syntax, semantics) and the course of language acquisition. How linguistic knowledge is put to use: language and the brain and linguistic processing in various domains. This course is restricted to freshmen and sophomores. Juniors and seniors must seek instructor approval to enroll. Cross-listed with Neuroscience and Psychology.
Instructor(s): A. Omaki
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.050.105. Intro to Cognitive Neuropsychology. 3 Credits.**
When the brain is damaged or fails to develop normally, even the most basic cognitive abilities (such as the ability to understand words, or perceive objects) may be disrupted, often in remarkable ways. This course explores a wide range of cognitive deficits, focusing on what these deficits can tell us about how the normal brain works. Topics include brain anatomy and causes of brain damage, reading and spelling deficits, unilateral spatial neglect, hemispheric disconnection, cortical plasticity, and visual perception of location and orientation. Students read primary sources: journal articles that report deficits and discuss their implications. Cross-listed with Neuroscience.
Instructor(s): M. McCloskey
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.050.303. Mind, Brain and Beauty. 3 Credits.**
What underlies our aesthetic response to art, music, and other facets of human experience? Do identifiable properties of objects and events evoke consistent aesthetic responses, or is beauty mostly in the eye of the beholder? Examining such questions from cognitive science, neuroscience, and philosophical perspectives, this course explores relevant research and theory in the visual, auditory, and tactile domains. Several researchers will discuss their ongoing studies with the class, and students will also have the opportunity to participate in demonstration experiments that illustrate phenomena under discussion. (Same as AS.050.603) Recommended Course Background: One or more courses in one of these: Cognitive Science, Neuroscience, Philosophy, or Psychology or permission of instructor.
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.050.311. The Literate Mind and Brain. 3 Credits.**
This course surveys both the historical development of written language as well as current cognitive theories that account for the manner in which the written language is represented and processed by “readers/writers” of a language. Issues regarding the relationship between the written and spoken language, the acquisition of written language skills, as well as developmental and acquired disorders of reading and writing will be examined.
**Prerequisites:** AS.050.101 or AS.050.102 or AS.050.105 or Instructor’s Permission
Instructor(s): B. Rapp
Area: Natural Sciences, Social and Behavioral Sciences Writing Intensive.
AS.050.312. Cognitive Neuroimaging Methods in High-Level Vision. 3 Credits.
This course is an advanced seminar and research practicum course. It will provide the opportunity to learn about fMRI methods used in the field of vision science and for students to have hands-on experience to develop, design and analyze a research study on topics in the cognitive neuroscience field of high-level vision. In the first part of the course students will read recent fMRI journal papers and learn about common fMRI designs and analysis methods; in the second part of the course students will conduct a research study as a group to address a research question developed from readings. Students are expected to write a paper in a journal article format at the end of the course and to present their results in front of the class. Research topics will vary but with special focus on topics in object, scene and space recognition. Cross-listed with Neuroscience and Psychology. Instructor's permission required.
Prerequisites: AS.050.204 OR AS.050.319 OR AS.050.315 OR AS.200.312 OR AS.050.203 OR AS.080.203 or equivalent; instructor's permission required.
Instructor(s): S. Park
Area: Natural Sciences, Social and Behavioral Sciences.

When we think about our ability to see, we tend to think about our eyes, but in fact vision happens mostly in the brain. This course explores the remarkable perceptual deficits that occur when the visual regions of the brain are damaged or fail to develop normally, focusing on what these perceptual malfunctions tell us about normal visual perception. Topics include visual system anatomy and physiology; functional specialization in the lower visual system as revealed by cerebral achromatopsia (color blindness resulting from brain damage) and akinetopsia (impaired motion perception); cortical plasticity in the visual system; spatial deficits in perception and action; and the implications of high-level visual deficits, including prosopagnosia (impaired face recognition), Charles Bonnet syndrome (complex visual hallucinations in blind areas of the visual field), blindsight (accurate responding to visual stimuli despite apparent inability to see them), and Anton’s syndrome (denial of blindness).
Instructor(s): M. McCloskey
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.326. Foundations in Cognitive Science. 3 Credits.
This course explores general issues and methodologies in cognitive science through the reading of classic works (from Plato and Kant through Skinner and Turing) and recent research articles to begin construction of a coherent picture of many seemingly divergent perspectives on the mind/brain. Recent brain-based computational models serve to focus discussion. Recommended Course Background: at least one course at the 300-level or higher in cognitive science, computer science, neuroscience, philosophy, or psychology. Co-listed with AS.050.626.
Instructor(s): P. Smolensky
Area: Natural Sciences, Social and Behavioral Sciences
Writing Intensive.

AS.050.332. Development Cog Neurosci. 3 Credits.
Prerequisites: AS.050.101 (Cognition) or AS.050.339/639 (Intro to Cog. Development) or AS.200.132 (Introductory Developmental Psychology) or instructors permission required. In-depth examination of the current literature on cognitive development in the context of development cognitive neuroscience. Same as 050.632.
Instructor(s): B. Landau
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.339. Cognitive Development. 3 Credits.
This is a survey course in developmental psychology, designed for individuals with some basic background in psychology or cognitive science, but little or none in development. The course is strongly theoretically oriented, with emphasis on issues of nature, nurture, and development. We will consider theoretical issues in developmental psychology as well as relevant empirical evidence. The principle focus will be early development, i.e., from conception through middle childhood. The course is organized topically, covering biological and prenatal development, perceptual and cognitive development, the nature and development of intelligence, and language learning. Also listed as AS.050.639. Cross-listed with Neuroscience. Instructor’s approval required.
Instructor(s): J. Yarmolinskaya
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.603. Mind, Brain and Beauty.
Area: Natural Sciences, Social and Behavioral Sciences.

Instructor’s permission required. (Also offered as AS.050.312.)
Instructor(s): S. Park
Area: Natural Sciences, Social and Behavioral Sciences.

This course explores general issues and methodologies in cognitive science through the reading of classic works (from Plato and Kant through Skinner and Turing) and recent research articles to begin construction of a coherent picture of many seemingly divergent perspectives on the mind/brain. Recent brain-based computational models serve to focus discussion. (Same as AS.050.326) Recommended Course Background: at least one course at the 300-level or higher in cognitive science, computer science, neuroscience, philosophy, or psychology.
Instructor(s): P. Smolensky
Writing Intensive.

Also offered as AS.050.339. Instructor approval required.
Instructor(s): J. Yarmolinskaya
Area: Natural Sciences, Social and Behavioral Sciences.

Psychological Brain Sciences

AS.200.141. Foundations of Brain, Behavior and Cognition. 3 Credits.
Formerly listed as Introduction to Physiopsychology. A survey of neuropsychology relating the organization of behavior to the integrative action of the nervous system. Cross-listed with Behavioral Biology and Neuroscience.
Instructor(s): L. Gorman
Area: Natural Sciences, Social and Behavioral Sciences.
AS.200.304. Neuroscience of Decision Making. 3 Credits.
This course will survey the neural mechanisms of decision-making. Current experimental research and theory concerning selection, control, and evaluation of actions are examined in humans and animals. Topics will range from simple perceptual judgements to complex social behavior. The course involves a weekly lecture about a specific topic followed by a student presentation of a current research paper. Cross-listed with Neuroscience
Prerequisites: AS.080.305 OR AS.080.205 OR AS.200.141
Instructor(s): V. Stuphorn
Area: Natural Sciences.

AS.200.308. Neurobiology of Learning and Memory. 3 Credits.
This course is an advanced survey of the scientific study of learning and memory. An interdisciplinary approach is used to integrate the state of the field across levels from the cellular-molecular basis of synaptic plasticity to functional circuitry implicated in learning to memory systems in the brain. The course is designed to provide a deep understanding of the outstanding issues and current debates in learning and memory research with a specific emphasis on animal models. This is an interactive lecture/seminar course with active student participation. Recommended Course Background: AS.200.370 or AS.200.141 or AS.080.305/AS.080.306 or AS.020.306.
Instructor(s): M. Yassa
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.344. Behavioral Endocrinology. 3 Credits.
An examination of the effects of hormones on behavior in non-human and human animals. Topics will include the effects of hormones on sexual differentiation, reproductivity behavior, parental behavior, homeostasis and biological rhythms, regulation of body weight, learning and memory. Cross-listed with Behavioral Biology and Neuroscience.
Prerequisites: Prereqs: ( AS.200.141 OR AS.080.305 ) OR (AS.020.151 AND AS.020.152) OR ( AS.020.305 AND AS.020.306 ) or instructor’s permission
Instructor(s): F. Madison; G. Ball
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.368. Altered States of Consciousness. 3 Credits.
Sleep, dreaming, resting and arousal to waking represent very different states of consciousness which differ dramatically both psychologically and physiologically. This course focuses on cognitive, psychological, physiological, biological and genetic aspects characterizing each of these states with some reference to other altered states. The course includes a focus on the major pathologies affecting sleep-wake states. Clinical cases will be considered. These inform about both psychological and biological aspects of these states. The relative biological functions of each state will be evaluated with particular attention to the mystery of why we have and apparently need REM and NREM sleep. Actual physiological recordings of sleep states will be reviewed and the student will learn how these are obtained and how to evaluate these. The circadian rhythms, ontogeny and evolution of these sleep-wake states will also be covered. This will include a review of information learned from non-human animal sleep. The change from sleep to full awakening reflects change toward increasing brain organization supporting consciousness. Understanding of the neurobiology of these states will be used to explore some of the more modern and scientific concepts of human self-awareness or consciousness.
Prerequisites: AS.080.203 OR AS.050.203 OR AS.200.101 or permission required.
Instructor(s): R. Allen
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.370. Functional Human Neuroanatomy. 3 Credits.
Cross-listed with Behavioral Biology and Neuroscience.
Prerequisites: AS.080.205 OR AS.080.305
Instructor(s): S. Courtney-Faruque
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.376. Psychopharmacology. 3 Credits.
Designed to provide information about how drugs affect the brain and behavior. The course focuses on the interaction of various classes of drugs with the individual neurotransmitter systems in the brain. A brief historic review is followed by a discussion of clinical relevance. Cross-listed with Behavioral Biology and Neuroscience.
Prerequisites: AS.200.141 OR (AS.020.312 AND AS.020.306) OR (AS.080.305 AND AS.080.306) or permission required.
Instructor(s): H. Adwanikar; L. Gorman
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.801. Research Seminar: Learning and Memory.
This laboratory meeting is for graduate students studying learning and memory mechanisms, alterations with age or neurologic disease, and advanced neuroimaging methods. Meetings will focus on experimental design, presentation of data, analytical techniques. Undergraduates allowed to add the course with permission as Satisfactory/Unsatisfactory only. Recommended Course Background: AS.200.370 or AS.200.141 or AS.080.305/AS.080.306 or AS.020.306.
Instructor(s): M. Yassa.

Philosophy
The Department of Philosophy offers programs and courses at the undergraduate and graduate levels. The courses cover major periods in the history of Western philosophy and many of the main topics of systematic investigation: epistemology, metaphysics, ethics, aesthetics, philosophy of language, mathematical logic, and philosophy of science.

The undergraduate courses are designed to introduce students to the history of philosophy and its place in Western civilization, to teach them how to read philosophical texts, and to help them think about philosophical problems, including those that arise in other disciplines. Students may major in philosophy or use it as a concentration for an area major in Humanistic Studies. They may also study philosophy along with another subject, either by constructing a double major or by taking courses designed to help them develop philosophical perspectives on their own fields of interest.

The graduate program is intended primarily for those planning to teach philosophy and make their own contributions to it. While the acquisition of a broad background in the history and different systematic fields of philosophy is required, students will have ample opportunity to develop their own special interests.

The Department of Philosophy encourages its students to take advantage of the rich resources of other departments at Johns Hopkins University. As a look at their offerings will show, numerous philosophically important courses are offered by such departments as Political Science (political philosophy), History of Science and Technology (philosophy of science), the Humanities Center (hermeneutic, interpretive, and literary theory), and Cognitive Science.

Philosophy is a discipline of the mind as well as a cluster of closely related subjects. It is an excellent preparation for professional studies such as law and medicine; it provides perspective on other disciplines such as psychology, mathematics, literature, political science, and
**Requirements for the B.A. Degree**

(Also see Requirements for a Bachelor's Degree (p. 24).)

Philosophy majors must take 11 departmental courses.

Majors must take at least one course in each of the five following categories:

- Two History of Philosophy:
  - Ancient philosophy
  - Modern philosophy

- Three Focal Areas:
  - Logic, philosophy of science, or philosophy of mathematics
  - Philosophy of mind, theory of knowledge, philosophy of language, or metaphysics
  - Ethics, aesthetics, or political philosophy

The history of philosophy categories are commonly satisfied by taking AS.150.201 Introduction to Greek Philosophy and AS.150.205 Introduction to the History of Modern Philosophy. In addition, majors are required to take an "undergraduate seminar," preferably in the junior year. The other remaining courses required to reach 11 courses total may be distributed based on a student's interest, but at least 6 must be at the 300-level or higher.

**Additional Rules for the Major**

- Of the two general introductory courses, AS.150.111 Philosophic Classics and AS.150.112 Philosophical Problems, only one may count toward the major (neither is required), and only two 100-level courses may count toward the major.

- A minimum of six courses must be at the 300-level or higher.

- Courses may not be taken satisfactory/unsatisfactory and students must receive a C- or better grade for the course to apply towards the major.

- Well-qualified majors may be admitted to a graduate seminar during the senior year. They should consult their major advisor.

**Major Requirements**

- One course in ancient philosophy
- One course in modern philosophy
- One course in logic, philosophy of science, or philosophy of mathematics
- One course in philosophy of mind, theory of knowledge, philosophy of language, or metaphysics
- One course in ethics, aesthetics, or political philosophy
- One undergraduate seminar (300-level; ideally in junior year)
- Five additional courses

**Total Credits**

33

**Examples of Courses in Each Required Area**

### **Ancient Philosophy**

- AS.150.201 Introduction to Greek Philosophy 3
- AS.150.401 Greek Philosophy: Plato and His Predecessors 3
- AS.150.402 Aristotle 3
- AS.150.403 Hellenistic Philosophy 3

### **Modern Philosophy**

- AS.150.205 Introduction to the History of Modern Philosophy 3
- AS.150.412 Kant’s Critique of Practical Reason 3
- AS.150.417 Kant’s ‘Critique Of Pure Reason’ 3

### Logic, Philosophy of Science, or Philosophy of Mathematics

- AS.150.419 Kant’s Critique/Judgment 3
- AS.150.118 Introduction to Formal Logic 3
- AS.150.218 Introduction To Symbolic Logic 3
- AS.150.420 Mathematical Logic I 3
- AS.150.421 Mathematical Logic II 3
- AS.150.422 Axiomatic Set Theory 3
- AS.150.424 Foundations of Probability & Induction 3
- AS.150.429 Topics in Logic: Ontology and Knowledge Representation 3
- AS.150.431 Introduction to Philosophy of Science 3
- AS.150.433 Philos/Space & Time 3
- AS.150.434 History and Philosophy of Quantum Physics I 3
- AS.150.435 The Philosophy and Theology of Maimonides 3

### Philosophy of Mind, Theory of Knowledge, Philosophy of Language, or Metaphysics

- AS.150.245 Introduction to Philosophy of Mind 3
- AS.150.459 Theory Of Knowledge 3
- AS.150.476 Philosophy and Cognitive Science 3

### Ethics, Aesthetics, or Political Philosophy

- AS.150.219 Introduction to Bioethics 3
- AS.150.220 Introduction to Moral Philosophy 3
- AS.150.302 Topics in Bioethics: Bioethics and the Human Genome 3
- AS.150.452 Freedom of Will & Moral Responsibility 3
Double Majors

The department encourages linking the study of philosophy with the study of other disciplines. For example, the subject matter and course requirements of the Philosophy and Psychological and Brain Sciences departments are such as to make a double major both practical and intriguing. Similarly, knowledge of literature or the history of art is pertinent to the study of aesthetics; a solid understanding of science is valuable for those interested in the philosophy of science; and students of ethics benefit considerably by combining their work with study of political theory and of the political realities amidst which morality must function. Members of the department will be happy to assist students in planning double majors particularly suited to their interests.

Honors Program in Philosophy

Students with an overall GPA of 3.0 and a Philosophy GPA of 3.5 or higher (or outstanding recommendations from three department members) are eligible for the Senior Honors Thesis Program. In addition to the 10 courses required for the major, successful applicants take AS.150.551 Honors Project, to write a thesis of about 50 pages under the supervision of a faculty member. The thesis must be completed prior to spring vacation of senior year. If the student withdraws prior to completion of a thesis, a satisfactory/unsatisfactory grade will be awarded.

The grade for the thesis will depend on the thesis itself and an oral examination about it, conducted by the thesis advisor and two other faculty members. Graduation Honors will be awarded to those whose work receives an A- or better. For more information about the Honors Program, consult the departmental major advisor.

Honors Thesis Program

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.150.551</td>
<td>Honors Project</td>
<td>3</td>
</tr>
<tr>
<td>AS.150.552</td>
<td>Honors Project</td>
<td>0-3</td>
</tr>
</tbody>
</table>

Minor in Philosophy

Philosophy minors must take seven departmental courses, which should include the following:

- At least one course in the history of philosophy, either ancient or modern.
- At least one course in two of the following areas:
  - Logic, philosophy of science, or philosophy of mathematics
  - Ethics, aesthetics, or political philosophy
  - Philosophy of mind, theory of knowledge, philosophy of language, or metaphysics

Minor Restrictions

- Either AS.150.111 Philosphic Classics or AS.150.112 Philosophical Problems, but not both, may count as one of the seven courses. Neither is a required course.
- Courses may not be taken satisfactory/unsatisfactory and students must receive a C- or better grade for the course to apply towards the major.

<table>
<thead>
<tr>
<th>Minor Requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>One course in history of philosophy (ancient or modern)</td>
<td>3</td>
</tr>
<tr>
<td>Two courses, each from a different focal area</td>
<td>6</td>
</tr>
<tr>
<td>Four additional courses</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

The Bioethics Program offers an interdisciplinary minor in which philosophy plays a large role. See Bioethics Program (p. 121) for more details.

When The Johns Hopkins University was founded in 1876, it was the first university in the United States designed as a center for research and doctoral education. Among its earliest graduate students were Josiah Royce and John Dewey; C. S. Peirce was an early faculty member. The department today continues this tradition, devoting a major part of its effort to preparing graduate students to make original contributions to the field and to pursue careers in college and university teaching.

The department’s purpose is to provide opportunities for students to develop special interests within a program that also ensures breadth of knowledge. We offer classes, seminars, and directed study in the history of ancient, modern, and contemporary Western philosophy, and in the systematic areas of epistemology, metaphysics, ethics, philosophy of science, philosophy of physics, philosophy of biology, philosophy of language, philosophy of mind, philosophy of mathematics, mathematical logic, and aesthetics. Philosophy courses are frequently offered in other departments, such as Political Science, German and Romance Languages and Literatures, and Classics, and students are encouraged to take advantage of these opportunities.

The department offers the M.A. and the Ph.D. degrees. The graduate program is designed primarily for those seeking the Ph.D., but under exceptional circumstances students aiming at the M.A. may be admitted.

For full details on the requirements for the Ph.D. program, see the department website at philosophy.jhu.edu.

Program in the History and Philosophy of Science

Graduate students with an interest in the history and philosophy of science receive their Ph.D. from either the Department of Philosophy or the Department of the History of Science and Technology, in accordance with each department’s requirements. Students in both departments, however, may apply to enroll in a special program of studies in history and philosophy of science coordinated by the Johns Hopkins Center for the History and Philosophy of Science. Students who fulfill the requirements will be certified by the center as having completed this special program. Further information can be obtained by writing to Professor Peter Achinstein, of the Department of Philosophy.

Program in Political and Moral Thought

Currently inactive except for year-long colloquia series.

Admission

In addition to submitting an application, applicants are asked to submit a sample of written work. While an undergraduate major in philosophy
is good preparation for graduate study in the department, applications are welcomed from students with other majors whose interests are now turning toward philosophy.

The deadline for those applying both for admission and financial aid is January 15. Awards will be announced by April 1. Inquiries should be addressed to Admissions Chair, Department of Philosophy, The Johns Hopkins University, Baltimore, Maryland, 21218. Graduate applications can also be downloaded from the admissions office website.

Financial Aid

All students admitted to the program receive financial assistance. Support is guaranteed for five years provided that a student continues to make satisfactory progress toward completion of the Ph.D. degree. Department fellowships cover tuition and pay a stipend. Outstanding applicants may be nominated for a George Owen Fellowship, which also covers tuition and for which the stipend is higher. All students receive fellowship support for the first two years; no teaching is required. Third- and fourth-year students are supported by teaching assistantships, which carry full tuition and a stipend. Fifth-year students are generally supported through teaching assistantships, though fellowship support may also be available. In practice, the department is often able to offer teaching assistantships to students beyond their fifth year, though this support is not guaranteed. In addition, a generous bequest by a former member of the department, David Sachs, has established the Sachs Fellowship Fund. Sachs Fellowships are dissertation-year fellowships awarded on a competitive basis to outstanding students who are making substantial progress toward completing their dissertations.

Leon Gilbert Barnhart Memorial Fellowship

A fellowship in memory of Leon Gilbert Barnhart, B.A. '67, currently set at $3,000, may be awarded annually to support a student working on a dissertation on one of the topics which most interested Leon Barnhart himself: German philosophy, up to and including current German philosophy, and the history of philosophy more generally.

William Miller Essay Prize

The William Miller Essay Prize is awarded annually for a self-contained essay of outstanding quality in any field of philosophy. The monetary award is open to students in philosophy at the pre-dissertation stage of their graduate work. Submissions should be no longer than 10,000 words. Students may submit only one essay per year. Details are available from the Philosophy Department office.

For current faculty and contact information go to http://philosophy.jhu.edu/people/

Faculty

Chair

Richard Bett
Professor (Chair): ancient Greek philosophy, ethics.

Professors

Peter Achinstein
philosophy of science, analytic philosophy.

Robert Rynasiewicz
logic, philosophy of science, history and philosophy of physics.

Meredith Williams
philosophy of mind, philosophy of psychology, Wittgenstein.

Michael Williams
Krieger-Eisenhower Professor: theory of knowledge, philosophy of language, history of modern philosophy, epistemology.

Associate Professors

Hilary Bok
Henry R. Luce Professor in Bioethics and Moral and Political Theory: moral philosophy, bioethics, freedom of the will Kant.

Steven Gross
philosophy of language, philosophy of mind, metaphysics.

Yitzhak Melamed
Early Modern Philosophy, German idealism, metaphysics.

Dean Moyar
German idealism, social and political philosophy, ethics.

Assistant Professors

Justin Bledin
logic, epistemology, philosophy of language.

L. Nandi Theunissen
Peterson Assistant Professor in: ethics.

Emeriti

Stephen Barker

Jerome B. Schneewind

Joint/Adjunct Appointments

Jeffrey Bub
Professor (Philosophy, University of Maryland, College Park): philosophy of quantum mechanics.

Paola Marrati
Professor (Humanities Center): contemporary French thought.

Maria Merritt
Assistant Professor (Bloomberg School of Public Health): bioethics.

Lawrence Principe
Professor (History of Science and Technology): history and philosophy of science.

Andrew Siegel
Core Faculty (Berman Institute of Bioethics).

Hent de Vries
Professor (Humanities Center): modern European thought.

For current course information and registration go to https://isis.jhu.edu/classes/
Courses

AS.150.105. Introduction to Eastern Philosophy. 3 Credits.
What is the nature of reality? What is the mind? What is the meaning of
life? How ought we to live? In this course, we will explore how some of
the better known philosophical systems of India, China and Japan have
attempted to answer these most central philosophical questions. We
will focus on the following systems: Nyaya, Samkhya-Yoga, Vedanta,
Buddhism, Carvaka, Confucianism, Taoism, and Zen.
Instructor(s): B. Miller
Area: Humanities.

AS.150.107. Introduction to Moral Philosophy. 3 Credits.
This course will introduce students to some topics in the areas of
normative ethics (What should we do?) and moral psychology (Where
do moral judgments come from?) through discussion of classic texts in
the Western philosophical tradition. We will also look at contemporary
approaches to both moral theory and moral psychology.
Area: Humanities.

AS.150.111. Philosophic Classics. 3 Credits.
The course introduces students to philosophy by critically examining
selected texts in the Western philosophical tradition. Philosophers
whose ideas will be examined include Plato, Descartes, Kant and
Nietzsche.
Instructor(s): A. Abazari
Area: Humanities.

AS.150.112. Philosophical Problems. 3 Credits.
An introduction to philosophy through several central problems. Topics
vary from year to year, but might include such topics as the nature
and limits of human knowledge, free will, consciousness, death, or
paradoxes of truth and reasoning.
Instructor(s): S. Gross
Area: Humanities.

AS.150.113. Freshman Seminar: Objectivity. 3 Credits.
This course examines the notion of objectivity and challenges to it. Its
topics include the status of objective facts and beliefs, the structure
of social reality, and rational disagreement. Dean's Prize Freshman
Seminar
Instructor(s): N. Goldberg
Area: Humanities.

AS.150.114. Philosophy of Medicine. 3 Credits.
Dean's Teaching Prize Fellowship course.

AS.150.118. Introduction to Formal Logic. 3 Credits.
The fundamentals of symbolic logic, including truth-functions,
quantification theory, and identity; probability and decision theory. Co-
listed with AS.150.632
Instructor(s): P. Achinstein
Area: Humanities, Quantitative and Mathematical Sciences.

AS.150.119. Existentialism. 3 Credits.
Existentialism is a philosophical movement that made a dramatic entry
into the 20th century intellectual scene and had a profound and long
lasting influence on it. The central themes developed by existentialist
thinkers transgressed the boundaries of academic philosophy and found
their expression in plays, novels, cinema, poetry, political tracts, etc.
Through close reading of the seminal texts by Kierkegaard, Nietzsche,
Heidegger, Sartre, and Merleau-Ponty, we will explore the core tenets of
the existentialist legacy. The philosophical texts will be supplemented
by related works of fiction and films. Freshmen Only.
Instructor(s): G. Lebanidze
Area: Humanities.

AS.150.125. Introduction to Modern Philosophy. 3 Credits.
The course will examine four major figures of early modern philosophy:
Descartes, Leibniz, Hume, and Kant. Although the most recent of
these thinkers died more than 200 years ago, we still refer to them as
“modern” philosophers, revealing their great influence on the way we
think about ourselves and our place in the world. The course will look
at what these philosophers thought about questions such as: What kind
of beings are we and how are we related to the world around us? Is
knowledge of the world possible and if so what are its sources? Can we
answer the question of God’s existence? Is order something we find in
the world or impose on it? etc.
Instructor(s): G. Lebanidze
Area: Humanities
Writing Intensive.

AS.150.126. Relativism. 3 Credits.
More than any other modern philosophical doctrine, relativism has
found currency outside of the academy. Talk of “equally valid” points
of view has become a commonplace, even when the matter under
discussion is a straightforwardly factual. We will examine many different
relativistic doctrines, including the views that people coming from very
different backgrounds or with very different beliefs do not have the
grounds to criticize one another, and that such individuals cannot so
much as understand one another. In the first two-thirds of the course we
will evaluate arguments for and against views such as these. Towards
the end of the semester we will explore what the fall-out for our every-
day lives would be (or should be) if some kind of relativism were true.
Freshmen only.
Instructor(s): N. Tebben
Area: Humanities.

AS.150.127. Realism and Antirealism in the Philosophy of
Science. 3 Credits.
Are our best scientific theories approximately true, or useful but false?
Does science converge on the truth over time? This course addresses
such questions by surveying the scientific realism debate. Dean's Prize
Teaching Fellowship course. Freshmen Only.
Instructor(s): J. Hricko
Area: Humanities.

AS.150.128. Cognitive Science & Political Philosophy. 3 Credits.
Cognitive Science & Political Philosophy: Is a person born a republican,
or are they raised that way? Are democrats Democrats because they
have emotional personalities? Is politics the product of evolution, or of
culture? Should the brain sciences determine public policy and law? In
this course we will consider these questions and many more like them
by looking at recent work in philosophy and the brain sciences.
Instructor(s): J. Waterman
Area: Humanities.

AS.150.129. The Theory of Knowledge: Classic and
Contemporary Questions. 3 Credits.
What is knowledge and how to define it? Does knowing require
an ability to produce supporting reasons or is it sufficient that our
beliefs track the truth? Which general model better its structure,
Fundamentalism, Coherentism or Infinitism? Does knowing depend on
context? Can we discover empirically what knowledge is? These are
key questions we will be discussing in our seminar, inspired by reading
texts ranging from classics like Plato, the Stoics, and Sextus Empiricus,
to contemporary authors like Gettier, Davidson, Goldman, DeRose, and
others. Dean’s Prize Freshman Seminar.
Instructor(s): P. Stojanovic
Area: Humanities.
AS.150.131. Introduction to Social Philosophy. 3 Credits.
An introduction to social philosophy through critical reading of selected
texts of two major figures: Adam Smith and Karl Marx. These two
thinkers offered opposing theories of capitalism, which continue to
shape our basic understanding of the world. We will address the method
and foundations of their theories, as well as the normative concepts
that inform their thought (e.g. freedom, human flourishing, alienation,
exploitation, etc).
Instructor(s): A. Abazari
Area: Humanities, Social and Behavioral Sciences.

AS.150.134. Freshman Seminar: Socrates in Context. 3 Credits.
A study of Socrates as portrayed by his contemporaries, and of
intellectual and political trends to which he may have been reacting.
Authors will include Plato, Xenophon and Aristophanes. Freshmen Only.
Instructor(s): R. Bett
Area: Humanities.

AS.150.135. The Philosophy of Race and Racism. 3 Credits.
What is race? What is racism? And how should we deal with these
things? In dealing with these three questions, we will read both
philosophical and empirical literature germane to the burgeoning field
of philosophy of race. The course will mostly cover the problems that
race and racism pose in the context of North American social and
political life. Topics include: historical antecedents that shaped the
modern concept of race, the metaphysics and biology of race, the social
construction of race, the marks of racist practices, "race talk," the
psychology of implicit racial bias.
Area: Humanities, Social and Behavioral Sciences.

AS.150.191. Freshman Seminar: Ethical Topics in Plato. 3
Credits.
The class takes a problem-oriented approach to select dialogues in
Plato. Central questions will include: the nature of motivation, and in
particular, whether it is true that everyone desires the good; and the
role of knowledge in leading a good life, in particular, whether it is true
that that virtue is knowledge. We will focus on Ion, Apology, Euthyphro,
the Meno, and the ethical books of the Republic.
Instructor(s): L. Theunissen
Area: Humanities
Writing Intensive.

AS.150.192. Freshman Seminar: Self and Self-Knowledge. 3
Credits.
Instructor(s): M. Williams
Area: Humanities.

AS.150.193. Philosophy of Language Seminar: Proper Names
and Definite Descriptions. 3 Credits.
In talking with each other, we often use proper names like 'Juliet' and
definite descriptions like 'The most beautiful fresco in Italy' to pick
out persons and objects in our world. But what do these expressions
mean exactly? In this seminar, we'll slowly and carefully work through
some classic philosophical texts that address this issue. These texts will
provide an introduction to the philosophy of language, and to analytic
philosophy in general.
Instructor(s): J. Bledin
Area: Humanities
Writing Intensive.

AS.150.194. Freshman Seminar: Skepticism Ancient and
Modern. 3 Credits.
Can we gain knowledge of reality, or is everything a matter of opinion?
Does it matter? Why do we want (or need) knowledge anyway?
Questions like this have been the stock in trade of philosophical skeptics
throughout the entire history of our Western philosophical tradition. This
class will involve close readings of some classic works on the topic of
skepticism with a view to understanding some of the main arguments
for (and against) skepticism: how they work and how they may have
changed over time. Readings include selections from Sextus Empiricus,
Descartes, Hume and Wittgenstein.
Instructor(s): M. Williams
Area: Humanities.

AS.150.201. Introduction to Greek Philosophy. 3 Credits.
A survey of the earlier phase of Greek philosophy. Socrates, Plato,
and Aristotle will be discussed, as well as two groups of thinkers who
preceded them, usually known as the pre-Socratics and the Sophists.
Instructor(s): R. Bett
Area: Humanities.

AS.150.202. Philosophy of Medicine. 3 Credits.
This course explores philosophical issues that are of central importance
to medicine. Topics to be covered include: history of medicine,
relationship between medicine and science, distinction between health
and disease. Dean's Prize Teaching Fellowship.
Instructor(s): B. Miller
Area: Humanities.

AS.150.203. Contemporary Metaphysics. 3 Credits.
This course will provide students with a survey of major topics in
contemporary metaphysics, including such issues as the identity of
objects through change and the metaphysical status of persons. Dean's
Teaching Fellowship course.
Instructor(s): J. Brandau
Area: Humanities
Writing Intensive.

AS.150.205. Introduction to the History of Modern Philosophy. 3
Credits.
An introduction to early modern philosophy, examining Descartes' 
Meditations on First Philosophy, Locke's Essay Concerning Human 
Understanding, Hume's Enquiry Concerning Human Understanding, and 
selections from Kant's Critique of Pure Reason. We will consider such 
topics as the relation between philosophy and science, the nature and 
scope of human knowledge, the nature of the human mind, and the 
nature of human freedom. Gilman course in the Humanities.
Instructor(s): Y. Melamed
Area: Humanities.

AS.150.209. Freshman Seminar-course changed to 192. 3
Credits.
Area: Humanities.

AS.150.217. Neuroethics. 3 Credits.
Can electroencephalography show that we lack free will? Can modern
neuroimaging show that someone will commit a crime in the future? Is
it ethical to use this promethean knowledge to put them in jail before
they even commit a crime? In Neuroethics, we'll consider these and
other pressing questions emerging at the frontiers of neuroscience and
modern moral theory.
Prerequisites: This course is equivalent to AS.150.472
Instructor(s): P. Stojanovic
Area: Humanities.
AS.150.218. Introduction To Symbolic Logic. 3 Credits.
An introduction to the basic concepts and techniques of symbolic logic, with considerable emphasis on translating from English into formal languages, constructing formal proofs, and understanding semantic criteria for validity.
Area: Humanities.

AS.150.219. Introduction to Bioethics. 3 Credits.
Introduction to a wide range of moral issues arising in the biomedical fields, e.g. physician-assisted suicide, human cloning, abortion, surrogacy, and human subjects research.
Instructor(s): H. Bok
Area: Humanities
Writing Intensive.

AS.150.220. Introduction to Moral Philosophy. 3 Credits.
The class serves as an introduction to ethics. We consider select topics in meta-ethics (on the nature of reason and value), and we survey three prominent theories within normative ethics (utilitarianism, Kant’s moral theory, and virtue theory). We will read classic works from the history of philosophy, and important contemporary papers.
Instructor(s): L. Theunissen
Area: Humanities.

AS.150.227. Introduction to Asian Philosophy. 3 Credits.
What is the nature of reality? What is the mind? What is the meaning of life? How ought we to live? In this course, we will explore how some of the better known philosophical systems of India, China and Japan have attempted to answer these most central philosophical questions. We will focus on the following systems: Nyaya, Samkhya-Yoga, Vedanta, Buddhism, Carvaka, Confucianism, Taoism, and Zen.
Instructor(s): B. Miller
Area: Humanities.

AS.150.228. Introduction to the Foundations of Logic, Mathematics and Computation. 4 Credits.
This course replaces 150.218 Introduction to Symbolic Logic and 150.420 Intermediate Symbolic Logic. These courses were based on the sort of basic logic course that has been standardly taught by Philosophy departments for at least fifty years. But much has happened since then, and it is high time to begin introducing students to the more exciting developments earlier on so that they can get a sense for where the action is. Since the 1950’s there have been major developments in the areas of lambda calculus and category theory and results such as the Curry-Howard isomorphism showing how these are related to logic. For example, conclusions of arguments correspond to the existence of data types and proofs correspond to programs. In general, the course explores fundamental formal systems and their formal interpretations. Apart from covering basic systems of logic, we will look at different manners of interpreting basic mathematical concepts such as those of set, element, number, ordered pair, function, and mapping. Students enrolled at the 420 level will attend the same lectures and sections as 228 students but will investigate the material at a deeper level through more penetrating homework assignments.
Area: Quantitative and Mathematical Sciences.

AS.150.229. Religion and/or Science?. 3 Credits.
Are Religion and Science necessarily in conflict, can they coexist, or do they in fact require each other’s existence? Is scientific method so different from religious thinking? Can science discredit God? Is it possible to be rational and remain religious? In this course, we will explore these and other related questions and examine possible answers. In the process, we will read the texts of both classical and contemporary philosophers and scientists who tackled with these problems.
Instructor(s): P. Stojanovic
Area: Humanities.

AS.150.233. Environmental Ethics. 3 Credits.
This course provides an overview of major issues in environmental ethics. Students will be introduced to prominent ethical theories and the manner in which they may be applied to questions of environmental policy. In addition to considering pressing global issues, such as overpopulation, food production, and climate change, we will discuss conceptual developments in environmental ethics related to anthropocentrism, the intrinsic value of ecosystems, animal rights, deep ecology, and more.
Area: Humanities.

AS.150.235. Philosophy of Religion. 3 Credits.
Philosophical arguments for and against religious belief; rational and anti-rational conceptions of faith; the will to believe and the ethics of belief; evil and omnipotence; myth and the miracles.
Instructor(s): S. Gross
Area: Humanities.

AS.150.237. Foundations of Modern Political Philosophy. 3 Credits.
This course is an introduction to modern political philosophy through an intensive study of the classic texts. The focus will be on the nature and limits of political authority under modern social conditions. Authors included are Machiavelli, Hobbes, Locke, Rousseau and Mill.
Instructor(s): D. Moyar
Area: Humanities.

AS.150.245. Introduction to Philosophy of Mind. 3 Credits.
This is an introduction to the central problems of philosophy of mind: the mind-body problem and the problem of self-knowledge. Of particular interest in contemporary work is the relation of mind and brain and whether, or how, we acquire self-knowledge.
Instructor(s): M. Williams
Area: Humanities.

AS.150.300. Prometheus Editorial Workshop. 1 Credit.
Prometheus is an international undergraduate philosophy journal published by students at Johns Hopkins University. The purpose of the journal is to promote philosophic discourse of the highest standard by offering students an opportunity to engage in open discussion, participate in the production and publication of an academic journal, and establish a community of aspiring philosophers. Students enrolled in this workshop will act as the staff readers for the journal. For more information, please visit www.prometheus-journal.com.
Area: Humanities.
AS.150.301. Undergraduate Seminar: Practical Reason. 3 Credits.
How does reasoning that results in action differ from reasoning that results in belief? Is all practical reasoning a kind of means-end (instrumental) reasoning, or is there a form of moral reasoning that is presupposed by instrumental reasoning? These questions and more will occupy us as we work our way through the recent philosophical debates about practical reason. Restricted to philosophy majors and minors only.
Instructor(s): D. Moyar
Area: Humanities.

AS.150.302. Topics in Bioethics: Bioethics and the Human Genome. 3 Credits.
Instructor(s): M. Lewis
Area: Humanities.

AS.150.303. Heidegger: Being and Time. 3 Credits.
This course will be a close reading of Heidegger's 1927 masterwork Being and Time. From his attempt to provide a new beginning for Western metaphysics, to his analysis of "being towards death," Heidegger offers an unparalleled synthesis of theoretical and practical concerns. In addition to examining the arguments in detail, the course will also consider the historical sources of Heidegger's claims and the influence of his writings on subsequent philosophy.
Instructor(s): D. Moyar
Area: Humanities.

AS.150.304. The Ethics of Human Experimentation. 3 Credits.
This course will explore ethical theory, key historical events, and operational requirements of research involving human beings. Weekly discussions will focus on seminal literature and case studies that highlight conceptual and practical challenges related to informed consent; research ethics review; risk/benefit analysis; justice/fairness; globalization of research; participation of vulnerable populations; clinical equipoise; obligations to research participants and communities during studies and after research is completed; and deception in psychological and behavioral research. The course will also explore the emergence and development of the rules governing the protection of human subject research.
Instructor(s): J. Ali
Area: Humanities.

AS.150.305. Global Health & Human Rights: Theoretical Foundations & Practical Implications. 3 Credits.
This course systematically examines the human right to health. Topics will include the theoretical foundation(s) of human rights; how human rights compare and contrast to other dominant views of global justice (including Rawlsian versions, cosmopolitanism, and capabilities, among others); and whether (or under what circumstances) health can be properly called a "right". Special scrutiny will be given to access to essential medicines as a recent example of the invocation of a right to health.
Instructor(s): M. DeCamp
Area: Humanities.

AS.150.306. The Epicurians, the Stoics, & the Skeptics on How to Live. 3 Credits.
The question “How to live?” is eternal. The Epicureans said that pleasure is the goal of life that is to be pursued, thus paving the way to modern Utilitarianism. The Stoics argued that the goal of life is virtue, which consists in living in agreement with nature; in this, they anticipated contemporary virtue ethics. Both schools thought that although we live in a material and causally determined universe, our moral actions and characters are nevertheless “up to us” and that we have moral freedom and responsibility. The Skeptics, on the other hand, tried to demonstrate that no moral principles have sufficient rational justification and that, because of this, the only option is some kind of moral relativism and the pursuit of freedom from emotional disturbance. In this, they anticipated moral relativism and moral nihilism. By examining of the arguments of the Epicureans, the Stoics, and the Skeptics in this course, you will not only learn about them, but also have an opportunity to do philosophy yourself, and perhaps clarify how you should live your own life.
Instructor(s): P. Stojanovic
Area: Humanities.

AS.150.307. What is Philosophy?. 3 Credits.
What is philosophy? Is it purely theoretical inquiry, or does it spill over into the way we live our lives? How is it different from other academic disciplines or from religion? The course will examine what some of the most influential contemporary philosophers think about these questions. But in addition to this, we will trace the story of the emergence of philosophy in the ancient Greece and its development up to present day. We will read the works of Plato, Kant, and Nietzsche as well as such prominent contemporary philosophers as Rorty, Foucault, and Taylor.
Area: Humanities.

AS.150.308. Introduction to Philosophy of Physics. 3 Credits.
This course starts on July 7th and runs until August 1st. This course aims at introducing the student to the basic philosophical issues that lie at the heart of the modern physicist’s conception of nature. To this end, we will look carefully at the foundations of two modern theories of physics, namely, the special theory of relativity and quantum theory. Relativity revolutionized our understanding of space and time, whereas quantum physics shattered our established beliefs about causality and determinism in nature. In the special relativity section of this class, we will cover topics such as the speed of light postulate, conventionality of simultaneity thesis, and the twin paradox. In the foundations of quantum physics, we will probe the measurement problem, Schrodinger’s cat paradox and the uncertainty principle. No previous background in physics is required.
Instructor(s): G. Guralp
Area: Humanities, Natural Sciences.

AS.150.311. Undergraduate Seminar: Philosophy of Ludwig Wittgenstein. 3 Credits.
We will read Wittgenstein’s two great works: Tractatus Logico-Philosophicus (1921) and Philosophical Investigations (1953). If you have previously taken AS.150.442 you may not register for AS.150.311.
Prerequisites: If you have previously taken AS.150.442 you may not register for AS.150.311.
Instructor(s): M. Williams
Area: Humanities.
AS.150.312. Philosophy and Complexity. 3 Credits.
This course aims to engage with philosophical problems that stem from sciences of complexity in an interdisciplinary way. We will pose questions concerning how disciplines such as biology, economics, neuroscience, astrophysics etc. deal with the problem of complexity, and we will look at the basic problems philosophers of science single out in this context. After introducing the general problematic of the course, we will have two main parts under which we examine the philosophy of complex systems. The first part will be devoted to the epistemological aspects of the problem such as models, laws, explanation and evidence, and the second part will examine the metaphysical aspects of emergence and reduction.
Instructor(s): G. Guralp
Area: Humanities.

AS.150.313. Philosophy of Race and Gender. 3 Credits.
TBA
Instructor(s): L. Papish
Area: Humanities.

AS.150.315. Philosophy of Human Rights. 3 Credits.
From domestic debates about abortion and health care to international dialogue about women's rights, genital mutilation and genocide human rights claims have become increasingly common, and we've come to rely on the discourse of human rights to assess the way human beings are treated by one another and by states. But what are human rights? How are human rights claims justified? Are human rights really objective and universal or are they contingent and relative to particular cultures? Where did the human rights culture begin, and how has it become so important? This course aims to explore these questions by examining foundational human rights documents, historical works on human rights and contemporary philosophical inquiry into their foundations (or lack thereof).
Instructor(s): T. Wilk
Area: Humanities.

AS.150.316. Puzzles and Paradoxes. 3 Credits.
The course is a survey of puzzles and paradoxes of truth, belief, knowledge, meaning, confirmation, rational action, and vagueness. Specific puzzles and paradoxes include, among others: Russell's paradox, the Liar paradox, Moore's paradox, the Skeptical paradox, Newcomb's paradox, and the Sorites paradox. Besides being fun to think about, these puzzles and paradoxes touch on many areas of philosophy, including philosophy of language, logic, metaphysics, and epistemology. When introducing each puzzle or paradox, attention will be paid to its history and significance. In addition to this exposure to some of the many domains of philosophy, students will gain analytical skills applicable well beyond philosophy.
Instructor(s): D. Lindeman
Area: Humanities.

AS.150.320. Marx: Critique of Political Economy. 3 Credits.
A close reading of Marx's Capital: Volume One. Specific attention will be given to clarification of Marx's methodology, the foundational categories of his critique of political economy, the systematic unity of his theory, and the underlying normative concepts which inform his work. No previous course in philosophy or social sciences is required.
Instructor(s): A. Abazari
Area: Humanities, Social and Behavioral Sciences.

AS.150.321. African Philosophy. 3 Credits.
This course surveys some distinctively Sub-Saharan African contributions to major areas of philosophical inquiry, including metaphysics, epistemology, ethics and political philosophy.
Instructor(s): S. Koll
Area: Humanities.

AS.150.330. Decisions, Games & Social Choice. 3 Credits.
This course is an introduction to decision theory, game theory, and social choice theory with an emphasis on their philosophical underpinnings and philosophical applications. Topics covered include the Prisoner’s Dilemma, Newcomb’s Problem, convention and social contracts, risk, and Arrow’s Theorem.
Instructor(s): J. Bledin
Area: Humanities.

AS.150.400. Realism & Antirealism in the Philosophy of Science. 3 Credits.
Are our best scientific theories approximately true, or useful but false? Does science converge on the truth over time? This course addresses such questions by surveying the scientific realism debate.
Instructor(s): J. Hricko
Area: Humanities, Social and Behavioral Sciences.

AS.150.401. Greek Philosophy: Plato and His Predecessors. 3 Credits.
A study of pre-Socratic philosophers, especially those to whom Plato reacted; also an examination of major dialogues of Plato with emphasis upon his principal theses and characteristic methods.Cross-listed with Classics.
Instructor(s): R. Bett
Area: Humanities
Writing Intensive.

AS.150.402. Aristotle. 3 Credits.
A study of major selected texts of Aristotle.
Instructor(s): R. Bett
Area: Humanities
Writing Intensive.

AS.150.403. Hellenistic Philosophy. 3 Credits.
A study of later Greek philosophy, stretching roughly from the death of Aristotle to the Roman imperial period. Epicureans, Stoics, and Skeptics will be the main philosophical schools examined.
Instructor(s): R. Bett
Area: Humanities
Writing Intensive.
AS.150.404. Ethics and History of Body Modification. 3 Credits.
This course examines the ethical, historical and political issues surrounding body modifications. It explores the ways in which medical technologies have intersected with cultural constructions of gender, age, sexuality and race to produce ways of altering the human corporeal form. The course looks at a myriad of difference body modifications, concentrating mostly upon the Twentieth Century, but reaching as far back as the early modern period. Topics include: cosmetic surgery, transsexuality, bodybuilding, sports doping, dieting, anorexia, piercing, tattooing, fashion, make-up, and mythic modifications, such as vampires and werewolves. The course looks at the ways in which these modifications have been used variously to conform to, subvert and expose social norms about bodily appearance, as well as interrogating the means by which medicine and science are implicit in the cultural construction of those norms.
Instructor(s): D. O’Connor
Area: Humanities
Writing Intensive.

AS.150.405. Alienation. 3 Credits.
In this course we will study the topic of alienation both historically and systematically. We will examine the concept's historical roots at the turn of the 19th century and engage with contemporary discussions by authors working in philosophy of mind, ethics and political philosophy.
Instructor(s): D. Moyar
Area: Humanities
Writing Intensive.

AS.150.406. Can Science Explain Everything?. 3 Credits.
What is scientific explanation? We will examine various theories about this in order to determine whether and how science can explain everything physical and everything mental (including consciousness, emotions, purposes, and values). In addition to science are non-scientific theories, for example, religious ones, necessary? Do they compete with or complement scientific ones?
Instructor(s): P. Achinstein
Area: Humanities

AS.150.409. Classics of Analytic Philosophy. 3 Credits.
A reading of some of the classic philosophical works in 20th Century Analytic Philosophy, beginning with G. Frege and ending with W.O. Quine.
Instructor(s): M. Williams
Area: Humanities

AS.150.410. American Philosophy. 3 Credits.
Studies of major figures in the history of American Philosophy beginning with the 19th century. The course focuses on the development of pragmatism in the work of Peirce, James and Dewey. Other philosophers, such as Royce and Mead, may also be studied.
Instructor(s): D. Moyar
Area: Humanities

AS.150.412. Kant’s ‘Critique Of Pure Reason’. 3 Credits.
An examination of the philosophy of Immanuel Kant, with emphasis on The Critique of Pure Reason.
Instructor(s): E. Forster
Area: Humanities.

AS.150.417. Kant’s ‘Critique Of Pure Reason’. 3 Credits.
An examination of the philosophy of Immanuel Kant, with emphasis on The Critique of Pure Reason.
Instructor(s): E. Forster
Area: Humanities.

AS.150.418. Hermeneutics and Critical Theory. 3 Credits.
An introduction to two of the most important and influential schools in twentieth-century German philosophy. This course examines the works of four leading representatives of these schools, i.e. Heidegger, Gadamer, Horkheimer, and Habermas.
Instructor(s): E. Forster
Area: Humanities.

AS.150.419. Kant’s ‘Critique/Judgment’. 3 Credits.
Instructor(s): E. Forster
Area: Humanities.

AS.150.420. Mathematical Logic I. 3 Credits.
This is the first semester of a two semester course in mathematical logic. The first semester covers the syntax and semantics of sentential and predicate logic, proof, entailment, completeness. Course formerly listed as Symbolic Logic.
Prerequisites: If you have completed AS.150.421 you may not register for AS.150.420.
Instructor(s): R. Rynasiewicz
Area: Humanities.

AS.150.421. Mathematical Logic II. 3 Credits.
Gödel’s two incompleteness theorems regarding, first the unaxiomatizability of arithmetic and, second, the impossibility of proving the consistency of arithmetic using arithmetic methods (unless arithmetic is inconsistent). Computability and Church’s Thesis.
Prerequisites: Prereq: AS.150.420 or equivalent
Instructor(s): R. Rynasiewicz
Area: Humanities, Quantitative and Mathematical Sciences.

AS.150.422. Axiomatic Set Theory. 3 Credits.
Axiomatic development of set theory, including the theory of transfinite ordinals and cardinals. Relative consistency proofs. Independence of the axiom of choice, and of the continuum hypothesis. Implications for the foundations of mathematics.
Prerequisites: AS.150.421 or equivalent
Instructor(s): R. Rynasiewicz
Area: Humanities, Quantitative and Mathematical Sciences.

AS.150.423. Possible Worlds: From Spinoza to Kripke. 3 Credits.
In studying the logic and metaphysics of modality, it has become almost universal practice for philosophers to speak of other possible worlds. We investigate the use of this concept in the philosophical tradition, from the early appearance of possible worlds in the work of Leibniz and Spinoza, to their later rise to prominence in the formal semantics of Kripke, Lewis, Stalnaker, and many others.
Instructor(s): J. Bledin; Y. Melamed
Area: Humanities.

AS.150.424. Foundations of Probability & Induction. 3 Credits.
An examination of various interpretations of probability, including classical and priori, frequency, propensity, subjective, and logical. Also, we will study views about evidence as well as paradoxes of inductive reasoning, including Hume’s skepticism, and the grue and ravens paradoxes. No previous knowledge of probability is required.
Instructor(s): P. Achinstein
Area: Humanities, Quantitative and Mathematical Sciences.
AS.150.425. Poetic Thought. 3 Credits.
This course will examine essays and poems by Goethe, Hölderlin, and Rilke with an eye toward the ways in which their work addresses issues central to German Idealism and modern German thought. These include the relation of subject to object; the problem of the representation of the whole; the reconciliation of science and art; and the role of consciousness in the construction of the world. Readings include texts by Goethe, Hölderlin, and Rilke with commentary by Heidegger, Gadamer, Henrich, Husserl, Benjamin, and Allemann. Reading knowledge of German is required.
Instructor(s): E. Forster; R. Tobias
Area: Humanities, Natural Sciences.

AS.150.427. Relativism. 3 Credits.
The central questions of this class are: (1) what is epistemic relativism? and (2) is it true? The focus of this class will be exclusively on epistemic (not moral) relativism. We will draw on work from analytic philosophy and the history of science. Topics to be discussed include: conceptual schemes (are there any?), non-representational views of language, and cognitive pluralism. 
Instructor(s): N. Tebben
Area: Humanities.

AS.150.428. Spinoza’s Political Theology. 3 Credits.
“Political Theology” is a term that acquired significant resonance in recent years. The current class will study closely two texts by Spinoza, the founder of this discipline: the Theological-Political Treatise and the (incomplete) Political Treatise.
Instructor(s): Y. Melamed.

AS.150.429. Topics in Logic: Ontology and Knowledge Representation. 3 Credits.
Knowledge representation deals with the possible structures by which the content of what is known can be formally represented in such a way that queries can be posed and inferences drawn. Ontology concerns the hierarchical classification of entities from given domains of knowledge together with the relations between various classes, subclasses, or individuals. The main framework in which we will work is that of description logics, which are decidable fragments of varying degrees of first order predicate logic. In ontology development we will examine RDF (Resource Description Framework), its extension to RDFS, and OWL (Web Ontology Language), and use the software Protege for specific applications. Finally, we will take a look at query languages such as SPARQL (SPARQL Protocol and RDF Query Language).
Instructor(s): R. Rynasiewicz
Area: Humanities.

AS.150.430. Hegel’s Phenomenology of Spirit. 3 Credits.
An in-depth study of Hegel’s masterpiece, the Phenomenology of Spirit. We will be concentrating on the first half of the text.
Instructor(s): E. Forster.

AS.150.431. Introduction to Philosophy of Science. 3 Credits.
This course introduces students to some major philosophical problems about science, including these three: (1) Is there a universal set of rules constituting the “scientific method” that scientists must always follow in order to be rational? (2) Can science provide knowledge of an “unobservable” world underlying our experiences, and if so how? Or is science confined to speaking about the world of observation? (3) Are there important differences between philosophy and science? We will consider disputes between rationalists (e.g., Descartes) and empiricists (e.g., Newton) on scientific method, historical and contemporary debates between scientific realists and instrumentalists about the reach of science, as well as different viewpoints concerning the relationship between philosophy and science. No particular science or philosophy background is presupposed.
Instructor(s): P. Achinstein
Area: Humanities.

AS.150.432. Philosophy of Space & Time. 3 Credits.
Beginning with Poincaré, there has been an influential school of thought maintaining that there is no fact of the matter as to whether the geometry of space is Euclidean or, instead, some form of non-Euclidean geometry – rather, one can arbitrarily choose a metric geometry and then modify the physics in order to fit the empirical facts. This claim has been extended to affine geometry (inertial structure of spacetime) and distant simultaneity (in relative theory). We will critically examine this tradition, beginning with a careful examination of the relation of non-Euclidean to Euclidean geometry.
Instructor(s): R. Rynasiewicz
Area: Humanities, Natural Sciences.

AS.150.434. History and Philosophy of Quantum Physics I. 3 Credits.
Planck, Einstein, Bohr model, “old quantum theory,” correspondence principle, dispersion, BKS theory, Heisenberg’s Umdeutung (1925 invention of matrix mechanics) and its development.
Instructor(s): R. Rynasiewicz
Area: Humanities, Natural Sciences.

AS.150.435. The Philosophy and Theology of Maimonides. 3 Credits.
This course will examine the philosophic and theological thought of Judaism’s most renowned philosopher, Moses Maimonides (1138-1204). After a brief overview of Maimonides’ multifaceted life as philosopher, scientist, physician, Talmudic scholar, rabbi, and communal leader; we will consider Maimonides’ philosophic and religious background and, in particular, the ancient Greek and medieval Islamic philosophic works that influenced him. The course will delve into his views on topics such as the relation between faith and reason, the existence of God, creation/eternity of the world, free will/determinism, the nature of prophecy, the purpose of law, human happiness, ultimate perfection, and the Afterlife. Special attention will be given to Maimonides’ method of philosophic writing and the tension in his life between the vita activa and the vita contemplativa. The course will also trace the impact of Maimonides’ Guide of the Perplexed upon later Jewish thought and upon Western philosophy and theology from Thomas Aquinas to Leibniz.
Instructor(s): S. Harvey
Area: Humanities.

AS.150.436. Philosophy of Psychology. 3 Credits.
This will be a critical examination of Chomsky’s and Fodor’s conception of language. Our approach will be genealogical. We want to understand the theoretical changes each undergoes and why.
Instructor(s): M. Williams
Area: Humanities.
AS.150.438. Spinoza's Ethics. 3 Credits.
The seminar is an in depth study of Spinoza’s major work, The Ethics.
Instructor(s): Y. Melamed
Area: Humanities.
AS.150.439. Epistemology. 3 Credits.
Is knowledge (or even strong evidence) required, or possible, in science and in philosophy? We will focus on whether standard forms of nondemonstrative reasoning are justified, how if at all one can gain knowledge of the observable and unobservable world, whether and how theories in philosophy can be established, an what to do in science and philosophy when you can’t prove or get strong evidence for your theory.
Instructor(s): P. Achinstein
Area: Humanities.
AS.150.442. The Philosophy of Ludwig Wittgenstein. 3 Credits.
A close reading of Wittgenstein’s Uncertainty familiarity with the Philosophical Investigations is required.
Instructor(s): M. Williams
Area: Humanities.
AS.150.447. Law and Philosophy. 3 Credits.
In this course we will examine major issue in the philosophy of law, including the relation of law to moral theory, the role of democratic political institutions in legal decisions, and the justification of punishment. No previous knowledge of law or philosophy is required.
Instructor(s): D. Moyar
Area: Humanities.
AS.150.452. Freedom of Will & Moral Responsibility. 3 Credits.
What are freedom of the will and moral responsibility? Are they compatible with determinism or naturalism? This course will examine various philosophers’ answers to these questions.
Instructor(s): H. Bok
Area: Humanities
Writing Intensive.
AS.150.453. Contemp Moral Philosophy: Responses to Wrongdoing. 3 Credits.
Instructor(s): L. Papish
Area: Humanities.
AS.150.454. The Value of Humanity. 3 Credits.
This is an upper-level undergraduate course on the value of human beings. Are human beings distinctively valuable? What makes us valuable? And how should we respond to the value of human beings? The course is divided into three parts. The first part takes up metaphysical questions about the basis and explanation of human value. We consider various proposals, including Kant’s, on the valuable feature or capacity of human beings. Are we valuable in virtue of having a good will, in virtue of being agents, in virtue of being valuers, or something further? And we consider various accounts of how the proposed basis makes us valuable: does it make us valuable in ourselves, or simpliciter? Or does it make us valuable-for something or someone? The second part of the course takes up normative questions about the appropriate mode of responding to human beings. We consider whether it makes sense to say that human beings are ‘ends-in-themselves’, and what it would mean to treat a person as an end-in-itself. We also consider various accounts of respect. A guiding question is whether human beings are the only appropriate objects of respect, or whether we can respect other beings, and even artifacts. The third section of the course turns to more applied philosophical questions. We ask about the relationship between humans and animals, and consider the claim that to accord human beings special value amounts to speciesism—prejudicial favoring of our own kind.
Instructor(s): L. Theunissen
Area: Humanities.
AS.150.455. Ethics And Animals. 3 Credits.
Instructor(s): H. Bok
Area: Humanities
Writing Intensive.
AS.150.459. Theory Of Knowledge. 3 Credits.
An advanced introduction to the central problems, concepts and theories of contemporary philosophical epistemology (theory of knowledge). Topics to be explored will include: what is knowledge (and why do we want it)?; theories of justification (foundationalism, the coherence theory, etc.); externalism and internalism in epistemology; skepticism, relativism and how to avoid them. Readings from contemporary sources.
Instructor(s): M. Williams
Area: Humanities
Writing Intensive.
AS.150.463. Theories of Rationality. 3 Credits.
Foundations of Rationality: How should we reason about reasoning? Understanding the nature of our ability to reason is among the most important parts of understanding who we are as human beings. This course will investigate the foundations of rationality through an examination of philosophical texts and contemporary empirical research.
Instructor(s): J. Waterman
Area: Humanities.
AS.150.464. Objectivity. 3 Credits.
This course examines the notion of objectivity and challenges to it. Its topics include the status of objective facts and beliefs, the structure of social reality, and rational disagreement.
Instructor(s): N. Goldberg
Area: Humanities.
**AS.150.465. Genetics, Genomics and Society. 3 Credits.**
This course will examine the ethical, legal and social implications (ELSI) of human genetics through the lens of significant and field-defining periods and events in the history of the field. We will study the ELSI issues raised by those events, and how the events have shaped and defined the current state of the science and emerging scientific, ethical, policy and public health issues. Juniors and Seniors only.
Instructor(s): D. Mathews
Area: Humanities, Natural Sciences, Social and Behavioral Sciences.

**AS.150.470. Spinoza and the Pantheism Debate. 3 Credits.**
In this course we will examine the philosophical significance of the so-called Pantheism Debate which shook Germany at the end of the 18th century after it was revealed that Lessing, the main representative of the German Enlightenment, was a Spinozist. Readings will be drawn from Spinoza, Jacobi, Mendelssohn, Herder, Goethe, and Kant.
Instructor(s): E. Forster; Y. Melamed
Area: Humanities.

**AS.150.472. Neuroethics. 3 Credits.**
Neuroethics: Can electroencephalography show that we lack free will? Can modern neuroimaging show that someone will commit a crime in the future? Is it ethical to use this Promethean knowledge to put them in jail before they even commit a crime? In Neuroethics, we’ll consider these and other pressing questions emerging at the frontiers of neuroscience and modern moral theory.
Instructor(s): P. Stojanovic
Area: Humanities.

**AS.150.473. Classics of Analytic Philosophy. 3 Credits.**
This will be an examination of the classic articles of 20th Century Anglo-American philosophy. Included are Frege, Russell, Wittgenstein, Austen, Carnap, Quine.
Area: Humanities.

**AS.150.474. Justice and Health. 3 Credits.**
Course will consider the bearing of theories on justice and health. Topics will include national health insurance, rationing and cost containment, and what justice requires of researchers in developing countries.
Instructor(s): H. Bok
Area: Humanities.

**AS.150.475. Addiction, Depression, and the Self. 3 Credits.**
An examination of the moral implications and effects of addiction, depression and Pharmacological treatments for depression on our conception of our own agency. Recommended Course Background: AS.150.219, AS.150.220, or permission required.
Instructor(s): H. Bok
Area: Humanities, Natural Sciences, Social and Behavioral Sciences Writing Intensive.

**AS.150.476. Philosophy and Cognitive Science. 3 Credits.**
This year’s topic: Consciousness, Attention, and Memory. What is it for a state to be conscious? Can one have a conscious perceptual experience of something, but not know it? Is attention necessary for consciousness? Is consciousness necessary for attention—which is, can one selectively attend in perception to one object over another even when you’re not conscious of either? We will examine such questions, as well as related work concerning the probabilistic nature of representation and the nature and capacity of memory. Readings will include works by both philosophers and perceptual scientists, including Block, Dehaene, Lamme, Dennett, Rosenthal, and others. [This course meets jointly with Professor Flombaum’s AS.200.316 and AS.200.616.]
Instructor permission required.
Instructor(s): J. Flombaum; S. Gross
Area: Humanities, Natural Sciences, Social and Behavioral Sciences Writing Intensive.

**AS.150.477. Existentialism. 3 Credits.**
Through a close reading of the seminal texts by Kierkegaard, Nietzsche, Heidegger, Sartre, and Merleau-Ponty the course will examine one of the most influential philosophical movements of the last century.
Instructor(s): G. Lebanidze
Area: Humanities.

**AS.150.482. The Ethics of Food. 3 Credits.**
Eating is an essential human activity: we need to eat to survive. But alas, we need not eat well to survive, and many of us don’t. This course is about eating well—eating in a way that’s morally responsible, aesthetically pleasing, healthy, and that gives meaning to our lives. We’ll consider these ethical questions: Is it morally wrong to make animals suffer and to kill them in order to eat them? Does it depend upon the animal (e.g. cows vs. clams)? What are the environmental and social consequences of various eating habits (e.g. vegetarianism, veganism, eating locally, eating organic)? Do these environmental and social consequences generate moral obligations to adopt (or to abandon) the relevant eating habits? Should we eat in ways that express and honor our humanity, our cultures, our religions, and our family traditions—or is this comparatively unimportant? We’ll also consider government policies that affect our food choices: How can government policy shape our food choices? Given the individual and collective costs of certain food choices, should government policy aim to shape our food choices, or is that unacceptably paternalistic? Does the government have different responsibilities to shape children’s food choices than adults’ food choices?
Writing Intensive.

**AS.150.483. Topics in Jewish Philosophy: Heresy. 3 Credits.**
This course will study the history and transformations of the Jewish concept of ‘Apikorsut’ – a unique kind of heresy that refers to a rabbinic scholar turned into a heretic, while maintaining a tense dialogue with mainstream Rabbinic culture and community. We will particularly interested in the following questions: What makes a dissenter into an Apikoiros? How does the Apikoiros defer from the apostate? Why was philosophy as a whole considered (since the Late Middle Ages) as a discipline of Apikorsut?.
AS.150.484. Is Knowledge Possible: Epistemic Problems, Puzzles & Paradox. 3 Credits.
How is knowledge possible in view of various intractable problems and paradoxes, including the problem of justifying induction, the realism-anti-realism dispute, and the grue and ravens paradoxes about evidence? Are philosophical claims knowable? A study of contemporary views about evidence, probability, inference, and philosophy.
Instructor(s): P. Achinstein
Area: Humanities.

AS.150.485. Introductions to the Foundations of Logic, Mathematics and Computation. 4 Credits.
This course replaces 150.218 Introduction to Logic and 150.420 Intermediate Symbol Logic. These courses were based on the sort of basic logic course that has been standardly taught by Philosophy departments for at least fifty years. But much has happened since then, and it is high time to begin introducing students to the more exciting developments earlier on so that they can get a sense for where the action is. Since the 1950’s there have been major developments in the areas of lambda calculus and category theory and results such as the Curry-Howard isomorphism showing how these are related to logic. For example, conclusions of arguments correspond to the existence of data types and proofs correspond to programs. In general, the course explores fundamental formal systems and their formal interpretations. Apart from covering basic systems of logic, we will look at different manners of interpreting basic mathematical concepts such as those of set, element, number, ordered pair, function, and mapping. Students enrolled at the 420 level will attend the same lectures and sections as 228 students but will investigate the material at a deeper level through more penetrating homework assignments.
Area: Quantitative and Mathematical Sciences.

AS.150.486. Philosophy of Religion from Plato to Nietzsche. 3 Credits.
How should one understand the relation between reason and religious faith? Are there rationally compelling arguments for belief in the existence of God? If not, are the ethical demands of religious faith problematic? And if religious faith is not founded on reason, what is the best explanation for it? We will examine these and related questions via influential writings from Plato, Augustine, Anselm, Aquinas, Descartes, Hume, Kant, Kierkegaard, Marx, and Nietzsche.

AS.150.487. Experimental Ethics. 3 Credits.
Can ethical truths be uncovered through experimental methods? In this course we look at research in the psychology of moral judgment and its impact on how we ought to act.
Instructor(s): J. Maynes
Area: Humanities.

AS.150.488. Enlightenment Moral and Political Theory. 3 Credits
Instructor(s): H. Bok
Area: Humanities
Writing Intensive.

AS.150.489. Spinoza’s Metaphysics. 3 Credits.
The seminar is an in depth study of Spinoza’s major work, the Ethics. We will concentrate on Parts II-IV of the Ethics, though we will try to cover the entire book. Among the topics to be discussed are: the style and structure of the book, the meaning of being and the question of ontology in Spinoza, the nature of Spinoza’s attributes, necessitarianism, teleology, the nature of ideas, parallelism, individuals and their limits, the nature of bodies, the three kinds of knowledge, the conatus and the affects, Spinoza’s view of good and evil, blessedness and divine intellectual love.
Instructor(s): Y. Melamed
Area: Humanities.

AS.150.490. Animal Minds. 3 Credits.
An examination of some of the scientific and philosophical literature on the nature of animal minds and the way(s) in which they differ from the human mind. The most important of these apparent differences are the use of language, the exercise of concepts, and instrumental reasoning, including the use of instruments. Co-listed 300.411
Instructor(s): M. Williams
Area: Humanities.

AS.150.491. Kant and Newton on the Foundations of Science. 3 Credits.
Kant attempted to provide a philosophical foundation for Newtonian science. In this class we will read Kant’s work “Metaphysical Foundations of Natural Science,” and philosophical and foundational parts of Newton’s “Principia,” and we will critically compare and evaluate both. No particular scientific background is presupposed.
Instructor(s): E. Forster; P. Achinstein
Area: Humanities.

AS.150.493. Introduction to Scientific Methods. 3 Credits.
We will study various methods for proving scientific claims defended by scientists and philosophers. Included will be rationalism (Descartes), various forms of empiricism (Newton, Mill, Whewell), realism vs. antirealism, and scientific strategies to follow when you cannot prove your favorite theory. No particular scientific background required.
Instructor(s): P. Achinstein
Area: Humanities, Social and Behavioral Sciences.

AS.150.494. Descartes. 3 Credits.
The course is an introduction to the philosophy of Rene Descartes. We will read most of his main philosophical works, and part of his correspondence. The class is open to both undergraduate and graduate students.
Instructor(s): Y. Melamed
Area: Humanities.
AS.150.495. Sex, Drugs, and Bioethics: Medicine and Morality in Modern America. 3 Credits.
Alongside rock n’ roll, sex and drugs have classically been seen as sites of moral or ethical transgression, particularly in post-war America. Unlike rock n’ roll, however, sex and drugs have always been bound up with the practice of medicine. This course explores the interaction of medical science with the moral and ethical issues which surround i) reproduction, sexual pleasure, and gender roles and ii) the use of drugs, both therapeutic, enhancing and recreational. Bridging these two sides of the course is the question of medicalisation, and how medical science is used to construct socially normative ideals about sexuality, behavior, emotion and physical capacity, and how in turn those moral norms are used to justify or argue for the development of particular medical practices. The aim of the course is to illuminate the mutually constitutive interplay of medicine and morality in modern America.
Topics covered include: abortion, contraception, IVF, sex-selection, gene selection, adolescent sexualities, prostitution, STD surveillance, medicalisation of sexual dysfunction, medicalisation of emotion and behavior, ‘moral enhancement’, ADHD, Performance Enhancing Drugs, cosmetic surgery, neuroenhancement, recreational drugs, the war on drugs, the purpose of medicine.

Instructor(s): D. O’Connor
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.150.496. Topics in the Theory of Value. 3 Credits.
We ask a basic question in value theory: what is it for something to be good, or of value? Is it for something to instantiate the simple value property ‘good’? Can goodness be identified with some natural property, perhaps, the property ‘pleasant’, or some dispositional property, perhaps, ‘what we desire to desire’? Is goodness a relation between some object, state of affairs, or activity and a subject, so that the good is benefit? On the other hand, are reasons and not values primitive in value theory, so that we should theorize about the good in terms of appropriate responses to it? We will read classic works by G. E. Moore, Peter Geach, Judith Jarvis Thomson, Connie Rosati, Nicholas Sturgeon, Richard Kraut, Donald Regan, T. M. Scanlon, and others.

Instructor(s): L. Theunissen
Area: Humanities.

AS.150.497. Kant and the Early Moderns. 3 Credits.
A critical examination of Kant’s dialogue with his Early Modern predecessors (Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume), and of their own respective positions.

Instructor(s): E. Forster; Y. Melamed
Area: Humanities.

AS.150.498. Modal Logic and Its Applications. 3 Credits.
In the first part of the course, we’ll investigate the theory of modal logic, considering its syntax, semantics, and proof theory. We’ll then turn to some its philosophical applications: epistemic logic, counterfactuals, deontic logic, intuitionistic logic, and the metaphysics of time.

Instructor(s): J. Bledin
Area: Humanities, Quantitative and Mathematical Sciences.

AS.150.511. Directed Study. 3 Credits.
Individual study of special topics, under regular supervision of a faculty member. Special permission is required.

Instructor(s): Staff
Writing Intensive.

AS.150.512. Directed Study. NULL Credits.
Instructor(s): Staff.
AS.150.607. Graduate Seminar: Knowledge and Perception.
How does perception reveal the world, if it does? Why have philosophical reflections on perception often led to skepticism? For background, we will start with readings from Ayer and Austin (on the sense-datum theory), and Sellars (on the Myth of the Given). We will then spend time on contemporary "disjunctive" accounts of perceptual consciousness, with readings from McDowell, Travis and (possibly) others.
Instructor(s): M. Williams
Area: Humanities.

AS.150.609. Graduate Seminar - Philosophy.
An examination of Derek Parfit's "On What Matters".
Instructor(s): H. Bok
Area: Humanities.

AS.150.610. Graduate Seminar: Virtue Ethics.
A study of recent work in virtue ethics.
Instructor(s): H. Bok.

AS.150.611. Topics in Metaphysics: Mereology.
Mereology, the study of the relationship between parts and whole, has recently become a major subfield in contemporary metaphysics. In the seminar we will read classical as well as recent literature on the subject. Topics to be discussed include: the univocity of the term 'part', priority relations between parts and whole, universal composition, the nature of simples, boundaries, mereology and set theory, spatial parts, temporal parts, metophysical monism and nihilism. For an introductory survey of the field, please see: Varzi, Achille, "Mereology", The Stanford Encyclopedia of Philosophy (Spring 2011 Edition), Edward N. Zalta (ed.), URL = <a href="http://plato.stanford.edu/archives/spr2011/entries/mereology/">http://plato.stanford.edu/archives/spr2011/entries/mereology/</a>
Instructor(s): Y. Melamed.

Schelling's Philosophical Investigations into the Nature of Human Freedom counts among his most important works - Heidegger called it "one of the deepest works of Western philosophy." It is also one of the most enigmatic ones. In this course, we will contrast it with Schelling's philosophy of nature and investigate the extent to which his theory of freedom is necessitated by problems in his philosophy of nature.
Instructor(s): E. Forster
Area: Humanities.

AS.150.619. Topics in Hegel's Philosophy: The Subjective Logic.
This course will mainly consist of a close reading of the final part of Hegel's Science of Logic. Main topics will include the relation of judgment and inference, the development of mechanism into teleology, and the logical status of the concepts of life and the good.
Instructor(s): D. Moyar
Area: Humanities.

AS.150.621. Seminar in Hegel's Phenomenology of Spirit.
The course will consist of close reading of Hegel's text along with readings from the extensive secondary literature. Particular attention will be given to Hegel's methodology, his uses of recognition, and the various treatments of agency.
Instructor(s): D. Moyar.

An in-depth study of Fichte's 1794 Science of Knowledge together with his "Outline of the Distinctive Character of the Wissenschaftslehre with respect to the Theoretical Faculty."
Instructor(s): E. Forster.

AS.150.629. Graduate Seminar: Knowledge, Meaning, and Necessity: Themes from Wilfrid Sellars.
Instructor(s): M. Williams.

AS.150.630. Seminar In Metaphysics: Mind and Cosmos.
We will begin by reading Thomas Nagel's new book: Mind and Cosmos. This will be followed by other works to be selected in class.
Instructor(s): P. Achinstein.

AS.150.632. Formal Logic.
Co-listed with AS.150.118
Instructor(s): P. Achinstein
Area: Humanities, Quantitative and Mathematical Sciences.

AS.150.633. Kant's Opus Postumum.
This research seminar examines the reasons that led Kant to revise his transcendental philosophy late in life. Special attention to problems in the Metaphysics of Nature and the Metaphysics of Morals. Students should be familiar with Kant's theoretical and practical philosophy.
Instructor(s): E. Forster.

AS.150.634. Seminar in Philosophy of German Idealism: Explanation or Construction? The Question of Method in the Philosophy of Nature.
"We must do away with all explanation, and description alone must take its place." This sentence, although written over a century later and in a different context, could serve as a motto for what is perhaps the most important debate about the proper method of Naturphilosophie in German Idealism. In this seminar we will examine the philosophical significance of this debate over the role of explanation in our knowledge of nature. Readings will come from Jacobi, Goethe, Schiller, Kant, Schelling, Hegel, as well as from Pascal, Spinoza, and Newton.
Instructor(s): E. Forster
Area: Humanities.

This seminar will be an examination of Wittgenstein's On Certainty. We will be concerned with detailed readings of the passages as well as more general interpretative claims.

AS.150.648. The Identity of Indiscernibles.
Can two things (such as bodies, events, moments, thoughts, possible worlds) have precisely the same qualities? If so, what makes them different from each other? In this course we will study various theories of individuation in the early modern period and in contemporary metaphysics. Readings will include texts by Aristotle, Thomas, Spinoza, Locke, Leibniz, Clarke, Kant, Maimon, Russell, Max Black, Ayer, Ian Hacking, Saul Kripke, Robert Adams, and Michael Della Rocca.

A study of Kant's major works in moral philosophy.
Instructor(s): H. Bok.

AS.150.652. Seminar in the Philosophy of Science.
Philosophy of experiment, Bayesianism, severe tests. Readings from Hacking, Galison, Franklin, Mayo, and others. Applications range from physiology to cosmology.
Instructor(s): R. Rynasiewicz
Area: Humanities, Social and Behavioral Sciences.

AS.150.653. Seminar: Philosophy - Physics.
Philosophical problems in space-time physics.
Instructor(s): R. Rynasiewicz
Area: Humanities.
AS.150.658. Topics in the Philosophy of Language.
An examination of recent work in the philosophy of language and/or related work in the philosophy of mind
Instructor(s): S. Gross.
AS.150.659. Topics in Formal Semantics: Questions?.
After an introduction to contemporary formal semantics, we study the logic and semantics of interrogative sentences.
Instructor(s): J. Bledin
Area: Humanities, Social and Behavioral Sciences.
AS.150.663. “Self-Consciousness, Recognition, and Right”.
This course will involve a close reading of J.G. Fichte’s Foundations of Natural Right and G.W.F. Hegel’s Philosophy of Right. The focus will be on how these authors ground the category of right and its applicability in claims about self-consciousness and mutual recognition.
Instructor(s): D. Moyar.
AS.150.664. What is Naturphilosophie.
In recent years, there has been a resurgence of interest in idealist philosophy of nature (Naturphilosophie). In this research seminar, we will study some of the recent literature on this topic, together with the classic texts from Plato to Hegel.
Instructor(s): E. Forster.
AS.150.665. Philosophy of Psychology.
AS.150.810. Independent Study.
Sec. 01 Theunissen Sec. 02 Förster Sec. 03 Gross Sec. 04 Moyar Sec. 05 Rynasiewicz Sec. 06 Williams (Meredith) Sec. 07 Bok Sec. 08 Bett Sec. 09 Williams (Michael) Sec. 10 Bledin Sec. 11 Achinstein Sec. 12 Melamed
Instructor(s): Staff.
AS.150.811. Directed Study.
Please see AS.150.810 for section numbers to use when registering.
Instructor(s): Staff.
AS.150.812. Directed Study.
Please see AS.150.810 for section number to use when registering.
Instructor(s): Staff.
Preparing philosophy graduate students for the impending job market by discussions of, and practicing for, constructing and submitting dossiers, interviews and giving talks both in and outside one’s particular field. Open to all philosophy graduate students, regardless of year and field. No degree credits. Offered sporadically.
Instructor(s): P. Achinstein.
AS.150.821. Research Seminar in Language and Mind.
A workshop for current departmental research in language and mind. Permission required.
Instructor(s): S. Gross
Area: Humanities.

Cross Listed Courses

Cognitive Science
AS.050.303. Mind, Brain and Beauty. 3 Credits.
What underlies our aesthetic response to art, music, and other facets of human experience? Do identifiable properties of objects and events evoke consistent aesthetic responses, or is beauty mostly in the eye of the beholder? Examining such questions from cognitive science, neuroscience, and philosophical perspectives, this course explores relevant research and theory in the visual, auditory, and tactile domains. Several researchers will discuss their ongoing studies with the class, and students will also have the opportunity to participate in demonstration experiments that illustrate phenomena under discussion.
(Same as AS.050.603) Recommended Course Background: One or more courses in one of these: Cognitive Science, Neuroscience, Philosophy, or Psychology or permission of instructor.
Area: Natural Sciences, Social and Behavioral Sciences.

English
AS.060.282. Moral Philosophy and the Novel in Nineteenth-Century England. 3 Credits.
Can novels ask philosophical questions? What do literary narratives and moral arguments have to do with each other? Everyone who has read a novel recognizes that it is in part an expression of ideas: characters, narrators, authors, and so forth say and do things that express a way of thinking. In this course we’ll examine the connections between moral philosophy and literature in nineteenth-century England in a series of four units, each of which pairs a novelist and a philosopher. The novelists will be Jane Austen, Charles Dickens, George Eliot, and E.M. Forster; the major philosophers will include Edmund Burke, John Stuart Mill, Immanuel Kant, and G.E. Moore, and we’ll read excerpts from Jeremy Bentham, Ludwig Feuerbach, F.H. Bradley, and Henry Sigwick. Assignments will include reading quizzes, response papers, and a final essay with a research component. Dean’s Teaching Fellowship course.
Pre 1800 course.
Instructor(s): P. Fessenbecker
Area: Humanities
Writing Intensive.

Psychological Brain Sciences
AS.200.206. Foundations of Mind. 4 Credits.
An interdisciplinary investigation into the innateness of concepts: perception, number, language, and morality, physics discussed. Evidence from animals, infants, patients, brains. Students collect data in sections investigating claims from the readings. Cross-listed with Cognitive Science and Philosophy.
Area: Social and Behavioral Sciences.
AS.200.336. Foundations of Mind. 4 Credits.
An interdisciplinary investigation into the innateness of concepts: perception, number, language, and morality, physics discussed. Evidence from animals, infants, patients, brains. Students collect data in sections investigating claims from the readings. Cross-listed with Cognitive Science and Philosophy.
Instructor(s): J. Halberda; L. Feigenson
Area: Social and Behavioral Sciences.
German Romance Languages Literatures

AS.211.235. Panorama of German Thought I. 3 Credits.
Taught in English. German thought is a broad intellectual tradition that encompasses works in an astonishing number of fields including philosophy, aesthetics, sociology, epistemology, psychology, anthropology, history, religious studies, and cultural analysis. The most prominent representatives of this tradition are Luther, Kant, Humboldt, Hegel, Nietzsche, Marx, Warburg, Freud, Benjamin, Kracauer, Weber, Simmel, Cassirer, Auerbach, Adorno, Arendt, Heidegger, and Luhmann. Indeed the study of cultural, historical, and social phenomena as well as of literary and artistic forms would not have been possible without the German intellectual tradition which, beginning with the Enlightenment, emphasized the role of the subject in constituting objects of knowledge and experience. This two-semester survey course will highlight important topics of German Thought, e.g. the subject, consciousness and unconsciousness, Bildung and the idea of the university, the sublime and the uncanny, irony, hermeneutics and translation, the desire for knowledge, tragedy and repetition, civilization, symbolic forms and medial reproduction, memory, and authority in a historical scope. While the first semester (Fall) covers until 1850 (from Luther to Hegel/Kierkegaard), the second (Spring) focuses on Modern German Thought after 1850 (from Marx to Luhmann). Meets with AS.213.235
Instructor(s): E. Strowick
Area: Humanities.

AS.211.236. Panorama of German Thought II. 3 Credits.
German thought is a broad intellectual tradition that encompasses works in an astonishing number of fields including philosophy, aesthetics, sociology, epistemology, psychology, anthropology, history, religious studies, and cultural analysis. The most prominent representatives of this tradition include Luther, Leibniz, Kant, Humboldt, Hegel, Nietzsche, Marx, Warburg, Freud, Benjamin, Kracauer, Weber, Simmel, Cassirer, Auerbach, Adorno, Arendt, Heidegger, and Luhmann. Indeed, current approaches to understanding cultural, historical, and social phenomena as well as literary and artistic forms would not have been possible without the German intellectual tradition which, beginning with the Enlightenment, emphasized the role of the subject in constituting objects of knowledge and experience. This survey course will highlight important topics in German Thought, e.g. the subject, consciousness and unconsciousness, Bildung and the idea of the university, the sublime and the uncanny, irony, hermeneutics and translation, the desire for knowledge, tragedy and repetition, civilization, symbolic forms and medial reproduction, memory, and authority in a historical scope. Taught in English.
Instructor(s): R. Tobias; Staff
Area: Humanities.

AS.213.235. Panorama of German Thought I. 3 Credits.
Taught in English. German thought is a broad intellectual tradition that encompasses works in an astonishing number of fields including philosophy, aesthetics, sociology, epistemology, psychology, anthropology, history, religious studies, and cultural analysis. The most prominent representatives of this tradition are Luther, Kant, Humboldt, Hegel, Nietzsche, Marx, Warburg, Freud, Benjamin, Kracauer, Weber, Simmel, Cassirer, Auerbach, Adorno, Arendt, Heidegger, and Luhmann. Indeed the study of cultural, historical, and social phenomena as well as of literary and artistic forms would not have been possible without the German intellectual tradition which, beginning with the Enlightenment, emphasized the role of the subject in constituting objects of knowledge and experience. This two-semester survey course will highlight important topics of German Thought, e.g. the subject, consciousness and unconsciousness, Bildung and the idea of the university, the sublime and the uncanny, irony, hermeneutics and translation, the desire for knowledge, tragedy and repetition, civilization, symbolic forms and medial reproduction, memory, and authority in a historical scope. While the first semester (Fall) covers until 1850 (from Luther to Hegel/Kierkegaard), the second (Spring) focuses on Modern German Thought after 1850 (from Marx to Luhmann). Instructor(s): E. Strowick
Area: Humanities.

AS.213.236. Panorama of German Thought II. 3 Credits.
Panorama of German Thought from Nietzsche to Habermas. Course will examine major thinkers in nineteenth and twentieth-century German thought with emphasis on the response to Enlightenment philosophy, the critique of reason, the questions about the autonomy of the subject and the search for new individual and collective identities. Reading will include traditional philosophical texts (Nietzsche, Cassirer, Heidegger, Adorno, Habermas) as well as works in anthropology (Gehlen, Scheler), sociology (Simmel, Weber), psychology (Mach, Freud), political theory (Marx, Schmitt) and aesthetics (Benjamin, Warburg, Panofsky). This course is a continuation of Panorama of German Thought I, though the first semester is not a prerequisite for the second. Taught in English.
Instructor(s): R. Tobias
Area: Humanities.

AS.213.309. Walter Benjamin and His World. 3 Credits.
All readings and class discussions in English. This course will provide an introduction to the thought, writing, and world of Walter Benjamin—one of the most interesting and influential German writers of the early 20th century. Although he died in exile having published only a single book in his lifetime, in the past three decades his ideas and preoccupations have changed the way we think about Cultural Studies, Media Studies, Literary Studies, German thought, Jewish mysticism, and the philosophy of history. We will be examining some of his major writings in tandem with precursors such as Charles Baudelaire and Louis Aragon; contemporaries such as Theodor Adorno and Gershom Scholem; and the legacy of his work among contemporary theorists, critics, and artists.
Instructor(s): M. Caplan
Area: Humanities
Writing Intensive.
AS.213.368. German Political Thought. 3 Credits.
This course will introduce students to major figures in German political thought from Martin Luther to Karl Marx and Immanuel Kant to Carl Schmitt. The class will explore such issues as the notion of sovereignty, the relationship between church and state, the theory of parliamentary democracy, and the political and economic ramifications of liberalism. Reading and discussion in English.
Instructor(s): R. Tobias
Area: Humanities.

The course analyzes the transformations of the relationship between form – life – aesthetics with regard to Goethe’s morphological writings as well as the complex history of the reception in the philosophy of life (Spengler, Klages), in literary Modernism (Rilke, Einstein, Benn, Kafka) and in the early cultural studies of the 20th century (Simmel, Cassirer, Blumenberg). The “doctrine of the shape of formation (Bildung) and transformation (Umbildung) of organic bodies,” Goethe’s morphology considers shape (Gestalt) not as something static but in constant change, taking particular interest in the movable (“das Bewegliche”), i.e., processes of transformation in their temporality: “Observing all shapes, particularly organic ones, nowhere do we find something established, something inactive, but rather everything oscillates in constant movement. Hence our language uses the word Bildung for both, the emerged as well as the emerging.” A nexus between life and form, Bildung raises the problem of representation: A force towards representation, it itself escapes representation. It is by way of metamorphosis and dynamization of representation that the relationship between life and form is arranged anew, again and again – imposing questions of Bildung, representability (Bildlichkeit), morphological methods and poetics on modern literature and the humanities. Taught in German. Recommended Course Background: AS.210.311-AS.210.312 or instructor permission.
Instructor(s): E. Strowick
Area: Humanities.

AS.213.604. Small Forms.
Small forms cover the broad field from aphorism, epigram, fable and riddle to anecdote, short story, novella, ... and treatise. In each of those ‘compositional arts’ the smallness unfolds in different and historically specific ways. Spanning a period from 1770 to 1940 and focusing (not exclusively) on aphorisms, the seminar will explore the manifold poetics of the small in literature and philosophy: What can small mean on the level of (literary) form? What (historically specific) kind of readings do small forms facilitate? What readings do they thwart? What happens to aphorisms when they become parts of a monstrously large overall composition? What distinguishes small forms from (e.g.) fragments? How do small forms relate to simple forms (Jolles) or minor literature (Deleuze)? To what extent do small forms gain epistemological impact, e.g. with respect to the critique of system and systematic philosophy since 1870? Readings include Lichtenberg, Schlegel, Novalis, Nietzsche, Kafka, Robert Walser, Benjamin, Adorno. Readings and discussions in German.
Instructor(s): A. Krauss
Area: Humanities.

AS.213.610. The Idea of a University in Classical German Philosophy.
The role and function of a university in life and in society was a topic of considerable concern for some of the most prominent German philosophers of the late 18th and early 19th century. Their published (and unpublished) contributions led to a new understanding of what a university should be that proved to be very influential for the conception of the ‘modern’ university, as realized in Germany in the 19th century. The seminar will examine the writings of Kant, Fichte, Schelling, Schleiermacher, and Humboldt on the university with attention to the relation of the authors’ thoughts on education to their more general philosophical positions. The seminar will begin on March 22 and continue to the end of the term.

AS.213.629. The Art of Framing.
Frames and Framings in art and literature are aesthetic means of creating focus. They draw a distinction between interiority and exteriority, foreground and surroundings; they cut out segments from space-time continuum and thus provide basic instruments of orientation, they constitute pictorial representation as well as the compositional structure of literature. From an epistemological perspective one can say that frames create a paradoxical threshold in-between which facilitates both the differentiation and transgression of spheres. It is further remarkable that frames while spectacularly making visible something specific at the same time expose the instances of their own ‘showing’: by implementing frames representation observes itself in the very process of representing. Through constituting systematic and historical readings the seminar will analyze theoretical concepts of frame and framing (Simmel, Genette, Marin, Derrida) and at the same time explore the transformation of frame forms and functions in literature and aesthetic discourse between 1720 and 1830 (Brockes, v. Haller, Wieland, Lessing, Herder, Lichtenberg, Goethe, Moritz, Jean Paul, Schlegel, Brentano, Tieck, Hoffmann). Among the topics to be discussed will be the conceptualization of subject-object relations as an analytical tool to reconstruct how the organizing principles of framing in Enlightenment (point of view, Guckkasten, chain of pictures, landscape/camera obscura) drift into the twilight of epistemological reflection: Around 1800 frame structures (and its doublings/transgressions) present the “Produzierende mit dem Produkt” and thus articulate the insights of transcendental philosophy, they turn into a medium of romantic irony.
Instructor(s): A. Krauss
Area: Humanities.

AS.213.634. Schiller’s Aesthetic Writings.
Schiller’s theoretical writings might be approached by the sentence ‘it is only through beauty that man makes his way to freedom’. Discussing the assumption that humans live in a condition of unfreedom resulting from social and economic divisions, Schiller’s notion of beauty crosses boundaries between ethics, politics and aesthetics to formulate a theory of modernity in which beauty functions as a medium to reconcile man’s sensuous nature and his capacity for reason. The course will examine Schiller’s concept of beauty in relation to the anthropological, political, ethical and aesthetic discourses of his time especially with respect to Kant’s view of aesthetic judgment which Schiller at the same time embraced and criticized. Particular attention will be paid to Schiller’s reflexions on representation as well as to the poetics of his aesthetic discourse. Readings include: Kallias-Briefe (1793), Über Anmut und Würde (1793), Vom Erhabenen (1793), Über die ästhetische Erziehung des Menschen in einer Reihe von Briefen (1793), Über naive und sentimentalische Dichtung (1795/96). Readings and discussions in German.

Taught in German. The course title marks a problem of translation which already Leo Spitzer in his “Prolegomena to an interpretation of the word ‘Stimmung’” underscores: “It is a fact that the German word Stimmung as such is untranslatable.” Mood, attunement, atmosphere are facets of an aesthetics of Stimmung as it developed in literature and philosophy from the 18th to the 20th century. Most recently, Stimmung has had a renaissance as a methodological term in a Literary Criticism which seeks to overcome the paradigm of post-structuralism. As David Wellbery has demonstrated, the linguistic usage of the word Stimmung comprises three aspects: a subjective mode of experience/perception, an atmospheric dimension and a communicative efficacy. It is along those lines that the course analyzes the poetics and aesthetics of Stimmung in German Literature and Thought from the 18th through the 20th century. Stimmung proves to be fertile ground for contagious forms of communication, specific modes of representation (i.e. coloring, nuance), and the dissolution of subject/object boundaries. Furthermore, we will discuss Stimmung as a term of Literary Criticism from the 20th century to the present. Readings will include: Kant, Schiller, Stifter, Fontane, Hofmannsthal, Hermann Bahr, Thomas Mann, Georg Simmel, Martin Heidegger, Leo Spitzer, Erich Auerbach, Gernot Böhme, Hans-Ulrich Gumbrecht.

Instructor(s): E. Strowick
Area: Humanities


Instructor(s): E. Strowick
Area: Humanities


In the [eighteen-]forties," Benjamin writes in “The Arcades Project,” "boredom began to felt on an epidemic scale". It is, however, as early as in German Enlightenment that boredom ("Langeweile") haunts aesthetics and three aspects: a subjective mood or perception, an atmospheric dimension and a communicative efficacy. It is along those lines that the course analyzes the poetics and aesthetics of Stimmung in German Literature and Thought from the 18th through the 20th century. Stimmung proves to be fertile ground for contagious forms of communication, specific modes of representation (i.e. coloring, nuance), and the dissolution of subject/object boundaries. Furthermore, we will discuss Stimmung as a term of Literary Criticism from the 20th century to the present. Readings will include: Kant, Schiller, Stifter, Fontane, Hofmannsthal, Hermann Bahr, Thomas Mann, Georg Simmel, Martin Heidegger, Leo Spitzer, Erich Auerbach, Gernot Böhme, Hans-Ulrich Gumbrecht.

Instructor(s): E. Strowick
Area: Humanities

AS.213.666. “To be continued”- Seriality in Literature and Other Media.

Taught in German. By ending with the words “(To be continued)” ("[ist fortzusetzen]"), Goethe’s Wilhem Meisters Wanderjahre not only reflects on the open form of the modern novel but also points toward serialized formats of fiction as they emerge in the 19th century due to advances in printing technologies. The publication of fiction in periodical installments in magazines or newspapers brings about the development of new genres (serialized novel/Feuilletonroman) along with specific serial narrative techniques. The cliffhanger e.g. - although invented earlier - becomes a prominent technique to create suspense. The course analyzes seriality with respect to narrative forms and genres across various media (literature, theater, film, TV) from the 19th century to the present. It further discusses serial aesthetics, seriality in structuralist and poststructuralist theory as well as the ambivalent status of seriality in the arts between avantgarde and popular culture. The course material will include: Stifter, Fontane, excerpts from the magazine “Die Gartenlaube”, Wagner, Freud, Kafka, Lévi-Strauss, Deleuze, Eco, Iser, “The Perils of Pauline” (serial, 1914), “Copycat” (Jon Amiel, 1995), “Twin Peaks” and current US-American TV series.

Instructor(s): E. Strowick
Area: Humanities
Writing Intensive


The course will be taught in German. With Alexander Gottlieb Baumgarten’s thesis “Philosophical meditations pertaining to some matters concerning poetry” (1735) the term “aesthetics” was introduced to philosophical discourse. The new name for the discipline did not signify a complete break with previous philosophical positions, that is, with the perfectionist aesthetics of Leibniz and Wolff. However, by conceptualizing sensible cognition as “analogue of reason” (analogon rationis) Baumgarten depicted the aesthetic sense as a locus of perfection in its own right and, thus, did transform the Wolffian model and paved the way for much more radical revisions of aesthetic experience in Germany. The course will study the emergence and specificity of Baumgarten’s concept of aesthetics in relation to the Wolffian framework, Gottsched’s poetics, (Georg Friedrich) Meier’s adaptations of Baumgarten, and Herders response to Baumgarten. Readings include Baumgarten’s early Meditations on Poetry (Meditationes philosophicae de nonnullis ad poema pertinentibus, 1735), excerpts from his Metaphysics (Metaphysica, 1739) and Aesthetics (Aesthetica, 1750-58). Cross-listed with Philosophy

Instructor(s): A. Krauss
Taught in German. The course analyzes the performative on the basis of the very field that John L. Austin’s speech act theory excludes: literature. What challenges Austin’s speech act theory indeed opens up the question of the performative towards iterability and theatricality and thus calls for the performative as a methodological category of literary criticism. According to Shoshana Felman’s readings of Austin, the performative act can be accentuated as an act of the “speaking body” in which the body is conceived of not as a means of linguistic expression but rather as a spillover of the act of utterance into the statement. How then is the corporeality or materiality of writing asserted in acts of narrating and reading? The course will examine theories of the performative from the perspective of literature and literary criticism as well as analyze literary speech acts (promises, pacts, etc.) in detail. Readings will include: Austin, Derrida, Felman, Freud, Nietzsche, de Man, Hamacher, Goethe, Büchner, Kafka, Henry James, Thomas Mann etc.
Instructor(s): E. Strowick
Area: Humanities.

AS.214.761. Reading & Writing in Pre-Modern Europe.
This course has a fourfold aim: First, it is designed to familiarize participants with the basics of Latin paleography from Roman antiquity through the age of printing with moveable type; throughout, we will practice deciphering literary and documentary sources of various types, even as we concentrate on the evolution of different writing styles. Second, we will think about paleography’s status as a “discipline.” That is, the term “paleography” dates back to 1708 and Montfaucon’s classic work, Palaeographia Graeca. However, it was only in the late nineteenth century in the world of the German research university that paleography came into the orbit of the Geisteswissenschaften as a “Hilfswissenschaft.” Both implicitly and explicitly throughout the seminar we shall be asking what consequences that move entailed. Third, we will study the manner in which printing with moveable type changed western graphic culture: was printing “revolutionary” or “evolutionary”? Did printing and its radical graphic changes introduce new forms of consciousness in readers? Fourth, we will become familiar with certain aspects of “the history of the book,” discovering as we do what sorts of questions scholars in this broad field of scholarly endeavor have been asking recently.

Theatre Arts Studies
AS.225.328. The Existential Drama: Philosophy and Theatre of the Absurd. 3 Credits.
Existentialism, a powerful movement in modern drama and theatre, has had a profound influence on contemporary political thought, ethics, and psychology, and has transformed our very notion of how to stage a play. Selected readings and lectures on the philosophy of Kierkegaard, Nietzsche, Camus and Sartre -- and discussion of works for the stage by Sartre, Ionesco, Genet, Beckett, Albee, Pinter, Athon Fugard (with Nkani & Nshone), Heiner Müller and the late plays of Caryl Churchill.
Opportunities for projects on Dürenmatt, Frisch, Havel, Witkiewicz, and Mrozek.
Instructor(s): J. Martin
Area: Humanities
Writing Intensive.

Humanities Center
AS.300.319. Skepticism and Theology. 3 Credits.
This course examines the relation between the history of philosophical theology and the foundations of modern skepticism by focusing on their mutual point of departure: the concept of the human being as an essentially “finite” being “limited” in its capacity to know others, the world, and God.
Instructor(s): T. Dika
Area: Humanities
Writing Intensive.

AS.300.342. The Bible and Philosophy I. 3 Credits.
This course will examine several attempts by ancient, modern, and contemporary thinkers to come to terms with the Biblical concept of revelation and prophecy, law and election, apocalyptic and eschatology. We will put special emphasis on the first articulation of the idea of Christian universalism, faith and justification, time and eternity.
Readings will include the entire corpus of St. Paul’s authentic letters, in addition to the major Scriptural passages on which he draws, but also selections from Philo of Alexandria, St. Augustine, Spinoza, Luther, Nietzsche, Jakob Taubes, Alain Badiou, Giorgio Agamben, and Jean-Luc Nancy.
Instructor(s): H. de Vries
Area: Humanities, Social and Behavioral Sciences.

AS.300.343. Philosophy and Literary Form. 3 Credits.
This course examines the difference literary form can make to the shaping of philosophical content. Philosophers have tended to treat literary form as merely ornamental. For this reason, they have often underestimated the philosophical significance not only of certain works of literature but also the literary form of even those works uncontroversially considered to be philosophical. This course explores the philosophical significance of literary forms in both kinds of works. The first half examines how and why Anglo-American philosophers have incorporated the interpretation of individual literary works into their philosophical writing. We will concentrate on three works of literature—Ibsen’s A Doll’s House, James’s The Golden Bowl and Wordsworth’s Prelude—each of which has attracted significant philosophical attention. The second half of the course examines how philosophers have brought literary analysis to bear in order to illuminate the philosophical achievement of certain canonical philosophical texts. We will concentrate on three literary forms—dialogue, meditation and confession—as these forms are instantiated by three works of philosophy: Plato’s Republic, Descartes’s Meditations and Wittgenstein’s Philosophical Investigations.
Instructor(s): K. Boyce
Area: Humanities.

AS.300.381. The Moses Complex. 3 Credits.
Instructor(s): R. Leys
Area: Humanities.

AS.300.388. Introduction to the Philosophy of Time. 3 Credits.
This course explores answers to the question “What is time?” that take account of time as something both inside and outside of us. Readings include, among others, Aristotle, Augustine, Kant, Bergson, Heidegger, and Einstein. Cross-listed with Philosophy.
Instructor(s): N. Schott
Area: Humanities.
AS.300.390. Obama and Philosophy. 3 Credits.
The course will investigate the theological and philosophical as well as rhetorical and literary backgrounds and guiding principles that have informed Barack Obama’s writings, speeches, and political strategies so far. While paying minute attention to a few pivotal controversial recent debates, both in domestic policy and international relations, our central focus will be on understanding the curious blend of Obama’s version of so-called Christian realism, influenced by Reinhold Niebuhr, among others, and of what we will call his deep pragmatism. Special attention will be paid to his early appeal to “simple ideas” and “small miracles,” each of them yielding the Biblical and sobered injunction of a “hope against hope. Cross-listed with Philosophy
Instructor(s): H. de Vries
Area: Humanities.

AS.300.399. Cinema and Philosophy. 3 Credits.
Do movies have anything to say about philosophical problems? Why is contemporary philosophy so interested in cinema? What are the most productive ways of bringing films and philosophy into conversation? Why is contemporary philosophy so interested in cinema? Instructor(s): P. Marrati
Area: Humanities.

AS.300.400. Philosophy of Tragedy. 3 Credits.
Since the late eighteenth century, philosophers have repeatedly been drawn to investigations of tragedy and the tragic. In this course we will study some of the most important thinkers in this tradition, and examine the different implications (philosophical, historical, political, existential, aesthetic, etc.) that these concepts carry in their works. Authors to be read will include Schiller, Hegel, Kierkegaard, Nietzsche, Unamuno, Benjamin and Cavell.
Instructor(s): L. Lisi
Area: Humanities.

AS.300.411. Animal Minds. 3 Credits.
An examination of some of the scientific and philosophical literature on the nature of animal minds and the way(s) in which they differ from the human mind. The most important of these apparent differences are the use of language, the exercise of concepts, and instrumental reasoning, including the use of instruments. Co-list with AS.150.490
Instructor(s): M. Williams; R. Leys
Area: Humanities.

AS.300.601. Philosophy of Tragedy.
Since the late eighteenth century, philosophers have repeatedly been drawn to investigations of tragedy and the tragic. In this course we will study some of the most important thinkers in this tradition, and examine the different implications (philosophical, historical, political, existential, aesthetic, etc.) that these concepts carry in their works. Authors to be read will include Schiller, Hegel, Kierkegaard, Nietzsche, Unamuno, Benjamin and Cavell. Cross-listed with: English, German & Romance Languages & Literatures, Philosophy
Instructor(s): L. Lisi.

AS.300.608. Philosophy and the Event.
What constitutes or characterizes a genuine event, whether in history and politics or in individual lives and loves? This seminar explores several answers to this philosophical question, starting out from the major works of two contemporary thinkers, Alain Badiou and Jean-Luc Marion, whose central concerns in Being and Event and Being Given and elsewhere—namely, the so-called laicization of grace and the phenomenology of givenness—seem at once close and diametrically opposed to each other. Attention will further be paid to concrete historical and literary examples as well as to other conceptualizations of the event that would seem to either substantiate or contradict their respective claims. Readings will also include writings by Donald Davidson, Stanley Cavell, Sari Nusseibeh, Hannah Arendt, Isaiah Berlin, Barack Obama, and others.
Instructor(s): H. de Vries.

AS.300.676. Heidegger's Being and Time II.
This seminar consists of an integral reading and discussion of Martin Heidegger’s 1927 magnum opus Being and Time (Sein und Zeit) in light of its historical and philosophical context as well as its contemporary reception in both the phenomenological, existentialist, hermeneutic, and analytic traditions. We will focus primarily on the Second Division but also revisit central questions from Division One. However, it will not be necessary for students to have attended the previous seminar on this earlier part of Heidegger’s major work. Recommended readings will include the commentaries by Emmanuel Levinas, Jacques Derrida, Jean-Greisch, Jean-Luc Marion, Hubert Dreyfus, Robert Brandom, and others.
Cross-listed with Philosophy
Instructor(s): H. de Vries.

Center for Africana Studies
AS.362.357. Black Existential Thought. 3 Credits.
Black existentialism is a branch of Africana philosophy—the philosophical tendencies that arose out of the experience of the African Diaspora. This course is a philosophical interrogation into the meaning of the lived experience of being black in the context of an anti-black world through addressing such existential questions as freedom, identity, anguish, dread, responsibility, embodied agency, evil, resentment, liberation, and nihilism.
Instructor(s): F. Hayes
Writing Intensive.

Computer Science
EN.600.430. Ontologies and Knowledge Representation. 3 Credits.
Knowledge representation (KR) deals with the possible structures by which the content of what is known can be formally represented in such a way that queries can be posed and inferences drawn. Ontology concerns the hierarchy- classification of entities from given domains of knowledge together with the relations between various classes or subclasses. We begin with KR, examining the standard variety of frameworks developed or implemented over the last twenty years, including 1st-order logic and automated theorem proving, networks, frames, and description logics. Then we move on to a study of the problems inherent in ontology development and examine the some of the currently prevalent environments, including Universal Modeling Language, OWL and Protege®, RDFS and semantic web applications. [Analysis] Recommended Course Background: EN.600.107 and EN.600.271
Instructor(s): R. Rynasiewicz
Area: Humanities, Quantitative and Mathematical Sciences.
Henry A. Rowland Department of Physics and Astronomy

Johns Hopkins is the nation’s first research university. That emphasis on research continues to this day and forms the backbone of the undergraduate and graduate programs in the Department of Physics and Astronomy. The department’s research program is focused into four areas of excellence: Astrophysics, Condensed Matter Physics, Elementary Particle Physics, and Plasma Physics. For graduate students interested in these fields, the department offers world-class research opportunities in a friendly and supportive setting. For undergraduates, JHU offers exposure to cutting-edge research combined with a level of personal attention that is typically found only in liberal arts colleges. Nearly all physics majors at JHU work on research projects and many begin as freshmen or sophomores.

All research builds upon an established body of knowledge. To be effective researchers, teachers, or professionals, both undergraduate and graduate students must acquire a core knowledge of physics. Our undergraduate and graduate courses are designed to cover the core subjects at the appropriate levels, leading to advanced courses on a variety of specialized topics. As a consequence, students having different backgrounds or different ultimate objectives can select those parts that are most appropriate for them. The selections are made under the guidance of a faculty advisor. The advisor aids the student in making the most efficient use of his or her time and ensures that his or her program contains a reasonable balance among classroom and laboratory, mathematics, seminars, and introduction to research.

http://physics-astronomy.jhu.edu/

Requirements for the B.A. and B.S. Degrees

(See also Requirements for a Bachelor’s Degree (p. 24).)

The major program is structured so that nearly all students take the same classes during the first two years and must complete the same list of core upper-level courses during their second two years, but permits a variety of choices in upper-level electives. The total number of credits required for the B.A. degree is 120 and the B.S. is 126. By the end of the four years our students share an understanding of classical mechanics, electromagnetism, and quantum mechanics, and have acquired physics lab skills that will support them in graduate school or in a host of other pursuits.

Core Courses

Mathematics

The standard mathematics requirements for all physics majors consist of:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.108</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>AS.110.109</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.113</td>
<td>Honors Single Variable Calculus</td>
<td></td>
</tr>
<tr>
<td>AS.110.202</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.211</td>
<td>Honors Multivariable Calculus</td>
<td></td>
</tr>
<tr>
<td>AS.110.302</td>
<td>Differential Equations and Applications</td>
<td>4</td>
</tr>
<tr>
<td>AS.110.201</td>
<td>Linear Algebra</td>
<td></td>
</tr>
<tr>
<td>or AS.110.212</td>
<td>Honors Linear Algebra</td>
<td></td>
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Physics and Astronomy

The standard physics and astronomy requirements for all physics majors consist of:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AS.171.105</td>
<td>Classical Mechanics I</td>
<td>4</td>
</tr>
<tr>
<td>AS.173.115</td>
<td>Classical Mechanics Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>AS.171.106</td>
<td>Electricity and Magnetism I</td>
<td>4</td>
</tr>
<tr>
<td>AS.173.116</td>
<td>Electricity and Magnetism Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>AS.171.201</td>
<td>Special Relativity/Waves</td>
<td>4</td>
</tr>
<tr>
<td>or AS.171.309</td>
<td>Wave Phenomena with Biophysical Application</td>
<td></td>
</tr>
<tr>
<td>&amp; AS.171.207</td>
<td>and Special Relativity</td>
<td></td>
</tr>
<tr>
<td>AS.172.203</td>
<td>Contemporary Phys Sem</td>
<td>1</td>
</tr>
<tr>
<td>AS.171.202</td>
<td>Modern Physics</td>
<td>4</td>
</tr>
<tr>
<td>or AS.171.310</td>
<td>Biological Physics</td>
<td></td>
</tr>
<tr>
<td>AS.171.204</td>
<td>Classical Mechanics II</td>
<td>4</td>
</tr>
<tr>
<td>AS.171.301</td>
<td>Electromagnetic Theory II</td>
<td>4</td>
</tr>
<tr>
<td>AS.171.303</td>
<td>Quantum Mechanics I</td>
<td>4</td>
</tr>
<tr>
<td>AS.171.304</td>
<td>Quantum Mechanics II</td>
<td>4</td>
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<tr>
<td>or AS.173.312</td>
<td>Statistical Physics/Thermodynamics</td>
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<tr>
<td>AS.173.308</td>
<td>Advanced Physics Laboratory</td>
<td>3</td>
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</table>

*Note: AS.171.101-102 or AS.171.103-104 with their labs is acceptable in place of AS.171.105-106, 115-116

B.A. Degree

Two (2) additional courses (at least 3 credits each) at the 300-600 level in the Department of Physics and Astronomy or approved physics-related courses in other departments. Students who intend to continue Physics in graduate school are strongly encouraged to take these electives in Physics and Astronomy, and take AS.171.302 Topics in Advanced Electromagnetic Theory and both AS.171.301 Electromagnetic Theory II and AS.171.312 Statistical Physics/Thermodynamics.

B.S. in Physics Degree

Five (5) additional courses (at least 3 credits each) at the 200-600 level in the following departments: Physics and Astronomy, Biology, Biophysics, Chemistry, Cognitive Science, Earth and Planetary Sciences, Mathematics, and/or the School of Engineering (excluding courses listed as 500.xxx, 660.xxx, 551.xxx and 661.xxx). These courses must constitute a coherent and rigorous program of study approved by the Departmental Advisor and Director of Undergraduate Studies no later than the registration period for the fall semester of the senior year. At least four (4) of these courses must be taken in a single department in the Krieger School of Arts and Sciences or within a single department or program in the Whiting School of Engineering. One (1) semester of research may be used as one elective. None of the electives may be used simultaneously to satisfy either the university distribution requirements or the standard mathematics requirements.

Recommendations

An additional two semesters of mathematics are recommended, either AS.110.405 Introduction to Real Analysis or AS.110.311 Methods of Complex Analysis and one other. It is recommended that Physics majors become proficient in a computer programming language, either
Requirements for the Ph.D. Degree

The Ph.D. program has strong emphasis on early and active involvement in graduate research. Thus, students are required to have a research advisor and file a research summary every semester they are enrolled in the program, starting with the first one. Furthermore, students must complete the required courses with a grade of B- or better; the coursework is typically done over the first two years. In the beginning of the second year, students complete the research examination, and in the beginning of the third year - the University's Graduate Board Oral examination, both of which are based on completed or proposed research. During the first two years, students are typically involved in introductory research projects, which may or may not be related to their thesis work, and sometimes work with several different advisors, but they must identify (and have an agreement with) a thesis advisor no later than the beginning of their third year in the program, after which point students focus on their thesis research. The thesis is to be completed by no later than the end of the 6th year, ending with an oral presentation of the thesis to a faculty committee.

Course Requirements

Ph.D. in Physics

Students must complete the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AS.171.603</td>
<td>Electromagnetic Theory</td>
<td>0</td>
</tr>
<tr>
<td>AS.171.605</td>
<td>Quantum Mechanics</td>
<td>0</td>
</tr>
<tr>
<td>AS.171.606</td>
<td>and Quantum Mechanics</td>
<td></td>
</tr>
<tr>
<td>AS.171.703</td>
<td>Advanced Statistical Mechanics</td>
<td></td>
</tr>
<tr>
<td>AS.172.632</td>
<td>Physics Seminar</td>
<td></td>
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</tbody>
</table>

Ph.D. in Astronomy and Astrophysics

Students must complete the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AS.171.611</td>
<td>Stellar Structure &amp; Evolution</td>
<td></td>
</tr>
<tr>
<td>AS.171.612</td>
<td>Interstellar Medium and Astrophysical Fluid Dynamics</td>
<td></td>
</tr>
<tr>
<td>AS.171.613</td>
<td>Radiative Astrophysics</td>
<td></td>
</tr>
<tr>
<td>AS.171.627</td>
<td>Astrophysical Dynamics</td>
<td></td>
</tr>
<tr>
<td>AS.172.633</td>
<td>Language Of Astrophysics</td>
<td></td>
</tr>
</tbody>
</table>

Graduate Programs

Graduate study in physics and astronomy at Hopkins is intended primarily to prepare Ph.D. graduates for careers in teaching and research in physics and astronomy, or in applications such as biophysics, space physics, and industrial research. Entering students may elect to work toward a Ph.D. in physics or a Ph.D. in astronomy and astrophysics. The two programs are similar in structure but have somewhat different course requirements (see below). A wide range of research projects—both theoretical and experimental—are available for graduate students in Astrophysics, Condensed Matter Physics, Particle Physics, and Plasma Spectroscopy.

Admission

To obtain admission, a student is expected to submit evidence that he or she has a good chance to succeed. Such evidence will ordinarily consist of transcripts of previous academic work, Graduate Record Examination scores (including advanced physics), letters of recommendation, and, for international students, a Test of English as a Foreign Language (TOEFL) score.
In some cases, they may comprise reading or independent-study projects to develop background for subsequent research. It is left to the individual advisor to determine what the written summary should entail. These research projects are not research assistantships and are performed in addition to other graduate student responsibilities (teaching and graduate classwork), although they are typically merged with RA-supported research for those students supported by RAs.

**Thesis Research and Defense**

Students are required to find a thesis advisor no later than the beginning of the third year. After the student chooses a thesis advisor, the student forms their Thesis Committee consisting of the advisor and two other faculty members (all Thesis Committees contain at least two full-time faculty from the department). These committees function as extended advisory bodies; students have the opportunity to discuss their progress and problems with several faculty. They also conduct one formal annual review of each student’s progress. Research leading to the dissertation can be carried out not only within the Department of Physics and Astronomy, but with appropriate arrangements, either partly or entirely at other locations if necessitated by the project goals. At the conclusion of thesis research, the student presents the written dissertation to the faculty committee and defends the thesis in an oral examination.

**Requirements for the M.A. Degree**

Although the department does not admit students who intend to pursue the master’s degree exclusively, students in the department’s Ph.D. program and students in other Ph.D. programs at Johns Hopkins may apply to fulfill the requirements for the M.A. degree in the Department of Physics and Astronomy. Students from other JHU departments must seek approval from their home department and from the Department of Physics and Astronomy before beginning their M.A. studies.

**Course Requirements for the M.A.**

Students must master the basic undergraduate material covered by the following courses:

- AS.171.204 Classical Mechanics II 4
- AS.171.301 Electromagnetic Theory II 8
- AS.171.302 and Topics in Advanced Electromagnetic Theory 8
- AS.171.303 Quantum Mechanics I 8
- AS.171.304 and Quantum Mechanics II 8
- AS.171.312 Statistical Physics/Thermodynamics 4

Courses taken elsewhere may qualify at the discretion of the Graduate Program Committee.

Students must also complete six one-semester graduate-level (at least three hours/week) courses offered by the Department of Physics and Astronomy. For this purpose, each semester of AS.171.609 Mathematical Methods for Physicists-AS.171.610 Numerical Methods-Physics (Formerly AS.171.415 Math Methods - Physics and AS.171.416 Numerical Methods for Physicists, counts as a graduate-level course). In addition, AS.171.801 Independent Research-Graduates-AS.171.802 Independent Research-Graduate may be substituted for any of the above-mentioned graduate or undergraduate courses. The research course must include an essay supervised and approved by a faculty member of the Department of Physics and Astronomy.

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>AS.171.301</td>
<td>Electromagnetic Theory II</td>
</tr>
<tr>
<td>AS.171.302</td>
<td>and Topics in Advanced Electromagnetic Theory</td>
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<tr>
<td>AS.171.303</td>
<td>Quantum Mechanics I</td>
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<tr>
<td>AS.171.304</td>
<td>and Quantum Mechanics II</td>
</tr>
<tr>
<td>AS.171.312</td>
<td>Statistical Physics/Thermodynamics</td>
</tr>
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**Departments, Program Requirements, and Courses**

**Planetary Fluid Dynamics**

**Planetary Atmospheres**

**Advanced Laboratory**

**Planetary Atmospheres**

**Planetary Fluid Dynamics**

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**Departments, Program Requirements, and Courses**

**Planetary Fluid Dynamics**

**Planetary Atmospheres**

**Advanced Laboratory**

**Planetary Atmospheres**

**Planetary Fluid Dynamics**
The student must receive a grade of B- or above in each of the courses. The graduate-level courses may be retaken once; the undergraduate courses cannot be repeated.

Furthermore, the student must complete at least two semesters of research projects, as described in the requirements for the Ph.D., and complete the departmental research exam. The deadline to fulfill all requirements is the date of the Ph.D. thesis defense.

Facilities
The Department of Physics and Astronomy’s first facility was Rowland’s measuring engine for determining the solar spectrum in the 1880s. Ever since that time the Department has maintained a long and continuous history in instrumentation. In recent decades this has extended to instrumentation for space missions. The Department maintains a Class-1000 clean room for microfabrication and nanofabrication, a high bay lab, professional and student machine shops, and supports a world-renowned Instrument Development Group (IDG) with six full-time engineers and three full-time machinists.

Among the diverse techniques used for studying condensed matter physics are magnetometry/susceptometry, specific heat and transport measurements, atomic force and magnetic force microscopy, X-ray and electron diffraction, terahertz spectroscopy, and neutron scattering at the nearby NIST Center for Neutron Research and at the Spallation Neutron Source, ORNL. A variety of cryostats, He3 refrigerators, and He3-He4 dilution refrigerators together with high temperature ovens, electromagnets, and superconducting magnets allow measurements to be made from 0.05 K to 1100 K and in magnetic fields up to 14 Tesla. Apparatus for the preparation of samples includes two image furnaces for floating zone growth, single-crystal growth vacuum furnaces, box and tube furnaces, arc furnaces, several high vacuum and ultra-high vacuum chambers for thin film fabrication using evaporation, MBE, pulsed laser deposition, sputtering, and focused ion beam (FIB) milling. Also available on campus are cutting-edge transmission electron microscopes and scanning electron microscopes.

In astrophysics, research groups have state-of-the-art laboratories for testing cryogenic transition-edge bolometer detectors with SQUID read-out electronics, and closed-cycle helium cryogenics. Recent instrumentation advances include the design and manufacture of large free-standing polarization grids and novel high-bandwidth smooth-wall feed horns. Current activities include development of microwave and millimeter-wave instruments for far-infrared and microwave astronomy and cosmology.

The research groups in the department have a wide range of state-of-the-art computer facilities including high performance clusters with over a thousand processors and the largest database at a university—over a petabyte. All undergraduate majors and graduate students have access to high performance workstations.

Financial Aid
Students in good standing are normally supported by a combination of fellowships, research assistantships and teaching assistantships. The financial package covers full tuition, individual health insurance, and an academic year salary commensurate with that of other leading research institutions. Teaching assistantship is a common mode of financial support; experience in teaching is a valuable part of the Ph.D. program. A teaching assistantship supports the student during the academic year and is supplemented by a research assistantship during the summer. The assistant is expected to help in the teaching of the general physics course and other introductory and major courses. The typical teaching duties include leading a problem-solving section or laboratory exercises and homework grading. Research assistantships are based on the availability of funding to the research advisor and are arranged directly with him/her. Research assistantships provide an opportunity for deep engagement in ongoing experimental or theoretical research. In addition, the department and the University offer several fellowships on a competitive basis, some covering travel, supplies or research expenses and some covering a semester’s or a year’s worth of the entire financial package. Some students are supported by external fellowships, such as the pre-doctoral fellowship of the National Science Foundation.

All fellows and teaching and research assistants in the Department of Physics and Astronomy register as full-time students and thus fulfill their residence requirements while holding appointments. Loans and work-study arrangements are available from the Office of Financial Aid.

For current faculty and contact information go to http://physics-astronomy.jhu.edu/people/

Faculty
Chair
Daniel Reich
Professor and Chair: experimental condensed matter physics.

Professors
Jonathan A. Bagger
Krieger-Eisenhower Professor: theoretical elementary particle physics.

Bruce A. Barnett
experimental elementary particle physics.

Charles L. Bennett
Alumni Centennial Professor: experimental cosmology.

Barry J. Blumenfeld
experimental elementary particle physics.

Collin Broholm
experimental elementary particle physics.

Gerhard H. Dieke Professor (Director, Institute for Quantum Matter): experimental condensed matter physics.

Chia-Ling Chien
Jacob L. Hain Professor: experimental condensed matter physics, nanostructured solids.

Timothy Heckman
A. Hermann Pfund Professor (Director, Center for Astrophysical Sciences): galaxy evolution, starburst galaxies, active galactic nuclei.

Marc Kamionkowski
theoretical particle astrophysics and cosmology.

David Kaplan
theoretical elementary particle physics.

Julian H. Krolik
theoretical astrophysics.

Petar Maksimovic
experimental elementary particle physics.

Charles Mattias Mountain

A teaching assistantship supports the student during the academic year and is supplemented by a research assistantship during the summer. The assistant is expected to help in the teaching of the general physics course and other introductory and major courses. The typical teaching duties include leading a problem-solving section or laboratory exercises and homework grading. Research assistantships are based on the availability of funding to the research advisor and are arranged directly with him/her. Research assistantships provide an opportunity for deep engagement in ongoing experimental or theoretical research. In addition, the department and the University offer several fellowships on a competitive basis, some covering travel, supplies or research expenses and some covering a semester’s or a year’s worth of the entire financial package. Some students are supported by external fellowships, such as the pre-doctoral fellowship of the National Science Foundation.

All fellows and teaching and research assistants in the Department of Physics and Astronomy register as full-time students and thus fulfill their residence requirements while holding appointments. Loans and work-study arrangements are available from the Office of Financial Aid.

For current faculty and contact information go to http://physics-astronomy.jhu.edu/people/
(Director, Space Telescope Science Institute): Star formation in galaxies, capabilities of second generation telescope.

David A. Neufeld  
theoretical astrophysics, interstellar medium, astrophysical masers, submillimeter astronomy.

Colin A. Norman  
theoretical astrophysics.

Adam Riess  
Krieger Eisenhower Professor and Nobel Laureate: astrophysics, experimental cosmology.

Mark O. Robbins  
throughput condensed matter physics.

Morris Swartz  
experimental elementary particle physics.

Alexander Szalay  
Alumni Centennial Professor: theoretical astrophysics, galaxy formation.

Rosemary F. G. Wyse  
(Director, Theoretical Interdisciplinary Physics and Astrophysics Center): astrophysics, galaxy formation and evolution.

### Associate Professors

N. Peter Armitage  
experimental condensed matter physics.

Andrei V. Gritsan  
experimental elementary particle physics.

Robert Leheny  
experimental condensed matter physics.

Nina Markovic  
experimental condensed matter physics.

Kirill Melnikov  
throughput particle physics.

Oleg Tchernyshyov  
throughput condensed matter physics, magnetism.

### Assistant Professors

Jared Kaplan  
throughput elementary particle physics.

Tobias Marriage  
cosmology and astrophysics.

Brice Menard  
extragalactic astrophysics, cosmology, large surveys.

Ari Turner  
throughput condensed matter physics.

Nadia Zakamska  
observational and theoretical astrophysics.

### Research Professor

Luciana Bianchi  
average, nearby galaxies, stellar populations, hot stars, UV instrumentation.

William P. Blair  
average, shockwaves, spectroscopy of plasmas.

Paul D. Feldman  
average, spectroscopy, space physics, planetary and cometary atmospheres.

Michael Finkenthal  
plasma and atomic physics.

Holland Ford  
stellar dynamics, evolution of galaxies, active galactic nuclei, astronomical instrumentation.

Riccardo Giacconi  
University Professor: astrophysics.

Richard Conn Henry  
(Director, Maryland Space Grant Consortium): astronomy and astrophysics.

Stephan McCandliss  
Experimental Astrophysics; sounding rocket space astronomy in the far UV.

H. Warren Moos  
average, plasma physics.

Stephan Murray  
X-ray astronomy.

Joseph Silk  
Research Professor and Homewood Professor: cosmology.

Harold Weaver  
solar system science.

### Associate Research Professor

Tamas Budavari  
Observational cosmology: Large-scale structure, galaxy clustering. Data-intensive parallel computing.

### Professors Emeriti

Chih-Yung Chien  
experimental elementary particle physics.

Gabor Domokos  
throughput elementary particle physics, astroparticle physics.

Brian R. Judd  
Gerhard H. Dieke Professor Emeritus: theoretical atomic and molecular physics, group theory, solid state theory.

Chung W. Kim  
theory of elementary particles, nuclear theory, cosmology.

Susan Kovesi-Domokos  
throughput elementary particle physics, astroparticle physics.

Yung Keun Lee  
nuclear physics.

Aihud Pevsner
Jacob L. Hain Professor Emeritus: elementary particle physics.

J. C. Walker
condensed matter physics, thin films and surfaces, nuclear physics.

Adjunct and Visiting Appointments

Ronald J. Allen
Adjunct Professor (Space Telescope Science Institute): spiral structure of galaxies, interstellar medium, radio and optical imaging.

Henry Ferguson
Adjunct Professor (Space Telescope Science Institute): observational cosmology, galaxy evolution, dwarf galaxies, space astronomy instrumentation, and calibration.

Michael G. Hauser
Adjunct Professor (Space Telescope Science Institute): cosmology, especially infrared background radiation.

Ann E. Hornschemeier
Adjunct Assistant Professor (NASA Goddard Space Flight Center): high energy and astrophysics.

Roeland van der Marel
Adjunct Professor (Space Telescope Science Institute): black holes, cluster of galaxies, dark halos, galaxy structure and dynamics.

Peter McCullough
Adjunct Associate Professor (Space Telescope Science Institute): Astronomy.

Predrag Nikolic
Adjunct Assistant Professor (George Mason University): condensed matter theory.

Cedomir Petrovic
Adjunct Professor (Brookhaven National Laboratory): condensed matter experiment.

Ethan Schreier
Adjunct Professor (Associated Universities, Inc): Astronomy.

Mark Stiles
Adjunct Professor (NIST): condensed matter theory.

Kimberly Weaver
Adjunct Professor (NASA Goddard Space Flight Center): high energy astrophysics.

Robert Williams
Adjunct Professor (Space Telescope Science Institute): novae, emission line analysis.

Joint Appointments

Gregory Eyink

Michael Falk
Associate Professor (Materials Science and Engineering): theory of systems far from equilibrium: deformation, failure, fracture and friction.

Tyrell McQueen
Assistant Professor (Chemistry): solid state and inorganic chemistry/condensed matter physics.

Jack Morava
Professor (Mathematics): algebraic topology, mathematical physics.

Peter C. Searson
Professor (Materials Science and Engineering): nanostructured materials, nanotechnology in biology and medicine.

Darrell F. Strobel
Professor (Earth and Planetary Sciences): planetary atmospheres and astrophysics.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

AS.171.101. General Physics: Physical Science Major I. 4 Credits.
One-year course in general physics covering mechanics, heat, sound, electricity and magnetism, optics, and modern physics. Midterm exams for every section are given during the 8 AM section time! Accordingly, students registering for sections at times other than 8 AM must retain availability for 8 AM sections as needed. Recommended Corequisites: AS.173.111 AND (AS.110.106 or AS.110.108 or AS.110.113)
Instructor(s): B. Barnett
Area: Engineering, Natural Sciences.

AS.171.102. General Physics: Physical Science Majors II. 4 Credits.
One-year course in general physics covering mechanics, heat, sound, electricity and magnetism, optics, and modern physics. Midterm exams for every section are given during the 8 AM section time! Accordingly, students registering for sections at times other than 8 AM must retain availability for 8 AM sections as needed. Recommended Corequisite: Calculus (AS.110.107 or AS.110.109 or AS.110.113)
Prerequisites: A grade of C- or better in either Physics 1 or the two-semester sequence of Engineering Mechanics: AS.171.101 OR AS.171.103 OR AS.171.105 OR AS.171.107 OR EN.530.103
Instructor(s): P. Maksimovic
Area: Engineering, Natural Sciences.

AS.171.103. General Physics I for Biological Science Majors. 4 Credits.
Standard calculus based physics tailored to students majoring in one of the biological sciences. Topics in modern physics and in fluid dynamics will be covered in this course. Recommended Corequisites: (AS.173.111) AND (AS.110.106 or AS.110.108 or AS.110.113) Midterm exams for every section are given during the 8 AM section time! Accordingly, students registering for sections at times other than 8 AM must retain availability for 8 AM sections as needed.
Instructor(s): C. King; J. Krolik; S. Wonnell
Area: Engineering, Natural Sciences.
AS.171.104. General Physics/Biology Majors II. 4 Credits.
This two-semester sequence is designed to present a standard calculus-based physics preparation tailored to students majoring in one of the biological sciences. Topics in electricity & magnetism, optics, and modern physics will be covered in this semester. Midterm exams for every section are given during the 8 AM section time! Accordingly, students registering for sections at times other than 8 AM must retain availability for 8 AM sections as needed. Recommended Course Background: C- or better in AS.171.101 or AS.171.103; Corequisite: AS.110.109, AS 173.112.
Instructor(s): T. Heckman
Area: Engineering, Natural Sciences.

AS.171.105. Classical Mechanics I. 4 Credits.
An in-depth introduction to classical mechanics intended for physics majors/minors and other students with a strong interest in physics. This course treats fewer topics than AS.171.101 and AS.171.103 but with greater mathematical sophistication. It is particularly recommended for students who intend to take AS.171.201-AS.171.202 or AS.171.309-AS.171.310. Recommended Corequisites: AS.173.115 and AS.110.108
Instructor(s): N. Armitage
Area: Engineering, Natural Sciences.

AS.171.106. Electricity and Magnetism I. 4 Credits.
Classical electricity and magnetism with fewer topics than 171.101-103, but with greater mathematical sophistication. Particularly recommended for students who plan to take AS.171.201-AS.171.202 or AS.171.209-AS.171.210. Recommended Course Background: C- or better in AS.171.105; Corequisite: AS.173.116, AS.110.109
Instructor(s): M. Robbins
Area: Engineering, Natural Sciences.

AS.171.107. General Physics for Physical Sciences Majors (AL). 4 Credits.
This two-semester sequence in general physics is identical in subject matter to AS.171.101-AS.171.102, covering mechanics, heat, sound, electricity and magnetism, optics, and modern physics, but differs in instructional format. Rather than being presented via lectures and discussion sections, it is instead taught in an "active learning" style with most class time given to small group problem-solving guided by instructors. Midterm exams for every section are given during the 8 AM section time! Accordingly, students registering for sections at times other than 8 AM must retain availability for 8 AM sections as needed. Recommended Corequisites: (AS.173.111) AND (AS.110.106 or AS.110.108 or AS.110.113) Priority given to Freshmen
Instructor(s): R. Leheny
Area: Engineering, Natural Sciences.

AS.171.108. General Physics for Physical Science Majors (AL). 4 Credits.
This two-semester sequence in general physics is identical in subject matter to AS.171.101-AS.171.102, covering mechanics, heat, sound, electricity and magnetism, optics, and modern physics, but differs in instructional format. Rather than being presented via lectures and discussion sections, it is instead taught in an "active learning" style with most class time given to small group problem-solving guided by instructors. Midterm exams for every section are given during the 8 AM section time! Accordingly, students registering for sections at times other than 8 AM must retain availability for 8 AM sections as needed. Recommended Corequisites: (AS.173.111 AND AS.173.112) AND (AS.110.106 AND AS.110.107 OR AS.110.108 AND AS.110.109)
Prerequisite: A grade of C- or better in Physics I is required for Physics II.
Instructor(s): P. Maksimovic
Area: Engineering, Natural Sciences.

AS.171.113. Subatomic World. 3 Credits.
Introduction to concepts of physics of the subatomic world: Symmetries, relativity, quanta, neutrinos, particles, and fields. Emphasis on ideas of modern physics, not on the mathematics. Intended for nonscience majors.
Instructor(s): B. Blumenfeld
Area: Natural Sciences.

AS.171.115. Physics of the Everyday World. 3 Credits.
Area: Natural Sciences.

AS.171.118. Stars and the Universe: Cosmic Evolution. 3 Credits.
Evolution of the universe: from origin in a cosmic explosion to emergence of life on Earth and possibly other planets throughout the universe.
Instructor(s): A. Riess
Area: Natural Sciences.

AS.171.120. Physics of Modern Technologies. 3 Credits.
This course for non-scientists offers accessible non-mathematical explanations of modern technologies: electric power generation and distribution (AC versus DC), florescent lighting, lasers, computers, the internet, GPS, and student suggested topics.
Area: Natural Sciences.

AS.171.123. How to build an iPhone: physics in modern life. 3 Credits.
As the famous author Arthur C. Clarke posited, “Any sufficiently advanced technology is indistinguishable from magic." The goal of this course is to understand the workings of and the science behind modern technologies such as the iPhone, internet, GPS, and others. We will discuss the technology itself, as well as the story of how it came to be and the people involved. Emphasis will be on the ideas behind these technologies, not the mathematics. Intended for both nonscience and science majors, every attempt will be made to keep any math at the level of simple algebra.
Instructor(s): C. Morris; L. Pan
Area: Natural Sciences.

AS.171.201. Special Relativity/Waves. 4 Credits.
Course continues introductory physics sequence (begins with AS.171.105-AS.171.106). Special theory of relativity, forced and damped oscillators, Fourier analysis, wave equation, reflection and transmission, diffraction and interference, dispersion. Meets with AS.171.207.
Prerequisites: (AS.171.106 OR AS.171.108 OR AS.171.102 OR AS.171.104 ) AND Calculus II (AS.110.107 OR AS.110.109 OR AS.110.113)
Instructor(s): N. Zakamska
Area: Engineering, Natural Sciences.

AS.171.202. Modern Physics. 4 Credits.
Course completes four-semester introductory sequence that includes AS.171.105-AS.171.106 and AS.171.201. Planck's hypothesis, de Broglie waves, Bohr atom, Schrodinger equation in one dimension, hydrogen atom, Pauli exclusion principle, conductors and semiconductors, nuclear physics, particle physics.
Instructor(s): N. Markovic
Area: Natural Sciences.
AS.171.204. Classical Mechanics II. 4 Credits.
Principles of Newtonian and Lagrangian mechanics; application to central-force motion, rigid body motion, and the theory of small oscillations. Recommended Course Background: AS.110.108-AS.110.109, AS.110.202, AS.171.201, or AS.171.309
Instructor(s): B. Blumenfeld
Area: Natural Sciences.

AS.171.207. Special Relativity. 1 Credit.
Three-week introduction to special relativity for students who elect to take AS.171.209 in place of AS.171.201.
Prerequisites: Corequisite: AS.110.202 OR AS.110.211
Instructor(s): N. Zakamska
Area: Natural Sciences.

AS.171.221. Physics of Human Energy Use. 3 Credits.
Course explores the basic nature of energy and heat, the physical principles underlying how we derive energy from various sources (fossil fuels, nuclear power, solar energy, and others), and the physics of energy production’s environmental consequences. Recommended Course Background: AS.171.101, AS.171.103, or AS.171.105 or AS.171.102, AS.171.104, or AS.171.106
Area: Natural Sciences.

AS.171.301. Electromagnetic Theory II. 4 Credits.
Static electric and magnetic fields in free space and matter; boundary value problems; electromagnetic induction; Maxwell’s equations; and an introduction to electrodynamics.
Prerequisites: Prereqs: ( AS.171.102 OR AS.171.104 OR AS.171.106 OR AS.171.108 ) AND Calculus III ( AS.110.202 OR AS.110.211 ) AND Linear Algebra ( AS.110.201 OR AS.110.212 )
Instructor(s): A. Gritsan
Area: Natural Sciences.

AS.171.302. Topics in Advanced Electromagnetic Theory. 4 Credits.
Topics include electromagnetic waves; reflection and refraction; waveguides; retarded potentials and electromagnetic radiation; relativistic electrodynamics. Recommended Course Background: AS.171.301
Instructor(s): K. Melnikov
Area: Natural Sciences.

AS.171.303. Quantum Mechanics I. 4 Credits.
Instructor(s): O. Tchernyshyov
Area: Natural Sciences.

AS.171.309. Wave Phenomena with Biophysical Application. 4 Credits.
Introduction to wave phenomena, primarily through study of biophysical probes that depend on the interaction of electromagnetic radiation with matter. Topics include Fourier Analysis; standing waves; sound and hearing; diffraction and crystallography; geometrical and physical optics – the physics of modern light microscopy; quantum mechanics – how living things absorb light; NMR and MRI. Occasional laboratory exercises are included.
Prerequisites: (AS.171.102 or AS.171.104 or AS.171.106) and Calculus II ( AS.110.107 or AS.110.109 or AS.110.113)
Instructor(s): M. Robbins
Area: Natural Sciences.

AS.171.310. Biological Physics. 4 Credits.
Introduces topics of classical statistical mechanics. Additional topics include low-Reynolds number hydrodynamics and E&M of ionic solutions, via biologically relevant examples.
Prerequisites: (AS.171.101 AND AS.171.102) OR ( AS.171.103 AND AS.171.104) OR ( AS.171.105 AND AS.171.106)
OR ( AS.171.107 AND AS.171.108 ) AND ( AS.110.107 OR AS.110.109 OR AS.110.113)
Instructor(s): M. Robbins
Area: Natural Sciences.

AS.171.312. Statistical Physics/Thermodynamics. 4 Credits.
Undergraduate course that develops the laws and general theorems of thermodynamics from a statistical framework.
Prerequisites: AS.171.202 and Calculus II ( AS.110.107 or AS.110.109 or AS.110.113 ). It is recommended that students have also taken Quantum Mechanics (AS.171.303), Linear Algebra (AS.110.201 or AS.110.212) and Calculus III (AS.110.202 or AS.110.211)
Instructor(s): T. Marriage
Area: Natural Sciences.

AS.171.313. Introduction to Stellar Physics. 3 Credits.
Survey of stellar astrophysics. Topics include stellar atmospheres, stellar interiors, nucleosynthesis, stellar evolution, supernovae, white dwarfs, neutron stars, pulsars, black holes, binary stars, accretion disks, protostars, and extrasolar planetary systems. Recommended Course Background: AS.110.108-AS.110.109, AS.171.202
Instructor(s): R. Wyse
Area: Natural Sciences.

AS.171.314. Introduction to Galaxies and Active Galactic Nuclei. 3 Credits.
This course will introduce student to the physics of galaxies and their constituents: stars, gas, dust, dark matter and a supermassive black hole in the central regions.
Prerequisites: AS.171.105 AND AS.171.106 AND AS.110.108 AND AS.110.109
Instructor(s): R. Wyse
Area: Natural Sciences.

AS.171.318. Intro To Plasma Physics. 2 Credits.
Course will be a combination between an introduction to plasma physics and an overview of the basic atomic processes which determine the properties of hot, laboratory and astrophysical plasmas.
Area: Natural Sciences.
AS.171.321. Introduction to Space, Science, and Technology. 3 Credits.
Topics include space astronomy, remote observing of the earth, space physics, planetary exploration, human space flight, space environment, orbits, propulsion, spacecraft design, attitude control and communication. Crosslisted by Departments of Earth and Planetary Sciences, Materials Science and Engineering and Mechanical Engineering. Recommended Course Background: AS.171.101-AS.171.102 or similar; AS.110.108-AS.110.109.
Instructor(s): S. McCandliss; S. Murray
Area: Engineering, Natural Sciences.

AS.171.323. Physics of Human Energy Use. 3 Credits.
Course explores the basic nature of energy and heat, the physical principles underlying how we derive energy from various sources (fossil fuels, nuclear power, solar energy, and others), and the physics of energy production's environmental consequences.
Instructor(s): J. Krolik
Area: Natural Sciences.

AS.171.333. Planets, Life and the Universe. 3 Credits.
This multidisciplinary course explores the origins of life, planets' formation, Earth's evolution, extrasolar planets, habitable zones, life in extreme environments, the search for life in the Universe, space missions and planetary protection. Meets with AS.171.699.
Prerequisites: Students may not register for this class if they have already received credit for AS.020.334 or AS.270.335.
Area: Natural Sciences.

AS.171.404. General Relativity. 3 Credits.
Area: Natural Sciences.

AS.171.405. Condensed Matter Physics. 3 Credits.
Undergraduate course covering basic concepts of condensed matter physics: crystal structure, diffraction and reciprocal lattices, electronic and optical properties, band structure, phonons, superconductivity and magnetism. Co-listed with AS.171.621 Recommended Course Background: AS.171.304, AS.110.201-AS.110.202.
Instructor(s): N. Markovic
Area: Natural Sciences.

AS.171.408. Nuclear and Particle Physics. 3 Credits.
Basic properties of nuclei, masses, spins, parity. Nuclear scattering, interaction with electromagnetic radiation, radioactivity, Pions, muons, and elementary particles, including resonances. Recommended Course Background: AS.171.304, AS.110.201-AS.110.202
Instructor(s): B. Blumenfeld
Area: Natural Sciences.

AS.171.410. Physical Cosmology. 3 Credits.
Course provides an overview into modern physical cosmology. The contents of the universe and the physical principles governing the expansion of the universe, will be studied quantitatively.
Instructor(s): C. Bennett
Area: Natural Sciences.

AS.171.411. Light and Optics. 3 Credits.
What is light? How does it propagate and interact with matter? How do we use it to transmit information? How does technology make use of light? This course is designed for majors in physics as well as other science and engineering departments.
Prerequisites: Prereqs: AS.171.102 OR AS.171.104 OR AS.171.106
Instructor(s): B. Menard
Area: Engineering.

AS.171.412. Phase Transformations and Critical Phenomena. 3 Credits.
Course covers phase transitions and critical phenomena. Building on the ideas of spontaneous symmetry breaking and scale invariance at a critical point we develop Landau’s theory of phase transitions and the apparatus of renormalization group using both analytic and numerical techniques for studying interacting systems
Instructor(s): O. Tchernyshyov
Area: Natural Sciences.

AS.171.413. Magnetic Materials and Spintronics. 3 Credits.
Explore magnetic materials, the results of interactions of spin and charge of electrons, and spintronic phenomena, such as interlayer coupling, giant magnetoresistance, spin tunneling, spin transfer torque, spin Hall effect.
Prerequisites: AS.171.202 and AS.171.301
Instructor(s): C. Chien
Area: Natural Sciences, Quantitative and Mathematical Sciences.

AS.171.415. Math Methods - Physics. 4 Credits.
Selection of topics in applied mathematics most frequently used by physicists. First term focuses on analytic methods: functions of complex variables, series and perturbation methods for solving differential equations, Sturm-Liouville theory and special functions, Fourier series and transforms. Recommended Course Study: AS.110.201-AS.110.202
Area: Natural Sciences.

AS.171.416. Numerical Methods for Physicists. 4 Credits.
Area: Natural Sciences, Quantitative and Mathematical Sciences.

AS.171.426. Practical Scientific Analysis of Big Data. 3 Credits.
Students will learn to work with databases, write parallel analysis code with emphasis on Graphics Processing Units (CUDA), and explore new approaches to data processing, namely streaming and robust statistics. Students should have basic knowledge of C/C++ and Introduction to Numerical Methods.
Instructor(s): T. Budavari
Area: Natural Sciences, Quantitative and Mathematical Sciences.

AS.171.472. Introduction to Plasma Physics & Atomic Processes in Hot Plasmas. 3 Credits.
Course will be a combination between an introduction to plasma physics and an overview of the basic atomic processes which determine the properties of hot, laboratory and astrophysical plasmas. Undergraduate students may register online for this course and will be assigned 3 credits during the add/drop period. Co-taught with AS.171.672
Instructor(s): M. Finkenthal
Area: Natural Sciences.

AS.171.501. Independent Research- Undergraduate. 3 Credits.
Students may register for independent research with a faculty member in the Department of Physics and Astronomy. A research plan should be sent to the Director of Undergraduate Study before the add/drop date that includes project details, the number of hours of effort each week and the number of credits. This course may not be used for one of the two electives required for a BA, but one semester of research may be used as one of four focused electives in a BS program.
Instructor(s): Staff.

AS.171.502. Undergraduate Independent Research. 0 - 3 Credit.
Research done in senior year in conjunction with experimental equipment of intermediate laboratory or as special project in research group. Credit for independent study given to junior and senior students who act as tutors.
Instructor(s): Staff.
AS.171.503. Senior Thesis. 3 Credits.
Preparation of a substantial thesis based upon independent student research, supervised by at least one faculty member in Physics and Astronomy. This course may only be taken for credit during one semester. However, students are expected to have engaged in their research project during previous semesters through 171.501-502, summer research, etc. This course may not be used as one of the two electives required for a BA, but can be used as one of the four focused electives in a BS program. Open to senior department majors only. Instructor(s): N. Markovic; R. Wyse; T. Marriage Writing Intensive.

AS.171.504. Senior Thesis. 0 - 3 Credit.
Preparation of a substantial thesis based upon independent student research, supervised by at least one faculty member in Physics and Astronomy.
Instructor(s): O. Tchernyshyov; R. Leheny; Staff; T. Marriage Writing Intensive.

AS.171.595. Internship. 1 Credit.
Instructor(s): Staff.

AS.171.597. Independent Research. 3 Credits.
Instructor(s): Staff.

The Lagrangian, Hamiltonian, and Hamilton-Jacobi methods of mechanics, with applications to some vibrational and rotational problems. A discussion of classical perturbation theory is included.
Instructor(s): R. Henry.

Using basic physics—order of magnitude estimates, scaling arguments, and similar devices—to understand the gist of complicated natural systems. Examples will be selected from properties of materials, geophysics, weather, astrophysics, cosmology, biomechanics, technology of various sorts, etc. Open to upper-level undergraduates and graduates.
Instructor(s): J. Krolik
Area: Natural Sciences.

AS.171.603. Electromagnetic Theory.
Theory of the Maxwell equations, with static and dynamic applications, boundary-value problems, guided and free waves, diffraction, scattering, special relativity, electron theory.
Instructor(s): B. Menard.

Theory of the Maxwell equations, with static and dynamic applications, boundary-value problems, guided and free waves, diffraction, scattering, special relativity, electron theory.
Instructor(s): G. Domokos.

AS.171.605. Quantum Mechanics.
Review of wave mechanics and the Schrodinger equation, Hilbert space, harmonic oscillator, the WKB approximation, central forces and angular momentum, scattering, electron spin, density matrix, perturbation theory (time-independent and time-dependent), quantized radiation field, absorption and emission of radiation, identical particles, second quantization, Dirac equation.
Instructor(s): M. Kamionkowski.

AS.171.606. Quantum Mechanics.
Review of wave mechanics and the Schrodinger equation, Hilbert space, harmonic oscillator, the WKB approximation, central forces and angular momentum, scattering, electron spin, density matrix, perturbation theory (time-independent and time-dependent), quantized radiation field, absorption and emission of radiation, identical particles, second quantization, Dirac equation. Recommended Course Background: AS.171.303 and AS.171.304
Instructor(s): M. Kamionkowski.

Selection of topics in applied mathematics most frequently used by physicists. First term focuses on analytic methods: functions of complex variables, series and perturbation methods for solving differential equations, Sturm-Liouville theory and special functions, Fourier series and transforms. Recommended Course Background: AS.110.201-AS.110.202
Instructor(s): C. Norman
Area: Natural Sciences.

Topics in applied mathematics used by physicists, covering numerical methods: linear problems, numerical integration, pseudo-random numbers, finding roots of nonlinear equations, function minimization, eigenvalue problems, fast Fourier transforms, solution of both ordinary and partial differential equations. Undergraduate students may register online for this course and will be assigned 3 credits during the add/drop period.
Instructor(s): C. Norman.

AS.171.611. Stellar Structure & Evolution.
Basic physics of stellar structure and evolution will be discussed with emphasis on current research.
Instructor(s): R. Wyse.

AS.171.612. Interstellar Medium and Astrophysical Fluid Dynamics.
Instructor(s): C. Norman.

AS.171.613. Radiative Astrophysics.
A one-term survey of the processes that generate radiation of astrophysical importance. Topics include radiative transfer, the theory of radiation fields, polarization and Stokes parameters, radiation from accelerating charges, bremsstrahlung, synchrotron radiation, thermal dust emission, Compton scattering, properties of plasmas, atomic and molecular quantum transitions, and applications to astrophysical observations.
Instructor(s): D. Neufeld.

AS.171.615. Galactic Structure and Stellar Dynamics.
Potential theory; stellar orbits, equilibrium of collisionless systems; stability of collisionless systems; disk dynamics and spiral structure; galactic rotation and the galactic potential; globular cluster evolution.

AS.171.617. Extragalactic Astronomy.
Establishing the extragalactic distance scale; kinematics of an expanding universe; light element nucleosynthesis; formation of the microwave background. Clusters of galaxies. The Hubble sequence and inventory of internal galactic structures: bulges, disks, star clusters; measurements of distance within the galaxy; stellar kinematics; stellar populations; chemical evolution.
AS.171.618. Observational Astronomy.
How do we observe the Universe at each wavelength and what do we see? This course will present the knowledge required for astronomical observations across the entire spectrum. For each wavelength range (gamma rays, X-rays, UV, visible, IR, radio) we will discuss the type of detector used, the range of possible observations and current open questions. We will also discuss the dominant astronomical and terrestrial sources across the spectrum, and study the differences between ground- and space-based observations.
Instructor(s): B. Menard; O. Tchernyshyov.

An advanced graduate level course that emphasizes the importance of molecules in astrophysical environments as diverse as interstellar clouds, circumstellar outflows, cometary comae, and active galactic nuclei. Topics will include the chemistry and photochemistry of astrophysical molecules; molecular excitation; astrophysical masers; interstellar molecular clouds; interstellar shock waves; circumstellar outflows; cometary comae; molecular accretion disks.
Instructor(s): D. Neufeld.

This sequence is intended for graduate students in physics and related fields. Topics include: metals and insulators, diffraction and crystallography, phonons, electrons in a periodic potential, transport.
Co-listed with AS.171.405
Instructor(s): N. Markovic.

This sequence is intended for graduate students in physics and related fields. Topics include superconductivity, magnetism, metal-insulator transitions, low dimensional materials, quantized hall effect.
Instructor(s): N. Armitage.

AS.171.625. Experimental Particle Physics.
For graduate students interested in experimental particle physics, or theory students, or students from other specialties. Subjects covered: experimental techniques, including particle beams, targets, electronics, and various particle detectors; and a broad description of high energy physics problems. Undergraduate students may register online for this course and will be assigned 3 credits during the add/drop period.
Instructor(s): A. Gritsan.

AS.171.626. Data Analysis: Theory & Practice.
Half theory, half practice with real data: signal/noise estimation, object detection, match filtering, bayesian techniques, principal component analysis, dimensionality reduction, data compression, outlier detection, parameter estimation, pattern recognition, visualization, clustering, tree codes, etc.

AS.171.627. Astrophysical Dynamics.
This is a graduate course that covers the fundamentals of galaxy formation, galactic structure and stellar dynamics and includes topics in current research.
Instructor(s): N. Zakamska.

AS.171.628. Practical Scientific Analysis of Big Data.
Students will learn to work with databases, write parallel analysis code with emphasis on Graphics Processing Units (CUDA), and explore new approaches to data processing, namely streaming and robust statistics. Students should have basic knowledge of C/C++ and Introduction Numerical Methods. Co-taught with AS.171.426
Instructor(s): T. Budavari.

AS.171.629. First Year Research.
Instructor(s): B. Menard; O. Tchernyshyov.

AS.171.630. First Year Research.
Instructor(s): B. Menard; O. Tchernyshyov.

The course will cover parallel computing on modern general-purpose graphics processors. Graduate students will learn to design and implement scientific problems in C for CUDA, the Compute Unified Device Architecture. Students should have basic knowledge of C/C++.
Co-taught with AS.171.426 and AS.171.628.
Instructor(s): T. Budavari.

AS.171.634. Topics In Magnetism.

Many physical phenomena are difficult to model because they involve coupled processes on a wide range of length and time scales. This course will cover recent developments in multiscale methods for such phenomena. One focus will be hierarchical methods for coarse-graining models to fewer degrees of freedom. Atomistic simulations may be used to construct molecular models, phase-field models or continuum models. A second focus will be methods for concurrently simulating different regions of space with different levels of spatial and temporal resolution. For example, interfacial regions or regions of high strain gradient may require different physical models and resolutions.
Recommended Course Background: Course in Condensed Matter Physics; Statistical Mechanics, EN.550.695, or permission of the instructor.


AS.171.641. Second Year Research.

AS.171.642. Second Year Research.
Instructor(s): B. Menard; O. Tchernyshyov.

AS.171.646. General Relativity.
An introduction to the physics of general relativity. Principal topics are: physics in curved spacetimes; the Equivalence Principle; the Einstein Field Equations; the post-Newtonian approximation and Solar System tests; the Schwarzschild and Kerr solutions of the Field Equations and properties of black holes; Friedmann solutions and cosmology; and gravitational wave propagation and generation.
Instructor(s): J. Krolik
Area: Natural Sciences.

Instructor(s): S. Szalay.

Course will be a combination between an introduction to plasma physics and an overview of the basic atomic processes which determine the properties of hot, laboratory and astrophysical plasmas. Undergraduate students may register online for this course and will be assigned 3 credits during the add/drop period. Co-taught with AS.171.472
Instructor(s): M. Finkenthal.

AS.171.697. Astro-Particle Physics.
Topics include: Dark matter, dark energy, ultra-high energy cosmic rays, neutrino astrophysics, black holes, WIMPs, sterile neutrinos, axions, gamma ray bursts, particle acceleration, cosmic backgrounds, dark energy equation- of- state. Senior undergraduates with permission.
This multidisciplinary course explores the origins of life, planets' formation, Earth's evolution, extrasolar planets, habitable zones, life in extreme environments, the search for life in the Universe, space missions and planetary protection. Graduate students only. Meets with AS.171.333.
Instructor(s): C. Norman.

AS.171.701. Quantum Field Theory.
Introduction to relativistic quantum mechanics and quantum field theory. Canonical quantization; scalar, spinor, and vector fields; scattering theory; renormalization; functional integration; spontaneous symmetry breaking; Standard Model of particle physics.
Instructor(s): J. Kaplan.

AS.171.702. Quantum Field Theory II.
Introduction to relativistic quantum mechanics and quantum field theory. Recommended Course Background: AS.171.605-AS.171.606 or equivalent.
Instructor(s): K. Melnikov.

AS.171.703. Advanced Statistical Mechanics.
Brief review of basic statistical mechanics and thermodynamics. Then hydrodynamic theory is derived from statistical mechanics and classical treatments of phase transitions, including Ginzburg-Landau theory.
Instructor(s): Á. Turner.

Course covers phase transitions and critical phenomena. Building on the ideas of spontaneous symmetry breaking and scale invariance at a critical point we develop Landau's theory of phase transitions and the apparatus of renormalization group using both analytic and numerical techniques for studying interacting systems.
Prerequisites: AS.171.312 OR AS.171.703
Instructor(s): O. Tchernyshyov.

AS.171.713. Magnetic Materials and Spintronics.
Explore magnetic materials, the results of interactions of spin and charge of electrons, and spintronic phenomena, such as interlayer coupling, giant magnetoresistance, spin tunneling, spin transfer torque, spin Hall effect.
Instructor(s): C. Chien.

AS.171.731. Exper Particle Physics.
Instructor(s): B. Blumenfeld.

AS.171.732. Elementary Particle Physics.
Description TBA
Instructor(s): M. Swartz.

AS.171.746. General Relativity.
Comprehensive introduction to differential geometry and Einstein's theory of gravitation.

AS.171.750. Cosmology.
Review of special relativity and an introduction to general relativity, Robertson-Walker metric, and Friedmann equation and solutions. Key transitions in the thermal evolution of the universe, including big bang nucleosynthesis, recombination, and reionization. The early universe (inflation), dark energy, dark matter, and the cosmic microwave background. Development of density perturbations, galaxy formation, and large-scale structure.
Instructor(s): C. Bennett.

Introduction to the use of neutron scattering techniques to probe atomic scale structure and dynamics of hard condensed matter. Subjects covered include basic theory of nuclear and magnetic neutron scattering, neutron sources and instrumentation, polarized neutrons, Larmor labeling, structural refinement methods, surfaces and interfaces, group theoretical analysis of magnetic structures, phonons, magnetic excitations, and critical phenomena.
Prerequisites: AS.171.621 OR AS.171.622
Instructor(s): C. Broholm.

AS.171.755. Fourier Optics and Interferometry in Astronomy.
A course for advanced undergraduate and beginning graduate students covering the principles of optics and image formation using Fourier Transforms, and a discussion of interferometry and other applications both in radio and optical astronomy.
Instructor(s): R. Allen.

AS.171.756. Astrophysics of Compact Objects.
A graduate-level course devoted to the physical understanding of black holes, white dwarfs, neutron stars and associated objects. Many astrophysical observations will be discussed where these objects may be relevant including galactic nuclei, quasars, compact X-ray sources and gamma-ray bursts.

This course is designed for graduate students interested in learning the language, techniques, and problematic of modern quantum many-body theory as applied to condensed matter physics.

This course will be a survey of modern techniques in experimental condensed matter physics and is intended for graduate students interested in this area, but others interested in this topic (especially condensed matter the- ory students) are encouraged to enroll. Topics include low temperature techniques, transport, the SQUID and other magnetic probes, digital and analog signal processing, scattering (neutron, X-ray, and light), EPR, NMR, data analysis, and Monte Carlo. Sample preparation, including crystal and film growth and lithography will also be covered.
Instructor(s): N. Markovic.

AS.171.783. Advanced Particle Theory.
Advanced course on the AdS/CFT correspondence and its relationship with contemporary research topics.
Instructor(s): J. Kaplan.

AS.171.784. Advanced Particle Theory: "What to Expect at the LHC.
The course will focus on scenarios and principles for new particle physics that can be tested at the CERN Large Hadron Collider and other particle experiments.
Instructor(s): D. Kaplan.

Sec. 03 Feldman Sec. 04 Chien, Chia-ling Sec. 05 Kamionkowski Sec. 06 Reich Sec. 07 McCandliss Sec. 08 Krolik Sec. 09 Barnett Sec. 10 Norman Sec. 11 Blumenfeld Sec. 12 Heckman Sec. 14 Szalay Sec. 15 Ford Sec. 16 Bagger Sec. 17 Wyse Sec. 19 Neufeld Sec. 22 Robbins Sec. 23 Kaiser Sec. 24 Broholm Sec 25 Bianchi Sec. 26 Zakamska Sec. 27 Kaplan Sec. 29 Leheny Sec. 30 Markovic Sec. 31 Tchernyshyov Sec. 32 Bennett Sec. 34 Gritsan Sec. 35 Armitage Sec. 36 Maksimovic Sec. 37 Riess Sec. 38 Marriage Sec. 39 Menard Sec. 40 Maksimovic Sec. 41 Eyink
Instructor(s): Staff.
**AS.171.802. Independent Research—Graduate.**
Sec. 01 - Staff Sec. 02 - Sundrum Sec. 04 - C.L. Chien Sec. 06 - Reich Sec. 08 - Krolik Sec. 09 - Barnett Sec. 10 - Norman Sec. 11 - Blumenfeld Sec. 12 - Heckman Sec. 14 - Szalay Sec. 15 - Ford Sec. 16 - Bagger Sec. 17 - Wyse Sec. 18 - Henry Sec. 22 - Robbins Sec. 23 - Zakamska Sec. 24 - Brohoim Sec. 27 - Kaplan Sec. 28 - Finkenthal Sec. 29 - Leheny Sec. 30 - Markovic Sec. 31 - Tchernyshyov Sec. 32 - Bennett Sec. 34 - Gritsan Sec. 38 - Marriage Sec. 39 - Menard Sec. 40 - Melnikov
Instructor(s): Staff.

**AS.172.113. Intro Frontier Physics. 1 Credit.**
Explores modern experimental methods and theoretical ideas in physics.
Area: Natural Sciences
Writing Intensive.

**AS.172.114. Introduction To Frontier Physics. 1 Credit.**
Explores modern experimental methods and theoretical ideas in physics.
Area: Natural Sciences
Writing Intensive.

**AS.172.203. Contemporary Phys Sem. 1 Credit.**
This seminar exposes physics majors to a broad variety of contemporary experimental and theoretical issues in the field. Students read and discuss reviews from the current literature, and are expected to make an oral or written presentation. Recommended Course Background: AS.171.101-AS.171.102, AS.171.103-AS.171.104, or AS.171.105-AS.171.106.
Instructor(s): N. Drichko
Area: Natural Sciences.

**AS.172.333. Planets, Life, and the Universe Seminar. 1 Credit.**
Based on the course Planets, Life and the Universe in the Fall, this seminar series is for students who would like to read and discuss interesting current papers in the field, including the latest developments that may lead to interesting ideas on interdisciplinary research. Recommended Course Background: AS.171.333/AS.171.699 or AS.020.334/AS.020.616
Instructor(s): Staff.

**AS.172.699. Planets, Life, and the Universe Seminar.**
Based on the course Planets, Life and the Universe in the Fall, this seminar series is for students who would like to read and discuss interesting current papers in the field, including the latest developments that may lead to interesting ideas on interdisciplinary research. Recommended Course Background: AS.171.333/AS.171.699 or AS.020.334/AS.020.616
Instructor(s): Staff.

**AS.172.711. Intermediate Seminar.**
Nonspecialized seminar in which second-year graduate students discuss subjects of general interest, supplementing the material of the standard courses and including recent advances in physics.
Instructor(s): M. Swartz.

**AS.172.712. Intermediate Seminar.**
Nonspecialized seminar in which second-year graduate students discuss subjects of general interest, supplementing the material of the standard courses and including recent advances in physics.

**AS.172.722. Hot Topics in Astrophysics.**
Instructor(s): C. Norman.

**AS.172.731. CAS Research Seminar.**
Instructor(s): S. McCandliss.

**AS.172.732. CAS Research Seminar.**
Instructor(s): S. McCandliss.

**AS.172.735. Galaxies Journal Club.**
Instructor(s): T. Heckman.

**AS.172.751. Elementary Particle Physics Seminar.**
Instructor(s): A. Gritsan.

**AS.172.752. Elementary Particle Physics Seminar.**
Instructor(s): P. Maksimovic.

**AS.172.753. Advanced Particle Theory Seminar.**
Instructor(s): J. Kaplan.

**AS.172.754. Advanced Particle Theory Seminar.**
Instructor(s): D. Kaplan.

**AS.172.763. Condensed Matter Physics Seminar.**
Instructor(s): N. Markovic.

**AS.172.764. Condensed Matter.**
Instructor(s): N. Markovic.

**AS.173.111. General Physics Laboratory I. 1 Credit.**
Experiments are chosen from both physical and biological sciences and are designed to give students background in experimental techniques as well as to reinforce physical principles.
Instructor(s): M. Swartz
Area: Natural Sciences.

**AS.173.112. General Physics Laboratory II. 1 Credit.**
Experiments are chosen from both physical and biological sciences and are designed to give students background in experimental techniques as well as to reinforce physical principles. Recommended Course Background: AS.173.111; Corequisite: AS.171.102 or AS.171.104 or AS.171.106
Instructor(s): M. Swartz
Area: Natural Sciences.
AS.173.115. Classical Mechanics Laboratory. 1 Credit.
Experiments chosen to complement the lecture course Classical Mechanics I, II AS.171.105-AS.171.106 and introduce students to experimental techniques and statistical analysis. Corequisite: AS.171.105.
Instructor(s): M. Swartz
Area: Natural Sciences.

AS.173.116. Electricity and Magnetism Laboratory. 1 Credit.
Experiments chosen to complement Electricity and Magnetism AS.171.106 and introduce students to experimental techniques and statistical analysis.
Instructor(s): M. Swartz
Area: Natural Sciences.

AS.173.308. Advanced Physics Laboratory. 3 Credits.
A broad exposure to modern laboratory procedures such as holography, chaos, and atomic, molecular, and particle physics.
Instructor(s): T. Marriage
Area: Natural Sciences
Writing Intensive.

AS.173.310. Mentoring in General Physics Lab. 1 Credit.
Area: Natural Sciences.

AS.173.311. Mentoring in General Physics Laboratory. 1 Credit.
This course provides students who have take General Physics I and II and General Physics Laboratory I and II with the opportunity to mentor new students in General Physics Laboratory I and II. Mentors collaborate General Physics laboratory Teaching Assistants to interact with students to help them to complete laboratory assignments and to master the concepts of General Physics. Mentors must have a strong background in Physics. They are expected to interact with students during one three-hour laboratory section per week and to attend the associated TA training once per week. Permission of the instructor required. S/U only.
Prerequisites: AS.173.111 and AS.173.112
Instructor(s): M. Swartz
Area: Natural Sciences.

AS.173.312. Mentoring in General Physics Laboratory. 1 Credit.
This course provides students who have to take General Physics I and II and General Physics Laboratory I and II with the opportunity to mentor new students in General Physics Laboratory I and II. Mentors collaborate General Physics laboratory Teaching Assistants to interact with students to help them to complete laboratory assignments and to master the concepts of General Physics. Mentors must have a strong background in Physics. They are expected to interact with students during one three-hour laboratory section per week and to attend the associated TA training once per week. Permission of the instructor required. S/U only.
Prerequisites: AS.173.111 AND AS.173.112
Instructor(s): M. Swartz
Area: Natural Sciences.

AS.173.608. Advanced Laboratory.
Experiments carried out on cosmic rays, X-ray scattering Mössbauer effect, atomic beams, and optical spectroscopy.
Instructor(s): T. Marriage.

Cross Listed Courses
Chemistry
AS.030.691. Solid State Chemistry.
The course is designed to provide the essential principles and concepts underlying the modern study of the structure and properties of solids in bulk crystals, thin films, and nanoscale objects. Topics include basic crystallography, structure determination by x-ray, neutron, and electron diffraction, fundamental concepts of bonding in solids, lattice dynamics, electronic band structure, magnetism, and strongly correlated electron behavior. Particular emphasis is placed on the impact of the structure, dimensionality, and electron count on electrical and magnetic properties (electric conduction, superconductivity, thermoelectricity, etc). More course info available at <a href="http://occamy.chemistry.jhu.edu">http://occamy.chemistry.jhu.edu</a>. Cross-listed with Physics and Astronomy
Instructor(s): T. Mcqueen.

History of Science Technology
AS.140.322. The Heavens and Earth in the History of Astronomy. 3 Credits.
How do we study the stars, and what do they tell us about the earth? In this course, we explore views of the heavens across history, from ancient Greece to international astrophysics. Special emphasis will be given to the ‘new stars’ of 1572 and 1604, whose remnants astronomers at Johns Hopkins University continue to study today. Cross-listed with Earth and Planetary Science, Physics and Astronomy
Area: Humanities, Social and Behavioral Sciences.

Applied Mathematics Statistics
EN.550.693. Turbulence Theory.
An advanced introduction to turbulence theory for graduate students in the physical sciences, engineering and mathematics. Both intuitive understanding and exact analysis of the fluid equations will be stressed. Students should have previous familiarity with fluid mechanics.
Instructor(s): G. Eyink.

Political Science
The programs of the Political Science Department are designed to help students attain a deeper understanding of politics and civic life in its various dimensions. The department encourages students to become sophisticated theoretically and to study politics in global and comparative perspective. We divide the curriculum into American Politics, Comparative Politics, Political Theory, and International Relations (and Law and Politics at the graduate level). Students are encouraged to develop expertise in several of these areas.

The department has 22 faculty members. The undergraduate program offers a broad range of courses about politics and government at local, state, national, and international levels. In addition to taking courses on the Homewood campus, students can do independent research under the guidance of a faculty mentor, take courses at the Nite School of Advanced International Studies (SAIS) in Washington, D.C., and participate in the Aitchison Public Service Undergraduate Fellowship Program at the Johns Hopkins Washington Center.

Intellectual Orientation
In addition to our work within the traditional fields of Political Science, faculty research engages four clusters of activity that cut across the various subfields while speaking to core questions of politics: power
and inequality, identities and allegiances, agency and structures, and borders and flows.

Power and Inequality

In many ways, political science is the study of power. This includes the wide array of rules, authority structures, and forms of violence at the local, national, transnational and international levels, as well as how the value, distribution, and accumulation of resources create conditions of security and insecurity among nation states, regions, economic classes, or populations.

Identities and Allegiances

A second cluster of research centers on questions of identity and the various allegiances and attachments organized around them. These include how racial, ethnic, gender, and sexual identities inform citizenship and nationalism, the organization of civil society, or the formation of social movements.

Agency and Structure

A third cross-cutting area of activity in the department explores questions of agency and structures. Agency includes entrepreneurship, innovation and creative action, and the agency of material things. Structures include formal and informal institutions, particularly the rules, roles, and regulations that guide human relations in the public, private, and non-profit worlds, among states and within them, at the global level and in local communities.

Borders and Flows

A fourth cluster examines borders and flows. Research in this area examines the movement of people, ideas, material objects, and natural forces across space and over time. A focus on borders and flows informs the study of territorial regimes, sovereignty, religious intensities, immigration and diasporas, globalizing capital, information, and ecological politics.

Political Science courses can contribute to two different majors:

Major in Political Science

The major in political science described below is designed for students interested in intensive study of the institutions, theory, and problems of politics, government and modern political culture.

Major in International Studies

The department contributes to an interdisciplinary program leading to B.A. or B.A./M.A. degrees in International Studies. This program and its requirements are described under International Studies (p. 442).

Requirements for the B.A. Degree

(See also Requirements for a Bachelor’s Degree (p. 24).)

The requirements for the political science major listed below apply to those students who entered the University in Fall 2014. Students who entered prior to Fall 2014 should refer to the archived catalog (http://web.jhu.edu/registrar/catalog) based on their year of entry into the institution. All courses applied towards the major must be taken for a letter grade and students must receive a grade of C or higher, including courses taken in the first semester of freshman year. A maximum of four courses may come from transfer credit and only one letter-graded independent study of 3 credits may apply towards the major (unless honors thesis). The Department of Political Science does not award credit for the Advanced Placement Exam in government.

Subfield Courses

One 100- or 200-level course in American Politics (AP) 3
One 100- or 200-level course in Comparative Politics (CP) 3
One 100- or 200-level course in International Relations (IR) 3
One 100- or 200-level course in Political Theory (PT) 3

Writing Intensive Course

One 3-credit writing intensive course in political science. This course may overlap with one of the 12 required political science courses and KSAS writing requirement. The course may be at any level.

Political Science Elective Courses

One political science course at any level 3
Seven political science courses at the 300- or 400-level 21

Cognate Courses

Four elective courses (at any level) selected from the following areas: history, history of art, history of science & technology, philosophy, anthropology, geography, economics, sociology, or psychology 12

Honors Thesis Program

Seniors also have the opportunity to write a senior research thesis. To be eligible to write this thesis, seniors must have taken at least one (1) research-focused political science course (R) in their junior year (senior year with special permission). Once the student identifies a faculty sponsor who will supervise the project the students will enroll in a three credit independent study during the fall semester of their senior year. If at the end of the fall semester adequate progress has been made and the project warrants further work, the student must enroll in a three credit senior theses colloquium course.

Students who complete a senior thesis and have a final major GPA (including final semester grades) of 3.7 will be awarded departmental honors. All students may write a thesis, regardless of GPA, provided they have a detailed proposal approved by a faculty member at the beginning of the fall semester of their senior year.

All thesis-related courses apply to the total of twelve (12) political science courses required for graduation in the major.

For thesis requirements applicable to students who entered the university prior to Fall 2014, please contact the department.

Comparative Racial Politics

The undergraduate option in Comparative Racial Politics is designed to introduce undergraduate students to the study of racisms in comparative, cross-spatial perspective. Beginning with an introductory course designed to familiarize students with key concepts and approaches in the examination of racism, students will be able to distinguish the race concept and the practice of racism from the concepts and phenomena such as ethnicity and nationalism.

The curriculum includes two mandatory courses and two elective courses. The mandatory courses are Introduction to Ethnic and Racial Politics, and Comparative Racial Politics. The elective courses include Nationalism, Asian American Politics, Politics of East Asia, Black Politics,
and courses on race and immigration offered outside of the department (with approval).

Graduate Program

The preparation of the next generation of scholars in the field of political science is a key part of the Political Science Department faculty’s commitment to research and advancing the understanding of politics. The doctoral program reflects the distinctive strengths of the department’s cross-cutting intellectual orientations (encompassing the themes of power and inequality, identities and allegiances, agency and structure, and borders and flows), realized in faculty and PhD student research and teaching. The Johns Hopkins University Political Science Department is known for its strength in theory and in innovative and trans-disciplinary approaches to uncovering new knowledge, and the program of doctoral study draws on these strengths to provide rigorous training. Our program is designed for highly qualified, intellectually curious and creative graduate students who can benefit from learning from and contributing to this community of scholars. Doctoral students develop in-depth knowledge of a major field and a minor field (or two major fields), chosen from American Politics, Comparative Politics, International Relations, Law and Politics, and Political Theory. In addition, doctoral students may complete a certificate in Comparative Racial Politics. Students have opportunities to work closely with faculty and to pursue independent research, and faculty and doctoral students benefit from strong connections with colleagues in other social science and humanities disciplines and opportunities to collaborate with them. The department and Krieger School of Arts and Sciences provide opportunities for developing teaching and other career-related skills. The Johns Hopkins University Homewood campus and Baltimore provide an attractive setting and vibrant neighborhood.

Admission

The department admits approximately 9 to 11 new graduate students each year, selecting them from the approximately 200 applications that it receives annually. The deadline for application for admission to graduate study and the award of financial assistance is January 15 (most years). Decisions are made exclusively in late February or early March and announced by March 15. A B.A., B.S., or their equivalent, and results of the Graduate Record Examination are required for application. Students whose native language is not English must take the TOEFL examinations or provide other evidence of fluency in English (such as a degree from an institution in which the language of instruction is English.) A broad background in the liberal arts and social sciences is preferred. Further information can be found at http://www.grad.jhu.edu/admissions/admissions.htm.

Financial Aid

The department ordinarily provides financial aid to all students admitted to the graduate program unless they hold fellowships from sources outside the university. Departmental fellowships cover full tuition and an annual stipend. Assuming satisfactory progress toward the Ph.D., students can normally expect to receive funding for five years. All students receiving financial aid are expected to serve as teaching assistants for one semester of each academic year.

Requirements for the Ph.D. Degree

The requirements for the Ph.D. are divided between those that must be satisfied by all candidates for that degree and those particular to the student’s major and minor fields.

Department-wide Requirements

All candidates for the Ph.D. must satisfy the following requirements:

Course Requirements

A minimum of 12 semester courses at the 600-level with a grade of B or better. At least 10 of these must be in the Krieger School’s Department of Political Science.

Foreign Language Requirement

All students must demonstrate successful completion of four semesters of college-level foreign language instruction or its equivalent, or pass a translation test administered by an appropriate faculty member. (This requirement is waived for foreign students who are native speakers of a language other than English)

Comprehensive Examination Requirement

Students are required, at a minimum, to take comprehensive exams in one major field and one minor field. Students may also elect to take two major exams or a major exam and two minor exams (one of which may be outside the Department of Political Science). Faculty in the field write and evaluate the exams and determine the format. Major field comprehensive exams take place over two days (8 hours per day); minor field exams take place over one day. The fields within the department are: American Politics, Law and Politics, Political Theory, Comparative Politics and International Relations.

Dissertation

The dissertation is the capstone of doctoral education, and it must be a substantial work of independent scholarship that contributes to knowledge in the student’s field of study. Preparation of the dissertation will be supervised and must be approved by two members of the faculty, at least one of whom (the dissertation director) must be a member of the Department of Political Science.

Defense

The final examination of the dissertation will take the form of a defense conducted under the rules of the Graduate Board of The Johns Hopkins University.

Field-specific requirements

Field-specific basic expectations, procedures, and requirements are stated below. These are implemented, interpreted, and adjusted in the light of the intellectual orientations and objectives of individual students. It is of great importance that students work closely with
their advisors and with the faculty in their major and minor fields in
constructing and pursuing their programs of study.

American Politics

Students majoring and minoring in American Politics will work with at
least two faculty members to develop a plan of study that includes
recommended course work and other preparation needed to pass
a comprehensive exam. Students completing a major are expected
to demonstrate a breadth of knowledge sufficient for framing a
dissertation in the relevant disciplinary literature and teaching
undergraduate courses in the field; students who pursue a minor may
focus more narrowly on an area of study in which they demonstrate
fluency. These may include, but are not limited to, the following areas of
faculty interest:

- American Political Institutions (Congress, Courts, and the Executive)
- Urban Politics
- American Political Development
- Race and Politics
- Political Behavior and Public Opinion
- Public Policy
- American Political Thought
- Political Parties and Elections

In addition, students majoring in the field are strongly encouraged to
take AS.190.602 Introduction to Quantitative Political Science as part of
their course of study.

Comparative Politics

All students majoring and minoring in this Comparative Politics will
become conversant with major substantive and methodological debates
in the field, and be able to comment on the key theoretical literature in
several of those debates. They will normally also develop knowledge of
at least one world region. Students majoring or minor in Comparative
Politics are required to take AS.190.625 Theories of Comparative Politics
and at least one seminar in quantitative or qualitative methods. We
expect all students to master the material covered in these courses, as
well as others with more specialized topics.

Students will take a comprehensive exam that will test their ability
to engage with several areas of theoretical debate in Comparative
Politics, and their ability to use comparative examples to support their
arguments. Students may focus on (but are not limited to):

- Civil Society
- Institutional Theories
- Transnational Relations, Social Movements, and Contentious Politics
- Political Parties, Interest Groups, Representation, and Political
  Behavior
- Comparative Political Economy
- Comparative Racial Politics, Nationalism, and Migration and
  Citizenship
- The Political Economy of Development
- Economic and Political Transitions
- Ideas and Politics

Within the spirit of this division of the overall field, students may
propose alternative delineations of thematic subfields.

Students working in specific thematic and substantive subfields within
Comparative Politics will be required to demonstrate competence
in methodologies and bodies of theory judged by the faculty to be
necessary for quality research and teaching in those subfields.

International Relations

All students majoring or minor in International Relations will be
required to be conversant with the major theoretical, substantive,
and methodological themes and debates of the field. It is strongly
recommended that students take AS.190.676 Field Survey of
International Relations and a methods course. Students majoring in
International Relations will take an examination covering two subfields.
The first subfield must be International Politics. The other subfield is
to be determined in consultation with faculty teaching International
Relations. Choices include but are not restricted to:

- International Law and Diplomacy
- International Relations Theory
- International Security Studies
- Global Political Economy

Students minoring in International Relations will take a comprehensive
examination in International Politics.

Political Theory

Students majoring in Political Theory will take a comprehensive
examination covering the following two subfields:

- Contemporary Political Theory
- History of Political Thought

Each student preparing for a major comprehensive exam will propose
six or seven thinkers in the history of thought, six or seven recent or
contemporary thinkers, and three or four issue areas. Examination
questions are composed in light of the theorists and issues articulated in
the exam prospectus.

The minor comprehensive exam in political theory asks the student
to select half the number of thinkers required for the major exam and
three issue areas.

Preparation for these examinations will be arranged in consultation with
relevant faculty.

Students majoring in political theory will also take at least one minor
field from American Politics, Law and Politics, Comparative Politics, or
International Relations.

Law and Politics

Law and Politics focuses on American constitutional thought, judicial
politics, law and society, and philosophy of law and jurisprudence.
Students learn not only about the history and context of American
constitutional developments but also about the operation of the judicial
branch of government in the past and the present, how courts and
judges do their work, and how that work has changed. In addition,
students explore how legislation as well as course decisions reflect and
influence groups, and professional networks help to shape law’s content
and implementation. Students may major or minor in Law and Politics.
in either case, students work closely with at least two members of
the faculty to develop a plan of study regarding coursework and additional
reading to prepare them for comprehensive exams. Majors are expected to demonstrate a breadth of knowledge in the field sufficient for framing a dissertation and for teaching undergraduate courses; minors may focus more narrowly on a particular area of study.

Certificate in Comparative Racial Politics

The graduate certificate program in Comparative Racial Politics is designed to help train graduate students who are developing empirically based and/or theoretically informed scholarship on citizenship, racism and immigration in contemporary societies, whether in a single national society or cross-spatially. There are two required courses: Comparative Racial Politics, and Qualitative Methods. In addition the student must take two electives from this (preliminary) list:

- Nationalism
- Comparative Citizenship and Immigration
- Politics
- Topics in Black Political Thought
- Race and Political Theory
- Civil Society
- States, Regimes and Governmentality
- American Political Development
- Political Economy of Development

Progress Toward the Ph.D.

The time necessary to obtain a Ph.D. in the department varies according to the preparation individual students bring to the program, the scope and complexity of their dissertation topics, and other factors. Students are required to make satisfactory progress, meaning that they must work toward fulfilling the requirements in a timely manner. Students are encouraged to satisfy the department’s foreign language requirement by the time of their first comprehensive exam. Most students take their comprehensive examinations in the third year in the program. Students who have completed all requirements except the dissertation must work to complete their dissertations as quickly as is reasonable given the unique circumstances of their course of study, and they must periodically demonstrate progress on the dissertation.

The Master of Arts degree is offered only to students who have been admitted into the Ph.D. program. For the M.A., the student must complete at least seven one-semester courses at the 600-level with a grade of B or better, and demonstrate an effective reading knowledge of one approved foreign language.

For current faculty and contact information go to http://politicalscience.jhu.edu/directory/

Faculty

Chair
Richard S. Katz
Comparative politics (parties, elections, European politics), American politics.

Professors
Jane Bennett
Political theory, American political thought, ecophilosophy.

William E. Connolly
Krieger-Eisenhower Professor: political theory, international relations.

Steven R. David
Professor and Vice Dean for Undergraduate Education: international relations, security studies, comparative politics.

Benjamin Ginsberg
David Bernstein Professor and Director of the Washington Center for the Study of Government: American government and politics, political development.

Siba N. Grovogui
International relations theory, political theory.

Michael Hanchard
SOBA Presidential Professor and co-director of the Racism, Immigration and Citizenship Program: comparative politics, political theory.

Margaret E. Keck
Comparative politics, international relations (Latin American politics, the environment, social movements).

Renée Marlin-Bennett
International relations, political economy of information.

Kellee S. Tsai
Professor and Vice Dean for Humanities, Social Sciences, and Graduate Programs: comparative politics, political economy of development, Chinese politics, international political economy.

Associate Professors

Samuel Chambers
Political theory, feminist and queer theory, cultural politics.

Erin Chung
Charles D. Miller Associate Professor of East Asian Politics and co-director of the Racism, Immigration and Citizenship Program: comparative politics, East Asian politics, international migration, comparative racial politics.

Jennifer L. Culbert
Political theory, jurisprudence.

Daniel H. Deudney
International relations, political theory.

Nicolas Jabko
Comparative politics, international political economy, European politics.

Adam Sheingate
American politics, comparative politics.

Lester Spence
Black politics, race and politics, urban politics, American political behavior and public opinion.

Steven Teles
Social policy, law and public policy, political analysis.

Assistant Professors

Bentley Allan
International relations, science and politics, global governance, global environmental politics.

P.J. Brendese
Political theory, comparative political thought, race and politics.
Daniel Schlozman  
American politics, political parties, and the welfare state.

Emily Zackin  
Constitutional law, American politics.

Professors Emeriti  
Joseph Cooper  
Legislative politics, executive-legislative relations, institutional theory.

Matthew A. Crenson  
Urban government, American political development.

Richard E. Flathman  
Professor Emeritus and George Armstrong Kelly Professor: political theory, legal philosophy.

Joel B. Grossman  
Constitutional law, law and politics, American politics.

Adjunct Faculty  
Robert Freedman  
Arab-Israeli politics and Russian politics.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

AS.190.101. Introduction to American Politics. 3 Credits.  
This course examines the ideals and operation of the American political system. It seeks to understand how our institutions and politics work, why they work as they do, and what the consequences are for representative government in the United States. Emphasis is placed on the federal government and its electoral, legislative, and executive structures and processes. As useful and appropriate, attention is also given to the federal courts and to the role of the states. The purpose of the course is to understand and confront the character and problems of modern government in the United States in a highly polarized and plebiscitary era.  
Instructor(s): B. Ginsberg  
Area: Social and Behavioral Sciences.

AS.190.102. Introduction To Comparative Politics. 3 Credits.  
An introduction to the comparative study of political regimes, institutions and processes, with illustrations drawn from selected countries in different world regions. These may include Great Britain, Germany, Japan, Mexico, China, India, Iran, Nigeria, and Russia, or others.  
Instructor(s): N. Jabko  
Area: Social and Behavioral Sciences.

AS.190.104. International Politics. 3 Credits.  
Intensive analysis of major approaches to international politics (realism, liberalism, Marxism). Topics include: anarchy, geopolitics, states, nations, balance of power, hegemony, empire, democratic peace, regimes, nuclear weapons, European Union.  
Instructor(s): D. Deudney  
Area: Social and Behavioral Sciences.

AS.190.105. A Normal Country? - German Politics and Identity. 3 Credits.  
This seminar deals with questions pertaining to the formation of modern German nationalism and national identity through the perspective of German politics and history. This case study focused seminar will provide students with a framework to research wider questions on nationalism and political identity. Freshmen Only.  
Instructor(s): F. Bauwens  
Area: Humanities, Social and Behavioral Sciences.

AS.190.106. International Relations in East Asia. 3 Credits.  
International Relations Theory as a discipline emerged out of Western political and social thought on how global coexistence and governance ought to be as--thus the discipline tends to privilege the Western experience and seek to apply Western categories to non-Western regions of the world. Through examining the history of Asia’s encounter with the West in the reconfiguration of international relations in East Asia (through the influence of Western expansion into Asia as well as the impact of Japan’s Westernization effort) this course emphasizes the need for a plural, open and critical thinking of how we theorize global politics so as to cultivate an appreciation of multiplicity of experiences including that of the non-West. Freshmen Only.  
Instructor(s): H. Koyama  
Area: Social and Behavioral Sciences.

AS.190.199. Freshman Seminar: The Politics of Water. 3 Credits.  
Exploration of how international and domestic political processes shape and are shaped by water - its availability, its trajectory, and its quality. Students will learn to use different research methods and writing strategies. Class will involve seminar discussions and fieldtrips to sites in and around the Baltimore area, some carried out jointly with Anthropology.  
Instructor(s): M. Keck  
Area: Social and Behavioral Sciences.

AS.190.203. Critical Race Theory. 3 Credits.  
This course explores past and present theories of race in order to illuminate contemporary racial inequalities. We will examine how race intersects with variables such as gender, class, ethnicity and citizenship. Where many political commentators treat whiteness as the absence of race, we will consider competing theoretical accounts of whiteness as race.  
Area: Humanities, Social and Behavioral Sciences.

AS.190.205. Develop/Democracy/Global. 3 Credits.  
Area: Humanities, Social and Behavioral Sciences.

AS.190.206. Global Environmental Politics. 3 Credits.  
This course will combine empirical, theoretical, and moral perspectives to explain and understand global environmental problems such as climate change and worldwide biodiversity decline. In the first part of the course, we will examine the central social, economic, and political causes of ecological problems. In the second part, we will analyze proposed solutions to these problems at the local, national, and global levels.  
Instructor(s): B. Allan  
Area: Social and Behavioral Sciences  
Writing Intensive.
AS.190.207. Political Freedom, Race and Resistance. 3 Credits.
This course examines core questions about the relationship between political power and political freedom. A critical investigation of how resistance to racial inequality has been expressed in political theory and political practice will illuminate and contest the limits and possibilities for political freedom today.
Instructor(s): P. Brendese
Area: Social and Behavioral Sciences.

AS.190.209. Contemporary International Politics. 3 Credits.
An introduction to international politics. Emphasis will be on continuity and change in international politics and the causes of war and peace. The first half of the course will focus on events prior to the end of the Cold War, including the Peloponnesian War, the European balance of power, imperialism, the origins and consequences of WWI and WWII, and the Cold War. The second half will focus on international politics since 1990, including globalization, whether democracies produce peace, the impact of weapons of mass destruction, terrorism, and the prospects for peace in the 21st century. Theories of realism and liberalism will also be considered.
Instructor(s): S. David
Area: Social and Behavioral Sciences.

AS.190.210. The American Congress. 3 Credits.
An introduction to legislative politics and policymaking in the US, and their place in the political system. Special attention to issues of representation, and the consequences of institutional design.
Instructor(s): D. Schlozman
Area: Social and Behavioral Sciences.

AS.190.211. Intro Political Econ I. 3 Credits.
This historically oriented course examines the politics of “the economy” through an examination of the major contributions to the “political” study of the economy from the 17th century to the present.
Prerequisites: Students who are taking or have taken AS.190.216 are not eligible to register for AS.190.211.
Instructor(s): I. Kamola
Area: Social and Behavioral Sciences.

AS.190.213. International Politics. 3 Credits.
Intensive analysis of major approaches to international politics (realism, liberalism, Marxism). Topics include: anarchy, geopolitics, states, nations, balance of power, hegemony, empire, democratic peace, regimes, nuclear weapons, European Union. (IR)
Instructor(s): D. Deudney
Area: Social and Behavioral Sciences.

AS.190.214. Introduction to Racial and Ethnic Policy. 3 Credits.
What do scholars mean when they use concepts of race and ethnicity, and what are the political implications of these concepts in everyday life? One aim of this course is to answer this question. The second aim of this course is to help first-year college students develop familiarity with these concepts and an understanding of how ideas about racial and ethnic difference have impacted the formation of societies, governments, laws, policies and individuals, even themselves. Comparative in scope, this course will lead students through readings about racial and ethnic relations in countries like Brazil, England, Northern Ireland and China, often utilizing the United States as a referent. (AP) Cross-listed with Africana Studies
Instructor(s): L. Spence
Area: Social and Behavioral Sciences.

AS.190.216. Global Political Economy. 3 Credits.
This lecture course explores the governance of the global economy, focusing on rules and institutions affecting global trade and finance, development, the environment, production, and resources.
Prerequisites: Students who are taking or have taken AS.190.211 or AS.190.235 are not eligible to register for AS.190.216.
Instructor(s): R. Marlin-Bennett
Area: Social and Behavioral Sciences.

AS.190.225. Introduction to International Studies. 3 Credits.
Instructor(s): S. Grovogui
Area: Social and Behavioral Sciences.

AS.190.226. Global Governance. 3 Credits.
Global problems like poverty, financial instability, human rights abuses, and climate change threaten both international order and human well-being. In the absence of a world state, these problems must be addressed by an increasingly complex, transnational network of organizations and social groups. First, we will aim to understand and explain how global problems are governed through detailed case studies of International Organizations and Non-Governmental Organizations such as the United Nations, World Bank, Intergovernmental Panel on Climate Change, Amnesty International and more. Second, we will critically evaluate the successes and failures of these organizations and explore the possibilities for improving democratic governance at the global level.
Instructor(s): B. Allan
Area: Social and Behavioral Sciences.

AS.190.228. The American Presidency. 3 Credits.
This course is an introduction to the study of the presidency. It assumes a basic understanding of the American political system as provided in a course such as Introduction to American Politics or its equivalent. We explore the evolution of the modern presidency, how contemporary presidents operate in the political System, and the sources of successful presidential leadership.
Instructor(s): A. Sheingate
Area: Social and Behavioral Sciences.

AS.190.229. Introduction to Comparative Politics. 3 Credits.
An introduction to political institutions and processes with illustrations drawn from selected countries of the world. These will include Great Britain, Japan, Brazil, China, India, Nigeria, and Russia. (CP)
Area: Social and Behavioral Sciences.

AS.190.230. Introduction to the European Union. 3 Credits.
This lecture course introduces students to the European Union (EU) by examining the history and institutions in order to understand the EU’s policies, strengths and weaknesses. Requires extensive reading, midterm, final.
Prerequisites: Students who have taken AS.180.233 are not eligible to register.
Instructor(s): A. McCartney
Area: Social and Behavioral Sciences.

AS.190.235. Introduction to International Political Economy. 3 Credits.
Focusing on the politics of international economic relations, this course examines how political economics differs from “regular” economics. Alternative analytical and theoretical perspectives are examined. Requires extensive reading, mid-term, final.
Prerequisites: AS.180.101 and AS.180.102
Area: Social and Behavioral Sciences.
AS.190.244. Weapons Mass Destruction. 3 Credits.
Instructor(s): S. David
Area: Social and Behavioral Sciences.

AS.190.255. Political Inquiry: How to Conduct Research in Political Science and International Studies. 3 Credits.
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.265. Comparative Political Behavior. 3 Credits.
An introduction to the study of political behavior, emphasizing electoral behavior in democratic countries.
Instructor(s): R. Katz
Area: Social and Behavioral Sciences.

AS.190.266. Religion, Economics and Terror. 3 Credits.
This course will engage a series of questions about how religion and fear are used as tools of political power that shape human values and desires in an age of neoliberal capitalism.
Instructor(s): P. Brendese
Area: Social and Behavioral Sciences.

AS.190.280. Political Persuasion (Classics of Political Thought I). 3 Credits.
An introduction to Euro-American political thought through a close examination of six thinkers: Socrates, Machiavelli, Locke, Marx, Whitman, and Foucault.
Instructor(s): J. Bennett
Area: Social and Behavioral Sciences.

AS.190.281. Virtue, Labor, and Power (Classics of Political Thought II). 3 Credits.
This is not a class in the history of political thought. Instead, it is an opportunity for a selective, circumscribed, but very focused engagement with some of the most powerful and provocative texts in that history. We will read selections from six thinkers (Socrates, Machiavelli, Locke, Marx, Nietzsche, and Foucault), focusing on three themes (Virtue, Labor, and Power). These texts have all profoundly shaped the way we think about politics, and they are texts that resonate with our own political problematic today.
Instructor(s): S. Chambers
Area: Social and Behavioral Sciences.

AS.190.282. Authority and Liberty (Classics of Political Thought III). 3 Credits.
Beginning with Plato, and using Nietzsche’s history of metaphysics as a guide, this course serves as an introduction to Euro-American political thought by analyzing the philosophical foundations of political authority. In addition to works by Plato and Nietzsche, readings will include works by Kant, Mill, Hart, and Foucault.
Instructor(s): J. Culbert
Area: Social and Behavioral Sciences.

AS.190.283. The Politics of Memory (Classics of Political Thought IV). 3 Credits.
Was George Orwell right that those who control the past control the future—and those who control the present control the past? This is a course on the politics of memory: how political power shapes what is available to be remembered, the timing, spaces, and occasions of commemoration, and who is permitted to invoke (or disavow) the past. We will engage a range of highly contested works of ancient, modern and contemporary political theory to investigate how the past might haunt present day politics through memories that are conscious and unconscious. The themes we will take up include: the correspondence between memory and freedom; whether we ever be free given that we are creatures endowed with memory, whether it is sometimes politically necessary (or even possible) for people to forget, and what politics of memory emboldens, or threatens, democracy. There are no prerequisites for this course.
Instructor(s): P. Brendese
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.300. Class Politics. 3 Credits.
Instructor(s): L. Spence
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.301. Global Political Economy. 3 Credits.
Examines the intersection of politics and economics in global affairs. Focuses on theoretical approaches to global political economy; institutions of governance of the global political economy; flows of goods, services, capital, and information; and transborder problems.
Recommended Course Background: AS.190.209
Prerequisites: Not open if you have previously taken AS.190.216.
Instructor(s): R. Marlin-Bennett
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.302. How to be a Capitalist. 3 Credits.
Everyone usually assumes that they know what capitalism is and how it works. Yet some of us often make very poor choices given the framework of a capitalist system, and many of us continually express shock and outrage over outcomes and results that are perfectly reasonable (and to be expected) given the operation of capitalism. This advanced seminar will engage with readings in political theory and political economy that explore the fundamental logic of capitalism. Previous course in Political Theory or Instructor’s Permission.
Instructor(s): S. Chambers
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.303. The Cultural Politics of Television. 3 Credits.
Instructor(s): S. Chambers
Area: Social and Behavioral Sciences.

AS.190.304. Constructivism: How Ideas Shape International Relations. 3 Credits.
In this course we will explore the power of culture, symbols, and values in global politics. We will achieve a deep understanding of constructivist theories by way of their important contributions to the study of historical change, war and peace, ethnic and religious conflict, international economics, human rights, environmental politics, and global justice movements.
Instructor(s): B. Allan
Area: Social and Behavioral Sciences
Writing Intensive.
AS.190.305. Globalization and Culture. 3 Credits.
Area: Social and Behavioral Sciences.
AS.190.306. The Political Economy of European Union. 3 Credits.
The existence of the European Union has come to profoundly shape the governance of Europe's national economies. In the context of a rapidly changing global economy, the EU has helped its member states to modernize their economies. At the same time, the EU has become the locus of important problems and tensions, as the eurozone crisis vividly illustrates. Going back to the foundation of the European Union, this course will survey developments in the political economy of the EU and put them in theoretical perspective.
Instructor(s): N. Jabko
Area: Social and Behavioral Sciences
Writing Intensive.
AS.190.307. Race, Politics and Literature. 3 Credits.
Instructor(s): P. Brendese
Area: Social and Behavioral Sciences
Writing Intensive.
AS.190.309. Politics and Policy Design. 3 Credits.
Area: Social and Behavioral Sciences.
AS.190.311. Middle East Politics. 3 Credits.
A survey of political change and ideological trends across the Middle East. Topics include legacies of colonialism and external intervention, politics of nationalism and state building, impact of oil wealth, challenge of political Islam, prospects for democracy and political inclusion in Lebanon and elsewhere.
Area: Social and Behavioral Sciences.
AS.190.312. Power. 3 Credits.
Area: Social and Behavioral Sciences.
AS.190.313. Dreams of America. 3 Credits.
An exploration of recurrent themes and aspirations in American political thought, focused around three dimensions of the American dream: Tabula Rasa, Upward Mobility, and Landed Independence. The master narratives of American democracy—of incorporation and assimilation -- are in tension with perspectives drawn from histories of formal and informal exclusion: native Americans, US African Americans, Latinos and other groups have often been excluded from dominant portraits of America. Our course will consider the various ways in which marginalized groups have incorporated elements from dominant Dreams of America, refashioned them and claimed them as their own.
Prerequisites: AS.190.280 OR AS.190.281 OR AS.190.282
Instructor(s): J. Bennett; M. Hanchard
Area: Social and Behavioral Sciences
Writing Intensive.
AS.190.315. Asian American Politics. 3 Credits.
This course examines issues of political identity, political incorporation, and political participation of Asian Americans. Themes include Asian American panethnicity, the struggle for immigration and citizenship, Asian American electoral politics, political activism and resistance since the 1960s, and the impact of Asian Americans on the politics of race and ethnicity in the United States.
Instructor(s): E. Chung
Area: Social and Behavioral Sciences
Writing Intensive.
AS.190.320. Politics Of East Asia. 3 Credits.
Examines some of the central ideas and institutions that have transformed politics in the contemporary world through the lens of East Asia, focusing on Japan, South Korea, Taiwan, and China. Topics include state-society relations, late development, nationalism, democratization, political culture, social movements, and globalization.
Instructor(s): E. Chung
Area: Social and Behavioral Sciences.
AS.190.322. Business, Government and the International Economy. 3 Credits.
Seminar focuses on the relations between business and government throughout the world. Class will read historical and contemporary author's conceptualizations of the relationship. 30 Page term paper is required.
Instructor(s): D. Heisenberg
Area: Social and Behavioral Sciences
Writing Intensive.
AS.190.323. Introduction to International Law. 3 Credits.
A limited survey of international law, its sources, and uses in international relations. It has five basic aims: 1) to explore the place, origins and changing contexts of international law and its instrumentality in international life; 2) to examine the sources of personalities and institutions that influence its development; 3) to survey select international legal dispositions concerning the peaceful resolutions of conflict and the immunities that apply to certain legal subjects; 4) to examine the immunities that apply to certain legal subjects; 5) to examine differing views on the future of international law in light of recent events.
Instructor(s): S. Grovogui
Area: Social and Behavioral Sciences.
AS.190.326. Democracy And Elections. 3 Credits.
An examination of most aspects of democratic elections with the exception of the behavior of voters. Topics include the impact of various electoral systems and administrative reforms on the outcome of elections, standards for evaluations of electoral systems, and the impact of the Arrow problem on normative theories of democratic elections.
Instructor(s): R. Katz
Area: Social and Behavioral Sciences.
AS.190.327. Politics of Information. 3 Credits.
Considers global and comparative politics of information, information technologies, and the Internet. Examines governance of information (ownership of information, rights to information, privacy) and governance of information technologies (domain names, social media websites, etc.).
Instructor(s): R. Marlin-Bennett
Area: Social and Behavioral Sciences.
AS.190.328. Black Visual Politics. 3 Credits.
Prerequisites: AS.190.340 OR AS.190.384 OR AS.190.385
Instructor(s): L. Spence; P. Berger
Area: Social and Behavioral Sciences
Writing Intensive.
AS.190.329. National Security-Nuclear Age. 3 Credits.
This course examines the impact of weapons of mass destruction on international politics with an emphasis on security issues. The first half of the course focuses on the history of nuclear weapons development during the Cold War and theories of deterrence. The second half of the class considers contemporary issues including terrorism, chemical and biological weapons, ballistic missile defense and proliferation. Requirements include a midterm, final and a ten page paper.
Instructor(s): S. David
Area: Social and Behavioral Sciences.

AS.190.330. Japanese Politics. 3 Credits.
This course introduces students to the major debates and issues of postwar Japanese politics. Topics include nationalism, electoral politics, civil society, and immigration.
Instructor(s): E. Chung
Area: Social and Behavioral Sciences.

AS.190.331. Comparative Racial Politics. 3 Credits.
Students will learn to utilize qualitative, interpretive methods of comparative politics to examine dynamics of racial and/or ethnic politics in the nation-states of Cuba, Brazil, Britain and France, Germany, and the United States. Readings will emphasize the role of the state, political economy, national culture, racist ideologies and anti-racist politics in the formation, maintenance and transformation of conditions of race-based inequalities. Students will also become familiar with theories and concepts of race and ethnicity, and the histories of social movements in the aforementioned societies founded, in part, on racial and/or ethnic identification as a response to inequality. Formerly titled: Race and Racism in Comparative Perspective.
Instructor(s): M. Hanchard
Area: Social and Behavioral Sciences.

AS.190.332. Research Seminar: Great Constitutional Issues. 3 Credits.
An exploration of free speech, privacy, and equality issues through readings, discussion, and student research.
Instructor(s): J. Grossman
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.333. American Constitutional Law. 3 Credits.
This course covers enduring debates about the way the Constitution has structured the U.S. government and about which powers the Constitution assigns to the federal government and to the states. We will examine these debates in the context of American political history and thought by studying the writings of prominent participants, and landmark Supreme Court cases.
Instructor(s): E. Zackin
Area: Social and Behavioral Sciences.

AS.190.334. Constitutional Law. 3 Credits.
The second semester of a two semester course. Topics include executive and emergency power, racial and gender equality, and selected free speech and religious freedom issues.
Prerequisites: AS.190.333
Instructor(s): E. Zackin
Area: Social and Behavioral Sciences.

AS.190.335. Imagining Borders. 3 Credits.
What is a border and why do borders matter in global politics? What do borders mean under conditions of globalization? An examination of the politics of borders, transborder flows, and networks within and across borders. The readings which come from political science and other disciplines, will include theoretical and case-specific works.
Instructor(s): R. Marlin-Bennett
Area: Social and Behavioral Sciences.

AS.190.337. The Constitution and the Criminal Justice System. 3 Credits.
Explores how the Constitution has shaped the theory and practice of the American criminal justice system, including arrests, searches and seizure of evidence, interrogation, prosecution, adjudication and plea bargaining, and sentencing. What is a "fair trial?" What is "due process?" What is "equality before the law?" "What are the limits of capital punishment?
Instructor(s): J. Grossman
Area: Social and Behavioral Sciences.

AS.190.339. American Racial Politics. 3 Credits.
Recommended Course Background: AS.190.214
Instructor(s): L. Spence
Area: Social and Behavioral Sciences.

AS.190.340. Black Politics I. 3 Credits.
This course is a survey of the bases and substance of politics among black Americans and the relation of black politics to the American political system up to the end of Jim Crow. The intention is both to provide a general sense of pertinent issues and relations over this period as a way of helping to make sense of the present and to develop criteria for evaluating political scientists' and others' claims regarding the status and characteristics of black American political activity.
Instructor(s): L. Spence
Area: Social and Behavioral Sciences.

AS.190.341. Korean Politics. 3 Credits.
This course introduces students to the historical and institutional foundations of modern South Korean politics. Topics include nationalism, political economic development, civil society, globalization, and ROK-DPRK relations. (CP)
Instructor(s): E. Chung
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.343. Nationalism. 3 Credits.
Despite the clamor over globalization and regionalization in the contemporary world, nationalism remains a central preoccupation for both political actors and students of politics. Though motivated by questions resonant within the discipline of political science (and the field of comparative politics in particular), this course is designed to familiarize students with key texts and debates in the literatures on nationalism in political science, sociology, history and anthropology. The objective of this course is to provide students with a comprehensive overview of major themes, scholarly approaches and forms of nationalist mobilization in national and cross-spatial perspective. Some of the questions to be addressed in this course are a) what are the roots and routes of nationalism?; b) who are nationalist political actors, and where do they come from?; c) what is nationalism ‘s relation to race, racism and ethnicity; d) what is the relationship between various forms of nationalism and contemporary considerations of regionalism and globalization?
Instructor(s): M. Hanchard
Area: Social and Behavioral Sciences.
AS.190.344. Seminar In Anti-Semitism. 3 Credits.
Jews exercise a good deal of power in contemporary America. They are prominent in a number of key industries, play important roles in the political process, and hold many major national offices. For example, though Jews constitute barely two percent of America’s citizens, about one-third of the nation’s wealthiest 400 individuals are Jewish and more than ten percent of the seats in the U.S. Congress are held by Jews. One recent book declared that, “From the Vatican to the Kremlin, from the White House to Capitol Hill, the world’s movers and shakers view American Jewry as a force to be reckoned with.” Of course, Jews have risen to power in many times and places ranging from the medieval Muslim world and early modern Spain through Germany and the Soviet Union in the 20th century. In nearly every prior instance, though, Jewish power proved to be evanescent. No sooner had the Jews become “a force to be reckoned with” than they found themselves banished to the political margins, forced into exile or worse. Though it may rise to a great height, the power of the Jews seems ultimately to rest on a rather insecure foundation. Cross-listed with Jewish Studies.
Instructor(s): B. Ginsberg
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.348. Domestic Politics: Contemporary China (CP). 3 Credits.
This course examines key issues in contemporary Chinese politics, spanning the period from the Communist Revolution (1949) through the Mao (1949-1976) and reform eras (1978 to present). Particular emphasis will be placed on contemporary challenges, including the political economy of reform and alternative forms of political participation.
Area: Social and Behavioral Sciences.

AS.190.354. Politics of Health Policy. 3 Credits.
Traces the evolution of the American Health care system, emphasis on the political forces that shape public and private provision of health care in the United States.
Instructor(s): P. Longman
Area: Social and Behavioral Sciences.

AS.190.356. The Social Contract and its Discontents. 3 Credits.
This seminar will engage selected articulations and criticisms of social contract theory in Europe from the mid-17th century to the early 20th. It will attend in particular to differences between the three classic expressions of consent theory—Hobbes, Locke, and Rousseau—as well as to differences between significant challenges to these earlier notions of a social contract. The latter may include writings by Hume, Burke, Wollstonecraft, Marx and Freud, among others.
Area: Social and Behavioral Sciences.

AS.190.368. Pluralism. 3 Credits.
This seminar will explore the theory and politics of pluralism: from European debates over religious tolerance to American debates over constitutional founding; from liberal political philosophy to radical democracy. Authors may include Bentley, Dahl, Locke, Madison, Ranciere, Rawls, Young. Recommended Course Background: Previous course in political theory or permission of instructor.
Instructor(s): S. Chambers
Area: Social and Behavioral Sciences.

AS.190.380. Law, Morality, & the State. 3 Credits.
Instructor(s): J. Culbert
Area: Social and Behavioral Sciences.

AS.190.381. Global Environmental Politics. 3 Credits.
Prerequisites: Not open if you have taken AS.190.206
Instructor(s): B. Allan
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.383. Baltimore Food System Research. 3 Credits.
This course examines the political, social, and economic aspects of the Baltimore food system. Through a mixture of in-class study and hands-on research, students learn about the challenges to healthy eating in Baltimore and some recent innovations designed to improve health and nutrition in the city. Visits to a soup kitchen, an urban farm, and local farmers market will inform a collaborative project using various social science research methods learned in class.
Instructor(s): A. Sheingate
Area: Social and Behavioral Sciences.

AS.190.384. Urban Politics & Policy. 3 Credits.
An analysis of public policy and policy-making for American Cities. Special attention will be given to the subject of urban crime and law enforcement, poverty and welfare, and intergovernmental relations.
Cross-listed with Africana Studies.
Instructor(s): L. Spence; R. Katz
Area: Social and Behavioral Sciences.

AS.190.385. Urban Politics and Policy. 3 Credits.
An analysis of public policy and policy-making for American Cities. Special attention will be given to the subject of urban crime and law enforcement, poverty and welfare, and intergovernmental relations.
Cross listed with Africana Studies.
Instructor(s): L. Spence
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.387. Parties and Elections in America. 3 Credits.
Considers how parties and elections structure political conflict, and facilitate (or not) democratic control of government. Topics include campaigns, voting behavior, election administration, money in politics, presidential nomination, and party coalitions.
Instructor(s): D. Schlozman
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.388. Planetary Geopolitics. 3 Credits.
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.389. Seminar on the Institutional Development of the Congress and Presidency. 3 Credits.
An examination of the development of the modern Congress and the presidency. Emphasis will be placed on the evaluation of patterns of structure, process and leadership, and their impact on the roles of Congress in the American political system. (AP)
Instructor(s): J. Cooper
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.392. Introduction to Latin American Politics. 3 Credits.
Instructor(s): M. Keck
Area: Social and Behavioral Sciences.

AS.190.394. Understanding Congress. 3 Credits.
Instructor(s): J. Cooper
Area: Social and Behavioral Sciences.
AS.190.395. Crime and Society. 3 Credits.
Contrary to the image most Americans have of their country, the United States is a tough nation with respect to crime. The U.S. has constructed a considerably more harsh criminal justice regime than any of its advanced industrial counterparts. In recent years, America’s prisons and jails have held more than one percent of the nation’s adults—2.3 million people—with many more on parole, probation or temporarily free on bail awaiting trial. In Western Europe, by contrast, fewer than two-tenths of one percent of the adult populace is behind bars. This enormous discrepancy in incarceration rates is more a function of the relative severity of America’s criminal laws than differences between Europe and the U.S. in the actual incidence of serious crime. And, of course, while Western European nations no longer execute convicted criminals, the U.S. remains committed to the use of capital punishment. We will explore these and related issues of crime and punishment in the U.S.
Instructor(s): B. Ginsberg
Area: Social and Behavioral Sciences.

AS.190.396. Capitalism and Ecology. 3 Credits.
A discussion seminar. Previous course in theory or philosophy assumed. Explorations of capitalism through the lens of ecology and ecology of climate change through the lens of complexity theory. Texts by Karl Polanyi, Fred Hirsch, Friedrich Hayek, and Immanuel Wallerstein on capitalism. By Fred Pearce, W. Connolly, Stuart Kauffman, and Clive Hamilton on ecological connections. Assignments: regular attendance, class presentation, two 12 page papers, participation in discussions.
Instructor(s): W. Connolly
Area: Natural Sciences, Social and Behavioral Sciences Writing Intensive.

AS.190.398. Politics of Good & Evil. 3 Credits.
One previous class in Political Theory recommended. A seminar in elemental theory exploring contending conceptions of good and evil as they appear in Sophocles, The Book of Job, Genesis, Augustine, Friedrich Nietzsche and William James. Elemental theory probes the dicey relations between evil and creeds already installed in us. It also presupposes previous work in theory. This is a discussion seminar, in which students make class presentations on assigned texts and write two 12 page papers.
Instructor(s): W. Connolly
Area: Social and Behavioral Sciences Writing Intensive.

AS.190.399. Capitalism & Christianity. 3 Credits.
Exploring the history of imbrications between capitalism and Christianity up to the contemporary era. Texts include the gospels, Calvin, Weber, Deleuze, George Gilder and Linda Kintz. Recommended Course Background: One course in theory or permission required.
Instructor(s): W. Connolly
Area: Social and Behavioral Sciences.

AS.190.402. Wash Internship Program. 3 Credits.
Corequisite: AS.190.403
Area: Social and Behavioral Sciences.

AS.190.403. Washington Seminar. 3 Credits.
Corequisite: AS.190.402
Area: Social and Behavioral Sciences.

AS.190.405. Food Politics. 3 Credits.
This course examines the politics of food at the local, national, and global level. Topics include the politics of agricultural subsidies, struggles over genetically modified foods, government efforts at improving food safety, and issues surrounding obesity and nutrition policy. Juniors, seniors, and graduate students only. Cross-listed with Public Health Studies.
Instructor(s): A. Sheingate
Area: Social and Behavioral Sciences Writing Intensive.

AS.190.406. The Executive Branch. 3 Credits.
In the 19th Century America was noted for its courts, political parties and representative institutions. Today, America’s political parties and representative institutions have declined in importance while the institutions of the executive branch have increased in importance. This seminar will examine the nation’s key executive institutions and aspects of executive governance in the U.S. Students will alternate primary responsibility for week’s readings. Every student will prepare a 10-15 page review and critique of the books for which they are responsible in class.
Instructor(s): B. Ginsberg
Area: Social and Behavioral Sciences.

AS.190.407. Geopolitics, Nuclear Weapons and World Order. 3 Credits.
Intensive assessment of competing theories of the nuclear revolution and its implications for world order.
Instructor(s): D. Deudney
Area: Social and Behavioral Sciences.

AS.190.409. Comp/Politics/Social Mov. 3 Credits.
Course examines major approaches to social movement organizations, dynamics, and significance. Case materials come from U.S., Europe, and Third World examples.
Instructor(s): M. Keck
Area: Social and Behavioral Sciences Writing Intensive.

AS.190.411. Environment and Development in the Third World. 3 Credits.
A research seminar examining the politics of environmental issues in developing countries, with special focus on Latin America.
Instructor(s): M. Keck
Area: Social and Behavioral Sciences Writing Intensive.

AS.190.412. Political Violence. 3 Credits.
An examination of the ways in which violence has been used to secure political ends. Topics include terrorism, assassination, genocide, coups, rebellions and war itself. Students examine what makes types of political violence unique and what unites them. (Formerly AS.190.372)
Instructor(s): S. David
Area: Social and Behavioral Sciences.

AS.190.413. Global Security Politics. 3 Credits.
An intensive examination of the security politics of nuclear weapons, outer space, biological weapons, and emerging information technologies.
Instructor(s): D. Deudney
Area: Social and Behavioral Sciences.
AS.190.414. America and the World. 3 Credits.
Intensive examination of the United States from the founding to the present in comparative and international perspective. Senior or graduate students.
Instructor(s): D. Deudney
Area: Social and Behavioral Sciences.

AS.190.415. The Geopolitics of Outer Space. 3 Credits.
Instructor(s): D. Deudney
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.416. The New Deal and American Politics. 3 Credits.
This seminar explores how the New Deal, the fundamental moment in the post-Civil War United States, has structured politics and government across a variety of domains ever since. Topics include presidential leadership, executive power, political parties, labor, race, and the welfare state.
Instructor(s): D. Schlozman
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.417. American Welfare State. 3 Credits.
This seminar analyzes the distinctive US welfare state in historical and comparative perspective. Special attention to policy development over time in health care, pensions, taxes, and work and poverty.
Instructor(s): D. Schlozman
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.418. Introduction to Political Theory. 3 Credits.
A two-term course in political thought, from the ancient to the modern. The sequence concludes with an extended study of contemporary political thought, especially as it addresses questions of identity, justice, and democracy. It is advisable for students to take the first term of the sequence before enrolling in this seminar, or to have taken AS.190.280, AS.190.281, AS.190.282, or AS.190.283. 
Instructor(s): B. Allan
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.419. Identity and Nations in Latin American Politics. 3 Credits.
This seminar class explores formation and political mobilization of identities - group, ethnic, gendered, national, cosmopolitan - in Latin America. Although some of the reading will be broadly comparative, the spring 2013 version of the class will focus especially on Brazil.
Requirements will include short response papers and a term paper.
Portuguese or Spanish desirable but not required. Enrolled students must be juniors or seniors and must have taken at least one prior course in comparative politics.
Instructor(s): M. Keck
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.420. Republicanism. 3 Credits.
Readings in classical and contemporary texts (Polybius, Machiavelli, Montesquieu, Rousseau, Kant, the Federalist, Calhoun, World Federalism, and nuclear arms control). Focus on security, freedom, and geopolitics, both domestic and international.
Instructor(s): D. Deudney
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.421. Science and Expertise in Global Politics. 3 Credits.
An in-depth examination of complex global problems that demand the effective use of scientific and expert knowledge in global governance. We will begin with a theoretical overview covering different perspectives on the role of knowledge and technology in global politics before looking in more detail at case studies drawn from environmental politics, nuclear management, colonial history, international political economy, UN peacekeeping, and more.
Instructor(s): B. Allan
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.422. Planetary Geopolitics. 3 Credits.
With the tools of geopolitics, course explores political debates over globalization of machine civilization and changes in scope and pace, space and place, and role of nature in human affairs.
Instructor(s): D. Deudney
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.423. Policy Disasters. 3 Credits.
Investigates the causes of large-scale policy disasters, examining the role of ideology, psychology, organization design and political incentives. Examples may be drawn from the Iraq War, Bay of Pigs, Hurricane Katrina, the U.S. Financial crisis, Shuttle Challenger disaster, economic development policy, privatization, and the Great Society. Limited to seniors or with permission of instructor. (CP / AP)
Instructor(s): S. Teles
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.424. Constructivism: How Ideas Shape International Relations. 3 Credits.
Can not have taken AS.190.304.
Instructor(s): B. Allan
Area: Social and Behavioral Sciences.

AS.190.425. The Political Bases of the Market Economy. 3 Credits.
Although “the market” is conventionally understood as separate from “politics”, the modern market economy did not arise in a political vacuum. In fact, the very separation between the economy and politics is itself the product of a politically potent set of ideas. This course is an upper-division reading seminar on the origins and evolution of the modern market economy. Readings will include Smith, Marx, Weber, Polanyi, Keynes, Hayek, Friedman, Becker, and Foucault. Recommended course background: Introduction to comparative politics OR any college-level course in social or political theory.
Instructor(s): N. Jabko
Area: Social and Behavioral Sciences.

AS.190.426. The Politics of Travel in the Middle East. 3 Credits.
Area: Social and Behavioral Sciences.

AS.190.427. Time and Punishment. 3 Credits.
“If you can’t do the time, don’t do the crime.” According to ask.com, this common expression was made popular in the 1970s by the theme song for the television show “Beretta.” Aside from amusing us with the irony that the star of “Beretta” was Robert Blake who was later charged with the murder of Bony Lee Bakely, the expression raises a profound issue: What is the relationship between punishment and time? This course will explore that question. Topics to be discussed include different philosophical understandings and experiences of time, views of mortality and fate, theories of punishment, specific punishments in the U.S. (including sentences of juveniles, life, death, and LWOP), as well as punishments that are not specifically meted out but are known to be the consequences of political, social, and economic circumstance. Students will read texts in criminology, political theory, philosophy, and jurisprudence, as well as a selection of Supreme Court cases, novels, and short stories. This writing intensive course is limited to undergraduates who have taken at least one “Classics of Political Thought” course (190.280, 190.281, 190.282, or 190.283).
Instructor(s): J. Culbert
Area: Social and Behavioral Sciences.

AS.190.429. The New Deal and American Politics. 3 Credits.
This seminar explores how the New Deal, the fundamental moment in the post-Civil War United States, has structured politics and government across a variety of domains ever since. Topics include presidential leadership, executive power, political parties, labor, race, and the welfare state.
Instructor(s): D. Schlozman
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.430. Time and Punishment. 3 Credits.
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Instructor(s): J. Culbert
Area: Social and Behavioral Sciences.

AS.190.433. Constructivism: How Ideas Shape International Relations. 3 Credits.
Can not have taken AS.190.304.
Instructor(s): B. Allan
Area: Social and Behavioral Sciences.
AS.190.435. Law and Literature. 3 Credits.
This course will examine the relationship between law and literature. As many have observed, law and literature have much in common as well as much to teach each other. Topics this course will discuss include practices of interpretation, issues of authority, the rule of law, and the power of narrative. In addition to reading essays by scholars in the field, students will read a selection of judicial opinions, short stories, novels, and plays. This writing intensive course is limited to undergraduates who have taken at least one “Classics of Political Thought” course.
Prerequisites: AS.190.280 OR AS.190.281 OR AS.190.282
Instructor(s): J. Culbert
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.436. Republican Orders and Sustainability. 3 Credits.
Instructor(s): D. Deudney
Area: Social and Behavioral Sciences.

AS.190.440. European Politics in Comparative Perspective. 3 Credits.
Europe has been in a sense the first testing ground for theories of comparative politics, but many outsiders now see Europe as a pacified and somewhat boring place. This course will question conventional wisdom through an examination of European politics in historical and cross-national perspective. We will apply the comparative method to the study of European politics today, and conversely we will ask what Europe tells us more generally about politics. We will see that Europe is still a locus of intense conflict as well as remarkably diverse experimentation. Topics will include: political, legal, and economic governance; the evolution of democracy and fundamental rights, the welfare state, class stratification, immigration and race, the role of religion; European integration and globalization. Juniors and seniors only.
Instructor(s): N. Jabko
Area: Social and Behavioral Sciences.

AS.190.450. Power. 3 Credits.
Power is a — if not the — key concept of international relations, yet there is no single definition of power that is accepted by all scholars in the field. In this course we will critically examine definitions of power from classic and contemporary works of international relations, political science, and related areas of study.
Instructor(s): R. Marlin-Bennett
Area: Social and Behavioral Sciences.

AS.190.456. Global Security Politics Workshop. 3 Credits.
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.451. The University and Society. 3 Credits.
In the 20th century, American universities became the envy of the world, leading in most categories of scholarly productivity and attracting students from every nation. In recent years, though, American higher education has come to face a number of challenges including rapidly rising costs, administrative bloat, corporatization and moocification. We will examine the problems and promises of American higher education, the political struggles within the university and the place of the university in the larger society. Upper classes and Grad Students only.
Instructor(s): B. Ginsberg; R. Kargon
Area: Social and Behavioral Sciences.

AS.190.472. The Power of Speech. 3 Credits.
Drawing from literary theory, political philosophy, and jurisprudence, this course will explore the unique relationship between speech (broadly conceived) and politics. In addition to reviewing classic arguments about freedom of speech and the significance of this freedom in and for democratic government, the course will study debates about the need to limit this freedom, taking into consideration not only how we do things with words but how words affect us. In addition to court cases and critical legal studies, we will read texts by, among others, Aristotle, Arendt, Mill, Austin, Fish, Butler, and Fanon. Recommended Course Background: AS.190.200, AS.190.201, or AS.190.202 or permission of the professor.
Instructor(s): J. Culbert
Area: Social and Behavioral Sciences.

AS.190.475. Courts, Politics and Public Policy. 3 Credits.
Examines the causes of American legal change, with particular focus on the role of social movements, and whether and how legal change produces social change. Among the particular cases examined will be civil, prisoners’ and women’s rights.
Instructor(s): S. Teles
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.479. Imag(in)ing Cities. 3 Credits.
In The City and The City, China Melvielle uses a traditional crime procedural to tell the story of two distinct cities existing within the same space, with the residents of each city forced to literally unsee the residents, buildings, etc. of the other. In Imag(in)ing Cities I take this idea literally...arguing that the cities we live, play, and work in are in fact several cities layered on top of and through each other with the content of these cities shaped by a combination of (political, social, economic) theory of how cities work (and are supposed to work), a series of practical policies and actions that dictate how cities in fact work, and our popular imaginations. The class will place these theories, policies, and imaginations in dialogue with each other through readings, viewings, and “listenings”.
Instructor(s): L. Spence
Area: Social and Behavioral Sciences.

AS.190.490. Thoreau and Whitman. 3 Credits.
Permission of instructor required. Upper level undergraduates and grad only. An intensive study of the writings of Henry Thoreau and Walt Whitman, with a focus on their conceptions of citizenship, community, urbanization, and materiality. (PT)
Instructor(s): J. Bennett
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.499. Senior Thesis:International Relations/Political Science. 6 Credits.
Seniors also have the opportunity to write a senior research thesis. To be eligible to write this thesis, students must identify a faculty sponsor who will supervise the project. Once a faculty sponsor has approved a topic, students must enroll in a three credit independent study during the fall semester of their senior year. At the end of the fall semester, if the faculty sponsor determines that adequate progress has been made and the project warrants further work, the student may enroll in the senior thesis (AS.190.499) which will be worth 6 credits.
Instructor(s): J. Culbert; Staff
Area: Social and Behavioral Sciences
Writing Intensive.
AS.190.501. Internship-Political Science. 1 Credit.
Permission Required.
Instructor(s): Staff.

AS.190.502. Political Science Internship. 0 - 3 Credit.
Instructor(s): Staff.

AS.190.503. Internship-International Relations. 1 Credit.
Permission required.
Instructor(s): Staff.

AS.190.504. Internship-International Relations. 0 - 3 Credit.
Instructor(s): Staff.

AS.190.506. International Studies Internship. 0 - 3 Credit.
Instructor(s): Staff.

AS.190.530. Independent Study - Special Student. 0 - 3 Credit.
Permission required.
Instructor(s): Staff.

AS.190.535. Independent Study - Freshmen. 3 Credits.
Permission required.
Instructor(s): Staff.

AS.190.536. Independent Study-Freshmen. 0 - 3 Credit.
Instructor(s): Staff.

AS.190.537. Independent Study-Sophomores. 3 Credits.
Permission required.
Instructor(s): Staff.

AS.190.538. Independent Study-Sophomores. 0 - 3 Credit.
Instructor(s): Staff.

AS.190.539. Independent Study-Juniors. 3 Credits.
Permission required.
Instructor(s): Staff.

AS.190.540. Independent Study-Juniors. 0 - 3 Credit.
Instructor(s): Staff.

AS.190.541. Independent Study-Seniors. 3 Credits.
Permission required.
Instructor(s): Staff.

AS.190.542. Independent Study-Seniors. 1 - 3 Credit.
Instructor(s): Staff.

AS.190.543. Independent Research. 3 Credits.
Permission required.
Instructor(s): Staff.

AS.190.544. Independent Research. NULL Credits.
Instructor(s): Staff.

AS.190.550. Internship. 1 Credit.
Instructor(s): Staff.

AS.190.592. Summer Internship. 1 Credit.
Instructor(s): Staff.

AS.190.598. Independent Study. 3 Credits.
Instructor(s): Staff.

AS.190.599. Research-Summer. 3 Credits.
Instructor(s): E. Chung; L. Spence; M. Crenson; R. Hsieh.

AS.190.601. Qualitative Research.
Instructor(s): M. Keck
Area: Social and Behavioral Sciences.

AS.190.602. Introduction to Quantitative Political Science.
An introduction to measurement and data analysis in contemporary American political science. Measurement topics will include the formation of indices and cumulative scales. Analytic topics will include sampling variations, statistical association and causation, as manifested in contingency tables and correlation and regression. Emphasis will be on fundamental concepts and assumptions, and on comprehension and evaluation of the scholarly literature. Advanced undergraduates by permission only.
Instructor(s): R. Katz
Area: Social and Behavioral Sciences.

AS.190.604. Rethinking Freedom in a Neoliberal Age.
This seminar will start with forays into the traditions of negative, positive and Republican freedom, exploring the conceptions of agency, self, language, citizenship, state, economy and global politics associated with each. It then turns to conceptions of freedom tied more actively to the elements of creativity, self-organization, and planetary politics. How do you bring the former images of freedom into productive conversations with the latter? Texts by Machiavelli, Berlin, Skinner, Foucault, Ritzolatti, Butler, and Holland (Nomad Citizenship) will probably be consulted. Graduate students only.
Instructor(s): W. Connolly
Area: Social and Behavioral Sciences.

AS.190.605. Women in Dark Times.
A survey of contemporary female voices—feminist and nonfeminist—in political theory. Questions raised and addressed: How is power defined and distributed? What constitutes political action? What is the relationship of bodies to politics? Among others we will read Cristina Beltrán, Judith Butler, Jodi Dean, Bonnie Honig, and Melissa Lane.
Instructor(s): J. Bennett; J. Culbert.

AS.190.606. Language, Order, Action.
Graduate students only.
Instructor(s): S. Chambers.

AS.190.607. Comparative Racial Politics.
This course surveys the major trends in the comparative study of race in political science and critically examines the link between race and politics. Topics include the racial state, neo-racism, and immigration politics.
Instructor(s): M. Hanchard
Area: Social and Behavioral Sciences.

AS.190.608. Critical Comparisons of Deleuze and Foucault.
A comparative exploration of the thought of Gilles Deleuze and Michel Foucault, focusing on the following topics: the nature of immanence and the virtual; sovereignty and biopolitics; neoliberal capitalism; time and the event; and political activism. Key texts will be The Order of Things, Discipline and Punish, A Thousand Plateaus, Society Must be Defended, and Cinema II, as well as biographical material on the activism of each intellectual. Graduate students only.
Instructor(s): W. Connolly
Area: Social and Behavioral Sciences.

Discussion of the formation, architecture, significance, and adjudication of the national constitutions of numerous countries, including the United States, Canada, India, South Africa, United Kingdom, Germany, France, Russia, Japan, Israel, and Australia.
Instructor(s): J. Grossman
Area: Social and Behavioral Sciences.
AS.190.610. **Advanced Topics in Contemporary Chinese Politics.**
This seminar is structured around key concerns in China’s domestic politics, including the politics of economic reform, central-local-relations, corruption, increasing inequality, the role of intellectuals, the rise of quasi-governmental organizations, various channels for political participation and protest, and other contemporary issues. Undergraduates who wish to be enrolled in this class must have taken AS.190.348 and by permission only.
Instructor(s): K. Tsai
Area: Social and Behavioral Sciences.

AS.190.611. **Problems with Geopolitics.**
Grad students only.
Writing Intensive.

AS.190.612. **The Rise and Fall of the Frankfurt School.**
Grad students only This graduate seminar will trace the emergence, development and decline of the so-called “Frankfurt School” of Critical Theory across the 20th century.
Instructor(s): S. Chambers
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.613. **Elections.**
Open to advanced undergraduates by permission only. This seminar surveys recent (and some classic) work in elections, principally in the US, but also in other democracies. Topics include nomination, polarization, voter turnout, ideology, media, the economy, and race.
Graduate students only.
Instructor(s): D. Schlozman
Area: Social and Behavioral Sciences.

AS.190.614. **Institutions, Ideas and Practice.**
Graduate students only.
Instructor(s): N. Jabko
Writing Intensive.

AS.190.615. **Internal War.**

AS.190.616. **American Political Development.**
An examination of state-building and nation-building throughout American political history. (AP)
Instructor(s): A. Shengate.

AS.190.617. **Romanticism and Radicalism.**
A selective examination of European and American writers, including Rousseau, Schiller, Shelley, Emma Goldman, Walt Whitman, and Herbert Marcuse, in order to explore connections between romantic themes and aspirations for a dramatic transformation of political life. Can Art heal social wounds and political divisions? How closely tied is Romanticism to a harmonious, organic model of collectivity? Can politics dispense with some model of the whole or the collective? Graduate students only.
Instructor(s): J. Bennett
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.618. **Nationalism.**
Grad students only Despite the clamor over globalization and regionalization in the contemporary world, nationalism remains a central preoccupation for both political actors and students of politics. Though motivated by questions resonant within the discipline of political science (and the field of comparative politics in particular), this course is designed to familiarize students with key texts and debates in the literatures on nationalism in political science, sociology, history and anthropology. The objective of this course is to provide students with a comprehensive overview of major themes, scholarly approaches and forms of nationalist mobilization in national and cross-spatial perspective. Some of the questions to be addressed in this course are a) what are the roots and routes of nationalism? b) who are nationalist political actors, and where do they come from? c) what is nationalism’s relation to race, racism and ethnicity d) what is the relationship between various forms of nationalism and contemporary considerations of regionalism and globalization?
Instructor(s): M. Hanchard
Area: Social and Behavioral Sciences.

AS.190.619. **Causes of Peace.**
Since 1945, the great powers have enjoyed their longest period of peace in history. Interstate conflict between lesser powers is also at an all time low. What accounts for this “long peace?” This course will look at various explanations including the spread of democracy, the proliferation of nuclear weapons, globalization, American hegemony, and fundamental changes in attitudes regarding the use of force.
Students will present draft versions of their research papers during the last weeks of the course.
Instructor(s): S. David.

AS.190.620. **Law and Literature, Language and Politics.**
Drawing from scholarship identified with the Law and Literature movement, scholarship that focuses on legal themes in literary texts and literary elements in legal ones, this course will engage an ongoing conversation in contemporary political theory about the relationship of language to the human condition. Readings will include texts by Arendt, Austin, Benjamin, Blanchot, Brooks, Butler, Derrida, Goodrich, Merleau-Ponty, Nancy, Weisberg, White, and Wittgenstein, as well as stories by Borges, Kafka, and Melville. Students will be required to do an in-class presentation and a 20-30 page final paper. Graduate students only.
Instructor(s): J. Culbert
Area: Social and Behavioral Sciences.

AS.190.621. **Liberal IR Theory.**
Intensive investigation of classic and major recent texts about liberal democratic constitutional states, their international relations, and their implications for world order. Graduate students only.
Instructor(s): D. Deudney.

AS.190.622. **Contemporary International Relations Theory.**
This course will focus on recent work (from approximately the past 10 years) in International Relations Theory. Emphasis will be placed on contending schools of thought and often divergent means of determining what counts as good theory. In Fall 2014, we will focus on critical approaches to the global and the political, with a special emphasis on theories of borders, bodies, and the global-ness of cyberspace.
Instructor(s): R. Marlin-Bennett
Area: Social and Behavioral Sciences
Writing Intensive.
AS.190.625. Theories of Comparative Politics.
This seminar is intended for graduate students planning to take the comprehensive exam in comparative politics, either as a major or as a minor. In addition to exploring central methodological debates and analytic approaches, the seminar reviews the literature on state-society relations, political and economic development, social movements, nationalism, revolutions, formal and informal political institutions, and regime durability vs. transition. Graduate students only. CP
Instructor(s): M. Keck
Area: Social and Behavioral Sciences.

AS.190.626. Arendt and the Poets.
This course examines the role of poetry in the work of Hannah Arendt. Observing how Arendt’s writing plays not only with history (as many historians have complained) but also with the “word-thing” relationship, the course looks at how Arendt’s references to poetry as well as her own poetic practices open a space in which the spirit of a primary text may reveal itself and inspire the constitution of something new. Among others, readings will include texts by Heidegger, Benjamin, Derrida, Honig, and Villa, as well as Auden, Rilke, and Kafka. Graduate students only.
Instructor(s): J. Culbert
Area: Social and Behavioral Sciences
Writing Intensive.

AS.190.627. Pragmatism in Politics.
After a long eclipse, the scholarly tradition of pragmatism has recently experienced a revival across the social sciences. The goal of this course is to take stock of this movement and to discuss the usefulness of pragmatism for the study of politics. The readings attempt to weave together classical and recent texts in philosophy, cultural theory, sociology, economics, science studies, as well as political science. We will begin with a survey of pragmatism’s core concepts and methods. Then we will discuss recent applications of the pragmatist approach in the social sciences. Finally, we will explore the links between pragmatism and three contemporary approaches.
Instructor(s): A. Sheingate; N. Jabko
Area: Social and Behavioral Sciences.

AS.190.628. Race and Segregated Time.
This graduate seminar examines how time is used as a vehicle of political power that perpetuates racial inequality. We will also explore how/whether thinking and acting in untimely ways can challenge white supremacy and further transracial democracy. Grad students only.
Instructor(s): P. Brendese.

AS.190.629. American Racial Politics.
Race is not a biological fact but rather a social construction. However, it is a social construction with very real consequences. Definitions of citizenship, allocation of state resources, attitudes about government and government policy, the creation of government policy, all shape and are shaped by race and racial classifications. Serving as a critical corrective to American politics treatments that ignore race, this class will examine how race functions politically in the United States. While not required, some knowledge of statistics is helpful.
Instructor(s): L. Spence
Area: Social and Behavioral Sciences.

AS.190.630. Politics of Territory and Boundaries.
This seminar will explore territorial dimensions of politics and political action, including the political construction of territorial space and the territorial construction of political space, and borders as spatial markers of fixity and flows. As supra-, sub-, multi-, trans-, inter-, and pluri-national political arenas proliferate, how are they connected, institutionally and in practice? How are they structured by – and how do they structure – the actions of individuals and groups? How does location affect the nature of political authority? Graduate students only.
Instructor(s): M. Keck; R. Marlin-Bennett.

Examines American social policy in comparative perspective. Special attention to issues of poverty and inequality, and their relation to the political system.
Instructor(s): D. Schlozman.

AS.190.632. The Development of American Political Institutions.
This seminar explores the historical development of American political institutions since the Civil War. Particular attention will be paid to development and change in American political parties, Congress, and the Presidency. Our guiding assumption is that such an exploration will illuminate the dynamics of institutional change in American politics, enhance understanding of key features of the contemporary political system, and cast light on the manner in which changes in rules, organizations, or other structural features of institutions have both shaped and responded to political agency. Finally, on a more practical level, this seminar is intended to provide an introduction to several literatures that could be included in a major or minor field exam in American politics.
Instructor(s): A. Sheingate; J. Cooper.

The seminar will explore to what extent Hegel can be read as contributing to a feminist philosophy. We will focus on Hegelian openings onto the emotional in Phenomenology of Spirit. In addition, we will study feminist philosophers who have drawn on or offered critical readings of Hegel (Irigaray, Butler, Cavarero, Malabou, and others).
Instructor(s): J. Bennett; K. Pahl
Area: Social and Behavioral Sciences.

AS.190.634. Interest Groups.
Graduate students only.
Instructor(s): S. Teles
Area: Social and Behavioral Sciences.

AS.190.635. Theories of Constitutional Governance.
Graduate students only.
Instructor(s): E. Zackin
Area: Social and Behavioral Sciences.

AS.190.636. The Many Machiavellis.
Often serving as the hinge between classical and modern thought, Machiavelli obviously stands as a central and prominent thinker in the historical canon. But Machiavelli is also the central figure for some of the most important works of political theory in the 20th century. In each of the past 8 decades a major text has been published on Machiavelli, the authors of which include the following leading thinkers: Gramsci, Strauss, Wolin, Althusser, Pocock, Pitkin, Skinner, and Honig. This graduate seminar will be devoted not necessarily to Machiavelli the historical writer, but to Machiavelli as a varied and contested figure, to the trope of Machiavelli that has emerged in 20th and 21st century political thought. Graduate students only.
Instructor(s): S. Chambers
Area: Social and Behavioral Sciences.
AS.190.637. Environment and Politics.
Grad students only.
Instructor(s): B. Allan; D. Deudney
Area: Social and Behavioral Sciences.

AS.190.638. Contentious Politics.
Social movements and revolution in comparative and global perspective. Exploration of the major theoretical approaches and of what difference globalization makes.
Instructor(s): M. Keck.

AS.190.639. American Political Thought.
Graduate Students Only
Instructor(s): J. Bennett; J. Culbert
Area: Social and Behavioral Sciences.

AS.190.640. Systems and Things.
Graduate students only. This course will examine how various political thinkers have conceptualized society, polity, history, and nature as complex “systems,” and how they have individuated the elements (“things”) thereof. How do systems hang together? How to theorize the changing relationship between parts and wholes? What is the import for political action and intervention of a given figure of systematicity and its related theory of the thing? Key texts include sections from Hegel’s Phenomenology of Spirit; Heidegger’s Identity and Difference and “What is a Thing?”; Foucault’s The Order of Things; Deleuze’s, Difference and Repetition; Graham Harman’s, Prince of Networks; and Stuart Kauffman, Reinventing the Sacred; and readings in actor-network theory, including Annamarie Mol’s The Body Multiple.
Instructor(s): J. Bennett; W. Connolly
Area: Social and Behavioral Sciences.

AS.190.641. Political Theories of Violence.
The aim of this course is to explore a range of theories and images of violence, from bloody war, torture, and terrorism to the “everyday” violence of policing and disciplinary practices, to the violence of conceptual, linguistic, or figural representation. As we read contemporary and classic treatments of violence, we will ask: What constitutes violence? Does violence have specific modes of agency or is it an intensification of generally available modes of action? What is the relationship between violence and bodies, violence and representation, violence and social and psychic structures? Is there a relationship between violence and technology? Violence and the sacred? From whence the force of violence? Among others we will read Nietzsche, Freud, Foucault, Arendt, Schmitt, Agamben, Sorel, Benjamin, Derrida, Levinas, and Fanon. Grad students only.
Instructor(s): J. Culbert
Area: Social and Behavioral Sciences.

AS.190.645. Black Politics.
Grad Students Only.
Instructor(s): L. Spence
Area: Social and Behavioral Sciences.

AS.190.647. Black Political Thought.
Graduate students only. This course will focus on black political thought’s engagements with and relevance to nationalism, feminism and diasporic identification as a means of highlighting the ways in which black political thought has both paralleled and distinguished itself from dominant themes, concerns and investigations of Western political and social theory in the 20th century. This aspect of the course will trace black political thought’s relation to Marxism, Cultural Studies, Surrealism, Liberalism and other critical methodologies and perspectives.
Area: Social and Behavioral Sciences.

Graduate students only. This seminar affords an opportunity to discuss and explore some basic legal philosophy and jurisprudential issues, including the origin and justification of legal systems, theories of natural law, legal positivism, formalism, realism, and critical legal studies. Also to be explored are selected problems in jurisprudence, such as sovereignty, citizenship, constitutionalism, and constitutional interpretation.
Instructor(s): J. Culbert; J. Grossman.

Grad students only.
Area: Social and Behavioral Sciences.

AS.190.650. The Theories and Politics of Rights.
Grad Students only.
Instructor(s): E. Zackin
Area: Social and Behavioral Sciences.

AS.190.651. Policy Dynamics.
Policy dynamics is the study of changes of the political system in its entirety, from the point of view of the system’s outputs—what government actually does, or fails to do. It is dynamic in that it seeks to explain changes in what matters governments feel can or must be addressed, the tools that are available to deal with problems, and the interactions of government and non-government actors that generate change. Particular emphasis will be placed on studying policy dynamics over long periods of time, including such post-enactment issues as implementation, policy feedback on political identities and group formation, and policy durability.
Instructor(s): S. Teles.

AS.190.652. Comparative Democratization.
This seminar surveys the major debates about democracy and political development in comparative politics. We will examine how scholars have explained the emergence, consolidation, and endurance of democratic regimes. Although the process of democratization serves as the organizing theme, the readings also cover related topics in comparative politics, including revolutions, modernization theory, political and institutional change, socialist transition, authoritarian durability, and the relative analytic value of different methodological approaches.
Instructor(s): E. Chung.

AS.190.653. Organizations.
Graduate students only. “Organizations are the fundamental building blocks of economic, social and political life. This course will examine how different disciplines (sociology, economics, political science) approach the problem of explaining how organizations operate, as well as exploring the structure and development of a very wide range of organizations (firms, interest groups, charitable foundations, universities, militaries, bureaucracies, international organizations, and professions).
Instructor(s): S. Teles
Area: Social and Behavioral Sciences.

AS.190.654. The Political Economy of Neoliberalism.
Grad students only.
Instructor(s): N. Jabko.
AS.190.655. Figures of Time and Politics.
A comparative exploration of contending figures of time, including metaphorism, linear progress, evolution, and process. Readings from Parcelsus, Darwin, Bergson, Dewey, Whitehead and Evan Thompson. We will explore the interrelations between practices of time, nature, aesthetics, and political agency within each problematic and experiment with how to move this or that element across problematics. Graduate students only.
Instructor(s): J. Bennett; W. Connolly
Area: Social and Behavioral Sciences.

AS.190.656. Critical Law and Society.
Area: Social and Behavioral Sciences.

AS.190.657. Hannah Arendt’s Phenomenology.
This graduate-level course will focus on Hannah Arendt’s phenomenological approach to political philosophy. In addition to reading some of Arendt’s major works, including The Human Condition and Life of the Mind, students will read texts by Martin Heidegger and Maurice Merleau-Ponty, as well as texts by feminist critics of phenomenology (and readers of Arendt) such as Judith Butler.
Instructor(s): J. Culbert
Area: Social and Behavioral Sciences.

AS.190.658. Paradigms of Political Economy.
A book reading seminar in past and present political economy. Each week, we read one book and discuss it in great detail. We start with canonical authors in political economy (Smith, Marx,...). We move on to leading figures of political economy since the 1980s (Hall, Katzenstein, Esping-Andersen, Ostrom,...). We finish with a few first books authored by a younger generation of scholars and published after 2000. Special attention will be paid to the evolution of research questions, theories, and methodologies. The relevance of existing literature to the crafting of doctoral dissertations will also be discussed.
Instructor(s): N. Jabko
Area: Social and Behavioral Sciences.

AS.190.659. Crisis and Change.
The topic of institutional change has drawn intense scholarly interest in the social sciences since the 1990s. Most of the theoretical debate has revolved around the different notions of institutions that scholars bring to the table. Yet the meaning of “change”, and especially the role of crises, is often left implicit and under-theorized. The objective of this course will be to step back from the most recent debate and think about change from a broader perspective. First, we will go back to some classics of the comparative politics literature and read about different figures of change – revolutions, political and economic development, political and policy regime change, emerging and incremental change. Second, we will read about different sources and actors of change – material and ideational, collective and individual, and non-human. Themes for discussion throughout the course will include dictatorship and democratic consolidation, marketization and neoliberalism, mass politics and elite conflicts. Graduate students only.
Instructor(s): N. Jabko
Area: Social and Behavioral Sciences.

This graduate seminar will conduct close readings of a wide swath of the writings of Jacques Rancière and Arthur Bentley, considering how each eschews the style and mode of argumentation of today’s “normative” political theory. Graduate students only.
Instructor(s): S. Chambers
Area: Social and Behavioral Sciences.

AS.190.661. Empire and Discipline.
The term ‘empire’ denotes a state of dominion of one political entity over key dimensions of the public and private lives of populations who are culturally and ethnically distinct from that of the ruling or imperial class. The structures, institutions, and values that give effect to empires are assembled under the rubric of ‘imperial’ while the ambition to or desire for it is ‘imperialism’. In any case, the advent of empire is a temporal, geo-strategic, ethical, and moral event predicated upon practices and traditions with deep roots in history, theology, philosophy, and economic and political theory among others. This course examines how modern empires produced the object and discipline of international relations and how disciplinary theories and associated systems of thought and their modes of inquiry may still foster a pervasive yet unacknowledged dedication to empire. Graduate students only.
Instructor(s): S. Grovogui
Area: Social and Behavioral Sciences.

AS.190.662. Technology and Politics.
Grad students only.
Instructor(s): D. Deudney
Area: Social and Behavioral Sciences.

Intensive examination of theories, old and new, which attempt to employ geographical, technological and ecological factors to explain political outcomes. Graduate students only.
Instructor(s): D. Deudney.

AS.190.664. Global Political Economy.
Arguably, the vast majority of interactions that cross borders are related to some form of exchange – the topic of international political economy and global political economy – rather than security concerns. This course focuses on key scholarship in IPE and GPE, emphasizing the critical contributions of GPE. Graduate students only.
Area: Social and Behavioral Sciences.

AS.190.666. Political Economy Of Development.
Graduate students only.
Instructor(s): E. Chung.

AS.190.667. Modes of Knowledge and Theories of International Relations.
We will explore the role of scientific, religious, ethical and other forms of knowledge in global politics by reading classic works in the sociology of knowledge alongside IR theory. Substantively, we will seek to explain and understand the effects of knowledge on, inter alia, historical change, economic policy, and global environmental politics. Graduate students only.
Instructor(s): B. Allan
Area: Social and Behavioral Sciences.

AS.190.668. Nuclear Weapons and World Order.
Area: Social and Behavioral Sciences.

Instructor(s): S. Grovogui
Area: Social and Behavioral Sciences.
AS.190.670. A World of Becoming.
Graduate students only, except for permission of instructor A comparative exploration of Friedrich Nietzsche and Alfred North Whitehead on the following issues: cosmic, subjective and historical time, the nature and distribution of agency, the problematic relations between the human estate and other agentic forces, contending spiritual responses to the vicissitudes of time, and the upshot of these inquiries for thought about imbrications between nature, mind, ethics and politics. Readings will include major texts by the two philosophers, with cameo appearances by Bergson and Deleuze.
Instructor(s): W. Connolly
Area: Social and Behavioral Sciences.

AS.190.671. States, Regimes and Governmentality.
The state has long been a central preoccupation in political science, and for much of the discipline’s history, the source of its distinction from other social science disciplines. Increasingly, the state’s role and function has become an object of inquiry across the social sciences, as well as in fields of the humanities and biological sciences. In the contemporary world, the ability of states to maintain geographical borders, distinguish between public and private, and in some instances, monopolize the use of force without sanction (the Weberian definition), has led some scholars, elites and political actors to question its continued primacy as the foremost unit of political recognition in the modern world. This course will provide a broad overview of the modern state as concept, institution and effect. Students will be introduced to conceptual, philosophical and empirically based scholarship on the modern state and its European precursors—such as the absolutist state. Civil society, citizenship and nation, though clearly related themes and categories of analysis, are not the focus of this course. Students will be introduced to key normative perspectives on the state: Marxist, Liberal, Anarchist, and Republican, as well as scholarly accounts of state formation, development, administration and transformation in a variety of regional and temporal contexts. In addition, students will engage literatures that offer insight into the state’s evolving complexity over historical time, its variations in regimes, and its relation to what Foucault conceptualized as governmentality, modes of discipline, territorial and population management that are neither immediately nor necessarily linked to individual (citizen) nor collective (statist) forms of sovereign power. Literatures examining colonial rule, racial and labor regimes, will provide with an opportunity to compare and contrast statist and non-statist articulations of power and authority, often within a single society and polity.
Instructor(s): M. Hanchard
Area: Social and Behavioral Sciences.

AS.190.672. Political Economy and Complexity Theory.
This seminar brings varieties of complexity theory to the study of political economy and vice versa, seeking to contribute to a theory in which new concepts of causality, nature/culture imbrications, and real creativity play an active role. Texts by Max Weber, William James, Karl Marx, Friedrich Hayek, Michel Foucault, Stuart Kauffman, Hans Joas, and Donald McKenzie will be summoned to engage each other.
Instructor(s): N. Jabko; W. Connolly.

Instructor(s): J. Cooper.

AS.190.674. Rsch/Writing Workshop.
Instructor(s): M. Keck.

AS.190.675. Global and Comparative Political Economy.
Graduate students only. An introduction to the influential scholarly works in the fields of global and comparative political economy.
Instructor(s): R. Marlin-Bennett
Writing Intensive.

AS.190.676. Field Survey of International Relations.
This course provides a scaffold for the study of international relations theory, organized historically and by major approaches. The focus is on close reading and discussion of exemplars of important bodies of theory. Intended for doctoral students with IR as their major or minor field. Graduate students only.
Instructor(s): R. Katz; R. Marlin-Bennett
Area: Social and Behavioral Sciences.

AS.190.677. Civil Society in Comparative Perspective.
This course explores classic and contemporary debates on the concept of civil society and critically examines its analytical value in light of recent developments. Topics include the relationship between civil society, the state, and markets, the role of civil society in development and democratization, social capital, and transnational civil society.
Instructor(s): E. Chung.

AS.190.678. Theory for International Relations.
Grad Students Only
Instructor(s): S. Grovogui
Area: Social and Behavioral Sciences.

AS.190.679. State and Sovereignty.
Grad students only
Instructor(s): S. Grovogui
Area: Social and Behavioral Sciences.

AS.190.680. Nietzsche and Freud: Drive, Will and Eros.
A comparative study of the works of Freud and Nietzsche, with a focus on ideas about the drives, vital force, metamorphosis, and processes of subjectivity-formation.
Instructor(s): J. Bennett; S. Chambers.

AS.190.682. Rethinking State Capitalism.
Graduate students only. Co-taught with David Howarth, Essex University. How do Globalization, changes in sovereignty, new religious struggles and global warming affect the shape and trajectory of capitalism today? These issues will be engaged through readings by Marx, Etienne Balibar, Foucault, Wallerstein, Lepiert, and Phillip Goodchild. (PT)
Area: Social and Behavioral Sciences.

AS.190.683. Research Seminar/Political Parties.
Instructor(s): R. Katz.

AS.190.684. ReReading Marx.
This graduate seminar will be based on the following working hypothesis: that the received readings of Marx in contemporary political theory over the past two decades have all been filtered by layers of interpretation provided by late 19th and early 20th century Marxism, mid 20th century Critical Theory, and late 20th century Analytical Marxism. We will work through, and slough off, some of those layers in order to go back and reread Marx. Grad students only.
Instructor(s): S. Chambers
Area: Social and Behavioral Sciences.

AS.190.678. Philosophy and the Anthropocene.
The Anthropocene is the era in which capitalism enters into conjunctions with a host of nonhuman, partially self-organizing processes such as climate, the ocean conveyor system, drought patterns, weather events, species evolution, water-filtration systems, etc. What shifts in late-modern conceptions of explanation and political engagement are needed to address these dissonant conjunctions. Two texts by Whitehead form the center around which the seminar is organized. Selective appearances by Heidegger, Latour, Massumi, Pearce, Morton and Deleuze rotate around this center, perhaps calling upon us to modify the philosophy here and augment it there. Class presentations, discussions, and seminar paper. Grad students only.
Instructor(s): W. Connolly
Area: Social and Behavioral Sciences.

AS.190.688. Students of Althusser.
Area: Social and Behavioral Sciences.

AS.190.690. Statelessness.
Area: Social and Behavioral Sciences.

This course examines contemporary nuclear issues through the prism of international relations theory. Topics to be considered include the origins and effect of nuclear proliferation, nuclear terrorism, the challenge of “rogue” states, the robustness of deterrence, the viability of defense, and the prospects for disarmament. These issues will be looked at through the lens of Realism, Liberalism and Constructivism, as well as other approaches. Students will be required to engage in formal and informal debates in class, present a draft of their paper to their fellow students, and (in light of comments received) complete a major research paper on some topic related to nuclear weapons. Grad students only.
Instructor(s): S. David
Area: Social and Behavioral Sciences.

AS.190.692. Race and the Neoliberal Turn.
Scholars conceive of neoliberalism as an ideology, as a set of public policies, as a governmentality, or as a combination of above. However while neoliberalism however it is conceptualized has been described as the contemporary doxa, the role of race both in the turn towards neoliberalism, and in the forms neoliberalism takes in a given space/moment has gone relatively underexamined. In this course I seek to rectify this problem, by examining neoliberalism and then charting the ways that race shapes it and is shaped by it.
Instructor(s): L. Spence.

AS.190.693. Sophocles & Kant.
What can the Greek tragic tradition teach the Enlightenment and the Enlightenment the tragic tradition? Texts by Sophocles and Kant will provide focal points, with responses to each provided by Knox, Nietzsche, Hesiod, B Williams and others.
Instructor(s): W. Connolly.

AS.190.694. Politics and Territory.
This seminar will explore territorial dimensions of [mainly] domestic politics and political action, including the political construction of territorial space and the territorial construction of political space. As supra-, sub-, multi-, trans-, inter-, and pluri-national political arenas seem to proliferate, how are they connected, institutionally and in practice? How are they structured by - and how do they structure - the actions of individuals and groups? How does its location affect the nature of political authority? Among other things, the class might consider questions involving transnational relations, federalism, decentralization, multi-level governance, networks, nested autonomies, center-periphery dynamics, political identities and cleavage structures.

AS.190.695. The Executive Branch.
Area: Social and Behavioral Sciences.

Grad Students only
Area: Social and Behavioral Sciences.

Graduate students only.
Instructor(s): S. Grovogui
Area: Social and Behavioral Sciences.

AS.190.698. Qualitative Methods in the Social Sciences.
Some of the most important and enduring methodological innovations in the study of politics within political science have their origin in other disciplines. Quantitative and qualitative approaches alike share hold this basic fact in common. This course will trace the origin and development of several qualitative approaches to the study of politics, emphasizing methodologies culled or derived from the disciplines of anthropology, history, sociology and philosophy, utilized in some form in all sub-fields of the discipline of political science. Students will become familiar with debates concerning the relative merits and limitations of these approaches as methodological forms in their own right, and in relation to more quantitatively oriented methodologies often deployed in large N research design. Graduate students only.
Instructor(s): M. Hanchard.

AS.190.699. State and Sovereignty II.
Graduate students only.
Instructor(s): S. Grovogui.

AS.190.800. Independent Study.
Permission required.
Instructor(s): Staff.

Permission required.
Instructor(s): Staff.

AS.190.890. Independent Study.
Instructor(s): R. Katz.

AS.190.893. Political Science Practicum.
Instructor(s): R. Katz.

AS.191.103. Issues in International Security. 3 Credits.
An analysis or various security issues, both theoretical and policy-oriented. Topics include the impact of regime type and trade on conflict, the future of the European Union, the rise of China and India, and the question of Japanese remilitarization.
Area: Social and Behavioral Sciences.
AS.191.104. Capitalism, Democracy and Power. 3 Credits.
Freshmen Only. Dean's Teaching Fellowship. This seminar will examine the political question of socioeconomic inequality in the contemporary United States. Using Karl Marx's Capital as a starting-point, we will inquire into the complex relationship between capitalism and democracy, with a particular focus on issues of work, wealth, poverty, individuality, justice, time, and "value." (AP)
Area: Social and Behavioral Sciences.

AS.191.105. Freshman Seminar: The Politics of Interpretation. 3 Credits.
How does one interpret a text? Is it possible to discern an author's original intent? Or is a text's meaning always determined by the reader's cultural context? Who has the authority to interpret, and why? This interdisciplinary course combines political theory, literary theory, and religious studies. Readings from Augustine, Aquinas, Luther, Schleiermacher, Heidegger, Gadamer, and others. Dean's Prize Freshman Seminar
Area: Humanities, Social and Behavioral Sciences.

AS.191.106. Global Politics in Theory and Film. 3 Credits.
This class offers an introduction to different approaches to the study of international politics by using film, literature, and political theory. The class explores realist, constructivist, feminist, and critical theories of global politics. It addresses two broad themes: the emergence of global political spaces and, second, the implications of 'globalization' for contemporary politics. The class both provides an introduction to the study of international politics and takes an in-depth look at the global.
Instructor(s): B. Meiches
Area: Social and Behavioral Sciences.

AS.191.107. Political/Science/Fiction. 3 Credits.
Science Fiction has long been recognized for its ability to speak to the concerns of the present. In Political/Science/Fiction we will explore one theme in particular: the cultural politics of alien encounter. "Alien encounter" in this case refers to encounters with the Other—those marked as outsiders, as less-than-human. In reading works of science fiction in conjunction with those of social science, our purpose will be less to seek out new worlds than to strive for a nuanced understanding of our own.
Instructor(s): L. Wilcox
Area: Social and Behavioral Sciences.

AS.191.108. Freshman Seminar: American Democracy and its Discontents. 3 Credits.
Dean's Prize Freshmen Seminar
Instructor(s): K. Anfinson
Area: Social and Behavioral Sciences.

AS.191.109. Freshman Seminar: American Democracy and its Discontents. 3 Credits.
Dean's Prize Freshmen Seminar
Instructor(s): K. Anfinson
Area: Social and Behavioral Sciences.

AS.191.110. International Relations Theory and it's Margins: the case of East Asia. 3 Credits.
The advent of European International Society to East Asia in late nineteenth century is often characterized as an 'opening' of the East to the West: Korea as the hermit kingdom, Commodore Perry's opening of Japan, and Open Door policy for China. For the Americas and 'Westerners', it was 'discovery.' For Asia, it was 'opening.' However, the term 'open' is wanting in capturing the political turmoil this period witnessed, as this is a period in which the terms of global coexistence were contended and negotiated both between the East and the West, and among actors in East Asia. Seeing the period of late nineteenth century to mid-twentieth century as a period of political contestation of different visions of order in Asia, this course explores the role played by Sinocentrism, Westernization, the rise of Japan, and discourses of Asianism in reconfiguring the international relations of East Asia in modernity. Dean's Prize Freshmen Seminar.
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.111. The Limits of Tolerance: Nation-States, Immigration, and Islam in Europe. 3 Credits.
An examination of the politics and policies affecting the experiences of Muslim immigrants in Europe, this course explores the connections between national identity, group and individual identities, and religious beliefs.
Instructor(s): M. Luhman
Area: Social and Behavioral Sciences.

AS.191.112. Freshman Seminar: War, The Garrison State & The American Security Tradition. 3 Credits.
Interstate war threatens constitutional government because of various power concentrations necessary for survival. For much of its existence, the United States avoided this dilemma given its separated geographic location vis-à-vis Europe, and continental hegemony. However, technological advances, specifically nuclear weapons and intercontinental means of delivery, reduced American effective distance from large despotic powers in the 20th century. In this nuclear age, how would it be possible to prepare for total war without becoming a garrison state? Dean's Prize Freshmen Seminar
Instructor(s): R. Fried
Area: Social and Behavioral Sciences.

AS.191.113. Thinking Green: The Politics of Nature. 3 Credits.
This course examines the extent to which natural and technological objects and forces influence politics. It aims to provide a new "green" lens through which to rethink power and political participation. Dean's Prize Freshmen Seminar
Area: Social and Behavioral Sciences.

AS.191.114. Free Expression in the 21st Century. 3 Credits.
This course will explore the theoretical underpinnings of the freedom of expression protection and some of the key contemporary debates that surround free expression in an age of mobilization, globalization, and digitization. Dean's Prize Freshmen Seminar
Instructor(s): G. Jones
Area: Social and Behavioral Sciences
Writing Intensive.
AS.191.202. War and Justice. 3 Credits.
This course introduces dominant and critical perspectives on questions relating to the morality of war and the use of force. We'll discuss a variety of perspectives about what constitutes justice in war realism, to the just war tradition, and international law to feminist and postcolonial critiques of prevailing standards of conduct in war through a consideration of historical and contemporary controversies such as the dropping of the atomic bomb, what constitutes ‘terrorism’, what is the meaning of ‘self-defense’ in war, torture, the use of sanctions, civilian victimization in war, humanitarian intervention and the use of unmanned aerial vehicles (‘drones’). We'll investigate both the content and historical formation of the norms of conduct in war and question whether these prevailing norms serve the interests of justice. Prior course work in International Relations is required. Writing Intensive course (around 20 pages of writing).
Instructor(s): L. Wilcox
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.204. Chinese Foreign Policy. 3 Credits.
The domestic sources of, and international constraints on, Chinese foreign policy-making will be examined. We will also study the development and evolution of Chinese foreign policy objectives and their implementation during and after the Cold War.
Instructor(s): P. Leon
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.206. Violence and World Orders. 3 Credits.
This class explores the relationship between two central concepts of International Relations: violence and world order. Some broad questions we will attempt to answer include: What is the role of violence in maintaining or producing certain world orders, both contemporary and historical? How do blatant and more hidden forms of violence work together to foreclose certain possibilities for social, political, and economic existence? How do different logics of violence produce hierarchies of gender, race, citizenship and class? What violence pasts and/or presents are concealed by contemporary ways of thinking about world order? We will explore diverse literatures from International Relations and political theory that addresses these questions. Readings will include contemporary work from International Relations theory as well as Franz Fanon, Michel Foucault, Judith Butler, Achille Mbembe and others. Assignments will include several analytic essays.Cross-listed with Sociology.
Instructor(s): L. Wilcox
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.208. American Politics and its Discontents. 3 Credits.
This class explores the gap between the promise and shortcomings of American democracy. Topics include the Puritans, political participation, slavery, wealth and political power, equality, and the national security state.
Instructor(s): K. Anfinson
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.209. The Politics of Home. 3 Credits.
In our globalized world the experience of being at home is changing. This course will examine what it means to be at home today and related notions of belonging, nostalgia, place and homelessness. We will read works by Rousseau, Heidegger, Arendt, Rushdie and Bauman.
Instructor(s): A. Blomme
Area: Humanities, Social and Behavioral Sciences.

AS.191.215. Modern Tibet: Politics, Religion, and Culture. 3 Credits.
Drawing on histories, autobiographies, literature, and film produced by Tibetans, this course explores modern Tibet, focusing on Sino-Tibetan relations and contemporary religion and culture.
Instructor(s): C. Hatchell
Area: Social and Behavioral Sciences.

AS.191.216. Freedom and Politics. 3 Credits.
Freedom is at the heart of modern political theory and practice. Yet what is freedom? What does it mean to enjoy freedom or to lack freedom? Is freedom a unitary concept or are there kinds of freedom? Is freedom essentially individual or is it freedom collective? How is freedom articulated as a political ideal? We will consider these questions through a survey of theories of freedom, from Hobbes, Rousseau, and Marx to Arendt, Taylor, and Foucault.
Instructor(s): L. Plotica
Area: Social and Behavioral Sciences.

AS.191.218. Feminism and Film. 3 Credits.
The purpose of this course is to understand the expression of feminist concerns in cinematic discourse. The course will explore the productive tensions between various genres of film, feminist film theory, and themes in feminist thought. The class will examine films through the lens of feminist texts that focus on topics such as the portrayal of sexuality, subjectivity, and the maternal, as well as the effects of the masculine gaze. This course is cross-listed with the Women, Gender, and Sexuality Program.
Instructor(s): K. Glanz
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.219. Watching Global Politics: International Relations Through Film. 3 Credits.
This course will outline major ideas in the discipline of International Relations by an applied overview of the diverse theories, approached, and paradigms of global politics. This will include the development of conceptual frameworks and theories to facilitate the understanding and explanation of events and phenomena in world politics. Students will gain this knowledge through pop culture and film as well as through the writings of key IR Theorists of the 20th and 21st centuries. The class will be organized around the major theories of International relations: Realism, Liberalism, and Constructivism. These will be contrasted with theories of gender, postcolonialism, and ecology. A background in International Relations is not required, but an interest in contemporary global politics is strongly encouraged. (Subfield: IR)
Instructor(s): S. Fishel
Area: Social and Behavioral Sciences.

AS.191.222. Democracy and Ancient Political Thought. 3 Credits.
What is "politics," and how does it relate to questions of justice, knowledge, citizenship, war, nature, and morality? In this introductory course in political theory, we will examine these questions from the perspective of ancient Greek political thought. Aeschylus, Sophocles, Socrates, Plato, Thucydides, Aristotle, and Epicurus will be among the thinkers discussed. We will focus on the question of democracy, using the Athenian experience to illuminate modern democratic life. Class will meet as a seminar. Recommended for beginning and advanced students in political theory!
Area: Social and Behavioral Sciences.
AS.191.224. Climate Change & the Politics of Belonging. 3 Credits.
This class will look beyond the ecological impacts of climate change to examine its potential consequences for citizenship, sovereignty and statehood, national identity, and belonging. We will explore these issues through both theoretical texts and reports from organizations working with populations and in places on the front lines of climate change.
Instructor(s): A. Blomme
Area: Social and Behavioral Sciences.

AS.191.225. Race and Power in American Cinema. 3 Credits.
This course will examine changing norms of racial representation in American cinema. We will focus in particular on how different modes of representing racial difference imply different visions of American social and political life. Films will include The Birth of a Nation (1915), Casablanca (1942), Watermelon Man (1970), Cotton Comes to Harlem (1970), The Color Purple (1985), Do The Right Thing (1989), and Crash (2005), among others.
Area: Humanities, Social and Behavioral Sciences.

AS.191.226. Globalization and State-Society Relations in Contemporary East Asia. 3 Credits.
This course examines the extent to which globalization is reshaping state-society relations in contemporary East Asia, and how East Asian societies and political systems respond to, and influence, aspects of globalization in turn. Topics to be explored include the origins and trajectories of developmental states in East Asia, macroeconomic and industrial policy-making, social unrest and political organizing, export-led growth and political liberalization, the East Asian financial crisis and its aftermath, and today’s East Asian political and economic landscapes in a globalizing world.
Instructor(s): P. Leon
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.228. The Politics of Gender, Marriage, and Family. 3 Credits.
Debates around issues of same-sex marriage and adoption often employ the discourse of rights. This course will examine the terms of these debates in order to reconsider the assumptions underlying them. What are rights? Can rights bring about change? Why do marriage and childrearing spark so many political and moral debates? What models of sex and sexuality undergird these debates? Finally, we will consider the possibilities and limits of rights-based politics in general.
Area: Social and Behavioral Sciences.

AS.191.229. Introduction to International Relations: Theory and Practice. 3 Credits.
This course is divided into two parts. The first part examines theories from the three major traditions in International Relations – Realism, Liberalism, and Constructivism. The second part of the course applies these theories to contemporary issues in world politics such as America’s role in the world, the rise of China and India, the future of the European Union, and international terrorism. Requirements include two exams (midterm and final) and a short paper.
Area: Social and Behavioral Sciences.

AS.191.231. The Politics of Plants and Animals. 3 Credits.
The premise of this course is simple: there is more to politics than just humans. The course is an introduction to green political thought and practice. We will examine the key issues concerning the significance of nonhumans for politics: animal rights, anthropocentrism, Green politics, consumption practices, and environmental law. What does it mean to “think green?” Were Machiavelli and Hobbes “closet” environmentalists? Can worms or spinach be considered political participants or members of a public? Do things and events, such as plastic bags, cans, hurricanes or fires, wield power over humans? Is it possible to bring political change through the food we eat? Where does the animal end and the human begin? We will use multi-media and texts from various disciplines and historical periods. Our goal is to become more alert to how the stories we tell ourselves about nature shape our identities as humans and political beings.
Area: Social and Behavioral Sciences.

AS.191.233. Diplomacy in the Middle East. 3 Credits.
This course examines diplomacy in the Middle East, with a focus on the evolution diplomacy from the Ottoman era to the contemporary management of foreign relations, the practice of diplomacy in the Arab League and domestic foreign policy institutions, diplomatic strategies ranging from coercive diplomacy in the Persian Gulf War to political mediation in the Lebanon crises, and public diplomacy in the age of social media and the “New Arab Public”.
Area: Social and Behavioral Sciences.

AS.191.241. The Stewart/Colbert Effect. 3 Credits.
This course examines the roles of Comedy Central’s Jon Stewart and Stephen Colbert in the contemporary media and political landscape. Using recent work in media studies, political theory, and cultural studies, we will explore issues of satire, parody, and the distinctive roles Stewart and Colbert play vis a vis the major news networks. We will also look at political activism and what their popularity might mean for the future of media politics.
Instructor(s): C. Phillips
Area: Social and Behavioral Sciences.

AS.191.251. Globalization and Development: The Clash of Civilizations or a New World Order?. 3 Credits.
The course aims to introduce students to the major debates in globalization and development studies: Is globalization a new phenomenon? Does global interconnectedness lead to a clash of civilizations or to one-way diffusion from developed to developing countries, converting the globe into a giant mall? Are there processes of intermixing across time, space and identities? Is globalization an engine of progress or a vehicle of socio-economic polarization? Why has development been contested in some places and not in others? What would a completely developed world look like? These questions will be explored using multi-media and texts from various disciplines and historical periods.
Instructor(s): A. Ignatov
Area: Humanities, Social and Behavioral Sciences.
AS.191.261. Military Law. 1 Credit.
During the Civil War, the political situation in Maryland remained uncertain until May 13, 1861 when Union troops occupied the state, effectively preventing a vote in favor of Southern secession. Federal soldiers led by General B. F. Butler entered Baltimore, occupied the city and declared martial law, to prevent any further incidents. Mayor Brown, members of the city council and the police commissioner were arrested and imprisoned at Fort McHenry. One of the militia captains, John Merryman, was arrested and held in defiance of a writ of habeas corpus on May 25, sparking the case of Ex parte Merryman, heard just 2 days later on May 27 and 28, in which the Chief Justice Roger B. Taney held that the arrest of Merryman was unconstitutional: "The President, under the Constitution and laws of the United States, cannot suspend the privilege of the writ of habeas corpus, nor authorize any military officer to do so. A broad survey of military legal matters including Military Justice.

AS.191.283. Politics of Guilt and Sin. 3 Credits.
What role do guilt and sin play in politics? This course examines this problematic by addressing readings and case studies including religious texts such as the Bible, essays on economics of guilt, debt, and sacrifice, investigations into the concept of historical sin and reparation, and the contemporary psychology of lying in politics. The course includes extensive reading and weekly film viewings.
Instructor(s): B. Meiches; T. Hanafin
Area: Humanities, Social and Behavioral Sciences.

AS.191.300. Law, Politics, and Science Fiction. 3 Credits.
Science fiction (or speculative fiction) allows us to imagine new worlds and think creatively about social problems. In doing so, it raises numerous questions that have important resonance in politics and law. These include questions about the role and structure of government, equality, citizenship, criminal justice, and international relations. In this course we will explore these fundamental political and legal questions through a variety of sources including novels, short stories, films, and television shows.
Instructor(s): G. Jones
Area: Social and Behavioral Sciences.

AS.191.301. Theories of International Relations. 3 Credits.
This course focuses on the leading theories of international relations. After beginning with an introduction to the methodological issues in the field, it will examine the dominant theoretical approaches, including realism, liberalism, constructivism, and rational choice theory. It will explore explanations for both the causes of war and the conditions that enable cooperation. Additional topics include the origins of the state system as well as theories of international change. The aim of the course is to provide students with some of the necessary skills to evaluate the worth of these theories. It also introduces students to the way in which political scientists examine research problems. Students should have taken either “Contemporary International Politics” or “International Politics.” (IR)
Prerequisites: Students may have taken either AS.190.209 (Contemporary International Politics) OR AS.190.213 (International Politics)
Instructor(s): R. Griffiths
Area: Social and Behavioral Sciences.

AS.191.302. Comparative Political Institutions. 2 Credits.
This course will provide a detailed overview of the main executive, legislative, and judicial institutions of liberal democracies around the world. Aim is to provide students with an insight into the consequences and mechanisms of various institutions, and to analyze challenges to established and fledgling liberal democracies. An additional objective is to make students familiar with the institutional setup of liberal democracies in: Latin America, Asia, and Europe (incl. EU)
Instructor(s): F. Bauwens
Area: Social and Behavioral Sciences.

AS.191.303. The Rise and Fall of the State. 3 Credits.
This course investigates the state as a central institution of politics, its many meanings and its purposes. It will also analyze the politics of the rise of the state in domestic and international politics and assess whether it is currently being challenged by globalization and civil war
Instructor(s): A. Naseemullah
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.304. US-Cuba Decision Making. 3 Credits.
This course is a history of U.S.-Cuban relations since the Castro regime took power in 1959 and an effort to understand why the U.S. has not been able to deal successfully or even rationally with the government there even with the end of the Cold War. At this point, the U.S. is the only nation in the Western Hemisphere not to have full diplomatic and trade relations with the island. Why is that?
Instructor(s): W. Smith
Area: Social and Behavioral Sciences.

AS.191.305. Southeast Asia and US Security Strategy. 3 Credits.
This is a survey course designed to introduce students to Southeast Asia -- defined as the ten member countries of the Association of Southeast Asian Nations (ASEAN) plus Australia and New Zealand. Southeast Asia is an integral part of the broader region of East Asia and a geographic bridge to the Indian subcontinent (South Asia). Southeast Asia has been one of the great success stories in the saga of modernization and development of post-colonial Afro-Asia over the last six decades. Its resulting economic importance is matched by its strategic significance given the presence of imbedded jihadist networks and the emergence of China as a regional great power and aspirant superpower. Nevertheless, the region has been largely overlooked by senior foreign policy and defense officials in Washington. This course will equip students to fill that void by examining the region from the perspective of national security strategy -- broadly understood in its multiple dimensions. Students will be challenged to formulate some element of a viable U.S. national security strategy for the region.
Instructor(s): M. Ott
Area: Social and Behavioral Sciences.

AS.191.307. Ecologies of the Good Life: Politics for a More than Human World. 3 Credits.
This course explores the extent to which nonhuman actors influence politics. It aims to provide a new “green” lens through which to rethink power and political participation.
Instructor(s): A. Ignatov
Area: Social and Behavioral Sciences
Writing Intensive.
AS.191.309. Non-Western Political Theory. 3 Credits.
This course is designed to introduce and critically examine some of the most influential non-Western traditions, thinkers, texts, and ideas in the global history of political thought. We will focus on material from the Middle East, South Asia, and East Asia. Thinkers covered in the course include: Al-Mawardi, Confucius, Lao Tzu, Sayyid Qutb, and Tiruvalluvar. We will also read key portions of the following texts: Qur’an, Law Code of Manu, and the Mahabharata.
Instructor(s): S. Gray
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.310. American Political Development. 3 Credits.
American political development (APD) is the study of how political institutions and the body politic in the U.S. have changed over time. In this advanced seminar, we will explore this subfield of political science. The course is concerned with attempting to identify historical patterns within American politics as well as the disjunctures that have reshaped the nation’s trajectory. Students will engage with the APD literature and in the process learn how scholars identify the evidence they use to support their analytical claims. The course is divided into four sections. First, we will survey the subfield’s rise and discuss how (or if) APD differs from other ways of studying American politics. Next, we turn to a discussion of political culture and the Constitution as a stabilizing influence within a changing political environment. From there we shift to the study of discontinuities through a careful examination of state-building as well as the impact of anti-statism. Finally, the course concludes with an analysis of associational life within the American state, focusing particularly on issues of race and gender.
Instructor(s): W. Adler
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.311. The Public Life of Personal Narrative. 3 Credits.
Michel Foucault once declared that “Western man has become a confessing animal.” In the era of Facebook and YouTube, we seem to be moving closer and closer to this definition, as we divulge increasingly private details about ourselves to increasingly broad publics. The hopes and anxieties that have attached themselves to these new media and technology, however, are not entirely novel. This course departs from a set of questions about contemporary uses of self-exposure, then turns to an examination of theoretical texts and autobiographical materials spanning several centuries, slowly winding our way back to the present. The aim of our journey will be to arrive at a fresh understanding of the political functions of personal narratives in our own time.
Instructor(s): N. Gies
Area: Social and Behavioral Sciences.

AS.191.312. Who Do We Think We Are?: The Politics of Being Human. 3 Credits.
Today the question of who - or what - is a human being animates many pressing political and cultural debates like human rights, abortion, climate change, the development of technology and artificial intelligence, and so on. This course will take up the question of what it means to “be human” and trace how answers to this question inform contemporary debates over the terms of political and ethical life.
Instructor(s): D. Walker
Area: Social and Behavioral Sciences.

AS.191.313. The Worlds of Globalization. 3 Credits.
The language of “globalization” is now widely used to describe the modern world—a world that is increasingly interconnected, economically homogenous, and culturally convergent. Even political and economic alternatives are commonly framed in terms of forging other “global” formations, be they justice globalism, grassroots globalization, or globalization from below. This class examines how the concept of globalization emerged as the definitive term for conceptualizing the modern world, debates the usefulness of this concept, and identifies alternative ways of conceptualizing the world as a social totality. In this class we look at four particular discourses of globalization—those of global cities, global activism, global capitalism, and global culture—while examining historical and contemporary alternatives to these discourses. The final project will use these theoretical tools to critically examine the city of Baltimore.
Instructor(s): I. Kamola
Area: Social and Behavioral Sciences.

AS.191.314. Historical Sociology in International Relations Theory. 3 Credits.
This course explores recent attempts to reintroduce historical sociology into international relations theory. Rather than relying on scientific methodologies for producing knowledge about the international historical sociologists have questioned the methodological assumptions that ground theorizations of global politics. In this course we will trace the impact of historical sociology upon international theory through the works of Mann, Tilly, Skocpol, and Wallerstein. We will also assess the potential impacts of “third wave” historical sociology for international relations theory.
Instructor(s): A. Barder
Area: Humanities, Social and Behavioral Sciences.

AS.191.315. Chinese Foreign Relations. 3 Credits.
This course examines China’s foreign relations since the beginning of the economic reforms. Readings will draw on a diversity of perspectives, both Chinese and non-Chinese, to examine China’s foreign policy debates and strategic choices.
Instructor(s): G. Christoffersen
Area: Social and Behavioral Sciences.

AS.191.317. Interest Groups, Social Movements and the Policy Process. 3 Credits.
Instructor(s): C. Thurston
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.320. Geopolitics, Geography, Technology, and Power. 3 Credits.
Geopolitics studies the natural world and the ways it constrains development, politics, conflict and sustainability. Societal resources and patterns of warfare are tied to humans’ physical environment and technological level.
Instructor(s): T. Williams
Area: Social and Behavioral Sciences.
AS.191.321. Anti-colonial and Post-colonial Revolutions. 3 Credits.
This course will explore various revolutions in the colonial world first looking to the Haitian and Spanish American revolutions of the 19th century. Then moving to the 20th century, we examine African and Indian independence through the writings of Franz Fanon on the Algerian revolution and through Gandhi’s treatise on Indian self-determination. We subsequently examine revolutionary movements in the context of the Cold War and the tension between the communist tradition and a budding non-aligned movement among former colonial states. We explore these issues through the works of leaders like Ho Chi Minh, Jawaharlal Nehru and Thomas Sankara. Lastly, we turn to Steven Biko and his writing on the South African anti-Apartheid revolution and to Eastern European independence from the Soviet Union through the writings of Vaclav Havel. In the final class we will wrap up by exploring some of the themes from the course and their relevance for our thinking about the Arab Spring. The course aims at an international understanding of the ideas that traversed these revolutions and of how the people involved understood the relationship of their movement to their imaginings and aspirations for broader global change. We explore how important leaders made innovations to the political vocabulary of their time in their pursuit of change. But in thinking through their ideas, we will pose critical questions on themes like race, class and gender.
Instructor(s): A. Stack
Area: Social and Behavioral Sciences.

AS.191.322. Globalization, Development, Conflict in the Developing World. 3 Credits.
This course will focus on socio-economic changes and challenges that the developing world developing world faces in today's globalized world. It will introduce students to the interaction between politics and economics in developing countries by examining political and economic development (and underdevelopment). It will evaluate the role of globalization and neoliberal reforms not just as the engine of economic change, but also as the source of social conflict. The first part of the course will introduce conventional theories and approaches to development, and evaluate how globalization and open markets have significantly changed the trajectory of economic growth and development through various substantive and country-specific readings. The second part of the course will examine the contemporary debates relating to globalization, particularly whether and how it has affected growth, human development, equality, and poverty in the developing world. A key the me explored will be on the relationship of the state to social welfare and the delivery of public goods. Finally, the course will also analyze the implications of globalization for crucial contemporary problems such as immigration, transnational flows, women’s rights/ gender roles, state-building and democratization, civil society/NGOs and governance, and ethnic violence.
Instructor(s): S. Chidambaram
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.323. Asian Energy Security. 3 Credits.
This course is concerned with the relationship between energy security and human security. It will study the energy issues of East Asian countries as they make difficult energy policy choices, attempting to achieve simultaneously economic growth, energy security, and environmental sustainability.
Instructor(s): G. Christoffersen
Area: Social and Behavioral Sciences.

AS.191.324. International Relations of Security and Development. 3 Credits.
This course examines how the politics of security and development shape relations between the “global North” and “global South”, engaging both historical and contemporary debates around intervention, humanitarianism, and development.
Area: Social and Behavioral Sciences.

AS.191.325. Introduction to International Relations through Comics. 3 Credits.
This course will present an overview of the different theories in the discipline of International Relations. The course will be organized around the question of the causes of conflict between and within states. A special emphasis will be given on reading primary literature. By the end of the course students should be well versed in the main approaches in the discipline.
Instructor(s): T. Tutunjia
Area: Social and Behavioral Sciences.

AS.191.326. Sex, Gender and War. 3 Credits.
In this course we will explore what different perspectives on sex and gender from feminist theory and the social sciences have to contribute to the understanding of key questions about the nature of war. Topics covered include nuclear politics, the concept of a just war, terrorism and the War on Terror, and humanitarian wars. This is a discussion seminar involving approximately 20 pages of writing. It also presupposes prior work in International Relations.
Instructor(s): L. Wilcox
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.327. Cities and Sovereignty. 3 Credits.
For the first time in history, the majority of the world population lives in cities. This course asks how this event and the ongoing process of global urbanization have transformed political life. From the Occupy movement’s reclamation of a right to the city to the practices of urban warfare in Iraq and Afghanistan, this course will examine how the city has become a medium of politics.
Instructor(s): D. Denman
Area: Social and Behavioral Sciences.

AS.191.330. The Political Subject of Economics. 3 Credits.
Instructor(s): T. Hanafin
Area: Social and Behavioral Sciences.

AS.191.332. Civilians in the Path Of War. 3 Credits.
In this course, we will examine ideas about violence in international affairs by both states and non-state actors. More specifically, we will investigate some of the conditions that give rise to conflict in the international system, the range of actors engaged in violence, their diverse motives, and the strategies of governments and the international system to mitigate conflict.
Instructor(s): M. Abrahms
Area: Social and Behavioral Sciences.
AS.191.333. Philosophies of Capitalism from Rousseau to Hayek. 3 Credits.
Although we commonly speak of “capitalism” as if there were a consensus regarding the basic tendencies of this peculiar economic system, there is a vast amount of disagreement among philosophers and social scientists about the most fundamental issues. These arguments range from moral arguments over the (in)justice of capitalist economies to more profound ontological debates about what capitalism is and what it means for human experience. This course examines these issues by reading in conjunction a set of profound economic thinkers, including Rousseau, Adam Smith, Hayek, and Karl Polanyi.
Instructor(s): C. England
Area: Social and Behavioral Sciences.

AS.191.335. Arab-Israeli Conflict (IR). 3 Credits.
The course will focus on the origin and development of the Arab-Israeli conflict from its beginnings when Palestine was controlled by the Ottoman Empire, through World War I, The British Mandate over Palestine, and the first Arab-Israeli war (1947-1949). It will then examine the period of the Arab-Israeli wars of 1956, 1967, 1973, and 1982, the Palestinian Intifadas (1987-1993 and 2000-2005); and the development of the Arab-Israeli peace process from its beginnings with the Egyptian-Israeli treaty of 1979, the Oslo I and Oslo II agreements of 1993 and 1995, Israel’s peace treaty with Jordan of 1994, the Road Map of 2003; and the periodic peace talks between Israel and Syria. The conflict will be analyzed against the background of great power intervention in the Middle East, the rise of political Islam and the dynamics of Intra-Arab politics, and will consider the impact of the Arab Spring.
Instructor(s): R. Freedman
Area: Social and Behavioral Sciences.

AS.191.336. On Diet: Are We What We Eat?. 3 Credits.
Tracing the history of the idea that “you are what you eat,” this course explores the relationships between diets, bodies, selves, and politics. Readings will be both historical and contemporary and cover a variety of fields including political theory, philosophy, anthropology, and the history of science and medicine.
Instructor(s): A. Rebrovick
Area: Social and Behavioral Sciences.

AS.191.337. Rebels with a Cause: Latin American Protest and Democracy. 3 Credits.
This class meets in the new Pre-Session: May 17 - June 18. New political and social movements throughout Latin America and the world are challenging the traditional understanding of the nature of democracy and participation. How broadly should the notion of democratic participation be understood? Is protest as important to democracy as elections? This course examines challenges to traditional ideas of democratic participation in Latin America, focusing on contestation beyond partisan elections, such as protest, constituent assemblies, charismatic populism, deliberative negotiation, and violent insurgencies.
Instructor(s): J. Pugh
Area: Social and Behavioral Sciences.

AS.191.338. Courts, Judges, and Lawyers (AP/LP). 3 Credits.
(formerly 'The American Judiciary') An exploration of the changing role and function of courts, judges, and lawyers in the American legal system, and of our increasingly litigious, rights conscious and adversarial culture. It will address how and why people use the courts to resolve civil disputes, how the courts handle those disputes, and the increasing reliance on alternative and less formal dispute processing forums. It will also examine the role of courts in the criminal justice system.
Area: Social and Behavioral Sciences.

AS.191.340. Education Politics in Urban America. 3 Credits.
This seminar analyzes trends, developments, and future challenges related to the politics of urban public schooling with a concentration on community political dynamics and the struggle for equal educational opportunity and quality education. The course emphasizes the impact of socioeconomic class inequality, racial/ethnic conflict, and gender politics on the changing character of public school reform since the 1954 Supreme Court decision of Brown v. Board of Education. Cross-listed with Africana Studies.
Instructor(s): F. Hayes
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.341. The Politics of Intellectual Property. 3 Credits.
Encompassing artistic works, scientific inventions, indigenous traditional knowledge, and much more, intellectual property (IP) has become a significant concern of politicians and policymakers at the domestic and international level. This course will explore some of central the legal, ethical, and policy questions surrounding intellectual property, including debates about scope and enforcement of IP rights, balancing IP rights against public access to information and medicines, and the role of IP in economic development.
Area: Social and Behavioral Sciences.

AS.191.342. Nationalism and World Politics. 3 Credits.
Nationalism has been one of the most powerful forces of change over the last two centuries. This course will focus on the causes of nationalism, its persistence, and its consequences. Specific attention will be given to a number of topics including the relationship between nationalism and democracy, the malleability of national identities, the dangers that nationalist movements can pose, and the potential solutions to nationalist conflict. The aim of the course is to give students the theoretical and analytical tools necessary to think critically about nationalism and its role in world politics. Students should have taken either “Contemporary International Politics” or “International Politics.”
Prerequisites: Students should have taken either AS.190.209” (Contemporary International Politics) or AS.190.213 (International Politics.)
Instructor(s): R. Griffiths
Area: Social and Behavioral Sciences.

AS.191.343. US Foreign Policy in East Asia. 3 Credits.
(IR)
Area: Social and Behavioral Sciences.
AS.191.345. Russian Foreign Policy (IR). 3 Credits.
This course will explore the evolution of Russian Foreign Policy from Czarist times to the present. The main theme will be the question of continuity and change, as the course will seek to determine to what degree current Russian Foreign Policy is rooted in the Czarist (1613-1917) and Soviet (1917-1991) periods, and to what degree it has operated since 1991 on a new basis. The main emphasis of the course will be on Russia’s relations with the United States and Europe, China, the Middle East and the countries of the former Soviet Union—especially Ukraine, the Baltic States, Transcaucasia and Central Asia. The course will conclude with an analysis of the Russian reaction to the Arab Spring and its impact both on Russian domestic politics and on Russian foreign policy.
Instructor(s): R. Freedman
Area: Social and Behavioral Sciences.

AS.191.346. American Political Parties. 3 Credits.
This course examines the major American political party organizations and the party system in relation to the electorate, interest groups and the institutions of American government since 1964.
Instructor(s): A. Hiramatsu
Area: Social and Behavioral Sciences.

AS.191.347. U.S.-Chinese Relations. 3 Credits.
This course examines key issues in U.S.-Chinese relations. We will take an in-depth look at the politics, policies, and topics surrounding strategic balancing, trade, energy, nuclear proliferation on the Korean Peninsula, relations across the Taiwan Strait, China’s rise and the response of the United States and its allies. We will place the relationship between the United States and China in the context of its geopolitical implications not only for the two countries but also for the international system.
Instructor(s): P. Leon
Area: Social and Behavioral Sciences.

AS.191.348. Domestic Politics of Contemporary China. 3 Credits.
This course examines salient issues in the domestic politics of contemporary China. It begins with a brief historical overview of China’s developments that led to the revolutions of 1911 and 1949, as well as the Cultural Revolution. The main part of the course will explore the era of economic reform and opening that began in the late 1970s and that still continues today. Topics include the relationship between business and politics, obstacles to economic and political reforms, the interplay between foreign relations and domestic politics, institutional and bureaucratic sources of policy-making, the social and political impact of economic growth, the relationship between central and provincial governments, and the questions of political opening and leadership transitions.
Instructor(s): P. Leon
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.349. Global Urbanism: Planet of Slums or World Cities. 3 Credits.
This course will address the relationship between development and the political and economic structure of the world economy in the built environment of the city. By drawing upon both classical texts about cities (do they still work for us, what can they account for) and on a diverse literature on cities and slums, we will focus our attention to the contemporary challenges faced in cities both in the more developed and in the developing world. Through a variety of disciplinary perspectives we will try to understand the underlying social and economic changes and the profound transformations under way throughout the global urban world.
Instructor(s): D. Pasciuti
Writing Intensive.

AS.191.351. Film and Politics. 3 Credits.
Area: Social and Behavioral Sciences.

AS.191.352. American Constitutionalism and War Making. 3 Credits.
This course explores the issue of security in the United States beginning with the 1787 constitutional founding and moving into the modern era. We will examine the role of the United States in world politics with a special emphasis on how the United States, as well as the international system changed in the 20th century, as well as the domestic constitutional challenges this presented.
Instructor(s): R. Fried
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.353. Africa and American Foreign Policy. 3 Credits.
This course examines the political, economic, and social relationships between the United States and various African countries. We start by critically examining various ways American foreign policy thinkers conceptualize Africa, before turning our attention to issues concerning conflict, intervention and peacekeeping, economic aid and development, and the Arab Spring. In particular, we will look at: the Rwandan genocide and the Congolese War, the Darfur conflict, Somali piracy, the Millennium Development goals, debates around foreign aid, NGO-based development, China’s presence in Africa, and the U.S.’s recent support of Libyan rebels.
Instructor(s): I. Kamola
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.354. History of US Latin American Relations. 3 Credits.
History of U.S. relations with Latin America, from founding of the U.S. until today.
Area: Social and Behavioral Sciences.

AS.191.355. The Military in American Politics. 3 Credits.
This course explores how Americans have wrestled with questions of military power. Topics include civil-military relations, the military-industrial complex, civil liberties during wartime and how coercion has shaped American identity.
Instructor(s): W. Adler
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.357. American Political Thought. 3 Credits.
Aitchison Fellows only. (Taught in Washington D.C.)
Area: Humanities, Social and Behavioral Sciences.

AS.191.359. Politics and Thought in Japan. 3 Credits.
Area: Social and Behavioral Sciences.
AS.191.362. Foreign Relations India/Pakistan. 3 Credits.
Instructor(s): D. Hagerty
Area: Social and Behavioral Sciences.

What happens when our images of the good life seem to be harming us? When letting go of hopes, relationships, and attachments is so hard or painful that we cling to them and risk being destroyed? What might we do so that unmaking our lives becomes preferable to keeping a damaging one? This course explores such impasse matters, where political and personal life meet in struggles to endure, change, and thrive. Specific impasses that might arise in our discussions include the American Dream, intimacy, and climate change. We will engage readings and films of diverse genres to grapple with the threat and promise of the unmaking of our lives. Dean's Teaching Fellowship course.
Instructor(s): C. Shomura
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.364. Free Expression in the 21st Century. 3 Credits.
This course will explore the theoretical underpinnings of free expression protection and some of the key contemporary debates that surround free expression in an age of mobilization, globalization, and digitization. Dean’s Teaching Fellowship course.
Instructor(s): G. Jones
Area: Social and Behavioral Sciences

AS.191.365. The History of American Environmental Consciousness. 3 Credits.
This course explores the toward nature, the "environment" and non-human life, and examines the relationship between American environmentalism and traditions of Western political thought. Dean’s Teaching Fellowship
Instructor(s): J. Greear
Area: Social and Behavioral Sciences.

AS.191.366. Chinese Domestic Politics. 3 Credits.
This course provides an introduction to the key institutions and relationships that make up the modern Chinese political system. The course will examine both theoretical and historical understandings of Chinese politics, considering alternative models of Chinese politics. It examines a range of current Chinese domestic governance issues: the political impact of the economic reforms, state-society relations, the legitimacy of the Communist Party, and Chinese understandings of politics.
Instructor(s): G. Christoffersen
Area: Social and Behavioral Sciences.

AS.191.367. US Environmental Policy. 3 Credits.
This course provides an intensive introduction to the emergence, development, and functioning of key environmental policies in the United States.
Instructor(s): J. Greear
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.368. International Relations of the Asia-Pacific. 3 Credits.
This course will introduce and analyze the international relations of the Asia-Pacific, weighing the various approaches that scholars use for theoretical understanding and policy prescription. From the 19th c. to the 21st c., realist balance of power politics have prevailed. Since the early 20th c., liberal-institutionalism has emerged to challenge realist assumptions in both Track I and Track II organizations such as the Institute of Pacific Relations, APEC, the ASEAN Regional Forum, East Asian Summit, and CSCAP. Constructivism questions these older approaches, focusing on national and regional identity formation in explaining foreign policy outcomes. The course will consider realist, institutionalist and constructivist approaches to Pacific Asia in examining prospects for peace and stability.
Instructor(s): G. Christoffersen
Area: Social and Behavioral Sciences.

AS.191.369. Athenian Democracy. 3 Credits.
An introduction to the political thought of democratic Athens (508-322 BCE). A close study of classical texts of by theorists and critics of ancient democracy such as Thucydides, Sophocles, Aristophanes, Plato, Aristotle, and Demosthenes.
Instructor(s): P. Livingston
Area: Social and Behavioral Sciences.

AS.191.370. Theories of International Political Economy. 3 Credits.
This course is concerned with three general questions: What causes economic inequality among nations? Does free trade lead to economic growth? What causes financial crisis? How one answers these questions, however, depends upon one’s fundamental conceptualization of what constitutes “the economy.” To answer these questions, therefore, we will read seminal texts in the study of political economy, including Adam Smith's Wealth of Nations, Karl Marx’s Capital, Vol. 1. and various thinkers who have built upon this theoretical work (for example, Hayek, Friedman, Keynes, Polanyi, Harvey etc).
Instructor(s): I. Kamola
Area: Social and Behavioral Sciences.

AS.191.371. Theorists of African National Liberation. 3 Credits.
The second half of the 20th century witnessed a number of anti-colonial struggles across the African continent. This course reads the work of various theorists, novelists and organic intellectuals from these struggles in order to examine a number of important theoretical questions, such as: What is ‘Africa’? How does colonial rule operate? What might political, economic and social liberation look like? These analyses will then be used to examine a number of contemporary issues facing the African continent. Cross-listed with Africana Studies
Instructor(s): I. Kamola
Area: Social and Behavioral Sciences.

Aitchison Students Only.
Instructor(s): S. Strom
Area: Social and Behavioral Sciences.

AS.191.373. Asian Americans and the Law. 3 Credits.
Area: Social and Behavioral Sciences
Writing Intensive.
AS.191.374. Seminar in American Political Economy. 3 Credits.
This course examines the interplay of economic ideas, institutions and domestic politics in the United States, from the Founding through the financial crisis. Topics include industrialization, regulation, interest groups, voting behavior, and inequality.
Instructor(s): C. Thurston
Area: Social and Behavioral Sciences.

AS.191.375. Thinking Organizationally about Politics. 3 Credits.
Aitchison Students Only.
Instructor(s): S. Teles
Area: Social and Behavioral Sciences.

AS.191.376. Public Policy Writing. 3 Credits.
Aitchison Students Only.
Instructor(s): P. Longman
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.377. Thinking Ethically. 1 Credit.
Aitchison Students Only
Instructor(s): H. Bok
Area: Social and Behavioral Sciences.

AS.191.378. Thinking Probabilistically. 1 Credit.
Aitchison Fellowship students only Taught in Washington D.C.
Instructor(s): M. Rom
Area: Social and Behavioral Sciences.

AS.191.379. Thinking Strategically. 1 Credit.
Aitchison Students Only.
Instructor(s): K. Mueller
Area: Social and Behavioral Sciences.

AS.191.380. First Amendment Freedoms. 3 Credits.
This course will explore the historical, political and legal dimensions of the First Amendment and the freedoms it protects: religion, speech, press, assembly, and petition. How have these freedoms grown and developed over time? How do contemporary issues like combating terrorism and developing new technologies re-frame First Amendment debates? Can language drafted over 220 years ago keep up with the challenges of the 21st century?
Instructor(s): G. Jones
Area: Social and Behavioral Sciences.

AS.191.381. Thinking Politically. 1 Credit.
Aitchison Students Only
Instructor(s): S. Teles
Area: Social and Behavioral Sciences.

AS.191.382. Thinking Economically. 3 Credits.
Aitchison Students Only.
Instructor(s): D. Baker
Area: Social and Behavioral Sciences.

AS.191.383. Using Data for Analysis and Persuasion. 1 Credit.
Aitchison Students Only
Instructor(s): M. Rom
Area: Social and Behavioral Sciences.

AS.191.384. Thinking Legally. 1 Credit.
Aitchison Students Only.
Instructor(s): M. Greve
Area: Social and Behavioral Sciences.

Instructor(s): J. Meiser
Area: Social and Behavioral Sciences.

AS.191.386. Energy and Environmental Security. 3 Credits.
Instructor(s): J. Meiser
Area: Social and Behavioral Sciences.

AS.191.387. Ethnic Politics. 3 Credits.
Ethnic conflict has become one of the major sources of inter-state and within-state strife in many regions of the world today. This course is designed to provide a broad overview of the relationship between ethnicity and politics. The purpose is to introduce key concepts, debates and contemporary research in the field of ethnic politics, and to develop an understanding of how political institutions can influence the course and consequences of ethnic conflict. There are no text book required for this course.
Instructor(s): S. Chidambaram.

AS.191.388. Comparative Political Philosophy. 3 Credits.
An introduction to the field of cross-cultural, comparative political philosophy. This course critically compares Western and non-Western political ideas and arguments on topics such as nature and the political order, philosophy and the political order, the relationship between religion and the state, individuality and community, and equality versus hierarchy. We will examine central political thinkers and texts from East Asia, South Asia, the Middle East, Greece, and Europe.
Instructor(s): S. Gray.

AS.191.389. Terrorism and Counterterrorism. 3 Credits.
The purpose of this course is to critically examine the most important empirical and theoretical debates on terrorism, with a view toward formulating maximally effective counterterrorism responses. This is the only book to purchase: http://www.cqpress.com/product/Debating-Terrorism-and-Counterterrorism.html. The other readings can be accessed online.
Instructor(s): M. Abrahms
Area: Social and Behavioral Sciences.

AS.191.390. Ancient and Medieval Political Philosophy. 3 Credits.
This discussion-intensive seminar carefully examines major texts and thinkers in the ancient and medieval periods. We will read works by Homer, Hesiod, Thucydides, Plato, Aristotle, Cicero, St. Augustine, as well as the Islamic political thought of the Qur’an and Alfarabi.
Instructor(s): S. Gray
Area: Social and Behavioral Sciences.

AS.191.391. The Arab Spring and the New Revolution. 3 Credits.
Instructor(s): R. Ford
Area: Social and Behavioral Sciences.
AS.191.394. Third World Environment and Development. 3 Credits.
The course examines how the interactions between ecological, political, economic and social processes shape world politics. It focuses on the connections between natural resource degradation, globalization, and development. Major themes include global environmental governance; consumption and sustainable development; environmental justice; changing patterns of food production and resource use.
Instructor(s): A. Ignatov
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.395. Law and Religion. 3 Credits.
The First Amendment to the U.S. Constitution contains the Establishment Clause, which prohibits the government from promoting religion, and the Free Exercise Clause, which guarantees religious liberty. Together, these are known as the Religion Clauses, and they have been at the center of some of the Supreme Court’s most controversial decisions, such as school prayer, state funding for religious schools, and the placement of religious displays on public property. Many scholars, judges, and politicians have proclaimed that the Court’s church-state decisions are “incoherent” and even “contradictory.” This course will examine these criticisms of the Court’s church-state jurisprudence and explore whether any consistent principles underlie this area of the law. Is there a basis on which “separationists,” who advocate for a strict separation of church and state, and “accommodationists,” who believe that government may promote some religious activities, can find common ground?
Instructor(s): J. Merriam
Area: Social and Behavioral Sciences.

AS.191.396. Politics of South Asia. 3 Credits.
This course is intended as an introductory seminar in comparative politics designed to acquaint participants with academic debates on a range of topics that are relevant to understanding the politics of contemporary South Asia. South Asia is a region that not only has a rich and complex history and culture, but also a region to study themes such as colonialism, nationalism, economic growth and development, democracy vs. authoritarianism, religious fundamentalism, and ethnic conflict. Whether it is the emerging radicalization of politics and consequent social strife in Pakistan, the paradox of democracy in India that is on the economic ascendant yet still beset by poverty and a poor track record in human development, whether it is the brutality of the military regime in Myanmar or the democratization of Bangladesh, whether it is the violent sectarian conflicts that have wracked the region or the grassroots social movements that have set an example, developments in the South Asian subcontinent continue to draw our attention to how developments within these countries shape global interactions as well as how international factors shape their political trajectories in turn. Drawing on multidisciplinary scholarship, this course will explore the history, culture, political economy, and contemporary debates in what has emerged as a strategically and economically vital region. Since the overwhelming majority of academic publications concerning the region use India as their case, the assigned readings may tend to have an India bias. However, we will use the theories developed in the Indian context to understand the politics of the other South Asian states, and ask how India-specific theories might be extended to capture the dynamics of its neighbors. The themes discussed during the course will be those that are crucial not only to understanding South Asia’s trajectory, but also to a general study of politics in a developing country.
Instructor(s): S. Chidambaram
Area: Social and Behavioral Sciences.

AS.191.397. Freedom. 3 Credits.
This course will explore the concept of freedom as it develops in modern and contemporary political thought. We will examine contending conceptions of public (civic republican) and private (liberal) freedom, robust subjectivism, constraints of disciplinary power, and anarchism. This course concludes by tracking elements of these conceptions into contemporary American life. We will read the works of: Rousseau, J. S. Mill, Nietzsche, Foucault, Goldman, and Franzen.
Instructor(s): S. Gray
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.398. The International Politics of Genocide. 3 Credits.
This course examines the creation of the concept of genocide and explores its controversial evolution in international law, humanitarian efforts, and global politics. Dean’s Teaching Fellowship course.
Instructor(s): B. Meiches
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.399. The Political Economy of Development. 3 Credits.
Ideas about the processes of economic development have undergone significant change since the end of World War II. The theory and practice of “development” has evolved over the intervening decades as both the structures of national economies and global markets have changed. Indeed, we might no longer agree what development is, who it is for and whether it is desirable. Today, development as a concept and a rallying cry is often expanded and reshaped to mean enforcing ‘market reform,’ monitoring multi-ateral aid programs, or even hastening globalization. How did this happen? What does it mean? How did we get to where we are today?
Instructor(s): A. Naseemullah
Area: Social and Behavioral Sciences.

AS.191.402. Numbers, Pictures, Politics. 3 Credits.
Aitchison students only.
Instructor(s): M. Rom
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

AS.191.407. Development of International Thought. 3 Credits.
This course proposes to read a series of foundational texts in international thought from the ancient Greeks to the middle of the 19th century. The goal will be to trace continuities and discontinuities between texts, to determine the impacts of historical events and to examine how such texts have impacted contemporary international thought. Special emphasis will be placed on questions of state formation, imperialism and attempts at European hegemony.
Area: Humanities, Social and Behavioral Sciences.

AS.191.412. Terrorism, Insurgency and Globalization. 3 Credits.
This course examines the globalization of non-state warfare in the 20th and 21st centuries by investigating technological and material changes that have increased the virulence and profile of non-state violence. (IR) Dean’s Teaching Fellowship
Area: Social and Behavioral Sciences.

AS.191.413. American Foreign Policy: Power and Restraint. 3 Credits.
Area: Social and Behavioral Sciences.

AS.191.415. The Budgetary Process. 3 Credits.
Area: Social and Behavioral Sciences.
AS.191.421. A Normal Country German Politics and Identity. 3 Credits.
This seminar deals with questions pertaining to the formation of modern German nationalism and national identity through the perspective of German politics and history. Dean’s Teaching Fellowship Instructor(s): F. Bauwens
Area: Social and Behavioral Sciences.

AS.191.429. American Foreign Politics. 3 Credits.
Pre requisites: “Contemporary International Politics” or “International Politics.” Requirements include a midterm, a small paper, and a final exam. (IR) This course examines the evolution of American foreign policy since the birth of the country. It investigates why American primacy came to be, what its consequences are, and what will drive American foreign policy in the future. Attention will be given to historical analysis, grand strategy, and a range of contemporary policy issues from the rise of China to the threat of terrorism. The aim of the course is to give students the theoretical and analytical tools necessary to think critically about the past, present, and future of American foreign policy, and its implications for international relations.
Instructor(s): P. Spector

AS.191.430. Aitchison Law and Society. 1 Credit.
Area: Social and Behavioral Sciences.

AS.191.435. International Relations Theory and the Margins: The case of East Asia. 3 Credits.
This course explores how the concept of ‘international relations’ was introduced, challenged and negotiated in a region which we call ‘East Asia.’ Implicitly comparative, the course illuminates the divergent understanding of familiar terms such as “order,” “hierarchy,” “history,” “community,” “border/territoriality,” and “law” in light of the East Asian modernity. Students will be asked to reflect on questions of identity in relation to China, Korea and Japan and to ponder the extent to which those identities may be translated and understood in Western categories. Specifically this course will consider the role played by Sino-centrism, the rise of Japan later, and Westernization in shaping ‘international relations’ in East Asia. Dean’s Teaching Fellowship Instructor(s): H. Koyama
Area: Social and Behavioral Sciences
Writing Intensive.

AS.191.440. American Political Economy. 3 Credits.
Instructor(s): M. Lind
Area: Social and Behavioral Sciences.

AS.191.444. International Law. 3 Credits.
This course provides an introduction to international law, including its history and theoretical foundations; how it takes shape and is enforced, and the role it plays in modern foreign policy.
Instructor(s): P. Spector
Area: Social and Behavioral Sciences.

AS.191.450. Politics of Baltimore City. 3 Credits.
(AP)
Area: Social and Behavioral Sciences.

AS.191.455. Writing Intensive Seminar. 3 Credits.
This course is designed for students interested in the writing-intensive approach to major topics. Students will write both individually and collaboratively, working with faculty and students in the humanities.
Instructor(s): R. Griffiths

AS.191.459. Historical Research Methods and the Study of Politics. 3 Credits.
Instructor(s): R. Griffiths

Secessionist civil war is one of the chief sources of violence in the world today. Secession represents one of the most definitive challenges to the political legitimacy and authority of the modern state. This course will examine explanations for the causes of secessionism, why it has become more common over the last 60 years, and when it results in civil war. Consideration will also be given to normative questions such as: when do a people have the right to secession? These topics will be discussed in the context of a number of real world cases including Quebec, Tibet, Georgia, Catalonia, Kosovo, and Scotland.
Instructor(s): R. Griffiths.

AS.191.609. Historical Research Methods and the Study of Politics.
This course is designed for graduate students across the Social Sciences and the Humanities interested in the study of transnational politics from a historical perspective. Taught by Visiting Hinckley Professor Robert A. Hill, students will be introduced to methods of historical interpretation in the examination of archival documents and other sources of scholarly evidence. Utilizing materials and examples from Prof. Hill’s own extensive archive of Garveyism, Rastafarianism, Black Hebraism, and other transnational, millenarian political and social movements, students will become familiar with the unique research challenges posed by various forms of political and historical articulation, ranging from formal records of state governments, intelligence records, personal archives, to publications and memoirs of non-governmental actors and organizations.
Instructor(s): R. Hill.

Cross Listed Courses

History of Art

AS.010.147. South Asian Art, Culture and Politics: Empire, Colony, Nation. 3 Credits.
This course explores the visual culture and politics of South Asia from early archaeological settlements to contemporary installation art. Themes will include: the role of the patron, the relation of text and image, architecture and ritual/political space, colonialism, nationalism, modernity, and postcoloniality. Cross-listed with Political Science
Instructor(s): R. Brown
Area: Humanities.

AS.010.327. The Harem and the Veil: Space and Gender in the Islamic World. 3 Credits.
This course explores the constructed imagery of the harem and the veil in relation to politics and visual culture in the Middle East, North Africa, India, and Euro-America. Topics will include: Ottoman palace architecture, Orientalist painting, mandating/banning the veil, Islamic feminisms. We will address visual culture broadly, including advertising, architecture, contemporary art, film, news media.
Instructor(s): R. Brown
Area: Humanities
Writing Intensive.

AS.010.382. The Politics of Display in South Asia. 3 Credits.
Through examining collecting, patronage, colonial exhibitions, and museums, this course examines how South Asia has been constructed in practices of display. Themes: politics of representation, spectacle, ethnography, and economies of desire related to colonialism and the rise of modernity. Cross-list with Anthropology, Museums and Society and Political Science.
Instructor(s): R. Brown
Area: Humanities
Writing Intensive.
AS.010.607. The Epistemology of Photography.
This seminar will ask how photography produces ways of knowing: how does photography's reality-effect shape its dissemination and absorption? Is photography's emergence during the colonial era coincidental or catalytic? How is memory (re)constituted in a photography-saturated world? What kinds of histories does photography encourage and discourage? Is a photograph an object? We will read across disciplines (literature, anthropology, history, history of art, political science, theory) to investigate the epistemology of photography and the photograph.
Instructor(s): R. Brown.

AS.010.634. The Politics of Visual Culture.
In-depth reading and discussion at the intersection of visual culture and the political. Issues may include photography and colonialism, nationalism, symbolism, commodification of culture, visual and ethnographic display, the national museum, repatriation, modernity and the spectacle.

AS.010.666. Exhibiting the Other.
Despite challenges to museum practices in the 1970s and 1980s, the approach to displaying the art and visual culture of regions and periods outside of the European and North American mainstream remains caught between scholarly theorizing and demands for the commodification of the exotic. The ongoing exclusionary logic of collecting and display practices and the shrinking budgets for museums undermine efforts to rethink and challenge longstanding institutionalized patterns. In this seminar we will assess the politics, theory, and practice of displaying what still operates as the "other", reading across art history, museum studies, politics, and anthropology. Open to senior undergraduates with permission of instructor. Cross-listed with Political Science and Programs in Museums and Society
Instructor(s): R. Brown.

Anthropology

AS.070.200. On Secrets - Their concealment, Revelation & Beyond. 3 Credits.
We track secrecy as a social process. We examine secrets – their concealment and modes of existence (secret societies, esoteric rituals, state secrecy); the politics of their revelation (from colonial contexts to WikiLeaks); and their modes of existence thereafter in the modern world (within public spheres, as intellectual property).
Instructor(s): U. Nair
Area: Humanities, Social and Behavioral Sciences.

AS.070.294. Political Anthropology of Africa. 3 Credits.
The course will explore classical and contemporary ethnographies of the political in Africa, examining how their authors address issues of power, hierarchy and symbol. We will study various articulations of state, ethnicity and community that are analyzed by observing relations between power and resistance or between law, economy and violence through war, custom and ritual. The seminar will also address the way in which Africa has been constituted as a key source of the sub-field of political anthropology through colonial trajectories, postcolonial detours and the political imagination of the past and the future.
Instructor(s): J. Obarrio
Area: Humanities, Social and Behavioral Sciences.

AS.070.321. Prisons and Police. 3 Credits.
How does incarceration generate sociality? How do prisons and policing figure in anthropological thought and social theory? This seminar explores both the emergence of prisons as forms of punishment and reform as well as sociality, and consider policing in relation to concepts of population as well as neighborhood. It draws from classic topics in anthropology of law, custom, and crime as well as explores contemporary engagements with topics of incarceration and security. It draws widely from ethnography, social and political theory, film, public health studies, and sociological works on incarceration.
Instructor(s): C. Han
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.344. Muslim Societies and Modern States: Ethnographic Encounters. 3 Credits.
Through a close reading of four recent ethnographies, this course explores the diverse ways Muslims encounter the power of modern states in the contemporary world. Topics include: state-led efforts to reform educational discipline and curricula in Yemen, the imaginary topos of dreams as a space of encounter in Egypt, and legal institutions in Egypt and Pakistan. Diverse ethnographic approaches to a common theme raise such questions as: how do legal reforms constrain, enable or express forms of moral striving in everyday life? what forms of knowledge are sanctioned by the state and what forms exceed its limits? what kinds of community become possible in the grip or the margins of modern governance?
Instructor(s): J. Bush
Area: Humanities, Social and Behavioral Sciences.

AS.070.368. Modern South Asia. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.070.621. An Ontological Turn?.
Recent years have seen a number of ambitious and controversial efforts to find, in ontology, a means of surpassing the inherited humanism, culturalism, and essentialism of anthropology. This course will critically examine this proposition of a fundamental “turn” in our thinking, juxtaposing recent work on matters of perspectivism, materialism, relationality, and divinity with earlier attempts in anthropology to grasp being and becoming otherwise.
Instructor(s): A. Pandian.

History

AS.100.203. Modern Japan. 3 Credits.
Instructor(s): T. Steen
Area: Humanities, Social and Behavioral Sciences.

AS.100.404. John Locke. 3 Credits.
Seminar style course in which John Locke’s major works will be read intensively, together with some of his contemporaries’ works, and select scholarly interpretations.
Instructor(s): J. Marshall
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.702. Race and Migration in Modern History.
Instructor(s): M. Shell-Weiss.
Public Policy

AS.195.477. Intro To Urban Policy. 3 Credits.
Perm. Req'd. 195.477 & 195.478 must be taken together by undergraduates Cross-listed with Political Science, Sociology, Public Health Studies, and Geography and Environmental Engineering
Instructor(s): S. Newman
Area: Social and Behavioral Sciences
Writing Intensive.

AS.195.478. Urban Policy Internship. 3 Credits.
195.478 & 195.477 must be taken together by undergraduates Cross-listed with Political Science, Sociology, Public Health Studies, and Geography and Environmental Engineering
Instructor(s): S. Newman
Writing Intensive.

German Romance Languages Literatures

AS.211.174. Media of Propaganda. 3 Credits.
Today, promoting a particular political or personal point of view is not viewed as "propaganda," but rather as building a community of equally minded people. But where do we draw the line, and when does the use of a medium in service of a certain message become intrusive and misleading? What role do democracy and cultural values play in this use or abuse of media? In this class the term "propaganda" will be evaluated carefully and applied to such historical media case studies as the informational use of the radio in World War One, Leni Riefenstahl's Nazi propaganda films, the legendary success of advertisement campaigns in the 1950s and 1960s, the AIDS movement and other mobilization strategies from the 1980s to the 1990s, and the new values of friendship and propaganda in our current facebook nation.
Instructor(s): B. Wegenstein
Area: Humanities.

AS.211.212. Holocaust and Film. 3 Credits.
Taught in English. This class will examine the history of Holocaust films in regard to the possibilities of genre (documentary versus feature), the use of historical and archival materials, as well as general questions of representation and trauma. I CINEMA OF THE VICTIMS II CINEMA OF THE PERPETRATORS III CINEMA OF THE SECOND AND THIRD GENERATIONS WITNESSES Students will be writing weekly response papers to all screenings, and will choose to work with films in the original languages German, English, Italian, and French. This class will be writing-intensive. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies.
Area: Humanities
Writing Intensive.

AS.211.344. Holocaust and Film. 3 Credits.
Taught in English. This class will examine the history of Holocaust films in regard to the possibilities of genre (documentary versus feature), the use of historical and archival materials, as well as general questions of representation and trauma. I CINEMA OF THE VICTIMS II CINEMA OF THE PERPETRATORS III CINEMA OF THE SECOND AND THIRD GENERATIONS WITNESSES Students will be writing weekly response papers to all screenings, and will choose to work with films in the original languages German, English, Italian, and French. This class will be writing-intensive. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies.
Instructor(s): B. Wegenstein
Area: Humanities
Writing Intensive.

AS.211.394. Brazilian Cult & Civ. 3 Credits.
This course is intended as an introduction to the culture and civilization of Brazil. It is designed to provide students with basic information about Brazilian history, art, literature, popular culture, theater, cinema, and music. The course will focus on how indigenous Asian, African, and European cultural influences have interacted to create the new and unique civilization that is Brazil today. The course is taught in English, but ONE extra credit will be given to students who wish to do the course work in Portuguese. Those wishing to do the course work in English for 3 credits should register for section 01. Those wishing to earn 4 credits by doing the course work in Portuguese should register for section 02. The sections will be taught simultaneously. Section 01: 3 credits Section 02: 4 credits (instructor’s permission required)
Instructor(s): M. Bensabat Ott
Area: Humanities
Writing Intensive.

AS.211.446. Contemporary Italy: A Visual and Literary History. 3 Credits.
Taught in English. This introductory course will explore the main features of Italian society, culture, politics from 1945 to the present. Our discussions will be based upon a critical analysis of both visual and literary sources (in translation): excerpts of movies, videos, pictures, novels, short stories, etc. By the end of this journey through the past you will have better understanding of today's Italy. Topics include: the Cold War and the division between Catholics and Communists, the economic miracle, the '68 student revolt, political terrorism in the 70s, the second Republic and Berlusconi. Attention will be paid to issues such as the condition of women and the youth, organized crime, political corruption, migration, the Southern question.
Instructor(s): M. Rossi; W. Stephens.

AS.212.789. Literature & Identity in the Age of Globalization.
In this seminar we will examine a selection of literary reflections on and engagements with globalization and its mounting failures and burdens, as it has emerged in Europe and the Americas from the mid-twentieth century to the present. From the economic, constitutional, and cultural politics around the unification of Europe, to the ideological and imperial misfortunes of the U.S. after the collapse of the “End-of-History” thesis, to the resurgence of state populism in Latin America in the wake of neoliberal exhaustion, literary fiction has been deployed to posit, explore, and contest national and post-national myths of identity. The seminar will interrogate how this engagement functions both as aesthetic and theoretical discourse. Readings may include novels by Albert Camus, W. G. Sebald, Leonardo Sciascia, Orhan Pamuk, Javier Marías, Roberto Bolaño, and Jonathan Franzen, along with theoretical writings by Gianni Vattimo, Jürgen Habermas, Rodolphe Gasché, and others.
Instructor(s): E. Gonzalez; W. Egginton
Area: Humanities.
AS.213.344. Holocaust and Film. 3 Credits.
Taught in English. This class will examine the history of Holocaust films in regard to the possibilities of genre (documentary versus feature), the use of historical and archival materials, as well as general questions of representation and trauma. I CINEMA OF THE VICTIMS II CINEMA OF THE PERPETRATORS III CINEMA OF THE SECOND AND THIRD GENERATIONS WITNESSES Students will be writing weekly response papers to all screenings, and will choose to work with films in the original languages German, English, Italian, and French. This class will be writing-intensive. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies.
Instructor(s): B. Wegenstein
Area: Humanities
Writing Intensive.

AS.213.368. German Political Thought. 3 Credits.
This course will introduce students to major figures in German political thought from Martin Luther to Karl Marx and Immanuel Kant to Carl Schmitt. The class will explore such issues as the notion of sovereignty, the relationship between church and state, the theory of parliamentary democracy, and the political and economic ramifications of liberalism. Reading and discussion in English.
Instructor(s): R. Tobias
Area: Humanities.

The seminar will explore to what extent Hegel can be read as contributing to a feminist philosophy. We will focus on Hegelian openings onto the emotional in Phenomenology of Spirit. In addition, we will study feminist philosophers who have drawn on or offered critical readings of Hegel (Irigaray, Butler, Cavarero, Malabou, and others). Cross-listed with AS.190.633
Instructor(s): J. Bennett; K. Pahl
Area: Humanities
Writing Intensive.

AS.213.634. Schiller's Aesthetic Writings.
Schiller's theoretical writings might be approached by the sentence ‘it is only through beauty that man makes his way to freedom’. Discussing the assumption that humans live in a condition of unfreedom resulting from social and economic divisions, Schiller's notion of beauty crosses boundaries between ethics, politics and aesthetics to formulate a theory of modernity in which beauty functions as a medium to reconcile man's sensuous nature and his capacity for reason. The course will examine Schiller's concept of beauty in relation to the anthropological, political, ethical and aesthetic discourses of his time especially with respect to Kant's view of aesthetic judgment which Schiller at the same time embraced and criticized. Particular attention will be paid to Schiller's reflections on representation as well as to the poetics of his aesthetic discourse. Readings include: Kallias-Briefe (1793), Über Anmut und Würde (1793), Vom Erhabenen (1793), Über die ästhetische Erziehung des Menschen in einer Reihe von Briefen (1793), Über naive und sentimentalische Dichtung (1795/96). Readings and discussions in German.

In this seminar we will examine a selection of literary reflections on and engagements with globalization and its mounting failures and burdens, as it has emerged in Europe and the Americas from the mid-twentiyh century to the present. From the economic, constitutional, and cultural politics around the unification of Europe, to the ideological and imperial misfortunes of the U.S. after the collapse of the “End-of-History” thesis, to the resurgence of state populism in Latin America in the wake of neoliberal exhaustion, literary fiction has been deployed to posit, explore, and contest national and post-national myths of identity. The seminar will interrogate how this engagement functions both as aesthetic and theoretical discourse. Readings may include novels by Albert Camus, W. G. Sebald, Leonardo Sciascia, Orhan Pamuk, Javier Marías, Roberto Bolaño, and Jonathan Franzen, along with theoretical writings by Gianni Vattimo, Jürgen Habermas, Rodolphe Gasché, and others.
Instructor(s): E. Gonzalez; W. Egginton
Area: Humanities.

AS.214.340. Holocaust & Film. 3 Credits.
Taught in English. This course examines the question of the Holocaust and its representation in the filmic media. We will analyze such themes as post-traumatic documentary (e.g., Night and Fog, Alain Resnais 1955), the resistance to representation (Shoah, Claude Lanzmann 1985), Holocaust drama and the ethics of entertainment (e.g., Schindler's List, Steven Spielberg 1993), the question of filmic adaptation (e.g., The Grey Zone, Tim Blake Nelson 2002—based on Primo Levi’s The Drowned and the Saved 1986), and the new genre of confessional first person video-diary (e.g., Two or Three Things I know About him, Malte Ludin 2005). On this last theme we will also host the two-day symposium “The Holocaust: Children of the Perpetrators Confront Their Parents’ Nazi Past through Documentary Film,” in March 09. The symposium will feature three international documentary filmmakers and their recent films The End of the Neubacher Project, Marcus Carney 2007, Fatherland, Manfred Becker 2006, and Two or Three Things I know About him, Malte Ludin 2005, in which the filmmakers —children of Nazi perpetrators—are asking the question “who am I in relation to my father’s deeds?” The symposium will further include a number of experts on the topic of Holocaust, commemoration, and documentary film. Students will be involved in the preparation and, if interested, in the panel-discussions of the symposium. All films will be screened with English subtitles; this class is reading-intensive and writing-intensive; weekly response papers will be written about the films and the course topic at large. Cross-listed with Film and Media Studies, Political Science, History, and Jewish Studies
Writing Intensive.
AS.214.345. Machiavelli’s World: Tyrants and Intellectuals in Renaissance Italy. 3 Credits.
Italy during the Renaissance was politically fragmented, a hodge-podge of small states organized under a wide variety of political systems: ostensibly democratic republics, states ruled by warrior-tyrants, the temporal authority of the papacy, and more. The struggle for dominance between these various states and systems was fought not only by armies but also by humanist intellectuals – a class that flourished during this period. We will focus on the particularly interesting career of Niccolò Machiavelli, who authored theoretical justifications both for republicanism (especially in his Discourses) and for tyranny (in his most famous and enigmatic work, The Prince). With close attention to historical context, we will read these and other works by Machiavelli. We will also study other Italian Renaissance intellectuals who responded to the political upheavals of their day in a variety of ways, including Coluccio Salutati, Leonardo Bruni, Leon Battista Alberti, and Pietro Aretino. The class will be conducted in English, and a separate section will be offered for Italian majors (and others with a strong command of the language) in which we will read and discuss texts in Italian.
Instructor(s): J. Coleman
Area: Humanities

This class examines the areas of aesthetics, technology, and society critically in regard to media theory and practice following the 2010 anthology Critical Terms in Media Studies. The class also thematically accompanies the international conference Technologies of Meaning, March 3-4, 2011 with such speakers as Avital Ronell, Tom Gunning, and Sam Weber. Cross-listed with English, Political Science, and Anthropology
Instructor(s): B. Wegenstein.

In this seminar we will examine a selection of literary reflections on and engagements with globalization and its mounting failures and burdens, as it has emerged in Europe and the Americas from the mid-twentieth century to the present. From the economic, constitutional, and cultural politics around the unification of Europe, to the ideological and imperial misfortunes of the U.S. after the collapse of the “End-of-History” thesis, to the resurgence of state populism in Latin America in the wake of neoliberal exhaustion, literary fiction has been deployed to posit, explore, and contest national and post-national myths of identity. The seminar will interrogate how this engagement functions both as aesthetic and theoretical discourse. Readings may include novels by Albert Camus, W. G. Sebald, Leonardo Sciascia, Octavio Paz, Jose Revueltas, Mario Vargas Llosa, Darcy Ribeiro, Enrique Dussel, and the authors of the Sumac Kawsay as well as Liberation Theology central writings. The course will be taught in English. Students wishing to do work in the original Spanish or Portuguese will be encouraged to do so.
Instructor(s): S. Castro-Klaren
Area: Humanities
Writing Intensive.

Graduate students or advanced seniors. This seminar will explore the corpus of political thought in Latin America since independence (1810) to the present by focusing on the discourses that constructed and continue to construct 5 key questions in the negotiation of power in the post-colonial res politica: territory, nationhood, national subjectivation, cultural imagination, justice and regimes of inclusion and exclusion. Readings will include the work of Sarmiento, Euclides da Cunha, Gonzalez Prada, Mariategui, Marti, Revueltas, Paz, Jesser Ribeiro, Freire, Arguedas, Liberation Theology and Sumac Kawsay authors.
Instructor(s): S. Castro-Klaren
Area: Humanities
Writing Intensive.

In this seminar we will examine a selection of literary reflections on and engagements with globalization and its mounting failures and burdens, as it has emerged in Europe and the Americas from the mid-twentieth century to the present. From the economic, constitutional, and cultural politics around the unification of Europe, to the ideological and imperial misfortunes of the U.S. after the collapse of the “End-of-History” thesis, to the resurgence of state populism in Latin America in the wake of neoliberal exhaustion, literary fiction has been deployed to posit, explore, and contest national and post-national myths of identity. The seminar will interrogate how this engagement functions both as aesthetic and theoretical discourse. Readings may include novels by Albert Camus, W. G. Sebald, Leonardo Sciascia, Orhan Pamuk, Javier Marías, Roberto Bolaño, and Jonathan Franzen, along with theoretical writings by Gianni Vattimo, Jürgen Habermas, Rodolphe Gasché, and others.
Instructor(s): E. Gonzalez; W. Egginton
Area: Humanities.

AS.216.398. Zionism, Post-Zionism and Modern Hebrew Literature. 3 Credits.
This course studies the development of modern Hebrew literature through its relation to Zionism and Post-Zionism. Based on a close reading of both literary and non-literary Zionist and Post-Zionist texts, we will explore the thematic, social, political, aesthetic and stylistic influences that these two movements have had on modern Hebrew literature. Writers to be discussed include: Hertzl, Nordau, Acha ha-am, Jabotinsky, Klusner, Brenner, Berdyczewski, Agnon, Greenberg, Kahana-Carmon, Oz, Yehoshua, Grossman, Castel-Bloom, and Laor. Students may receive credit for AS.216.398 or AS.300.398, but not both.
Prerequisites: Students may receive credit for AS.216.398 or AS.300.398, but not both.
Instructor(s): N. Stahl
Area: Humanities.
**Sociology**

**AS.230.240. Introduction to Environmental Sociology. 3 Credits.**
The first part of the course will critically examine the major theoretical perspectives on environmental sociology including nature as a social construction, ecological Marxism and ecological modernization. The second part of the course will examine key aspects of the relationship between society and the environment including risk perception, the environmental effects of economic globalization, the distribution of environmental goods and bads, population growth, environmental movements, and debates about state-led environmental protection.

Area: Social and Behavioral Sciences

Writing Intensive.

**AS.230.260. Political Sociology. 3 Credits.**
This course explores the interaction between political power and social forces in macro-comparative and international perspectives, focusing on how political institutions (such as states, political parties, and international governing bodies) are shaped by actions of different social groups (such as classes, ethnic groups, social movements), and vice versa. The class will cover the historical emergence of sovereign nation-state as the most salient political organization across the world, as well as its evolution into the form as we know it today. The class will also discuss the array of challenges that modern nation-states are facing under globalization and restructuring of world order following the end of Cold War. Cross-listed with Political Science.

Instructor(s): H. Hung

Area: Social and Behavioral Sciences.

**AS.230.318. State and Society in Modern India. 3 Credits.**
This course examines the complex, at times conflicting, relationship that has emerged between Indian seats of power from above and Indian expressions of society from below. Attention will be placed on the period between 1947 to the present.

Instructor(s): R. Agarwala

Area: Social and Behavioral Sciences

Writing Intensive.

**AS.230.321. Revolution, Reform and the Social Inequality of China. 3 Credits.**
This course explores various aspects of social inequality in China during the Mao Zedong and the post-Mao reform eras. We will examine inequality within villages, the rural/urban divide, urban inequality, education and health policies, and gender and ethnic relations. Each of these issue areas will be tackled analytically, but the aim is also to understand what it was/is like to live in China during and after the Mao era. The course is designed for both undergraduate and graduate students. Cross-listed with East Asian Studies and International Studies (CP).

Instructor(s): J. Andreas

Area: Social and Behavioral Sciences

Writing Intensive.

**AS.230.360. Globalization, Labor and the State in East Asia. 3 Credits.**
The course will examine the relationship between labor, state policies, and globalization in China, South Korea and Japan in comparative perspective. We will look at debates about the role of developmentalist states on economic and social development, as well as transformation in the nature of work and labor relations in the three countries.

Instructor(s): L. Zhang

Area: Social and Behavioral Sciences

Writing Intensive.

**AS.230.365. Labor and Globalization. 3 Credits.**
The course will focus on the ways in which contemporary processes of globalization (including the current crisis) are transforming the nature of work and employment, using a wide range of local case studies from Africa, Asia, Europe, Latin America and North America. Themes include changes in business organization that impact labor (e.g., automation, outsourcing, subcontracting) and the role of inter- and intra-national labor migration. We will also look at present-day forms of workers' protest (open and hidden, local and transnational) and how these are shaped by and are shaping global social change. Cross-listed with International Studies

Instructor(s): B. Silver; L. Zhang

Area: Social and Behavioral Sciences.

**Humanities Center**

**AS.300.398. Zionism, Post-Zionism and Modern Hebrew Literature. 3 Credits.**
This course studies the development of modern Hebrew literature through its relation to Zionism and Post-Zionism. Based on a close reading of both literary and non-literary Zionist and Post-Zionist texts, we will explore the thematic, social, political, aesthetic and stylistic influences that these two movements have had on modern Hebrew literature. Writers to be discussed include: Hertzel, Nordau, Achad ha'am, Jabotinsky, Kluasner, Brenner, Berdyckewitzki, Agnon, Greenberg, Kahana-Carmon, Oz, Yehoshua, Grossman, Castel-Bloom, and Laor.

Students may receive credit for AS.216.398 or AS.300.398, but not both.

Prerequisites: Students may receive credit for AS.216.398 or AS.300.398, but not both.

Instructor(s): N. Stahl

Area: Humanities

Writing Intensive.

**AS.300.636. Violence and Metaphysics.**
This seminar revisits the debate between Derrida and Lévinas about metaphysical, ethical, and political violence with a specific focus on the importance granted or denied to the animal life of humans. Cross-listed with Political Science.

**East Asian Studies**

**AS.310.214. Empire and Hierarchy in East Asia. 3 Credits.**
This course investigates the spectrum of unequal political authority in international politics. Empire, as one pole of hierarchical politics, persists in today’s multilateral, rule-based order. We will examine the theoretical foundations of hierarchy and empire in the study of international politics in East Asia. In addition, we will look at why empires arose at particular junctures, and contemporary directions in the debate on empire.

Instructor(s): J. Wang

Area: Humanities, Social and Behavioral Sciences

Writing Intensive.

**AS.310.215. Enlightenment, Empire, and Democracy: Transnational Political Cultures in East Asia, 1880-1980. 3 Credits.**
This course explores the global circulation of political ideas and the formation of transnational social, intellectual, and aesthetic movements in Japan, China, and Korea from the 1880s to the 1980s.

Instructor(s): A. Bronson

Area: Humanities, Social and Behavioral Sciences

Writing Intensive.
AS.310.305. Southeast Asia and US Security. 3 Credits.
This survey course is designed to introduce students to Southeast Asia -- the ten member countries of the Association of Southeast Asian Nations (ASEAN) plus Australia and New Zealand. Southeast Asia is an integral part of the broader region of East Asia and a geographic bridge to the Indian subcontinent (South Asia). Southeast Asia has been one of the great success stories in the saga of modernization and development of post-colonial Afro-Asia over the last six decades. Its resulting economic importance is matched by its strategic significance given the presence of imbedded jihadist networks and the emergence of China as a regional great power and aspirant superpower. Nevertheless, the region has been largely overlooked by senior foreign policy and defense officials in Washington. This course will equip students to fill that void by examining the region from the perspective of national security strategy -- broadly understood in its multiple dimensions. Students will be challenged to formulate some element of a viable U.S. national security strategy for the region.
Instructor(s): M. Ott
Area: Social and Behavioral Sciences.

AS.310.306. Domestic Politics of Contemporary China. 3 Credits.
This course introduces students to China’s contemporary political history and current political system. It helps students develop a critical understanding of China’s governance institutions and processes, political economy, and state-society relations. The course focuses primarily on China’s domestic politics but also covers China’s changing place in Asia and the world.
Instructor(s): Y. Yang
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.310.307. Governance and Politics in China. 3 Credits.
A dramatic rise of popular protests in China today has spurred lively discussions about the causes, dynamics, and impact of these protests. This course will provide students with an opportunity to understand these issues by discussing the social, institutional and cultural background of protests, major forms of protest, social groups involved, government responses, and social implications of various kinds of protests. The first part of the course will explore significant socio-economic changes since 1978 and the effects of these changes on China’s social structure and stratification. This part will also examine changes in governance and political systems in the reform era and review important theories of contentious politics. The second part will examine protests by distinct social groups, including peasants, workers, homeowners, and ethnic minority groups, pro-democratic activists, among others. This part will identify similarities and differences in the demands and actions of different groups, introduce the major forms of popular resistance, and explore how the state deals with them accordingly. The course will conclude with discussion of the outcomes of social protests in China and make a cross-national comparison between protests in China and other authoritarian states. By taking China as an example, this course will enhance students’ knowledge about forms of popular contention and government responses in an authoritarian regime as well as help students develop analytical and critical thinking skills with regard to contentious politics.
Instructor(s): Y. Li
Area: Social and Behavioral Sciences
Writing Intensive.

AS.310.334. Southeast Asia: Contestations, Continuities, Changes. 3 Credits.
‘Southeast Asia’ designates a geographical region comprised of countries such as Thailand, Indonesia, Malaysia, Vietnam, the Philippines, and Singapore. These countries are often more different than alike, and their cultural, ethnic, religious and political diversity resists easy reduction. As such, this is not a survey course of the area. Rather, we will examine elements of the Southeast Asian experience that speak to contemporary debates on cultural, political, and religious diversity in globalization’s second wave, and what it can teach us about assimilation, acculturation, and acceptance. We will try to get a feel of the variegated texture of Southeast Asian societies through historically and theoretically oriented texts drawn from different disciplines. Specifically, we will concentrate on responses to European colonialism, nationalist identity formations, and the impact of these histories upon contemporary contentions over the role of religion in public life, migratory practices, and second-wave globalization.
Instructor(s): D. Kwek.

AS.310.435. International Relations Theory and the Margins: The Case of East Asia. 3 Credits.
This course explores how the concept of international relations was introduced, challenged, and negotiated in East Asia. Implicitly comparative, the course illuminates the divergent understanding of familiar terms such as order, hierarchy, history, community, border/territoriality, and law, in light of the East Asian modernity. Students will be asked to reflect on questions of identity in relation to China, Korea and Japan and to ponder the extent to which those identities may be translated and understood to Western categories. Specifically this course will consider the role played by Sino-centrism, the rise of Japan later, and Westernization in shaping international relations in East Asia.
Instructor(s): H. Koyama
Writing Intensive.

AS.310.600. Advanced Topics in East Asian Studies.
This interdisciplinary seminar gives graduate students in East Asian Studies opportunities to present and receive comments on their dissertation chapters, prospectuses, conference papers, and/or potential publications.
Instructor(s): E. Chung
Area: Humanities, Social and Behavioral Sciences.
Interdepartmental

AS.360.247. Introduction to Social Policy: Baltimore and Beyond. 3 Credits.
How can we address pressing social problems, such as inner city poverty, inequality in educational attainment among children from different backgrounds, and disparities in access to health care? Social policy refers to the programs, legislation and governmental activities that regulate access to important social, financial and institutional resources needed by members of a society to address these concerns. Social policy also aims to reduce inequality, especially in the areas of education, health, income, housing, neighborhoods, and employment. The study of social policy is interdisciplinary, and this course will introduce students to the basic concepts in economics, political science, and sociology relevant to the study of social problems and the programs designed to remedy them. We will cover issues of national policy importance, as well as issues specifically affecting Baltimore City and the metropolitan region. This course is open to all students, but will be require d for the new Social Policy Minor. The course is also recommended for students who are interested in law school, medical school, programs in public health, and graduate school in related social science fields. Cross list with Sociology, Economics and Political Science. Freshman, Sophomore and Juniors only.
Instructor(s): A. Sheingate; B. Morgan; K. Edin
Area: Social and Behavioral Sciences
Writing Intensive.

AS.360.255. The Politics of Sexual Empowerment. 3 Credits.
This course will survey a range of political problems regarding sexual empowerment and disempowerment, in particular concerning feminism(s), rights within the family, sexual orientation, sex work, pornography, sex trafficking, and related topics. No previous political theory experience required. Cross-listed with Humanities Center Area: Humanities, Social and Behavioral Sciences

Program in Latin American Studies

AS.360.318. Cuba and U.S. Decision Making. 3 Credits.
This course consists of a series of case studies in US decision making related to Cuba from 1959 to the present, everything from the initial decision signed by Eisenhower to launch efforts to remove the Castro government (which led to the Bay of Pigs) to President Bush’s decision last May to launch new measures to remove the Castro regime. Cross-listed with Political Science Area: Humanities, Social and Behavioral Sciences.

AS.360.332. Third Wave Democracy in Latin America, 1980-2012. 3 Credits.
This course explores the social and political history of third wave democracy in Latin America over the last three decades, including “neopopulism,” “delegative democracy” and “participatory democracy” and will compare fledgling democracies of the 1980s, neoliberal governments of the 1990s and radical populist regimes of recent years, with a special emphasis on Argentina’s populist tradition. Writing intensive. Cross-list with International Studies and Political Science. Instructor(s): E. Cervone; S. Ellner
Area: Humanities, Social and Behavioral Sciences.

AS.361.341. Peronismo and the Iconic Presence of Evita: Challenges of Representation. 3 Credits.
This course is designed to introduce students to the literary and artistic production originated by Peronismo and particularly by Evita. It explores the historical period that consolidated Peronismo and devotes great amount of time to the controversial figure of Evita. She has fed the popular imagination; her representations have reached far beyond the limits of Argentina. The materials will include different genres: biographical, historical, fictional, and documentary.

AS.361.402. The Left Turn in Latin America: Causes, Consequences and Challenges. 3 Credits.
The return of the Left to power throughout Latin America is an example of unexpected political change. In this course we examine the causes, consequences, and challenges of the on-going ‘Left Turn.’ It starts by addressing the historical foundations of the Left and then examines different literature that attempts to account for this shift and assess the trajectory of the current Leftist governments. Area: Humanities, Social and Behavioral Sciences Writing Intensive.

Center for Africana Studies

AS.362.175. Freshman Seminar: Remembering the Black Power Movement. 3 Credits.
This course critically examines trends, developments, contradictions, and dilemmas related to the Black Power Movement for black identity and self-determination in the late 1960s and 1970s. Instructor(s): F. Hayes
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.340. Power and Racism. 3 Credits.
This course investigates the impact of white supremacy and anti-black racism, as a global system of power, on the political development of the United States of America. Instructor(s): F. Hayes
Area: Social and Behavioral Sciences
Writing Intensive.

AS.362.344. Education Politics in Urban America. 3 Credits.
This seminar analyzes trends, developments, and future challenges related to the politics of urban public schooling with a concentration on community political dynamics and the struggle for equal educational opportunity and quality education. The course emphasizes the impact of socioeconomic class inequality, racial/ethnic conflict, and gender politics on the changing character of public school reform since the 1954 Supreme Court decision of Brown v. Board of Education. Cross-listed with Africana Studies. Instructor(s): F. Hayes
Area: Social and Behavioral Sciences
Writing Intensive.
**AS.362.355. The Obama's: Race and Politics in Comparative Perspective. 3 Credits.**

This course will compare racial politics in the United States and Brazil by examining issues such as race, religion, and political behavior that arose during Barack Obama's political campaign and time in office. What are racial politics? How are they different in Brazil and the United States? Why was Michelle Obama's skin complexion an issue important to African-descended women in the United States and Brazil? Does the election of an African-descended president mean there are no racial problems in the United States? Have white racial attitudes dramatically changed? Although Brazil historically touted itself as a racial democracy, why have they never elected and African descended president in a country where African-descended people now outnumber whites? Does blackness carry global currency to such an extent that it explains why five Brazilian politicians changed their names to Barack Obama when running for office? Students will learn about political opinion and behavior and racial identification in two different countries while considering these issues in a contemporary context.

Instructor(s): G. Mitchell

Writing Intensive.

**AS.362.357. Black Existential Thought. 3 Credits.**

Black existentialism is a branch of Africana philosophy—the philosophical tendencies that arose out of the experience of the African Diaspora. This course is a philosophical interrogation into the meaning of the lived experience of being black in the context of an anti-black world through addressing such existential questions as freedom, identity, anguish, dread, responsibility, embodied agency, evil, resentment, liberation, and nihilism.

Instructor(s): F. Hayes

Writing Intensive.

**AS.362.412. Black Political Thought and the Enlightenment. 3 Credits.**

This course examines how modern black political thought emerged through a series of critical engagements with Enlightenment ideas about universalism, progress, the authority of reason, and the foundations of citizenship. Course readings include texts by W. E. B. Du Bois, Paul Gilroy, Cornel West, Frantz Fanon, C. L. R. James, and others.

Instructor(s): A. Culver

Writing Intensive.

**AS.362.416. Black Nationalism and its Critics. 3 Credits.**

This seminar will pursue an in-depth, critical analysis of the history and philosophy of black nationalism and its relationship to other trends in black political thought. Readings from Alexander Crummell, Martin Delany, Frederick Douglass, W. E. B. DuBois, Marcus Garvey, Malcolm X, James Baldwin, and others.

Instructor(s): A. Culver

Area: Humanities, Social and Behavioral Sciences.

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**Psychological and Brain Sciences**

Psychological and Brain Sciences are concerned with understanding the biological and psychological processes underlying animal and human behavior, and with the effects of environmental influences on behavior at all stages of development.

The undergraduate program leading to the baccalaureate degree is intended to provide students with a sound background in psychological and brain sciences and, at the same time, to prepare them for advanced study.

The program for doctoral students in psychological and brain sciences is scientifically oriented and emphasizes research methodology. The broad aims of the graduate program are to train students to become scientists rather than practitioners, and to provide them with the knowledge and skills they need to help solve the problems of contemporary society.

**Facilities**

The department's offices and laboratories contain dozens of desktop computers (PCs and Macintoshes) and UNIX workstations used for experimental control and for computational studies, simulation, data analysis, and manuscript preparation.

The F. M. Kirby Research Center for Functional Brain Imaging houses 3.0T and 7.0T Philips research-directed MRI scanners for fMRI studies of human perception, memory, and cognition.

The cognitive psychology and cognitive neuroscience laboratories contain a wide range of computer equipment and special-purpose research equipment, including image-processing and large-format graphics systems, eye-movement monitors, speech recognition and analysis systems, stereoscopic graphic systems, video equipment, and other stimulus-presentation and response-collection devices.

The biopsychology laboratories have all the facilities necessary to conduct modern behavioral neuroscience research, including equipment for behavioral and operant testing, electrophysiology, histology, surgery, neurochemistry, and systems for the analysis and synthesis of audio signals.

The courses in psychological and brain sciences have four purposes:

1. to acquaint all interested students with a sampling of topics through a variety of introductory and advanced courses;
2. to prepare majors for graduate work in psychology and related disciplines through a program that meets the admission requirements of the outstanding graduate departments in the United States;
3. to offer a distribution of courses for a minor concentration in psychology as well as several fields of concentration for area majors in the social and behavioral sciences; and
4. to provide an honors track designed for exceptional students who want training beyond that provided by the standard undergraduate curriculum.

**Psychology Major Requirements**

Also see Requirements for a Bachelor's Degree. (p. 24)

**General Requirement:**

All classes taken for the major (including those for NQE credit) must be taken for a grade and be completed with a C- or better.

**Specific Requirements:**

- **Intro Level Course Requirement:** Three 100-level psychology courses. These are typically taken during Year 1 and Year 2.
- **Math/Science Requirement:** Calculus 1 or Linear Algebra, Statistics 1, Statistics 2, and Research Methods. Calculus is usually taken in Year 1, Stats 1 & 2 in Year 2, and Research Methods in fall of either Year 3 or Year 4.
**Upper Level Course Requirement:** Five upper level psychology courses (200- or 300-level), three of which have to be at the 300-level. These are typically dispersed through Years 2-4.

**Small Group Experience:** 3 credits of either research, internship, independent study or an additional 300-level psychology course with an enrollment cap of 19 students or less. Students who are interested in graduate work in psychology are encouraged to get involved in research/internship activity starting in Year 2 and to continue throughout their time at Hopkins.

**9 NQE Credits:** Students must complete 9 additional NQE credits using courses not taught within the psychology department (AS.200.XXX) and not counting otherwise toward the psychology major (e.g., AS.110.106 Calculus I, AS.110.108 Calculus I, EN.550.111 Statistical Analysis I, EN.550.112 Statistical Analysis II, etc.).

Please note that not all courses offered by the Department of Psychological & Brain Sciences (AS.200.XXX) will fulfill the requirements of the Psychology Major/Minor (ex. AS.200.220 Discover Hopkins Health Studies: Application of Abnormal Psychology to Forensic Cases). Refer carefully to the academic major and minor requirements provided by the Office of Undergraduate Academic Advising (http://www.advising.jhu.edu/majorsminors.php#P) and consult with your advisors to ensure appropriate progress toward degree completion.

### I. Required Courses Outside the Department

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.106</td>
<td>Calculus I</td>
<td>3</td>
</tr>
<tr>
<td>AS.110.108</td>
<td>Calculus I</td>
<td>3</td>
</tr>
<tr>
<td>AS.110.201</td>
<td>Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.111</td>
<td>Statistical Analysis I</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.112</td>
<td>Statistical Analysis II</td>
<td>4</td>
</tr>
</tbody>
</table>

Nine credits of additional N, Q, or E courses *** 9

- **AS.110.105** Introduction to Calculus may not be used for this requirement.
- **These courses should be taken as early as possible as they are prerequisites for many psychology courses.**
- **Courses instructed within the psychology department (AS.200.XXX) or counting toward the Psychology major may not be used for this requirement.**

### II. Required Courses Within the Department

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.200.207</td>
<td>Research Methods in Experimental Psychology (Fall Offering)</td>
<td>3</td>
</tr>
</tbody>
</table>

Select three of the following: 9

- AS.200.101 Introduction to Psychology
- AS.200.106 Introduction to Clinical Psychology
- AS.200.110 Introduction to Cognitive Psychology
- AS.200.132 Introduction to Developmental Psychology
- AS.200.133 Introduction to Social Psychology
- AS.200.141 Foundations of Brain, Behavior and Cognition

Research, internship, independent study, or a designated seminar course * 3

Five additional psychology courses distributed as follows: ** 15

Two additional courses at the 200-400 level

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
</table>

Three additional courses at the 300-400 level

- **The seminar course must have a maximum enrollment of 19 students. Courses used to fulfill the five upper-level course requirements may not be used to satisfy this requirement. Students may take 1-3 credits in any given semester to fulfill this requirement. All students are required to discuss their plans with their faculty advisor before junior clearance.**
- **One upper level course in Cognitive Science may be used to satisfy these course credits with the approval of the director of undergraduate studies. Research, independent study, and internships may not be used to satisfy these course requirements.**
- **Students who are planning advanced study in psychological and brain sciences are strongly encouraged to engage in psychological research and/or clinical internships.**

### III. Sample Program

A typical path toward degree completion might include the following sequence of courses:

<table>
<thead>
<tr>
<th>Freshman Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.200.101 Introduction to Psychology (or another 100-level Psychology course)</td>
<td>3</td>
</tr>
<tr>
<td>AS.200.133 Introduction to Social Psychology (or another 100-level Psychology course)</td>
<td>3</td>
</tr>
<tr>
<td>AS.110.106 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>Electives to fulfill degree requirements</td>
<td>9</td>
</tr>
</tbody>
</table>

**Credits** 16

<table>
<thead>
<tr>
<th>Sophomore Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.550.111 Statistical Analysis I</td>
<td>4</td>
</tr>
<tr>
<td>AS.200.141 Foundations of Brain, Behavior and Cognition (or another 100-level Psychology course)</td>
<td>3</td>
</tr>
<tr>
<td>Select three of the following: 9</td>
<td></td>
</tr>
<tr>
<td>Electives to fulfill degree requirements</td>
<td>6</td>
</tr>
</tbody>
</table>

**Credits** 15

<table>
<thead>
<tr>
<th>Freshman Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.200.132 Introduction to Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>AS.200.133 Introduction to Social Psychology</td>
<td>3</td>
</tr>
<tr>
<td>AS.200.141 Foundations of Brain, Behavior and Cognition</td>
<td>3</td>
</tr>
<tr>
<td>Electives to fulfill degree requirements</td>
<td>9</td>
</tr>
</tbody>
</table>

**Credits** 16

<table>
<thead>
<tr>
<th>Sophomore Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.550.112 Statistical Analysis II</td>
<td>4</td>
</tr>
<tr>
<td>AS.200.222 Positive Psychology (or another 200- or 300-level Psychology course)</td>
<td>3</td>
</tr>
<tr>
<td>Electives to fulfill degree requirements</td>
<td>6</td>
</tr>
</tbody>
</table>

**Credits** 16

**NQE elective for major** 3
Preparation for Graduate Work in Psychology

The Department of Psychological and Brain Sciences provides preparation for graduate training in all areas of psychology, including clinical and counseling. Virtually all psychology graduate programs, including those that provide training in clinical or counseling psychology, expect students to have a strong background in scientific psychology, including statistics. The department encourages students to obtain additional practical experiences outside the classroom, including research in a laboratory and/or an internship in a mental health care setting. These additional experiences are particularly salient to graduate school admission committees.

Honors Program in Psychology

The B.A. degree with honors provides recognition for outstanding achievement in formal course work and research. The requirements for a degree with honors include those for the regular B.A. degree, plus the following:

- A minimum grade point average of 3.5 in psychology courses (exclusive of independent study or research) through the fall semester of the student’s junior year.
- A formal application to be submitted to the director of undergraduate studies by March 31 of the student’s junior year. The application must include a copy of the student’s transcript, a brief description of the proposed honors research project, and written endorsement of the application by the student’s faculty sponsor. The sponsor must have a full-time faculty appointment at Johns Hopkins and either a primary or a joint appointment in the Department of Psychological and Brain Sciences. Admission into the Honors Program is not guaranteed.
- Completion of two 300- or 600-level psychology courses, in addition to those required for the regular B.A. degree. Neither of these can be research or reading courses. These additional courses are not in addition to the 120 credits required for graduation.
- Completion of an independent research project under the supervision of a member of the department’s faculty, culminating in a written honors thesis. The student will enroll in AS.200.519 Seniors Honors Research and AS.200.520 Seniors Honors Research during both semesters of the senior year. The honors thesis must be submitted no later than March 31 of the senior year and must be read and approved in writing by two members of the faculty.
- Students considering application to the honors program should begin discussing possible thesis research topics with a faculty sponsor no later than the fall semester of their junior year.

Minor in Psychology

A minor in psychology is available to undergraduates majoring in any department. Students electing to minor in psychology should declare their intention directly to the director of undergraduate studies in the Department of Psychological and Brain Sciences by the end of junior year. All classes taken for the minor must be taken for a grade and be completed with a C- or better. The minor requires successful completion of the following:

Select three of the following:

- AS.200.101 Introduction to Psychology
- AS.200.110 Introduction to Cognitive Psychology
or AS.050.101 Cognition
AS.200.132 Introduction to Developmental Psychology
AS.200.133 Introduction to Social Psychology
AS.200.141 Foundations of Brain, Behavior and Cognition

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>One psychology course at any level</td>
<td>3</td>
</tr>
<tr>
<td>Two psychology courses at the 300-600 level</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
<td>18</td>
</tr>
</tbody>
</table>

* No course from the Carey Business School or School of Education may count toward the minor.
** No more than one research or readings course may count toward the minor.

**Undergraduate Academic Awards**

The Department of Psychological and Brain Sciences offers two undergraduate academic awards. The G. Stanley Hall Prize is awarded for outstanding achievement by an undergraduate in psychology. The Julian C. Stanley Award is given to the psychology major who most closely approximates Dr. Stanley’s personal and professional standards of excellence.

**Master of Arts in Psychology**

A student who has been admitted into the Ph.D. program can earn a Master of Arts degree in partial fulfillment of the requirements for the Ph.D. degree. Normally, candidates for the Ph.D. degree in psychology will qualify for the M.A. degree at the end of their second year, after having completed two area seminars and at least two courses in psychological research design and/or advanced statistics, provided that their performance is of the quality judged satisfactory for the M.A. level. There is no terminal master’s program.

**Requirements for the Ph.D. Degree**

The Department of Psychological and Brain Sciences emphasizes training and experience in the research methods essential to the development of new knowledge in the various fields of psychology. The core program for training doctoral students emphasizes scientific methodology and provides training in both pure research and research related to problems in the everyday world, with emphasis on the ways in which basic research methodology can be adapted to the study of applied problems. Each doctoral candidate is expected to become familiar with both a relatively narrowly defined area and a broad spectrum of knowledge related to the student’s topic of specialization.

In addition to general university requirements, the Department of Psychological and Brain Sciences has the following regulations:

**Statistics**

Most students will take AS.200.314 Advanced Statistical Methods during the first semester and AS.200.318 Quantitative Methods for Brain Sciences during the second semester. Students with exceptional statistical training should take two more advanced courses by arrangement with the director of graduate studies.

**Fundamentals and Core Topics in PBS**

AS.200.613 Fundamentals of Psychological & Brain Sciences, AS.200.654 Psychological & Brain Sciences Core Topics A, and AS.200.655 Psychological & Brain Sciences Core Topics B will offer an introduction to the fundamental principles of cognitive and physiological psychology and psychological and brain sciences. Students will read seminal and contemporary papers in topics that cover the breadth of the field.

**First-Year Research Report**

During the first year, the student, together with the faculty advisor, chooses a research project that will provide extended research experience. Normally, the student designs a study as a larger ongoing project. A project proposal must be submitted by April 15 of the first year; this presents the nature of the problem, reviews the relevant literature, and describes the study in detail, together with the anticipated data, means of analysis, and interpretations. A final report must be submitted by December 15 of the second year; this includes all the information appropriate for published work.

**Advanced Examination**

Each student must pass an in-depth examination in his/her chosen area. This examination which includes both a written and oral part, is graded by a committee of at least two faculty members. The student must pass the advanced examination by the beginning of the third year.

**Advanced Study**

Each student with a faculty advisor plans a course of study consisting of intermediate and advanced topical and research seminars.

**Topical Seminars**

One or more faculty members lead seminars on topics of special interest, such as cognitive processes, developmental psycholinguistics, neuro-physiological aspects of behavior, mathematical psychology, and information processing. Through these seminars a student gets intensive knowledge in particular specialties. Topics vary from semester to semester and are determined by the interests of both faculty and graduate students.

**Research Seminars**

Students and faculty engaged or interested in research in particular areas organize these seminars. Participants discuss their own research and other current research in the area.

**Teaching Requirement**

Teaching requirements are fulfilled by graduate students serving as teaching assistants to members of the department’s faculty, in courses taught in the School of Arts and Sciences. All graduate students are expected to TA a total of four semesters, as follows: second semester-first year students; first and second semester-second year students; first semester-third year students. A committee composed of graduate student representatives participates each semester in the selection of teaching assignments.

Advanced students may apply for a Dean’s Teaching Fellowship. A course is proposed by the student and is sponsored by a faculty member. These are highly competitive and prestigious awards. For details please visit http://krieger.jhu.edu/teachingfellowship/.

**Literature Review**

The literature review should be modeled on articles appearing in professional journals. Ordinarily the review provides a background for the thesis plan, but it may be prepared on a topic other than the one
selected for the thesis. It is a separate document and is evaluated by the same committee that evaluates the thesis plan.

**Thesis Plan**

By the end of the third year or at least one calendar year before receiving the Ph.D. degree, each doctoral candidate must develop a plan for the dissertation research and present the plan before a departmental committee. With the committee’s approval, the student then prepares a dissertation.

**Dissertation**

The dissertation represents the student’s finest piece of scholarly work. It establishes the pattern for a research career and the basis for postgraduate employment. The Graduate Board of the University administers the final oral examination, a defense of the thesis. The doctoral dissertation must be in a form suitable for and worthy of publication.

**Financial Aid**

Financial support packages are available to all doctoral students, with 9-month stipends that are competitive with those of other universities. Financial support includes tuition remission. Summer research assistantships are available in the department.

For further information on graduate study in psychology, contact Academic Program Coordinator, Laura Dalrymple, Department of Psychological and Brain Sciences, 410-516-6175.

For current faculty and contact information go to http://pbs.jhu.edu/directory/

**Faculty**

**Chair**

Susan Courtney
Professor: cognitive neuroscience, working memory, attention, and functional neuroimaging.

**Professors**

Gregory F. Ball
biopsychology, behavioral neuroendocrinology, neuroethology.

Howard Egeth
perception, memory, cognition, psychology and law.

Lisa Feigenson
cognitive development, numerical cognition.

Michela Gallagher
learning and memory, neurobiology of aging.

Justin Halberda
cognitive development, reasoning, language acquisition.

Peter Holland
learning, memory, motivation, behavioral ecology.

Patricia Janak
behavioral and neurobiological mechanisms of associative learning.

Cynthia Moss
auditory information processing, spatial perception, memory and sensorimotor integration.

Steven Yantis
visual perception, attention, and functional neuroimaging.

**Assistant Professors**

Marina Bedny
brain development and plasticity, cognitive neuroscience, concepts.

Jonathan Flombaum
visual perception, attention and cognition.

Shreesh Mysore
neural circuits for selection, computational neuroscience.

Veit Stuphorn
neurophysiological studies of decision-making.

**Associate Faculty**

Hita Adwanikar
Lecturer: neuroscience.

Richard Allen
Associate Professor: (Neurology); School of Medicine.

Stephen Drigotas
Teaching Professor and Undergraduate Advisor: social psychology.

David H. Edwin
Associate Professor (Medical Psychology; School of Medicine): clinical and medical psychology.

Heather Roberts Fox
Lecturer: industrial/organizational psychology.

Linda Gorman
Teaching Professor: neuroscience.

Paul J. Hofer
Adjunct Associate Professor (U.S. Sentencing Commission, Washington, D.C.): law and psychology.

Ann Jarema
Junior Lecturer: clinical psychology.

Chris Kraft
Psychologist and Instructor, Psychiatry and Behavioral Sciences (Johns Hopkins Center for Marital and Sexual Health).

Meghan McGlaughlin
Junior Lecturer: clinical psychology.

Aaron R. Noonberg
Adjunct Assistant Professor (Clinical Practice): forensic psychology, neuropsychology, and behavioral medicine.

Alison Papadakis
Lecturer: developmental psychopathology of depression in adolescence.

Herbert Petri
Adjunct Professor (Department of Psychology, Towson University): motivational processes, neuropsychology of memory.

Lawrence Raifman
Adjunct Assistant Professor (Private Practice and Director of Forensic Services, Springfield Hospital Center): clinical applications of psychology and the law, behavioral finance.

**Joint Faculty**

Marilyn Albert  
Professor and Director at Division of Cognitive Neuroscience; School of Medicine: aging, cognition, memory.

Arnold Bakker  
Assistant Professor (School of Medicine Psychiatry): psychiatric neuroimaging.

Charles Connor  
Professor and Director of the Mind/Brain Institute: neurophysiology of visual perception and object recognition.

Barry Gordon  
Professor (Therapeutic Cognitive Neuroscience, Neurology & Cognitive Science); Dir. (Cognitive Neurology/Neuropsychology): language disorders, memory disorders, severe organic amnesia, focal amnesia, retrograde amnesia.

Steven Gross  
Associate Professor (Philosophy): philosophy of language, philosophy of mind, metaphysics.

Stewart Hendry  
Professor (Mind/Brain Institute): primate functional neuroanatomy.

Rudiger Von Der Heydt  
Professor (Mind/Brain Institute): perceptual organization in visual cortex.

Steven Hsiao  
Professor (Mind/Brain Institute): neurophysiology of tactile shape and texture perception.

Alfredo Kirkwood  
Associate Professor (Mind/Brain Institute): mechanisms of cortical modification.

James Knierim  
Associate Professor (Mind/Brain Institute): behavioral neurophysiology of the hippocampal formation.

Barbara Landau  
Dick and Lydia Todd Faculty Development Professor and Chair (Cognitive Science): language acquisition, cognitive development, spatial representation, acquisition of the lexicon.

Michael E. McCloskey  
Professor (Cognitive Science): language, memory, cognitive processes.

Guy McKhann  
Professor (Mind/Brain Institute): neurological and cognitive outcomes after coronary artery bypass surgery.

Ernst Niebur  
Associate Professor (Mind/Brain Institute): computational neuroscience.

Brenda Rapp  
Professor (Cognitive Science): cognitive neuropsychology, attention, reading and writing.

Senior Investigative Chief (National Institute on Aging, Bayview).

**Professor Emeritus**

Bert F. Green Jr.  
psychological measurement, quantitative methods, and computer methods.

For current course information and registration go to https://isis.jhu.edu/classes/

**Courses**

**AS.200.101. Introduction to Psychology. 3 Credits.**  
This course surveys all the major areas of scientific psychology, including the physiological bases of behavior; sensation and perception; learning, memory and cognition; developmental, social, and personality psychology; and psychopathology. 
Instructor(s): S. Drigotas  
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.200.106. Introduction to Clinical Psychology. 3 Credits.**  
This is a survey of the education and training requirements of mental health professionals; fundamentals of abnormal psychology; clinical diagnosis, assessment, and interventions; and professional activities of clinical/counseling/school psychologists. This course is meant as a precursor to AS.200.212, AS.200.313, and AS.200.328.  
Area: Social and Behavioral Sciences.

**AS.200.110. Introduction to Cognitive Psychology. 3 Credits.**  
Introductory survey of current research and theory on topics in cognitive psychology. The course will cover a range of topics in perception, attention, learning, reasoning, and memory, emphasizing relationships among mind, brain, and behavior.  
Instructor(s): J. Flombaum  
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.200.126. Mini-Term: Origins of Social Cognition. 1 Credit.**  
Infants are remarkably social creatures, even from birth. This course will review and synthesize findings in the emerging field of social cognitive development. Topics include infants’ recognition of social agents, understanding others’ intentions, production of helping behavior, development of moral reasoning, etc. The ultimate goal of this course is to understand the development of social knowledge and behavior, focusing on the first two years of life.  
Instructor(s): A. Stahl  
Area: Social and Behavioral Sciences.

**AS.200.132. Introduction to Developmental Psychology. 3 Credits.**  
An introductory survey of human development from the prenatal period through adolescence. The developing child is examined in terms of cognitive, social, emotional, motor, and language development.  
Instructor(s): L. Feigenson  
Area: Social and Behavioral Sciences.

**AS.200.133. Introduction to Social Psychology. 3 Credits.**  
An introductory survey of social psychology. Topics include social perception, social cognition, attitudes, prejudice, attraction, social influence, altruism, aggression, and group behavior.  
Instructor(s): S. Drigotas  
Area: Social and Behavioral Sciences.
AS.200.141. Foundations of Brain, Behavior and Cognition. 3 Credits.
Formerly listed as Introduction to Physiopsychology. A survey of neuropsychology relating the organization of behavior to the integrative action of the nervous system. Cross-listed with Behavioral Biology and Neuroscience.
Instructor(s): L. Gorman
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.159. Evolutionary Psychology. 1 Credit.
In this course we discuss evolutionary psychology, which is the idea that the mind can be understood as an adaptation to our ancestral environment by means of natural selection. Freshmen only.
Instructor(s): H. Egeth
Area: Social and Behavioral Sciences.

AS.200.161. Illusions, delusions, and other confusions: Why what you think you know about human nature is (largely) wrong. 1 Credit.
This course is suitable for all, but would be especially useful for a student who does not expect to take many (or any) additional psychology or cognitive science courses. We will explore what modern psychology has uncovered about how our intuitions concerning human nature deceive us. Freshmen Only.
Instructor(s): H. Egeth
Area: Social and Behavioral Sciences.

AS.200.162. Childhood Disorders & Treatments: Online. 3 Credits.
This is an online course. The class will meet for ten weeks from May 27 to August 1 and will follow the deadlines for Term I for add/drop/withdraw and grade changes. This course examines the psychological disorders that are usually first diagnosed prior to adulthood. Some of the specific disorders that will be discussed are Attention-Deficit and Disruptive Behavior Disorders, Pervasive Developmental Disorders, Learning Disorders and Mental Retardation. Students will become familiar with various diagnoses, etiologies, and methods of treatment.
Instructor(s): A. Jarema
Area: Social and Behavioral Sciences.

AS.200.163. Gamechangers: Conceptual Breakthroughs in Neuroscience. 3 Credits.
Freshman Seminar; This introductory class will highlight some of the key findings in neuroscience over the past century and a half that have revolutionized our understanding of how the brain works. The goal is to convey both the essence of, and the excitement surrounding, neuroscience breakthroughs that caused paradigm-shifts. We will also look at recent neuroscience-related headlines in popular media and unpack them from a scientific perspective. Topics covered will include "Is the brain just one big lump of tissue?", "Telephones in the brain?", "The frog with upside-down vision", "Brains vs. hard-drives", "Monkey see=monkey do neurons", Epigenetics, "Changing the brain’s wiring diagram", "Do ants have GPS?", The science behind the movie 'Memento', "Implanting false memories into brains", "My brain sees you, but I don't", etc. For each big question, we will first examine the thinking that previously existed, and then explore the shift in thinking.
Instructor(s): S. Mysore
Area: Natural Sciences.

AS.200.204. Human Sexuality. 3 Credits.
Course focuses on sexual development, sexuality across the lifespan, gender identity, sexual attraction and arousal, sexually transmitted disease, and the history of commercial sex workers and pornography. Juniors and seniors only within the following majors/minors: Behavioral Biology, Biology, Neuroscience, Psychological & Brain Sciences, Public Health, and the Study of Women, Gender, & Sexuality. All registration will be done during the normal registration period and you must meet all requirements to register. Formerly taught as AS.200.302.
Instructor(s): A. Jarema; C. Kraft
Area: Social and Behavioral Sciences
Writing Intensive.

AS.200.206. Foundations of Mind. 4 Credits.
An interdisciplinary investigation into the innateness of concepts: perception, number, language, and morality, physics discussed. Evidence from animals, infants, patients, brains. Students collect data in sections investigating claims from the readings. Cross-listed with Cognitive Science and Philosophy.
Area: Social and Behavioral Sciences.

AS.200.207. Research Methods in Experimental Psychology. 3 Credits.
Formerly known as Lab in the Analysis of Psychological Data (LAPD), this course is an overview of research methods used in psychology, experimental designs, interpreting results in psychology, and research ethics. Each student will complete an individual research project on a topic of his/her choosing as part of the course training. The class is taught interactively through lectures and labs.
Prerequisites: EN.550.111 (Statistical Analysis I) or EN.550.112 (Statistical Analysis II)
Instructor(s): H. Egeth
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences
Writing Intensive.

AS.200.208. Animal Behavior. 3 Credits.
Examines basic principles of animal behavior (orientation, migration, communication, reproduction, parent-offspring relations, ontogeny of behavior and social organization). Evolution and adaptive significance of behavior will be emphasized.
Instructor(s): F. Madison; G. Ball
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.209. Personality Theory. 3 Credits.
An overview of the major theories of personality with their empirical bases and applications.
Area: Social and Behavioral Sciences.

AS.200.211. Sensation & Perception. 3 Credits.
A survey of the psychological and neurophysiological basis of seeing, hearing, touching, tasting, and smelling.
Instructor(s): M. Kibbe; S. Hendry; S. Yantis
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.212. Abnormal Psychology. 3 Credits.
A survey of the major syndromes of psychological disorders. Research and theory about the mechanisms, development, and diagnosis of psychopathology are emphasized.
Instructor(s): A. Noonberg
Area: Social and Behavioral Sciences.
AS.200.214. Brain Myths: Folk Psychology. 3 Credits.
This course examines popular “facts” about the brain and cognition, exploring the origins, how they are perpetuated in the media, and the empirical data that support or refute the claims. Recommended Course Background: One previous course in psychology or neuroscience. Area: Natural Sciences, Social and Behavioral Sciences Writing Intensive.

AS.200.216. Predictions Markets and the Wisdom of Crowds. 3 Credits.
Predictions markets and the wisdom of crowds: How cognitive psychology and behavior economics research inform forecasting & policy decisions. Dependent upon the collective wisdom of markets, prediction markets have risen from relative obscurity to relevance in a short time. Today, many regard these markets as the best forecasting tool available. This course looks at the mechanics of predictions markets, their history, and current application to electoral politics, policy decisions, and corporate finance. Finally, the consequence decision anomalies in prediction markets and regulatory reforms considered in hopes of developing deeper, more robust markets. Area: Social and Behavioral Sciences.

AS.200.217. Psychology and Film: Perception of Mental Illness and Popular Cinema. 3 Credits.
In this course, we will discuss the influence of social beliefs, as well as the ethical and moral codes on the perception of mental illness. We will view this societal perception through the lens of film, with a particular focus on how mental illness has been portrayed in popular cinema throughout the 20th and 21st centuries. The class will not only explore how cinema reflects societal views, but also, how cinema informs those views.
Instructor(s): J. Dunn
Area: Social and Behavioral Sciences.

AS.200.220. Discover Hopkins Health Studies: Application of Abnormal Psychology to Forensic Cases. 1 Credit.
This introductory course will examine the basic diagnostic psychology principles with special application to forensic psychology. The class will focus on investigating forensic psychology queries including: Does my client have a mental illness? Why did he or she act in such a self-defeating way? Does the law require special disposition? Should my client be punished or rehabilitated? We will explore the reasons behind why a movie star would shoplift or a famous athlete would engage in a series of extra marital relationships; why a policeman would commit a series of bank robberies in broad daylight; or why someone would shoot a Congresswoman and kill and wound many others in the process.
Instructor(s): L. Raffman; L. Williams; S. Kingsland
Area: Social and Behavioral Sciences.

AS.200.222. Positive Psychology. 3 Credits.
The course will review the growing field of positive psychology and will review the research on positive human attributes such as optimism, happiness, hope, resiliency, self-esteem, altruism, empathy, and forgiveness. This course will explore the research on how such positive attributes are developed and how they relate to psychological and physical well-being.
Instructor(s): J. Halberda
Area: Social and Behavioral Sciences.

AS.200.301. History Of Psychology. 3 Credits.
A survey of leading figures, schools, and systems in the history of psychology. The course will emphasize the development of experimental psychology in late 19th century Germany and its establishment in America at Johns Hopkins, Harvard, Chicago, and Columbia. Special topics will include the development of clinical and applied psychology and psychological testing. Juniors and seniors only. Recommended Course Background: two prior Psychology courses.
Instructor(s): P. Hofer
Area: Humanities, Social and Behavioral Sciences.

AS.200.303. Developmental Learning Disabilities. 3 Credits.
Area: Natural Sciences, Social and Behavioral Sciences Writing Intensive.

AS.200.304. Neuroscience of Decision Making. 3 Credits.
This course will survey the neural mechanisms of decision-making. Current experimental research and theory concerning selection, control, and evaluation of actions are examined in humans and animals. Topics will range from simple perceptual judgements to complex social behavior. The course involves a weekly lecture about a specific topic followed by a student presentation of a current research paper. Cross-listed with Neuroscience
Prerequisites: AS.080.305 OR AS.080.205 OR AS.200.141
Instructor(s): V. Stuphorn
Area: Natural Sciences.

AS.200.306. Psychology in the Workplace. 3 Credits.
Industrial-organizational (I-O) psychology is the scientific study of the workplace. Rigor and methods of psychology are applied to issues of critical relevance to business, including talent management, coaching, assessment, selection, training, organizational development, performance, and work-life balance.
Instructor(s): H. Roberts Fox
Area: Social and Behavioral Sciences.

AS.200.307. Clinical Psychology. 3 Credits.
This course is a survey of the field of clinical psychology. Accordingly, the primary objectives of the course are: (1) to familiarize students with the history of clinical psychology as a field, including the roles in which clinical psychologists serve and settings in which they work, as well as “hot topics” of current debate in the field; (2) to orient students to the range of theoretical orientations which guide how clinical psychologists approach their work, including assessment, prevention/intervention, and research; (3) to highlight controversies in assessment and treatment as well as emphasize critical thinking in clinical psychology; and (4) to clarify students’ interests and goals within the mental health field, generally, and clinical psychology, in particular, including client populations and research questions of interest to individual students.
Prerequisites: AS.200.101 AND AS.200.212
Instructor(s): J. Neemann.

AS.200.308. Neurobiology of Learning and Memory. 3 Credits.
This course is an advanced survey of the scientific study of learning and memory. An interdisciplinary approach is used to integrate the state of the field across levels from the cellular-molecular basis of synaptic plasticity to functional circuitry implicated in learning to memory systems in the brain. The course is designed to provide a deep understanding of the outstanding issues and current debates in learning and memory research with a specific emphasis on animal models. This is an interactive lecture/seminar course with active student participation. Recommended Course Background: AS.200.370 or AS.200.141 or AS.080.305/AS.080.306 or AS.020.306.
Instructor(s): M. Yassa
Area: Natural Sciences, Social and Behavioral Sciences.
AS.200.309. Evolutionary Mechanisms of Human Behavior. 3 Credits.
This course examines the evolution of human adaptive behaviors. In particular it examines evolutionary contributions to behaviors concerned with problems of survival such as mating strategies, parenting, and group living. Recommended Course Background: AS.200.101
Instructor(s): H. Petri
Area: Social and Behavioral Sciences.

AS.200.310. Neural Basis of Cognitive Control. 3 Credits.
This course examines the neural basis of “cognitive control”. What is happening in our brains that enables control our thoughts and behavior? What does it mean neurologically when we say someone has “lost control”? What contributions do the neural processes of attention, memory, habits and emotions make? This is a very active area of current research, and this upper-level seminar will make broad use of the primary cognitive and systems neuroscience literature.
Prerequisites: AS.080.203 OR AS.050.203 OR AS.200.141 OR AS.200.305
Instructor(s): S. Courtney-Faruque
Area: Natural Sciences
Writing Intensive.

AS.200.312. Imaging the Human Mind. 3 Credits.
Prerequisites: EN.550.111 AND (AS.080.203 OR AS.050.203)
Instructor(s): S. Courtney-Faruque
Area: Natural Sciences, Social and Behavioral Sciences
Writing Intensive.

AS.200.313. Advanced Personality. 3 Credits.
This is an advanced intensive writing and discussion course requiring original library research. Topics include the structure of affect/mood; the five-factor model; the person-situation debate; the idiographic/nomothetic debate; stability and change in personality over time; evolution, genetics, and biology of personality; effects of culture and geography on personality; intelligence and genius; the self and personal narratives; implicit motives and the dynamic unconscious; and self-regulation and psychopathology. Open to juniors or seniors. Recommended Course Background: two semesters of statistics and either AS.200.132 or AS.200.133. Those earning credit for AS.200.327 cannot also earn credit for AS.200.313.
Prerequisites: AS.200.132 OR AS.200.133
Area: Social and Behavioral Sciences
Writing Intensive.

AS.200.314. Advanced Statistical Methods. 3 Credits.
Topics in applied probability and statistical inference; analysis of variance; experimental design. Intended for graduate students in psychology. Recommended Course Background: one statistics course.
Prerequisites: Statistics Sequence restriction: students who have completed any of these courses may not register: EN.550.211 OR EN.550.230 OR AS.280.345 OR AS.200.315 OR EN.550.310 OR EN.550.311 OR EN.560.435 OR EN.550.420 OR EN.550.430
Instructor(s): J. Matterer; S. Courtney-Faruque
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

AS.200.315. Advanced Research Design and Analysis. 3 Credits.
Second half of graduate statistics sequence, covering complex research design and analysis. Signature required for undergrad registration.
Prerequisites: AS.200.314 or equivalent
Instructor(s): A. Shelton
Area: Quantitative and Mathematical Sciences.

AS.200.316. Thought and Perception. 3 Credits.
This year’s topic: Consciousness, Attention, and Memory. What is it for a state to be conscious? Can one have a conscious perceptual experience of something, but not know it? Is attention necessary for consciousness? Is consciousness necessary for attention - that is, can one selectively attend to objects in perception without being even conscious of them? We will examine such questions, as well as related work concerning the probabilistic nature of representation and the nature and capacity of memory. Readings will include works by both philosophers and perceptual scientists, including Block, Dehaene, Lamme, Dennett, Rosenthal, and others. [This course meets jointly with Professor Gross’ AS.150.476.]
Instructor(s): J. Flombaum; S. Gross
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.200.317. Interpersonal Relations. 3 Credits.
This course will investigate interpersonal processes ranging from attraction and courtship to relationship functioning and distress. Open to Psychology and Behavioral Biology majors only.
Prerequisites: AS.200.133
Instructor(s): S. Drigotases
Area: Social and Behavioral Sciences.

AS.200.318. Quantitative Methods for Brain Sciences. 3 Credits.
Focus on frequently-used quantitative methods used in the study of brain sciences, including gaining conceptual understanding of techniques, analysis and summarization of data, extracting the process underlying a data set, explaining data as a function of variables, data visualization, etc. Instructor signature required for undergraduate registration.
Prerequisites: AS.200.314 or equivalent
Instructor(s): S. Mysore
Area: Quantitative and Mathematical Sciences.

AS.200.321. Child and Adolescent Psychology. 3 Credits.
This course focuses on mental disorders in children and adolescents. The course begins with an exploration of the general models and theories for why psychopathology occurs in childhood. The second portion of the course provides a systematic review of the symptoms, course, risk factors, theories, and treatments for specific disorders, including mood disorders, anxiety disorders, autism, ADHD, eating disorders, and behavioral disorders.
Prerequisites: AS.200.212
Area: Social and Behavioral Sciences.

AS.200.325. Law Psychology: Clinical Application. 3 Credits.
Introduction to legal standards governing criminal forensic psychology assessments, e.g., competence to stand trial, criminal responsibility, mitigation of death penalty, negation of mens rea, and other criminal law forensic applications. Cross-listed with Behavioral Biology.
Instructor(s): L. Railman
Area: Social and Behavioral Sciences.

AS.200.326. Law, Psychology and Public Policy. 3 Credits.
An introduction to applications of psychological research in policy analysis. Special emphasis is given to the use and misuse of psychology in Supreme Court advocacy and decision making in the areas of children’s rights, adult sexuality, and educational and employment opportunity. Students should be familiar with statistics and regression analysis prior to taking this course.
Instructor(s): P. Hofer
Area: Social and Behavioral Sciences
Writing Intensive.
AS.200.327. Personality and its Measurement. 3 Credits.
Advanced intensive writing and discussion course using a text and original articles. Besides (co)leading class discussions, students will review a personality test of their choice, create and analyze their own personality test, and create a research proposal on a personality topic of their choosing. There will be no exams. Topics to be covered include a broad survey of personality tests, reliability and validity, test construction methods, the structure of affect/mood, the five-factor model, and the following personality-related topics: the person-situation debate; the idiographic/nomothetic debate; stability and change in personality over time; evolution, genetics, and biology of personality; effects of culture and geography on personality; intelligence and genius; the self and personal narratives; implicit motives and the dynamic unconscious; and self-regulation and psychopathology. For more information, please contact Dr. Jennifer Neemann at dr_jen@comcast.net or 410-516-4887.
Prerequisites: AS.200.207
Instructor(s): J. Neemann
Area: Social and Behavioral Sciences
Writing Intensive.

AS.200.328. Theory & Methods in Clinical Psychology. 3 Credits.
A critical examination of the methods of observation, description, reasoning, inference, measurement and intervention that underlie the clinical practice of psychology and psychiatry. Cross listed with Behavioral Biology. Junior and senior Psychology, Behavioral Biology and Cognitive Science majors only OR instructor approval.
Prerequisites: AS.200.212
Instructor(s): D. Edwin
Area: Social and Behavioral Sciences
Writing Intensive.

The recent world financial crisis has arguably been the most important event of the new millennium. Understanding the financial crisis requires knowledge of: “What happened & how the crisis unfolded?” “Why did it happen?” “How was the crisis eventually managed?” “Further, who were hurt?” “Who succeeded well?” And finally, “what policy decisions intended to protect markets by government officials succeeded to forestall further damage. Taking a behavioral finance focus, the course offers an analysis of heuristic decision errors that lead to bubbles and crashes in markets, and the failure of market models to avoid them.
Instructor(s): L. Raffman
Area: Social and Behavioral Sciences.

AS.200.332. Counseling Psychology. 3 Credits.
This course provides an introduction to the field of counseling psychology. Professional identity and development, history, theories and processes of counseling are surveyed, as are a variety of specializations and settings in which counseling is practiced. Discussions, demonstrations, and exercises will give students an opportunity to explore counseling psychology as a career path. Recommended Course Background: AS.200.101
Instructor(s): C. Gasser
Area: Social and Behavioral Sciences.

AS.200.333. Advanced Social Psychology. 3 Credits.
The class is designed as a seminar including discussion of primary readings of social psychology articles ranging in topics from interpersonal relationship to behavior in large groups. Rising junior & senior Psychology majors only.
Prerequisites: AS.200.133
Instructor(s): S. Drigotas
Area: Social and Behavioral Sciences.

AS.200.334. Advanced Psychopathology. 3 Credits.
This is an advanced, discussion-based course covering the developmental, biological, environmental, and cultural bases of attentional, mood, psychotic, anxiety, trauma-based, eating, somatic, and personality disorders. Case formulations in class and review papers will be required.
Prerequisites: AS.200.212
Instructor(s): J. Neemann
Area: Social and Behavioral Sciences
Writing Intensive.

AS.200.336. Foundations of Mind. 4 Credits.
An interdisciplinary investigation into the innateness of concepts: perception, number, language, and morality, physics discussed. Evidence from animals, infants, patients, brains. Students collect data in sections investigating claims from the readings. Cross-listed with Cognitive Science and Philosophy.
Instructor(s): J. Halberda; L. Feigenson
Area: Social and Behavioral Sciences.

AS.200.339. Cognitive Development. 3 Credits.
How do children acquire knowledge about the world? In this course, we will explore how children understand the world, looking at concepts of objects, number, space, and other people. Students will read both empirical and theoretical writing on these topics, participate in class discussions, and complete short critical writing assignments and final literature review paper.
Instructor(s): M. Kibbe
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.341. Positive Psychology. 3 Credits.
THIS COURSE IS GRADED S/U AND DOES NOT COUNT TOWARD THE PSYCHOLOGY MAJOR. The course will review the growing field of positive psychology and will review the research on positive human attributes such as optimism, happiness, hope, resiliency, self-esteem, altruism, empathy, and forgiveness. This course will explore the research on how such positive attributes are developed and how they relate to psychological and physical well-being.
Instructor(s): J. Neemann
Area: Social and Behavioral Sciences.

AS.200.343. Motivation. 3 Credits.
Current biological, behavioral, and cognitive research and theory concerning the motivation of behavior are examined. Both human and non-human animal research is reviewed. Topics include the role of genetics, arousal, biological regulatory systems, incentives, expectancies, attributions, social processes and self-actualization in the general of behavior. Recommended Course Background: AS.200.101 and AS.200.146 or instructor permission.
Instructor(s): H. Petri
Area: Social and Behavioral Sciences.
AS.200.344. Behavioral Endocrinology. 3 Credits.
An examination of the effects of hormones on behavior in non-human and human animals. Topics will include the effects of hormones on sexual differentiation, reproductive behavior, parental behavior, homeostasis and biological rhythms, regulation of body weight, learning and memory. Cross-listed with Behavioral Biology and Neuroscience.
Prerequisites: Prereqs: (AS.200.141 OR AS.080.305) OR (AS.020.151 AND AS.020.152) OR (AS.020.305 AND AS.020.306) or instructor's permission
Instructor(s): F. Madison; G. Ball
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.345. Advanced Positive Psychology. 3 Credits.
Advanced Positive Psychology is a research seminar course where students will initiate, develop, and conduct a research study on a topic in the field of Positive Psychology. With the guidance of the instructor, students will learn how to develop research questions and hypotheses and will conduct a research study to address the research questions posed. Students will work in teams and will learn more about the field of positive psychology by conducting a study on a specific topic in the field.
Prerequisites: AS.200.207 AND AS.200.341 AND INSTRUCTOR’S CONSENT
Area: Social and Behavioral Sciences.

AS.200.344. Behavioral Endocrinology. 3 Credits.
An examination of the effects of hormones on behavior in non-human and human animals. Topics will include the effects of hormones on sexual differentiation, reproductive behavior, parental behavior, homeostasis and biological rhythms, regulation of body weight, learning and memory. Cross-listed with Behavioral Biology and Neuroscience.
Prerequisites: Prereqs: (AS.200.141 OR AS.080.305) OR (AS.020.151 AND AS.020.152) OR (AS.020.305 AND AS.020.306) or instructor's permission
Instructor(s): F. Madison; G. Ball
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.346. Decision Making in Neuro-Economic Terms. 3 Credits.
Is there “a tightwad (risk averse) brain” separate and distinct from “a spendthrift (risk seeking)” brain? f-MRI study of decision making in neural terms has located brain regions that exhibit clues concerning spending and investing behavior. Students will survey current cognitive neuroscience & psychology research to identify neuro-behavioral insights about consumer spending, and reactions to financial gains vs. losses in the financial markets. Students will assess whether there is a neurological basis for pathological consumer behavior, investment behavior, and gambling addiction, as well as consider de-biasing techniques to counteract these problems.
Instructor(s): L. Raifman
Area: Social and Behavioral Sciences.

AS.200.358. Decision Making in Neuro-Economic Terms. 3 Credits.
AS.200.358. Decision Making in Neuro-Economic Terms. 3 Credits.
AS.200.363. Mind, Brain & Experience. 3 Credits.
How do nature and nurture shape the human mind? How does experience contribute to the development of visual perception, language, and social reasoning? This course explores insights into these age-old questions from neuroscience and psychology. Studies of infant behavior reveal rich knowledge about objects and people in the first months of life. At the same time, experience has profound effects on behavior and neurobiology. For example, temporary absence of vision (i.e., blindness) during development permanently alters visual perception and the visual cortex. Key evidence also comes from studies of naturally occurring variation in human experience (e.g., blindness, deafness, socioeconomic and cultural differences). We will discuss what such studies of cognitive and neural function tell us about the origins of human cognition. This is a writing intensive course with weekly lectures and seminar style discussion of primary sources. Students will be required to write weekly responses to readings and a term paper.
Prerequisites: AS.200.141 OR AS.050.105 OR AS.080.105 OR AS.050.203 OR AS.020.312 OR AS.200.386 OR (AS.080.305 AND AS.080.306) OR AS.080.203
Instructor(s): M. Bedny
Area: Natural Sciences, Social and Behavioral Sciences Writing Intensive.

AS.200.364. Advanced Topics in Cognitive Development. 3 Credits.
How do children acquire knowledge about the world? In this seminar course, we will explore how children understand the world, looking at concepts of objects, number, space, and other people. Students will read both empirical and theoretical writing on these topics and complete writing assignments. Classes will primarily be discussion-based.
Instructor(s): M. Kibbe
Area: Social and Behavioral Sciences Writing Intensive.

AS.200.366. Neuroscience of Motivation: Sex, Drugs and the Brain. 3 Credits.
This course is designed to address the growing literature on the neurobiology of motivational behaviors, integrating studies from invertebrates to birds, rodents, primates and humans. The course will begin with a century old, yet ongoing, discussion on how researchers define ‘motivation’. Following this primary introduction, we will discuss the brain circuitry that underlies emotion, reward, and motivation, so that students attain the necessary foundations for understanding the neurobiology of motivated behavior. In particular, we will proceed with an in-depth exploration of an inherently motivated and naturally rewarding social interaction, sexual behavior, which will be discussed at multiple levels. Subsequent lectures will address literature on how humans activate the same brain reward systems artificially by using drugs of abuse. Drawing on these theoretical and empirical foundations, we will then explore the possible involvement of these motivational systems on distinctly human pleasures such as religious experience, visual arts, and music.
Prerequisites: AS.200.141 OR AS.080.105 OR (AS.080.305 AND AS.080.306) OR Permission required.
Instructor(s): O. Ilyilikci
Area: Natural Sciences, Social and Behavioral Sciences

AS.200.367. Episodic Memory in Human and Nonhuman Animals. 3 Credits.
Episodic memory, or autobiographical memory, has been said to be a capacity that is uniquely human. Consisting of the what, when, and where components of our experiences, episodic memory is what makes each of us who we are. This course will explore each of these components individually—the psychology and neural underpinnings of each component—before discussing them in combination as episodic memory. Finally, we will visit one of the greatest ongoing debates in the memory literature: whether or not this ability is truly "uniquely human" or if our nonhuman animal counterparts also have this capacity. Throughout the course, we will draw on evidence from empirical articles based on studies in a variety of species including rodents, primates, and birds.
Prerequisites: AS.200.101 OR AS.200.141 OR AS.080.105 OR (AS.080.305 AND AS.080.306) OR Permission required.
Instructor(s): J. Asem
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.368. Altered States of Consciousness. 3 Credits.
Sleep, dreaming, resting and arousal to waking represent very different states of consciousness which differ dramatically both psychologically and physiologically. This course focuses on cognitive, psychological, physiological, biological and genetic aspects characterizing each of these states with some reference to other altered states. The course includes a focus on the major pathologies affecting sleep-wake states. Clinical cases will be considered. These inform about both psychological and biological aspects of these states. The relative biological functions of each state will be evaluated with particular attention to the mystery of why we have and apparently need REM and NREM sleep. Actual physiological recordings of sleep states will be reviewed and the student will learn how these are obtained and how to evaluate these. The circadian rhythms, ontogeny and evolution of these sleep-wake states will also be covered. This will include a review of information learned from non-human animal sleep. The change from sleep to full awakening reflects change toward increasing brain organization supporting consciousness. Understanding of the neurobiology of these states will be used to explore some of the more modern and scientific concepts of human self-awareness or consciousness.
Prerequisites: AS.080.203 OR AS.050.203 OR AS.200.101 or permission required.
Instructor(s): R. Allen
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.370. Functional Human Neuroanatomy. 3 Credits.
Cross-listed with Behavioral Biology and Neuroscience.
Prerequisites: AS.080.205 OR AS.080.305
Instructor(s): S. Courtney-Faruque
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.372. Psychology Of Aging. 3 Credits.
We will examine what current research can tell us about changes in mental abilities as we grow older, what biological changes in the brain during aging cause cognitive decline, and finally, how scientists are meeting the challenge of maintaining the functions of the mind into advanced old age.
Instructor(s): M. Gallagher
Area: Natural Sciences, Social and Behavioral Sciences Writing Intensive.
AS.200.376. Psychopharmacology. 3 Credits.
Designed to provide information about how drugs affect the brain and behavior. The course focuses on the interaction of various classes of drugs with the individual neurotransmitter systems in the brain. A brief historic review is followed by a discussion of clinical relevance. Cross-listed with Behavioral Biology and Neuroscience.
Prerequisites: AS.200.141 OR (AS.020.312 AND AS.020.306) OR (AS.080.305 AND AS.080.306) or permission required.
Instructor(s): H. Adwanikar; L. Gorman
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.386. Animal Cognition. 3 Credits.
Examine relations between brain, mind, and behavior in nonhuman animals, focusing on topics such as learning, memory, attention, decision-making, navigation, communication, and awareness. We will take a variety of approaches, including behavioral, computational, evolutionary, neurobiological, and psychological perspectives.
Prerequisites: (AS.200.141 OR AS.200.208 OR AS.290.101) OR permission of instructor.
Instructor(s): P. Holland
Area: Social and Behavioral Sciences.

AS.200.387. The Social Brain/The Visual Brain. 3 Credits.
We tend to feel that we are thinking the hardest in social situations. In contrast, we barely feel the complicated processing that produces our vivid and salient visual experiences; in fact, we cannot even access most of this processing directly. This course will explore the relationship between visual perception and social cognition, especially the ways that the visual system supplies crucial raw materials for more elaborate social processing, and the ways that our social agendas may, in turn, influence vision. Topics will include what we find physically attractive in mates (and why); the quick formation of social impressions; the neural, cognitive, and evolutionary basis of aesthetic perception; and the extent to which perception might be socially constructed (i.e. whether vision can be influenced from the ‘top-down’). All readings will come from primary scientific literature, and students should have some experience reading this kind of material. Limited to juniors, seniors, and graduate students.

AS.200.391. Sex Differences in the Brain, Behavior and Cognition. 3 Credits.
This course is designed to address the increasing gap in our knowledge on sex differences in the brain and cognitive abilities and how hormones play a pivotal role. Dean’s Teaching Fellowship. Recommended Course Background: AS.200.101 or AS.020.151
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.401. Careers in Psychology - Freshmen. 1 Credit.
An introduction to the varied career paths offered across the field of psychology, hosting a diverse representation of speakers from various Johns Hopkins institutions and the local Baltimore community.
Instructor(s): J. Halberda
Area: Social and Behavioral Sciences.

AS.200.402. Careers in Psychology - Sophomore. 1 Credit.
An introduction to the varied career paths offered across the field of psychology, hosting a diverse representation of speakers from various Johns Hopkins institutions and the local Baltimore community.
Instructor(s): J. Halberda
Area: Social and Behavioral Sciences.
AS.200.538. Indep Study - Sophomores. 3 Credits.
Instructor(s): Staff.

AS.200.539. Indep Study - Juniors. 3 Credits.
Instructor(s): Staff.

AS.200.540. Independent Study-Seniors. 3 Credits.
Instructor(s): Staff.

AS.200.541. Independent Study - Juniors. 0 - 3 Credit.
Instructor(s): Staff.

AS.200.542. Independent Study - Sophomores. 0 - 3 Credit.
Instructor(s): Staff.

AS.200.595. Internship. 1 Credit.
Instructor(s): Staff.

AS.200.597. Psychology Research. 3 Credits.
Instructor(s): Staff.

AS.200.599. Independent Study. 3 Credits.
Instructor(s): Staff.


This is a journal club examining recent literature in the field related to the hippocampus and the medial temporal lobe memory system. Discussions are heavily based on animal models and theoretical accounts of the hippocampus' role in learning and memory. Graduate students only.
Instructor(s): J. Knierim; M. Yassa
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.604. Graduate Seminar on Topics in Working Memory.

AS.200.605. Topics in Attention and Cognition.

AS.200.606. The Semantics & Psychology.

Graduate course designed to address the increasing gap in our knowledge on sex differences in the brain and cognitive abilities, and how hormones play a pivotal role. Advanced undergraduates may attend with permission.

This graduate seminar will survey recent theory and research concerning the functional organization of prefrontal cortex for working memory, decision making, and cognitive control. Graduate students only.

An introduction to the fundamental principles of cognitive and physiological psychology. Required course of first-year graduate students. Graduate students only.
Instructor(s): S. Courtney-Faruqee
Area: Natural Sciences, Social and Behavioral Sciences.

Graduate students only or permission required.
Instructor(s): B. Anderson.

Graduate student only.
Instructor(s): K. Blacker.

AS.200.616. Thought and Perception.
This year's topic: Consciousness, Attention, and Memory. What is it for a state to be conscious? Can one have a conscious perceptual experience of something, but not know it? Is attention necessary for consciousness? Is consciousness necessary for attention - that is, can one selectively attend to objects in perception without being even conscious of them? We will examine such questions, as well as related work concerning the probabilistic nature of representation and the nature and capacity of memory. Readings will include works by both philosophers and perceptual scientists, including Block, Dehaene, Lamme, Dennett, Rosenthal, and others. [This course meets jointly with Professor Gross' AS.150.476.]
Instructor(s): J. Flombaum; S. Gross
Writing Intensive.

Often, languages are described as sets of expressions. But in acquiring a language, a child acquires a procedure that generates expressions. If linguistic expressions pair pronunciations with mental representations, then one task shared by linguists and psychology is to specify the forms of these representations. This seminar explores this relationship in detail.

Instructor(s): P. Holland.

AS.200.627. Graduate Seminar: Memory.
Instructor(s): S. Courtney-Faruqee.

Instructor(s): A. Shelton.

AS.200.632. Topics: Spatial Cognition.
Graduate students only.
Instructor(s): A. Shelton.

AS.200.639. Grad Seminar - Memory.

AS.200.640. Review of Recent Literature in Biopsychology.
Instructor’s approval required.
Instructor(s): G. Ball.

Current biological, behavioral, and cognitive research and theory concerning the motivation of behavior are examined. Both human and non-human animal research is reviewed. Topics include the role of genetics, arousal, biological regulatory systems, incentives, expectancies, attributions, social processes and self-actualization in the general of behavior. Course will meet with AS.200.343.
Instructor(s): H. Petri.

This two-semester course will provide an overview of clinical, neuropsychological, imaging and neuropathological approaches to the study of cognitive systems altered in aging, AD and other neurodegenerative disorders. It will consider research using animal models as well as human subjects and clinical populations. The course is intended for graduate students and is open to advanced undergraduates only with permission of the professor.
AS.200.649. Aging, Cognition, and Neurodegenerative Disorders II.
Second part of a two-semester course. Course will provide an overview of clinical, neuropsychological, imaging and neuropathological approaches to the study of cognitive systems altered in aging, AD and other neurodegenerative disorders. It will consider research using animal models as well as human subjects and clinical populations. The course is intended for graduate students and is open to advanced undergraduates only with permission of the professor. Predoctoral and Postdoctoral students from A&S, SPH and SOM students participating in the NIA Training Program on Age-Related, Cognitive and Neuropsychiatric Disorders are required to take this course; meets concurrently with PH.330.802(01)
Instructor(s): M. Albert.


AS.200.654. Psychological & Brain Sciences Core Topics A.
This course is designed to introduce students to core topics in psychological and brain sciences. Students will read seminal and contemporary papers in topics that cover the breadth of the field. Graduate students in Psychological and Brain Sciences.
Instructor(s): L. Feigenson.

AS.200.655. Psychological & Brain Sciences Core Topics B.
This course is designed to introduce students to core topics in psychological and brain sciences. Students will read seminal and contemporary papers in topics that cover the breadth of the field. Graduate Students in Psychological & Brain Sciences.
Instructor(s): S. Courtney-Faruqee.

AS.200.661. Topics in Psychological & Brain Sciences.
An introduction to postdoctoral activities (e.g., grant applications, journal article submission, meeting presentations, the politics of psychology and American science) for Ph.D. candidates in psychology.
Instructor(s): S. Courtney-Faruqee.

AS.200.662. Psychological and Brain Sciences: Career Development.
Instructor(s): S. Courtney-Faruqee.

How do children acquire knowledge about the world? In this seminar course, we will explore how children understand the world, looking at concepts of objects, number, space, and other people. Students will read both empirical and theoretical writing on these topics and complete writing assignments. Classes will primarily be discussion-based.
Instructor(s): M. Kibbe.

This seminar will cover advanced topics in vision from the perspectives of several disciplines. Topics include human visual psychophysics, perception and cognition, and computational vision. Graduate students only. Cross-listed with Neuroscience.
Instructor(s): H. Egeth; J. Flombaum; J. Halberda.

Instructor(s): S. Courtney-Faruqee.

AS.200.801. Research Seminar: Learning and Memory.
This laboratory meeting is for graduate students studying learning and memory mechanisms, alterations with age or neurologic disease, and advanced neuromaging methods. Meetings will focus on experimental design, presentation of data, analytical techniques. Undergraduates allowed to add the course with permission as Satisfactory/Unsatisfactory only. Recommended Course Background: AS.200.370 or AS.200.141 or AS.080.305/AS.080.306 or AS.020.306.
Instructor(s): M. Yassa.

AS.200.804. Topics in Neurocognitive Aging.
This seminar will cover advanced topics in neurocognitive aging. Topics will include animal models of memory loss in normal aging and in Alzheimer's disease (AD), including both behavioral and neurobiological findings. Special attention will be given to the relation between such findings and the effects of aging and AD on memory and the brain in man. Similar comparative analysis in other cognitive domains (e.g. attentional processes) will also be considered.
Instructor(s): M. Gallagher.

AS.200.805. Topics in Attention and Cognition.
Instructor(s): J. Flombaum.

Guided independent readings. The class is designed as a seminar including discussion of primary research articles of cognitive aging. Specific topics include human imaging and animal models of memory, aging, and neurodegenerative disease.

AS.200.810. Research In Psychology.
Students plan and execute original research under guidance of advisers. Results are usually prepared in a form suitable for publication. Graduate students only.
Instructor(s): Staff.

Instructor(s): H. Egeth.

Instructor(s): L. Feigenson.

Instructor(s): J. Halberda.

Instructor(s): P. Holland.

Instructor(s): S. Courtney-Faruqee.

Instructor(s): V. Stuphorn.

Instructor(s): J. Halberda.

Guided independent readings and research in special fields. Graduate Students only.
Instructor(s): Staff.

Graduate students only.
Instructor(s): G. Ball.

Graduate students only.
Instructor(s): E. Fortune.
Graduate students only.  
Instructor(s): G. Ball.

Graduate Students Only.  
Instructor(s): M. Bedny.

Graduate only.  
Instructor(s): S. Yantis.

AS.200.830. Readings In Psychology.  
Graduate students only.  
Instructor(s): J. Flombaum; J. Halberda.

Graduate students only. Permission Required.  
Instructor(s): S. Courtney-Faruqee.

Instructor(s): S. Courtney-Faruqee.

AS.200.848. Current Advances in Psychological and Brain Sciences.  
Introduces advanced research topics to graduate students (as well as faculty) through a series of speakers and discussions.  
Instructor(s): J. Flombaum.

AS.200.849. Teaching Practicum.  
All candidates are required to obtain special experience in various aspects of undergraduate teaching. Graduate students only.  
Instructor(s): Staff.

AS.200.850. Advanced Teaching Practicum.  
Instructor(s): S. Courtney-Faruqee.

Cross Listed Courses

Cognitive Science

AS.050.102. Language and Mind. 3 Credits.  
Introductory course dealing with theory, methods, and current research topics in the study of language as a component of the mind. What it is to “know” a language: components of linguistic knowledge (phonetics, phonology, morphology, syntax, semantics) and the course of language acquisition. How linguistic knowledge is put to use: language and the brain and linguistic processing in various domains. This course is restricted to freshmen and sophomores. Juniors and seniors must seek instructor approval to enroll. Cross-listed with Neuroscience and Psychology.  
Instructor(s): A. Omaki  
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.204. Visual Cognition. 3 Credits.  
Vision is central to our daily interactions with the world: we can effortlessly navigate through a city, comprehend fast movie trailers, and find a friend in a crowd. While we take the visual experience for granted, visual perception involves a series of complicated cognitive processes beyond just opening our eyes. The goal of this course is to provide an introduction to visual cognition, including existing theoretical frameworks and recent research findings. We will explore questions such as: How do we see the stable world when our eyes are constantly moving? What is the relationship between seeing and knowing? Do infants see the world the same way as adults do? What are the neural mechanisms underlying visual perception?  
Instructor(s): S. Park  
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.303. Mind, Brain and Beauty. 3 Credits.  
What underlies our aesthetic response to art, music, and other facets of human experience? Do identifiable properties of objects and events evoke consistent aesthetic responses, or is beauty mostly in the eye of the beholder? Examining such questions from cognitive science, neuroscience, and philosophical perspectives, this course explores relevant research and theory in the visual, auditory, and tactile domains. Several researchers will discuss their ongoing studies with the class, and students will also have the opportunity to participate in demonstration experiments that illustrate phenomena under discussion. (Same as AS.050.603) Recommended Course Background: One or more courses in one of these: Cognitive Science, Neuroscience, Philosophy, or Psychology or permission of instructor.  
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.312. Cognitive Neuroimaging Methods in High-Level Vision. 3 Credits.  
This course is an advanced seminar and research practicum course. It will provide the opportunity to learn about fMRI methods used in the field of vision science and for students to have hands-on experience to develop, design and analyze a research study on topics in the cognitive neuroscience field of high-level vision. In the first part of the course students will read recent fMRI journal papers and learn about common fMRI designs and analysis methods; in the second part of the course students will conduct a research study as a group to address a research question developed from readings. Students are expected to write a paper in a journal article format at the end of the course and to present their results in front of the class. Research topics will vary but with special focus on topics in object, scene and space recognition. Cross-listed with Neuroscience and Psychology. instructor’s permission required.  
Prerequisites: AS.050.204 OR AS.050.319 OR AS.050.315 OR AS.200.312 OR AS.050.203 OR AS.080.203 or equivalent; instructor’s permission required.  
Instructor(s): S. Park  
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.319. Visual Cognition. 3 Credits.  
Vision is central to our daily interactions with the world: we can effortlessly navigate through a city, comprehend fast movie trailers, and find a friend in a crowd. While we take the visual experience for granted, visual perception involves a series of complicated cognitive processes beyond just opening our eyes. The goal of this course is to introduce students to the field of visual cognition, including existing theoretical frameworks and recent research findings. We will explore questions such as: How do we see the visual world? Do we see and remember correctly what’s in the physical world? How many items can we keep track of and remember at a time? How is the visual system structured and what are the neural mechanisms underlying visual perception? Meets with AS.050.619.  
Prerequisites: AS.200.101 OR AS.050.101 OR AS.080.203 OR AS.050.203  
Instructor(s): S. Park  
Area: Natural Sciences, Social and Behavioral Sciences.
AS.050.339. Cognitive Development. 3 Credits.
This is a survey course in developmental psychology, designed for individuals with some basic background in psychology or cognitive science, but little or none in development. The course is strongly theoretically oriented, with emphasis on issues of nature, nurture, and development. We will consider theoretical issues in developmental psychology as well as relevant empirical evidence. The principle focus will be early development, i.e., from conception through middle childhood. The course is organized topically, covering biological and prenatal development, perceptual and cognitive development, the nature and development of intelligence, and language learning. Also listed as AS.050.639. Cross-listed with Neuroscience. Instructor’s approval required.
Instructor(s): J. Yarmolinskaya
Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.603. Mind, Brain and Beauty.
Area: Natural Sciences, Social and Behavioral Sciences.

Instructor’s permission required. (Also offered as AS.050.312.)
Instructor(s): S. Park
Area: Natural Sciences, Social and Behavioral Sciences.

Neuroscience
AS.080.330. Brain Injury & Recovery. 3 Credits.
This course investigates numerous types of brain injuries and explores the responses of the nervous system to these injuries. The course’s primary focus is the cellular and molecular mechanisms of brain injury and the recovery of function. Discussions of traumatic brain injury, stroke, spinal cord, and tumors, using historical and recent journal articles, will facilitate students’ understanding of the current state of the brain injury field. Cross-listed with Psychological and Brain Sciences and Behavioral Biology.
Prerequisites: (AS.080.305 AND AS.080.306) OR (AS.020.312 OR AS.020.306) OR (200.141 and 020.306) OR Permission of Instructor
Instructor(s): L. Gorman
Area: Natural Sciences
Writing Intensive.

Sociology
AS.230.302. Class Stratification & Personality. 3 Credits.
230.302 (S) CLASS, STRATIFICATION, AND PERSONALITY (3) Kohn Limit 30 Juniors/Seniors only or instructor’s consent An intensive examination of the research literature, much of it based on survey research carried out by the instructor and his international collaborators, on the relationships of social class and social stratification with personality. The course will examine the links between people’s positions in the class structure and the stratification hierarchy of their society and their more proximate conditions of life, particularly their job conditions, and how these conditions, in turn, affect (and are affected by) such basic dimensions of personality as intellectual flexibility, self-directedness of orientation, and feelings of well-being or distress. The research has been conducted principally in the United States, Japan, Poland when it was socialist, Poland and Ukraine during their transitions from socialism to nascent capitalism, and (in the instructor’s current research) China during its very different transformation. Cross-listed with Psychological & Brain Sciences
Instructor(s): M. Kohn
Area: Social and Behavioral Sciences
Writing Intensive.

Behavioral Biology
AS.290.420. Human Sexual Orientation. 3 Credits.
This course will examine the historical and current theories of sexual orientation and sexual variation development by examining the biological, psychological and social contributing factors that influence the development of sexual orientations and variations along with treatment and modification of problematic sexual behaviors. Limited to Juniors and Seniors with PBS, Neuroscience, Public Health, Behavioral Biology, and Biology majors, or Juniors and Seniors with PBS or Women’s Studies minors.
Instructor(s): C. Kraft
Area: Social and Behavioral Sciences
Writing Intensive.

Public Health Studies
Public Health combines a prevention orientation with a population perspective in pursuit of better health for all members of society. Public health professionals deal with critical large-scale issues such as access to health care; chronic disease control; mapping, predicting, and containing outbreaks of infectious disease; as well as researching factors that contribute to health outcomes such as gender, poverty, and education. Public Health has close ties with medicine through research, clinical practice, and formulating policy.

The Public Health Studies Program offers undergraduates a major that links them to the world of public health through core courses taken on the Homewood campus, as well as electives taken at the Johns Hopkins Bloomberg School of Public Health (JHSPH).

Core course work at Homewood includes Fundamentals of Epidemiology, Environment and Your Health, Fundamentals of Health Policy and Management, Biostatistics, Social and Behavioral Health, as well as a year of Biology and Calculus I. Students will select additional public health coursework from a range of options that include the natural sciences, health economics, medical anthropology, disparities in health and access to health care, the history of science and medicine, and demography. The major is flexible and easily adapted to further course work in the natural sciences and historically about two-thirds of Public Health Studies majors complete the premedical core curriculum.

Public Health Studies majors also complete the Public Health Applied Experience as part of their undergraduate degree requirements. This involves a supervised, hands-on experience working with public health professionals. The goal of the applied experience requirement is to ensure that students have practical public health exposure in a clinical, research, or community setting. Find more information at http://krieger.jhu.edu/publichealth/academics/AE-Main.

The Johns Hopkins Bloomberg School of Public Health is the oldest and largest school of public health in the United States. Although its primary function is as a graduate school, seniors majoring in public health studies take a semester’s worth of courses there in fulfilling their B.A. degree requirements. Many students get involved in ongoing research projects at JHSPH such as developing malaria vaccine, investigating hospital patient safety protocols or assessing the links between poverty and poor health.

Available course work at JHSPH includes the following areas: health education, environmental health sciences, epidemiology, health finance and management, health policy, human genetics, immunology and infectious diseases, international health, maternal and child health,
mental health, nutrition, occupational medicine/health protection and practice, population studies, toxicology, and tropical medicine, among others.

An honors option is available to Public Health Studies seniors with a major GPA of 3.3. Public Health Honors students work in a research capacity under the supervision of a JHU faculty member and with the guidance of the Director of the Public Health Studies program. Students register for 280.495 Honors in Public Health Seminar in the fall and 280.499 in the spring. Interested students should discuss their plans with the Director of the Public Health Studies program in the spring of their junior year.

Many Public Health Studies students have pursued international public health internships and study abroad opportunities both during the academic year and over the summer. In addition to a wide array of general options available through the JHU Office of Study Abroad, the PHS program has established two public-health specific annual programs: Intersession (3 1/2 weeks) in Uganda and Summer (7 weeks) in South Africa. Each includes both academic and applied components and allows students to earn graded JHU credits which can be used toward the Public Health Studies major. The Uganda program compares health issues in urban and rural settings, while the South Africa program closely investigates the impact of the HIV epidemic on prevention measures and healthcare delivery in that country. For more information, go to http://krieger.jhu.edu/publichealth/academics/studyabroad/index.htm.

The Public Health Studies office is located in the 3505 North Charles Building second floor, adjacent to the Homewood campus. Public Health Studies advisors may be consulted about the various courses, careers, and graduate programs in public health on a walk-in basis or by appointment. Information can also be obtained by emailing phstudies@jhu.edu or at http://krieger.jhu.edu/publichealth.

**Bachelor of Arts/Masters Program**

The Bachelor of Arts/Master of Health Sciences (BA/MHS) and Bachelor of Arts/Master of Sciences in Public Health (BA/MSPH) programs are a coordinated academic collaboration between the Krieger School of Arts and Sciences and the Johns Hopkins Bloomberg School of Public Health. It enables talented and committed Public Health Studies Program undergraduates majoring in Public Health Studies for admission to the BA/MHS or MSPH degree. In addition, students in this program will receive co-advising from both schools to optimize their academic experience. Find more information at http://krieger.jhu.edu/publichealth/academics/.

**Public Health Studies Program Advisory Board**

The Public Health Studies Program Advisory Board reviews the progress and status of the Public Health Studies Program. Members provide advice and guidance on issues that are vital to a successful program, such as faculty appointments, curriculum reviews, utilization of university resources, and new funding opportunities.

One designated Public Health Studies Alumni serves a 2-year term on the committee.

**Board Members**

**Krieger School of Arts and Sciences**

Joel Schildbach; Vice Dean for Undergraduate Education; Professor (Biology)

Richard Cone; Professor (Biophysics); Advisory Board Chair

Steven David; Professor (Political Science)

Andy Cherlin; Professor (Sociology); Benjamin H. Griswold III Professor of Public Policy

Adam Sheingate; Associate Professor (Political Science)

**Johns Hopkins Bloomberg School of Public Health**

Stephen Gange; Senior Associate Dean for Academic Affairs; Professor (Epidemiology)

Marie Diener-West; Abbey-Merrell Professor of Biostatistics; Chair, Master of Public Health Program

John Groopman; Anna M. Baetjer Professor in Environmental Health Sciences

Ellen MacKenzie; Fred and Julie Soper Professor in Health Policy and Management James Yager; Edyth H. Schoenrich Professor in Preventive Medicine; Professor; Deputy Chair (Environmental Health Sciences)

Scott Zeger; Professor (Biostatistics); Professor (Epidemiology)

**Requirements for the B.A. Degree**

Also see Requirements for a Bachelor’s Degree (p. 24).

All major requirements must be taken for a letter grade. Course taken satisfactory/unsatisfactory do not apply towards the major with some exceptions for the applied experience requirement. Major requirements are as follows:

**Courses at Homewood**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.106</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.108</td>
<td>Calculus I</td>
<td></td>
</tr>
<tr>
<td>AS.280.335</td>
<td>The Environment and Your Health</td>
<td>3</td>
</tr>
<tr>
<td>AS.280.340</td>
<td>Fundamentals of Health Policy &amp; Management</td>
<td>3</td>
</tr>
<tr>
<td>AS.280.345</td>
<td>Public Health Biostatistics</td>
<td>4</td>
</tr>
<tr>
<td>AS.280.350</td>
<td>Fundamentals of Epidemiology</td>
<td>3</td>
</tr>
</tbody>
</table>

Select two courses in biology and one corresponding lab:

| Course Code | Course Title                                      |
|-------------|--------------------------------------------------|---------|
| AS.020.151  | General Biology I                                |         |
| AS.020.153  | General Biology Laboratory I                     |         |
| AS.020.152  | General Biology II                               |         |
| AS.020.154  | General Biology Lab II                           |         |
| AS.020.305  | Biochemistry                                     |         |
| AS.020.315  | Biochemistry Laboratory                          |         |
Select two introductory social science courses:

- AS.070.132 Invitation to Anthropology
- or AS.140.105 History of Medicine
- or AS.140.106 History of Modern Medicine
- or AS.150.219 Introduction to Bioethics
- or AS.180.101 Elements of Macroeconomics
- or AS.180.102 Elements of Microeconomics
- or AS.200.132 Introduction to Developmental Psychology
- or AS.200.133 Introduction to Social Psychology
- or AS.230.101 Introduction Sociology
- or AS.230.150 Issues in International Development
- or AS.271.107 Introduction to Sustainability

Select one course to satisfy the core competency in the social and behavioral aspects of public health:

- AS.230.341 Sociology of Health and Illness
- or AS.280.215 Understanding Behavior Change: Theory and Application
- or AS.280.360 Clinical & Public Health Behavior Change
- or AS.280.375 Cultural Factor Of Public Health

Three public health courses at the 200-400 level offered on the Homewood campus

Ten credits of courses at the Bloomberg School of Public Health

Applied clinical or community-based experience

Total Credits

* **Requirements at JHSPH**

Fifteen (15) units of courses are taken at the Johns Hopkins Bloomberg School of Public Health in the student’s fourth year. This is equivalent to 10 Homewood credits. Within the 15, students must create an 8 unit concentration in one particular area, topic, or department. Other courses may be taken in any department. These courses may not be independent research/special study, taken S/U or online.

**Applied Experience**

Public health studies majors will complete one (1) approved applied clinical or community-based experience. A minimum of 80 hours of applied work is required along with a synthesizing assignment. Additional information about this requirement is available here (http://krieger.jhu.edu/publichealth/academics/AE-Main).

**Honors in Public Health Studies**

An honors option is available to Public Health Studies seniors with a major GPA of 3.3. Public Health Honors students work in a research capacity under the supervision of a JHU faculty member and with the guidance of the Director of the Public Health Studies program. Students register for AS.280.495 Honors in Public Health - Seminar in the fall and AS.280.499 Honors in Public Health in the spring. Interested students should discuss their plans with the Director of the Public Health Studies program in the spring of their junior year.

For current faculty and contact information go to http://krieger.jhu.edu/publichealth/directory/

**Faculty**

**Program Director**

Kelly Gebo
M.D., M.P.H.; Professor (Medicine, Epidemiology, Public Health Studies).

**Associate Director**

James Goodyear
Ph.D.; Senior Lecturer (Public Health Studies); Academic Advisor.

**Assistant Director**

Lisa Folda
M.H.S.; Lecturer (Public Health Studies); Academic Advisor.

**Academic Advisor**

Mieka Smart
M.H.S.; Lecturer (Public Health Studies).

**Faculty**

Stanley Becker
Professor (Population, Family, and Reproductive Health).

Peter Beilenson
Associate (Public Health Studies).

David Bishai
Professor (Population, Family, and Reproductive Health).

Lee Bone
Associate Professor (Health, Behavior, and Society).

Lawrence Cheskin
Associate Professor (Health, Behavior, and Society).

Carolyn Furr-Holden
Associate Professor (Mental Health).

Leah Jager
Assistant Scientist (Biostatistics).

Thomas LaVeist
Professor (Health Policy and Management).

Philip Leaf
Professor (Mental Health).

Darcy Phelan-Emrick
Assistant Scientist (Epidemiology).

Jennifer Schrack
Assistant Professor (Epidemiology).

Donald Steinwachs
Professor (Health Policy and Management).

Margaret Taub
Assistant Scientist (Biostatistics).

Michael Trush
Professor (Environmental Health Sciences).

Peter Winch
Professor (International Health).

Scott Zeger
Courses

AS.280.100. Public Health in Film and Media. 1 Credit.
This course uses film to explore and question the cultural landscape of public health in today’s society. Public health is a richly diverse field that reaches not only into many areas of daily life, but into our cultural imagination as well. The purpose of this class is to examine how public health matters such as epidemic disease, access to health care, health and the law, bioethics, neglected tropical diseases and other topics are portrayed in feature films and documentaries. Each week students will view and discuss a film or documentary that addresses a public health issue. Freshmen Only. S/U Grading Only.
Instructor(s): M. Smart
Area: Social and Behavioral Sciences.

AS.280.101. Introduction to Public Health. 3 Credits.
An overview of the major concepts and themes in Public Health utilizing the social and natural science disciplines in populations world-wide.
Instructor(s): M. Alexander
Area: Social and Behavioral Sciences.

AS.280.111. Urban Health and Advocacy. 2 Credits.
Student driven exploration of a wide range of psychosocial issues facing the poorest residents in urban centers. Coursework includes assigned readings, lively discussions, and experiential activities. Students will increase their awareness of health issues facing the poor and of the utility of advocacy in the health field.
Instructor(s): M. Smart
Area: Social and Behavioral Sciences.

AS.280.115. Issues in Public Health Ethics. 3 Credits.
Freshmen Seminar: Should overweight individuals pay more for health insurance like many smokers do? When is it appropriate to quarantine people during an infectious disease outbreak? Do we owe citizens universal access to quality, affordable health care? We will explore these questions, among others, through the lens of public health ethics. Freshmen Only.
Instructor(s): J. Leider
Area: Social and Behavioral Sciences.

AS.280.120. Lectures on Public Health and Wellbeing in Baltimore. 1 Credit.
An introduction to Urban Health with Baltimore as a case study: wellbeing, nutrition, education, violence and city-wide geographic variation. Lectures by JH Faculty, local government/service providers and advocates.
Instructor(s): P. Leaf
Area: Social and Behavioral Sciences.

AS.280.121. Chemical Karma: From Pollution to Disease. 3 Credits.
This course follows several pollutants from their industrial sources to their human health outcomes, and teaches how to rigorously/ systematically search for and synthesize concepts in environmental health literature. Term paper. E²SHI Fellowships.
Instructor(s): M. Gribble
Area: Natural Sciences.

AS.280.125. Global Health and Advocacy. 1 Credit.
Sections restricted to certain class years. Relying on outside speakers this course will introduce students to a variety of topics that impact global public health practice. Students will hear professionals from NGOs, government and academia discuss challenges they face as they carry out program management, research and policy development. Attendance will be mandatory from the opening class. Grading is S/U only. Section 1 restricted to seniors Section 2 restricted to juniors Section 3 restricted to sophomores Section 4 restricted to freshmen.

AS.280.157. From Tropical Disease to Global Health: A History. 3 Credits.
Instructor(s): J. Goodyear
Area: Humanities, Social and Behavioral Sciences.

AS.280.215. Understanding Behavior Change: Theory and Application. 3 Credits.
This course will begin by exposing students to a variety of theories of behavior change - why and how we do it, and why we often don’t. From there they will apply this knowledge to, part of a semester-long group project, develop a health communication campaign designed to encourage changing a behavior among their peers. They will practice the skills necessary to analyze a problem, develop a campaign strategy, create persuasive materials, and implement and monitor that campaign. Some elements of impact evaluation will also be covered in this course. Sophomores Only. Recommended Course Background: AS.280.101
Instructor(s): L. Folda
Area: Social and Behavioral Sciences.

AS.280.217. Youth Bullying, Aggression, and Public Health. 3 Credits.
This course examines bullying and aggression among school-aged youth from a public health perspective. We will explore the prevalence of bullying, theories about its etiology, and recent prevention efforts.
Instructor(s): J. Duong
Area: Social and Behavioral Sciences.

AS.280.220. Baltimore and The Wire: A focus on major urban issues. 3 Credits.
Playing off the themes raised in the HBO series "The Wire", this course will provide an introduction to major issues confronting Baltimore and other American urban centers through a series of lectures by policy makers in the region.
Instructor(s): P. Beilenson
Area: Social and Behavioral Sciences.

AS.280.221. The Sciences Behind HIV: Is eradication imminent?. 3 Credits.
Students will obtain a fundamental understanding of HIV biology, including a review of its origin, routes of infection, host defenses and viral evasion strategies, and HIV treatment. Special focus will be on the evaluation of HIV prevention strategies including vaccines and microbicides. Recommended Course Background: one year of general biology, AS.020.151, AP Biology, or equivalent. This is a Public Health Teaching Prize Course.
Area: Natural Sciences.
AS.280.222. Applied Geographic Information Systems in Public Health. 3 Credits.
Course provides an introduction to Geographic Information Systems (GIS) and presents its utility in public health. Provides exposure to GIS as a tool for describing the magnitude of health problems, and for supporting quantitative methods in public health decision-making. Course topics include a historical overview of the intersection between geography and public health; current epidemiological use of GIS; experiential learning (themetic mapping of health phenomena that students observe in the field); and geospatial analysis of public health problems.
Instructor(s): B. Wittstadt
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

AS.280.223. Health and the Internet. 3 Credits.
This course will examine how the internet and web based applications influence individual and societal health. Health information is one of the most searched for subjects online, yet despite the proliferation of health related sites, there is still a need for quality, accurate and useable information. Blogs and online communities can bring patients together and aid in treatment and recovery. However, many Web 2.0 applications such as social networking sites, wikis and mobile technology that have the potential to increase interactivity and collaboration have yet to reach their full potential in healthcare delivery and promotion. Indeed, as the internet and new technologies hold great promise, there are also pitfalls such as spread of inaccurate or potentially dangerous information. This course will provide an overview of how the internet has changed health care and how new technologies will continue to influence our health.
Instructor(s): M. Massey
Area: Humanities, Social and Behavioral Sciences.

AS.280.224. Health, Homelessness & Social Justice. 3 Credits.
Homelessness is bad for one’s health, and its existence, persistence and growth demonstrates deep policy failures and social ills. The course examines issues fundamental to the modern phenomena of homelessness in the U.S. and the connection between disparate health and desperate inequality. Through presentations and discussions with community experts, class participants will better understand the causes and experiences of homelessness, and the connections between health and housing status. The course will examine methods for addressing the immediate health needs of people who lack housing as well as strategies for changing the social structures responsible for creating homelessness within the context of theories of social justice.
Instructor(s): A. Schneider
Area: Natural Sciences.

AS.280.225. Population, Health and Development. 3 Credits.
This course will cover the major world population changes in the past century as well as the contemporary situation and projections for this century. Topics include rapid population growth, the historical and continuing decline of death and birth rates, contraceptive methods as well as family planning and child survival programs, population aging, urbanization, population and the environment and the demographic effects of HIV/AIDS.
Prerequisites: AS.230.225. Students who have taken AS.230.225 may not take AS.280.225.
Instructor(s): S. Becker
Area: Social and Behavioral Sciences.

AS.280.226. Mini-Term: Urban Environments and Public Health. 3 Credits.
Introduction to physical and social environmental systems issues affecting the health of several marginalized populations (eg. immigrants, impoverished and homeless). The course will primarily use Baltimore as the field for experiential learning, and will incorporate cross-cultural discussions, a variety of readings, and guest lecturers from Hopkins faculty and industry experts. Course will meet for two weeks: from July 7th through 18th.
Instructor(s): A. Rule
Area: Social and Behavioral Sciences.

AS.280.230. Public Health, Sexual Orientation, and Gender Identity. 3 Credits.
In recent years, lesbian, gay, bisexual, transgender (LGBT) health issues have become important public health concerns. This course will focus on key issues in LGBT health, including the health consequences of homophobia and heterosexism, racial and ethnic minorities and LGBT health, globalization, healthcare systems and services. Specific health topics to be addressed include mental health, substance use, violence, sexually transmitted infections, and access to health care. During this course, students will develop a greater understanding of health disparities among LGBT populations.
Instructor(s): T. Poteat
Area: Humanities, Social and Behavioral Sciences.

AS.280.304. Transforming Disease: HIV/AIDS and the production of chronic illness. 3 Credits.
Drawing primarily on public health, anthropology, and sociology literature, the course critically examines debates surrounding the production of chronic illness, and resulting contestations as practices, laws, and policy are transformed.
Instructor(s): M. Philbin
Area: Social and Behavioral Sciences.

AS.280.306. Revising the Sick Role: The Patient as Subject, Citizen, Consumer, Expert and Advocate. 3 Credits.
Prerequisites: Prereq: AS.280.340 OR AS.280.101 or by consent of instructor
Area: Social and Behavioral Sciences
Writing Intensive.

This course introduces students to the controversial topic of who should pay for healthcare. Examines four themes of financing, pooling, purchasing and provision of healthcare and considers the financial, political and social implications of distinct health financing methods. Explores major principles and practices of health financing across countries with different political and economic frameworks, featuring Japan, Cambodia, U.K., Canada, Germany and the U.S.
Prerequisites: Prereq: AS.180.102 OR AS.180.101
Area: Social and Behavioral Sciences.

AS.280.308. The Environment and Infectious Disease: Public Health Perspectives. 3 Credits.
Junior & Senior PHS Majors Only: In this interactive course, students will explore environmental impacts on the spread of infectious diseases using public health tools. Topics include climate change, natural disasters, bioterrorism, agriculture, and emerging infections. Dean's Teaching Fellowship course.
Instructor(s): M. Davis
Area: Natural Sciences, Social and Behavioral Sciences.
AS.280.309. Impact of Mass Communication on the Public’s Health: McLuhan to Oprah. 3 Credits.
This course will explore the role of mass communication on public health, from media and health behavior change theory to practical applications of current public health tools in communicating health. Dean’s Teaching Fellowship Course
Instructor(s): R. Limaye
Area: Social and Behavioral Sciences.

AS.280.310. Nutrition, Behavior, and Mental Health. 3 Credits.
What’s the relation between food and mood? This course will journey through topics as diverse as micronutrients, caffeine, and eating behaviors to seek nutrition’s connection to behavior and mental health. Recommended Course Background: AS.280.345 and/or AS.280.350
Area: Natural Sciences, Social and Behavioral Sciences.

AS.280.311. Math, Money and the Mind: Controversies in Medical Decision Making. 3 Credits.
How do doctors decide what to prescribe? How do clinical studies, elected officials, drug companies, personal beliefs, and insurance companies influence those decisions? This will not be on your MCATs. Recommended Course Background: course in Introductory Statistics or Biostatistics. Deans Teaching Fellowship Course.
Instructor(s): A. Turnbull
Area: Social and Behavioral Sciences.

AS.280.315. Nutrition: Concepts and Controversies. 3 Credits.
Nutrition is a fundamental component of human health and a challenging science, with individual and societal factors that span the country and the world. The primary objective of this course is to provide a fundamental understanding of human nutrition and its role in public health by addressing multiple components including the core micro- and macro- nutrients, and food choices and their implications for personal health. The secondary objective is to examine many of today’s nutrition controversies, both scientific and societal. Accordingly, this course will encourage students to think about nutrition and its critical contribution to public health on individual, societal, and global levels. A fundamental knowledge of biology and/or anatomy and physiology is recommended.
Instructor(s): B. Ha; J. Schrack; Z. Chowdhury
Area: Social and Behavioral Sciences.

AS.280.318. Food, Nutrition, and Public Health. 3 Credits.
This course explores an array of questions related to nutrition, food access, socioeconomic and demographic factors that affects individuals, communities, and public policy. Students will seek answers through field trips, guest lectures, and discussion seminars. Deans Teaching Fellowship Course.
Instructor(s): S. Lee
Area: Social and Behavioral Sciences.

AS.280.319. Water, Sanitation, and Hygiene in the 21st Century. 3 Credits.
The course provides an in-depth overview of current challenges related to water, sanitation, and hygiene (WASH) in the developing world with an emphasis on the links between WASH and epidemiology, climate change, population, gender, equity, and policy. Juniors and seniors Only.
Area: Natural Sciences, Social and Behavioral Sciences
Writing Intensive.

AS.280.320. Seminar on Public Health and Wellbeing in Baltimore. 3 Credits.
Seminar combines lectures from AS.280.120 with additional readings and discussion to more deeply address urban health issues. If you register for this course you do NOT register for AS.280.120. Course is open to Sophomores and Juniors only, or by instructor’s permission.
Instructor(s): P. Leaf
Area: Social and Behavioral Sciences.

AS.280.325. Public Health in South Africa. 3 Credits.
This course provides an in-depth overview of Public Health in South Africa, including material on the political climate, health care services, and the impact of the HIV/AIDS epidemic. Course is taught in Cape Town, South Africa.
Instructor(s): L. Folda
Area: Humanities.

AS.280.326. Community-Based Learning in South Africa. 3 Credits.
3 Credit course taught in Cape Town, South Africa. This course may be used to satisfy the Public Health Applied Experience requirement. Students will participate in a community-based service learning program with a local NGO in Cape Town.
Instructor(s): L. Folda
Area: Social and Behavioral Sciences.

AS.280.335. The Environment and Your Health. 3 Credits.
This course surveys the basic concepts underlying environmental health sciences (toxicology, exposure assessment, risk assessment), current public health issues (hazardous waste, water- and food-borne diseases), and emerging global health threats (global warming, built environment, ozone depletion, sustainability). Public Health Studies, Global Environmental Change and Stability, and Earth and Planetary Science majors have 1st priority for enrollment. Your enrollment may be withdrawn at the discretion of the instructor if you are not a GECS, PHS, or EPS major.
Prerequisites: (Students may not have taken AS.270.320)
Instructor(s): M. Trush
Area: Natural Sciences.

AS.280.340. Fundamentals of Health Policy & Management. 3 Credits.
Through lectures and small group discussions, students will develop a framework for analyzing health care policy problems and gain familiarity with current issues including managed care, Medicare and the uninsured.
Instructor(s): D. Steinwachs
Area: Social and Behavioral Sciences.

AS.280.345. Public Health Biostatistics. 4 Credits.
Using problem-based learning focusing on public health topics, students learn to describe & summarize data, make inferences regarding population parameters, & test hypotheses. Recommended Course Background: Four years of high school math
Prerequisites: Statistics Sequence restriction: students who have completed any of these courses may not register: EN.550.211 OR EN.550.230 OR AS.200.314 OR AS.200.315 OR EN.550.310 OR EN.550.311 OR EN.560.435 OR EN.550.420 OR EN.550.430
Instructor(s): M. Taub
Area: Quantitative and Mathematical Sciences.
AS.280.346. Advanced Biostatistics Laboratory. 1 Credit.
The course objective is to enable each student to enhance his or her quantitative scientific reasoning including precise formulations of scientific questions, valid interpretation of data as evidence, and clear, accurately written and oral communication about the numerical evidence as it informs the questions posed. Public Health Biostatistics is about quantitative approaches - ideas and skills - to address public health problems. Biostatistics is a bit like clinical medicine or other technical skills; to achieve mastery, a student must “see one, do one, teach one”. Therefore, the course is organized to promote regular practice of new ideas and skills and to work together in small groups. Students are introduced to the statistical programming environment R in lecture and sections, and work realistic data analysis problems using R.

Prerequisites: Corequisite: AS.280.345
Corequisites : AS.280.345
Instructor(s): L. Jager; M. Taub
Area: Quantitative and Mathematical Sciences.

AS.280.347. Health Data Analysis Practicum. 2 Credits.
Students will learn to formulate precise scientific and policy questions, design exploratory and confirmatory statistical analyses to address the questions, conduct appropriate analyses using the statistical package R, and communicate their findings through graphical and tabular displays that are presented in writing and in person. The course will be run seminar style in which students conduct data analysis to present to one another in one meeting per week. Evaluation will be through class participation and a final project in which students will analyze their own data set to address a question of their choice.
Instructor(s): S. Zeger
Area: Quantitative and Mathematical Sciences.

AS.280.350. Fundamentals of Epidemiology. 4 Credits.
A practical introduction to epidemiology focusing on the principles and methods of examining the distribution and determinants of disease morbidity and mortality in human populations. Juniors and seniors only.
Instructor(s): D. Phelan-Emrick
Area: Quantitative and Mathematical Sciences.

AS.280.360. Clinical & Public Health Behavior Change. 3 Credits.
This course explores the theory and practice of changing the health behaviors of individuals, and the public health and medical impact of doing so. Theoretical concepts are integrated with practical clinical applications, especially in the areas of diet and fitness. Skill building in persuasive, health-related communication will be included in smaller group discussions.
Instructor(s): L. Cheskin
Area: Social and Behavioral Sciences.

AS.280.375. Cultural Factor Of Public Health. 3 Credits.
This course covers influence of culture on health policy, management and practice. Also, provides background in disparities in health in the US. Guest speakers include healthcare providers, managers, and policy-makers.
Instructor(s): T. Laveist
Area: Social and Behavioral Sciences.

AS.280.380. Global Health Principles and Practices. 3 Credits.
Global health addresses the staggering global disparities in health status, drawing on epidemiology, demography, anthropology, economics, international relations and other disciplines. We review patterns of mortality, morbidity and disability in low and middle income countries, starting with malnutrition, infectious diseases and reproductive health, and continuing to an emerging agenda including mental health, injury prevention, surgical care, chronic diseases, and health impacts of climate change. Gender, health systems and health workforce challenges, and career trajectories in global health are also discussed. Recommended course background: Minimum of one prior course in Public Health.
Instructor(s): P. Winch
Area: Social and Behavioral Sciences.

AS.280.399. Community Based Learning - Practicum Community Health Care. 3 Credits.
This course is designed to expose students to urban health with focus on Baltimore City through lectures, class discussions, and experiential learning. Students will select a community-based organization (CBO) according to their expressed interests and schedule in order to complete 45 hours of service based learning. Grades are based on participation, completion of service learning project, presentation, and papers.
Instructor(s): J. Goodyear; L. Bone
Area: Social and Behavioral Sciences.

AS.280.401. Alcohol, Media & Health. 3 Credits.
Students will critically examine the public health impact of alcohol marketing and assess the consequences of the resulting change in patterns of alcohol use. Gordis Teaching Fellowship course. Public Health Majors only or permission required.
Instructor(s): S. Cukier
Area: Social and Behavioral Sciences.

AS.280.402. HIV, Behavior and Society. 3 Credits.
This class will examine the behaviors associated with the HIV epidemic. We will explore the importance of behavior and context that affect the transmission, prevention, and treatment of HIV. Gordis Teaching Fellowship course. Public Health Majors only or permission required.
Instructor(s): C. Sun
Area: Social and Behavioral Sciences.

AS.280.403. Introduction to Intimate Partner Violence and Public Health. 3 Credits.
This course provides an introduction to the public health implications of intimate partner violence and the spectrum of activities used to understand and combat it - from measurement to intervention. This course will cover a variety of topics, focusing on both research and programming, including: qualitative and quantitative research methods, individual- and community-level interventions, ethical challenges, and populations of interest. Gordis Teaching Fellowship course. Public Health Majors only or permission required.
Instructor(s): A. Robinson
Area: Social and Behavioral Sciences.

AS.280.404. Immunity and Infectious Diseases of Public Health Importance. 3 Credits.
Provides an overview of innate and adaptive immunity as they relate to the control of infection and the development of treatment and vaccination strategies for pathogens of public health significance. Gordis Teaching Fellowship course.
Prerequisites: AS.020.151 AND AS.020.152 or AP Biology
Instructor(s): J. Craig
Area: Natural Sciences.
AS.280.405. Public Health and Human Rights. 3 Credits.
This course explores the links between public health and human rights, applies human rights frameworks to public health policies, and explains why the human rights have been called “The conscience of public health.” Gordis Teaching Fellowship course. Public Health Majors only or permission required.
Instructor(s): W. Davis
Area: Social and Behavioral Sciences.

How does U.S. military policy impact global and national public health? Do U.S. military missions promoted as humanitarian assistance, such as those in Africa and Afghanistan, compromise global development and independent humanitarian action programs? Did the CIA’s covert use of a vaccination program in Pakistan as cover for intelligence gathering threaten the success of global immunization campaigns? How have vaccines and drugs developed for U.S. military use benefited global public health? These topics and much more will be the focus in this seminar that explores consequences within conflict zones and the developing world, and among military personnel and veterans. Gordis Teaching Fellowship course. Juniors and Seniors Public Health Studies majors only.
Instructor(s): R. Nevin
Area: Social and Behavioral Sciences.

AS.280.407. Public Health and Disasters. 3 Credits.
This course will introduce students to the public health component of preparedness and response to common emergencies, including the public health implications of such situations and the role of public health agencies and practitioners. The course will employ an all-hazard perspective, including emerging infections, natural disasters, and terrorism. Students will understand the public health community’s role in preparing for and responding to disasters through case studies, discussion, debate, and material related to the national public health preparedness infrastructure. Juniors and seniors Public Health Studies majors only. Gordis Teaching Fellowship course. Recommended Course Background: AS.280.335
Instructor(s): N. Errett
Area: Social and Behavioral Sciences.

AS.280.408. Youth Violence Prevention: A Public Health Approach. 3 Credits.
Examines the causes, consequences, and prevention of violence committed by or against young people through a public health lens. Interrupts prevailing notions about crime and punishment and shifts the discourse to encompass an ecological and developmental understanding of the problem. Media representations and other case studies of youth violence, including mass shootings, child soldiers in armed conflict, interpersonal violence, bullying, suicide, and gang violence, provide the basis for in-class, interactive analysis applying current theories. Introduces effective prevention strategies, underscoring the important role of youth leadership and advocacy to prevent violence. Juniors and seniors Public Health Studies majors only. Gordis Teaching Fellowship course. Recommended Course Background: AS.280.350
Instructor(s): J. Bottiani
Area: Social and Behavioral Sciences.

AS.280.409. Health Systems Challenges from Chronic Diseases in Low and Middle Income Countries. 3 Credits.
This course provides a multidimensional health systems approach to chronic diseases, presently the largest population health burden in low and middle income countries. Learning tools include patient interviews, in-class debates, and country case studies. Juniors and Seniors Public Health Studies majors only. Gordis Teaching Fellowship course.
Recommended Course Background: AS.280.350
Instructor(s): M. Socal
Area: Social and Behavioral Sciences.

AS.280.410. Disease Detectives and the History of Epidemiology. 3 Credits.
Through a series of historical case studies we will explore the changing ideas and assumptions that have shaped our struggles to understand and improve health in the United States. Juniors and Seniors Public Health Studies majors only. Gordis Teaching Fellowship course.
Recommended Course Background: AS.280.350
Instructor(s): A. Buttress
Area: Social and Behavioral Sciences.

AS.280.411. Where You Live Matters": The Role of “Place” in Racial/Ethnic Health Disparities. 3 Credits.
This course will critically examine the impact of place of residence on health outcomes, and on racial/ethnic health disparities. This will be accomplished by examining different definitions and levels of “place”, and assessing the impact of each on various health outcomes and racial/health disparities. The role of “place” will be examined in the development of interventions targeting racial/ethnic health disparities. Juniors and seniors Public Health Studies majors only. Gordis Teaching Fellowship course.
Instructor(s): C. Bell
Area: Social and Behavioral Sciences.

AS.280.412. The HIV/AIDS Pandemic: An Enquiry Concerning Epidemiologic Understanding. 3 Credits.
Students will gain an understanding of the epidemiology of HIV/AIDS that will serve as basis for illustrating modern epidemiologic theory, methods, and practice. Topics will include a review of the natural history and pathogenesis of HIV/AIDS, the spread and current geography of the disease, contemporaneous prevention strategies, and the impact of antiretroviral therapies at the individual and population level. Throughout, a focus on the methods and mindset of epidemiologic enquiry will be emphasized. This will include how epidemiological approaches for characterizing populations, measurements, and inference can be used to build the evidence for public health action. Students will learn through critical analysis and discussion of the peer-reviewed literature coupled with evaluations using short quizzes and a final group presentation. Gordis Teaching Fellowship course.
Recommended Course Background: AS.280.345
Prerequisites: Prerequisite/Corequisite: AS.280.350
Instructor(s): P. Rebeiro
Area: Natural Sciences, Social and Behavioral Sciences.
AS.280.413. Information Communication Technology (e/mHealth) for Health Systems Strengthening. 3 Credits.
This course explores the emerging landscape of information and communication technology in public health, such as e/mHealth, through concepts and frameworks of health systems research with a focus on low and middle income countries (LMICs). It is designed to comprehensively address various aspects of e/mHealth including policy aspects of health systems governance, community aspects of health service delivery, economic aspects of the healthcare market, technological aspects of health information infrastructure, and individual aspects of self-monitoring/management. Multidisciplinary approaches will be encouraged to understand complex public health challenges and to suggest creative yet feasible solutions in low resource settings. Successful e/mHealth use cases across countries with various health system contexts will be introduced and discussed. The course is intended for undergraduate students interested in how information and communication technology is likely to affect health care in the future. Gordis Teaching Fellowship course open to Junior and Senior Public Health Majors only.
Instructor(s): Y. Jo
Area: Social and Behavioral Sciences.

AS.280.414. Foundations of Management and Leadership in Health Care Organizations. 3 Credits.
This seminar course is designed for students who seek an understanding of how to manage health care organizations including management processes, organizational structures, types of governance models and management issues of health care delivery systems. This course is designed to provide participants with an understanding of leadership and organizational behavior within health care organizations (HCOs). In this course, students will become skilled at identifying the forces that challenge the effective management of HCOs at multiple levels – individual, group and organization. Moreover, they will become skilled at developing and analyzing efforts to improve HCOs’ performance. Through case studies, readings, in-class exercises and class discussions, participants will learn analytic frameworks, concepts, tools and skills necessary for leading and management organizational learning, innovation and overall performance improvement in health care organizations. Gordis Teaching Fellowship course open to Junior and Senior Public Health Majors only.
Instructor(s): K. Hayes
Area: Social and Behavioral Sciences.

AS.280.415. Comparative Health Systems and Health Reform. 3 Credits.
The course explores the structural components of modern health care systems through a comparative approach. Students will develop a toolkit for analyzing how the financing, payment, and organization of health service provision determine system performance. Student teams will analyze a health system component and develop health reform recommendations for advancing the often-competing goals of improved population health, financial protection, and public satisfaction. They will also learn how to enhance the political feasibility of technically rigorous reforms through rational design and political stakeholder analysis. Theoretical frameworks utilized by international aid organizations and think tanks will be supplemented by case studies, hands-on class activities, and team projects to encourage active student learning. Gordis Teaching Fellowship course open to Junior and Senior Public Health Majors only.
Instructor(s): N. Done
Area: Social and Behavioral Sciences.

AS.280.416. Nutrition and Immunology in Chronic Disease. 3 Credits.
This course provides an overview of basic immunology and nutrition through the review of published chronic disease research. By careful reading and critique of published literature, students will learn to interpret scientific studies on nutrition and chronic disease. This course will cover a variety of globally important chronic diseases such as type II diabetes, heart disease and cancer. Course sessions will include lectures on the basics of nutrition and immunology, seminar sessions to critically evaluate published research findings and group presentations. Gordis Teaching Fellowship course open to Junior and Senior Public Health Majors only. Recommended Course Background: Introductory Biology
Instructor(s): J. Legault
Area: Natural Sciences.

AS.280.495. Honors in Public Health - Seminar. 3 Credits.
Using lectures, oral presentations, and writing assignments, this seminar is designed to assist Public Health Studies majors in writing a senior thesis. Students will formulate their topics, develop research skills, and address issues of professional ethics. Participating in this seminar is required for students pursuing honors in Public Health Studies. Permission Required.
Instructor(s): J. Schrack; K. Gebo
Area: Social and Behavioral Sciences
Writing Intensive.

AS.280.499. Honors in Public Health. 3 Credits.
A research methods seminar to prepare students doing honors in Public Health Studies. Permission Required.
Instructor(s): J. Schrack; K. Gebo
Area: Social and Behavioral Sciences.

AS.280.500. Applied Experience-Public Health. 2 Credits.
This is a supervised, hands-on experience working with public health professionals. Students will complete 80 hours of applied work and will submit a synthesizing assignment at the end of the term. Please contact your PHS Advisor for complete details. Permission Required. Public Health Majors Only.
Instructor(s): J. Goodyear; K. Gebo; L. Folda; M. Smart.

AS.280.501. Internship-Public Health. 1 Credit.
Permission Required. Public Health majors only
Instructor(s): J. Goodyear; K. Gebo; L. Folda; M. Smart.

AS.280.502. Internship-Public Health. 1 Credit.
Permission Required. S/U only.
Instructor(s): J. Goodyear; L. Folda; M. Smart.

AS.280.505. Research for Freshmen/Sophomores in Public Health. 3 Credits.
Instructor(s): J. Goodyear; K. Gebo.

AS.280.506. Research for Freshmen/Sophomores in Public Health. 0 - 3 Credit.
Permission Required.
Instructor(s): J. Goodyear; K. Gebo.

AS.280.507. Independent Study-Public Health. 3 Credits.
Public Health majors only. Permission Required.
Instructor(s): J. Goodyear; L. Folda; M. Smart; R. Shingles.

AS.280.508. Independent Study-Public Health. 3 Credits.
Consult the public health studies adviser for procedure. Permission Required.
Instructor(s): J. Goodyear; K. Gebo.
AS.280.511. Research for Juniors/Seniors in Public Health. 3 Credits.
Instructor(s): J. Goodyear; K. Gebo; R. Shingles.

AS.280.512. Research for Juniors/Seniors in Public Health. 0 - 3 Credit.
Restricted to public health studies majors. Consult the public health studies adviser for procedure. Permission Required.
Instructor(s): J. Goodyear; K. Gebo; R. Cone; R. Pearlman; R. Shingles.

AS.280.519. Public Health Practice. 2 Credits.
Specialized training course/experience for students who have been selected to become members of the PEEPS (Preventative Education and Empowerment for Peers), a peer education group based out of the Center for Health Education and Wellness (CHEW). The experience will focus on knowledge, skill and application of college health issues including: health promotion theory, body image, sexual health, alcohol and other drugs, and stress management. Permission Required. S/U Only.
Instructor(s): B. Schubert.

AS.280.520. Public Health Practice. 0 - 2 Credit.
This course is a specialized training course/experience for students who have been selected to become members of PEEPS (Preventative Education and Empowerment for Peers), a peer education group based out of the Center for Health Education and Wellness (CHEW). The experience will focus on knowledge, skill and application of college health issues including: health promotion theory, body image, sexual health, alcohol and other drugs, and stress management. Permission Required. S/U only.
Instructor(s): B. Schubert.

AS.280.530. Community Based Learning - Advanced Practicum in Community Health. 2 Credits.
This course is designed to enable students who have already been volunteering in a community health placement either through 280.399 or an Applied Experience to build on this experience in the spring semester. Students eligible to enroll in this course will have previously completed a semester-long volunteering experience and have already made arrangements with that site to continue to volunteer for a minimum of 60 hours in spring 2014 semester. All students meet as a group every other Monday from 5:00-6:30 pm, starting January 27, 2014. By that meeting all students will be expected to have confirmed with their placement sites that they will be continuing. Class time will be used for reflections, training exercises, oral presentations, and group projects. Attendance at the first session is mandatory and registration forms will be completed at this time. Instructor Permission Required.
Instructor(s): J. Goodyear; L. Bone.

AS.280.550. Special Studies: Urban Health Issues. 0 - 2 Credit.
Permission required. Student must register for this course in person only. They will need to have their add/drop slip signed by one of the PHS Academic Advisors or the Administrative Coordinator.
Area: Social and Behavioral Sciences.

AS.280.570. Internship-PH. 1 Credit.

AS.280.590. Internship-Summer. 1 Credit.
Instructor(s): J. Goodyear; K. Gebo; L. Folda; M. Smart.

AS.280.596. Independent Study-Summer. 3 Credits.
Instructor(s): J. Goodyear; L. Folda; M. Smart.

AS.280.597. Research for Freshmen/Sophomores in Public Health. 3 Credits.
Instructor(s): G. Ball; J. Goodyear; K. Gebo; R. Pearlman.

AS.280.598. Research for Juniors/Seniors in Public Health. 3 Credits.
Instructor(s): B. Morgan; J. Goodyear; K. Gebo; T. Schroer.

AS.280.599. Honors In Public Health. 3 Credits.
Instructor(s): J. Goodyear; K. Gebo.

Cross Listed Courses

Anthropology

AS.070.109. The Social Lives of Global Health Programs. 3 Credits.
The course critically examines the techniques, practices, and experiences of global health policies and programs, and explores how global health programs affect the lives of individuals and communities in diverse locations.

AS.070.203. Healing: Politics and Poetics. 3 Credits.
Metaphors of health and illness. Individual and social. The body in pain and the body politic. Ethnographies of historical memory vis-à-vis medicine, epidemics, sacredness, shamanism, terror, humanitarinism, truth and reconciliation.
Instructor(s): J. Obarrio
Area: Humanities, Social and Behavioral Sciences.

AS.070.302. The Social Lives of Global Health Programs. 3 Credits.
The course critically examines the techniques, practices, and experiences of global health policies and programs worldwide, and the effects they have on individuals, families, communities, and states.
Dean's Teaching Fellowship Course
Instructor(s): L. Reynolds
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.306. Healing: Politics and Poetics. 3 Credits.
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.326. Bodies in Anthropology. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

AS.070.327. Poverty's Life: Anthropology of Health & Economy. 3 Credits.
Medicine, economics, and ethics have profoundly shaped debates on poverty. This course analyzes these debates and tracks the relationships between body, economy, and the everyday. How can anthropological reasoning and methods inform approaches to health and economic scarcity and insecurity?
Instructor(s): C. Han
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.070.329. Care and Affliction in the Everyday. 3 Credits.
How are illness, suffering, and potentials for well-being shaped through our everyday relations? In this seminar, we will explore how relations of care make and unmake lives in contexts of inequality and precariousness. We examine how a multiplicity of social ties, from kinship to neighborhood networks, articulates with institutional margins, and mediates violence, scarcity, and material realities of disease and illness. Cross-listed with Public Health Studies
Area: Humanities, Social and Behavioral Sciences Writing Intensive.
History

AS.100.333. Global Public Health Since World War II. 3 Credits.
Globalization has dramatically reshaped the world economy, providing great advantages to some but leaving poor nations to struggle with hunger, disease and death on a daily basis. This course explores the impact of globalization on public health in the developed and the developing nations since 1945. Cross-listed with Public Health Studies
Instructor(s): B. Morgan; L. Galambos
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.100.343. The Power of Place: Race and Community in East Baltimore. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

History of Science Technology

AS.140.105. History of Medicine. 3 Credits.
Course provides an overview of the medical traditions of six ancient cultures; the development of Greek and Islamic traditions in Europe; and the reform and displacement of the Classical traditions during the Scientific Revolution. Cross-listed with Public Health Studies
Instructor(s): M. Fissell
Area: Humanities, Social and Behavioral Sciences.

AS.140.106. History of Modern Medicine. 3 Credits.
The history of Western medicine from the Enlightenment to the present, with emphasis on ideas, science, practices, practitioners, and institutions, and the relationship of these to the broad social context.
Instructor(s): D. Todes
Area: Humanities, Social and Behavioral Sciences.

AS.140.304. Medicine for and by Women in Early Modern Europe. 3 Credits.
This course will examine women’s role in early modern European medicine through the reading of early modern medical texts written for or by women. The course is meant for students interested in women’s history, the history of medicine, European history.
Instructor(s): G. Pomata
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.311. Ecology, Health, and the Environment. 3 Credits.
Explores historical and current problems relating to the environment and human health, with emphasis on the Chesapeake region and Baltimore. Students write research papers.
Instructor(s): S. Kingsland
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.385. A Patient’s History of Health and Healing (1600-1750)(DTF). 3 Credits.
This course explores themes in the history of medicine in early modern Europe from the patient’s point of view. Topics include patients’ conceptions of disease categories, articulations of suffering, use of popular medical texts, experiences of childbirth, negotiations with healers, and approaches to death. Dean’s Teaching Fellowship course
Cross-listed with Public Health Studies
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.397. The Population Problem in Historical Perspective. 3 Credits.
This course will trace the major debates over the relationship of population growth to food supply, birth control, resources, and environmental change from the 18th century to present. Cross-listed with Public Health Studies
Area: Humanities, Social and Behavioral Sciences

Philosophy

AS.150.219. Introduction to Bioethics. 3 Credits.
Introduction to a wide range of moral issues arising in the biomedical fields, e.g. physician-assisted suicide, human cloning, abortion, surrogacy, and human subjects research.
Instructor(s): H. Bok
Area: Humanities
Writing Intensive.

AS.150.302. Topics in Bioethics: Bioethics and the Human Genome. 3 Credits.
Instructor(s): M. Lewis
Area: Humanities

Economics

AS.180.252. Economics of Discrimination. 3 Credits.
What does the empirical evidence show, and how can we explain it? How much of the difference in observed outcomes is driven by differences in productivity characteristics and how much is due to discrimination? How have economists theorized about discrimination and what methodologies can be employed to test those theories? What has been the impact of public policy in this area; how do large corporations and educational institutions respond; and what can we learn from landmark lawsuits? The course will reinforce skills relevant to all fields of applied economics, including critical evaluation of the theoretical and empirical literature, the reasoned application of statistical techniques, and analysis of current policy issues.
Prerequisites: AS.180.102
Instructor(s): B. Morgan
Area: Social and Behavioral Sciences
Writing Intensive.

AS.180.289. Economics of Health. 3 Credits.
Application of economic concepts and analysis to the health services system. Review of empirical studies of demand for health services, behavior of providers, and relationship of health services to population health levels. Discussion of current policy issues relating to financing and resource allocation.
Prerequisites: AS.180.102
Instructor(s): D. Bishai
Area: Social and Behavioral Sciences.

AS.180.390. Health Economics & Developing Countries. 3 Credits.
Prerequisites: AS.180.301
Instructor(s): M. Gersovitz
Area: Social and Behavioral Sciences
Writing Intensive.
Political Science

AS.190.354. Politics of Health Policy. 3 Credits.
Traces the evolution of the American Health care system, emphasis on the political forces that shape public and private provision of health care in the United States.
Instructor(s): P. Longman
Area: Social and Behavioral Sciences.

AS.190.405. Food Politics. 3 Credits.
This course examines the politics of food at the local, national, and global level. Topics include the politics of agricultural subsidies, struggles over genetically modified foods, government efforts at improving food safety, and issues surrounding obesity and nutrition policy. Juniors, seniors, and graduate students only. Cross-listed with Public Health Studies.
Instructor(s): A. Sheingate
Area: Social and Behavioral Sciences
Writing Intensive.

Public Policy

AS.195.477. Intro To Urban Policy. 3 Credits.
Perm. Req'd. 195.477 & 195.478 must be taken together by undergraduates Cross-listed with Political Science, Sociology, Public Health Studies, and Geography and Environmental Engineering
Instructor(s): S. Newman
Area: Social and Behavioral Sciences
Writing Intensive.

AS.195.478. Urban Policy Internship. 3 Credits.
195.478 & 195.477 must be taken together by undergraduates Cross-listed with Political Science, Sociology, Public Health Studies, and Geography and Environmental Engineering
Instructor(s): S. Newman
Area: Social and Behavioral Sciences
Writing Intensive.

German Romance Languages Literatures

AS.211.416. Visual Languages in Medical Knowledge. 3 Credits.
This interdisciplinary course, co-taught by professor Veena Das (Anthropology) and Research professor and filmmaker Bernadette Wegenstein (German and Romance Languages and Literatures) will track the mediation of images in the making of medical knowledge and show how sensory knowledge is incorporated or transformed in the process. Co-listed with 214.616 and 070.416
Instructor(s): B. Wegenstein; V. Das
Area: Humanities.

AS.214.616. Visual Languages in Medical Knowledge.
This interdisciplinary course, co-taught by professor Veena Das (Anthropology) and Research professor and filmmaker Bernadette Wegenstein (German and Romance Languages and Literatures) will track the mediation of images in the making of medical knowledge and show how sensory knowledge is incorporated or transformed in the process. Co-listed with 211.416 and 070.416
Instructor(s): B. Wegenstein; V. Das
Area: Humanities.

Writing Seminars

AS.220.309. Writing Healthy Baltimore. 3 Credits.
Students will explore public health issues in Baltimore and then write about them first in short pieces, and then in longer, polished works. The framework will be the mayor’s Healthy Baltimore 2015 initiative – launched in 2011 to address the city’s top-10 public health problems, including obesity, smoking, drug and alcohol abuse, STDs, cancer, and environmental health hazards. Students will study the initiative and its historical context; examine data sets; explore where and how the initiative intersects with public health practitioners and advocacy groups at the neighborhood level; and write what they learn in different formats, including essays, breaking news, and substance analysis. Students will then "workshop" each other’s papers.
Instructor(s): K. Masterson
Area: Humanities
Writing Intensive.

Sociology

AS.230.150. Issues in International Development. 3 Credits.
This course will provide an undergraduate level introduction to the study and practice, as well as the successes and failures, of international development. Students will be introduced to the various theoretical frameworks used to explain underdevelopment. Students will also explore the practice of development since the 1950s by examining specific strategies employed in Latin America, South Asia, East Asia, and Africa. Using a variety of country-specific case studies, students will have the opportunity to apply the theoretical and practical frameworks learned in the class to assess the successes and failures of real-life cases. Special Note: Fulfills Economics requirement for GSCD track students only. Freshmen and sophomores only.
Instructor(s): M. Levien
Area: Social and Behavioral Sciences.

AS.230.225. Population, Health and Development. 3 Credits.
This course will cover the major world population changes in the past century as well as the contemporary situation and projections for this century. Topics include rapid population growth, the historical and continuing decline of death and birth rates, contraceptive methods as well as family planning and child survival programs, population aging, urbanization, population and the environment and the demographic effects of HIV/AIDS.
Instructor(s): S. Becker
Area: Social and Behavioral Sciences.

AS.230.240. Introduction to Environmental Sociology. 3 Credits.
The first part of the course will critically examine the major theoretical perspectives on environmental sociology including nature as a social construction, ecological marxism and ecological modernization. The second part of the course will examine key aspects of the relationship between society and the environment including risk perception, the environmental effects of economic globalization, the distribution of environmental goods and bads, population growth, environmental movements, and debates about state-led environmental protection.
Area: Social and Behavioral Sciences
Writing Intensive.
AS.230.303. Sociology of Disability. 3 Credits.
This course introduces students to themes within the sociology of disability by critiquing traditional notions of disability, an exploring how societal institutions influence the classification, significance, and experiences of disability. Cross-listed with Public Health Studies.
Instructor(s): C. Villenas
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.320. Education & Inequality: Individual, Contextual, and Policy Perspectives. 3 Credits.
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.324. Gender and International Development. 3 Credits.
This course employs a comparative perspective to examine the gendered impact of international development experiences and policies. Students will discuss the historical evolution of how the concept of gender has been constructed, conceptualized, and integrated into international development theory and practice. The course will also examine how greater international development. In particular, we will examine structural theories of poverty reduction, individual theories of power and processes of stratification at the household and family level. Specific issue areas will include the globalization, class and work political participation and social movements.
Area: Social and Behavioral Sciences.

AS.230.341. Sociology of Health and Illness. 3 Credits.
This course introduces students to medical sociology, which is the application of the sociological perspective to health and health care. Major topics include stress, social epidemiology, and the social organization of health care.
Instructor(s): E. Agree
Area: Social and Behavioral Sciences.

Earth Planetary Sciences

AS.270.107. Introduction to Sustainability. 3 Credits.
Will introduce interactions between global environment and humans, discuss meaning of sustainability, and introduce use of tools to attain sustainability such as policy, law, communication, marketing, research, advocacy, international treaties.
Instructor(s): C. Parker
Area: Natural Sciences.

AS.270.308. Population/Community Ecology. 3 Credits.
This course explores the distribution and abundance of organisms and their interactions. Topics include dynamics and regulation of populations, population interactions (competition, predation, mutualism, parasitism, herbivory), biodiversity, organization of equilibrium and non-equilibrium communities, energy flow, and nutrient cycles in ecosystems. Field trip included.
Prerequisites: AS.270.103 or permission of instructor
Instructor(s): K. Szlavecz
Area: Natural Sciences.

AS.270.320. The Environment and Your Health. 3 Credits.
This course surveys the basic environmental health sciences (toxicology, risk assessment), current public health issues (hazardous waste, radon, water-borne diseases) and emerging global health threats (global warming, ozone depletion, sustainability).
Area: Natural Sciences.

AS.270.360. Climate Change: Science & Policy. 3 Credits.
This course will investigate the policy and scientific debate over global warming. It will review the current state of scientific knowledge about climate change, examine the potential impacts and implications of climate change, explore our options for responding to climate change, and discuss the present political debate over global warming.
Prerequisites: AS.270.103 or permission
Instructor(s): B. Zaitchik
Area: Natural Sciences.

AS.271.107. Introduction to Sustainability. 3 Credits.
Will introduce interactions between global environment and humans, discuss meaning of sustainability, and introduce use of tools to attain sustainability such as policy, law, communication, marketing, research, advocacy, international treaties.
Instructor(s): C. Parker
Area: Natural Sciences.

AS.271.360. Climate Change: Science & Policy. 3 Credits.
Prereq: 270.103 or permission of instructor. This course will investigate the policy and scientific debate over global warming. It will review the current state of scientific knowledge about climate change, examine the potential impacts and implications of climate change, explore our options for responding to climate change, and discuss the present political debate over global warming.
Instructor(s): D. Waugh
Area: Natural Sciences.

Interdepartmental

With the creation of President Barak Obama’s Task Force on Childhood Obesity, there is finally a national focus on the importance of childhood nutrition. First Lady Michelle Obama spearheads the “Let’s Move!” initiative, dedicated to the goal of eradicating childhood obesity through an emphasis on diet and physical activity. This class will tackle the issue of food, nutrition and health from the ground up; looking at multiple behavioral, cultural, and environmental factors that influence what and why we eat. We will also look at how our food systems and eating habits impact the health of individuals, communities, our country, and the world. In this two week session students will have a variety of experiences including trips to a Baltimore City urban farm, the Maryland Food Bank, farmer’s markets, one of Baltimore’s traditional public markets, and a sustainably-sourced restaurant (the famed Woodberry Kitchen). Students will hear a variety of guest speakers from the academic and government
Instructor(s): E. Anderson Steeves
Area: Social and Behavioral Sciences.

AS.360.121. Discover Hopkins Health Studies. 1 Credit.

AS.360.258. Topics in Health, Gender and Sexuality. 3 Credits.
Area: Social and Behavioral Sciences.

Program in Latin American Studies

AS.361.322. Health, Development and Inequalities, A View from Latin America. 3 Credits.
Social inequalities have evolved along with capitalism. The seminar explores how these historical patterns of inequalities relate to the production of health and disease, especially the situation in Latin America.
Instructor(s): C. Abadia
Area: Humanities, Social and Behavioral Sciences.
Center for Africana Studies

AS.362.343. The Power of Place: Race and Community in East Baltimore. 3 Credits.
Despite this long, rich past, much of the history of black East Baltimore has been lost, preserved only in limited fragments, in scattered repositories, or not at all. Today, the history of this neighborhood and the experiences of people who have made it home are at risk of being lost forever. Students in this class will help to change this. Focused on the "Middle East" neighborhood, nearby the site of JHU’s new biomedical park and the downtown campus, over the next fourteen weeks we will document and explore this neighborhood’s rich history from the 1920s to the present day. Collecting and analyzing oral histories with current and former residents and supporting the work of several community organizations dedicated to improving quality of life for those who make the neighborhood home today will be critical to our work. Interviews, photographs, and related material collected as part of this class will become part of the JHU Center for Africana Studies "East Baltimore Oral History Project." As such, they will be archived and also become part of a growing resource that will assist scholars, teachers, and community members in recovering and uncovering this neighborhood’s rich past. Cross-listed with Public Health Studies
Instructor(s): M. Hinderer
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

Study of Women, Gender, Sexuality

The Feminization of Poverty - This WGS course examines the intersection of gender and poverty in the US and internationally. Students will intern for a Baltimore-area organization that works to improve gender economic equality, and course discussions will situate student experiences in a broader framework of understanding.
Instructor(s): T. Gottbreht
Area: Humanities, Social and Behavioral Sciences.

Geography Environmental Engineering

EN.570.108. Introduction Environmental Engineering. 3 Credits.
Overview of environmental engineering including water/air quality issues, water supply/wastewater treatment, hazardous/solid waste management, pollution prevention, global environmental issues, public health considerations/environmental laws, regulations and ethics. Cross-listed with Public Health Studies.
Instructor(s): H. Alavi
Area: Engineering.

EN.570.109. Environment & Society: Towards Sustainability. 3 Credits.
An introduction to understanding sustainability, with a focus on identifying and implementing solutions for a world of increasing needs and limited resources.
Area: Humanities, Social and Behavioral Sciences.

EN.570.465. Water Resource Dev. 3Credits.
Perm. Req’d. An attempt to review utilization and development of water in diverse environments beginning with early irrigation systems revealed by archaeology including those in the Middle East, Asia, and Latin America.
Area: Humanities, Social and Behavioral Sciences.

Entrepreneurship and Management

EN.660.336. Community Engineering: Interdisciplinary Problem Solving-Community Based Learning. 3 Credits.
So many big and seemingly intractable problems inhibit progress and diminish quality of life especially in and around urban communities. Surely there are ways to begin to tackle some of these problems, if we approach them from a multi-disciplinary perspective. This course provides that opportunity as students, who work primarily in teams, apply theory and ingenuity to investigate problems, propose solutions or invent devices that address some of these problems. Class time is spent in lecture, discussion, and applied community projects to master content. Time will be spent participating on teams and working in community organizations in addition to class.
Area: Social and Behavioral Sciences
Writing Intensive.

Social Policy

Social policy is the study of policy solutions to the problems of education, inequality, poverty, crime, and other issues faced by society’s families and children. It is an interdisciplinary field to which the disciplines of economics, sociology, and political science contribute in equal measure. It is a basic-science field with a strong applied research focus that can prepare students for careers in government, non-profits, and the private sector. Because it motivates students to think about how fundamental knowledge translates into real-world problem solving, it is an appropriate specialization for young people who plan to attend law school, programs in public health, or graduate school in the constituent social science fields.

Requirements of the Minor

A social policy minor is offered jointly by the Departments of Economics, Political Science, and Sociology. To complete the minor, students must take an introductory course, Introduction to Social Policy and Inequality: Baltimore and Beyond; a 300-level social policy elective in one of the three departments; an intensive semester in either Baltimore or Washington; and a senior capstone course to be taken after the intensive semester is completed. The preferred sequence is for students to take the introductory course in their sophomore year, the elective in the fall of their junior year, the intensive semester in Washington or Baltimore in the spring of their junior year, and the capstone course in their senior year. However, modifications in the sequence will be considered. The intensive semester in Washington or Baltimore will involve course work focusing on urban and national social policy problems coupled with an internship in a governmental agency or non-governmental organization that is involved with some aspect of social policy, or as a research assistant to a faculty member conducting research on social policy. The capstone course will involve discussion and research among students who have completed the intensive semester and is intended to build up experiences in that semester.

Enrollment in the intensive semester will be limited to 30 students and requires application and admission. The social policy minor is grounded in the three disciplines and priority will be given to students who are majoring in economics, political science, or sociology, but other students who are not majors and who have taken a large number of social science courses will be considered.
While details of the intensive semester programs are still under development, a partial list of electives to be used to fulfill the 300-level social policy elective is available on their website (http://krieger.jhu.edu/socialpolicy).

Students interested in the minor should speak to an advisor in the Economics, Political Science, or Sociology departments.

All courses must be taken for a letter grade and a grade of C- or better must be earned in all minor requirements.

Course Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.360.247</td>
<td>Introduction to Social Policy: Baltimore and Beyond</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>One 300- or 400-level approved social policy elective course from the Economics, Sociology, or Political Science Department</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Junior year intensive semester</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Senior year social policy capstone requirement</td>
<td></td>
</tr>
</tbody>
</table>

Faculty

Professors
Andrew Cherlin
Benjamin H. Griswold III Professor (Sociology).

Robert Moffitt
Krieger-Eisenhower Professor (Economics).

Associate Professors
Stefanie DeLuca
Associate Professor (Sociology).

Adam Sheingate
Associate Professor (Political Science).

Steven Teles
Associate Professor (Political Science).

Assistant Professors
Nicholas Papageorge
Assistant Professor (Economics).

Daniel Schlozman
Assistant Professor (Political Science).

Senior Lecturer
Barbara Morgan
Senior Lecturer (Economics).

Sociology

The Department of Sociology concentrates on two broad areas at the graduate and undergraduate levels: Global social change, which focuses on cross-national, comparative research; and social inequality, which primarily focuses on family, education, work, race, gender, policy, and immigration.

These concentrations trace back to the department’s founding in 1959 by renowned American sociologist James Coleman. The department has since earned a reputation as one of the most selective, personalized sociology departments in the U.S. Currently home to 17 faculty members, 36 graduate students, and roughly 50 undergraduates, the department offers a uniquely intimate scholarly atmosphere in which faculty and students interact and collaborate frequently.

Scholars in the department share a wide variety of interests and interdisciplinary partnerships. Students are given flexible parameters for their study, and several faculty members have been honored with joint appointments in other Johns Hopkins schools and divisions. The department shares a unique relationship with the Bloomberg School of Public Health, which offers faculty and students access to first-rate collaborations in fields such as population and demography, mental health and mental hygiene, and healthcare organization. The department is also proudly partnered with the Department of Applied Mathematics and Statistics and is committed to building and maintaining strong foundations in quantitative research methods.

Major in Sociology

A major in sociology offers undergraduates a variety of post-graduation opportunities. Graduates from the department have found positions in financial institutions, education, non-governmental organizations focusing on international development, research departments of major corporations, and local government social service agencies. Others continue to graduate school in sociology, public health, law, urban planning, and education. A major in sociology can also be combined with the pre-medical course sequence, resulting in a medical school candidate who is well versed in the hard science of the human body and the social science of the human experience. For more details, please visit http://soc.jhu.edu/undergraduate/.

Requirements for a B.A. Degree

(Also see Requirements for a Bachelor’s Degree (p. 24).)

The required courses for a major in sociology provide students with a fundamental understanding of sociological theory, methods, and social statistics. Beyond these core requirements, elective courses are offered on a range of important sociological themes, including gender and family, social structure and personality, education, race and ethnicity, immigration, political sociology, international development, and the evolution of a world social system.

Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AS.230.101</td>
<td>Introduction Sociology</td>
<td>3</td>
</tr>
<tr>
<td>AS.230.205</td>
<td>Introduction to Social Statistics</td>
<td>4</td>
</tr>
<tr>
<td>AS.230.202</td>
<td>Research Methods for the Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>AS.230.213</td>
<td>Social Theory</td>
<td>3</td>
</tr>
<tr>
<td>AS.230.322</td>
<td>Quantitative Research Practicum</td>
<td>3</td>
</tr>
<tr>
<td>or AS.230.323</td>
<td>Qualitative Research Practicum</td>
<td></td>
</tr>
<tr>
<td>or AS.230.325</td>
<td>Global Social Change and Development Practicum</td>
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</tr>
</tbody>
</table>

Sociology Electives

Two sociology courses at any level
Four sociology electives at the 300-level or above

Additional Social Science Electives

Three non-sociology courses at any level carrying a social and behavioral sciences area designator in at least two other departments or programs
* One elective course may be fulfilled by combining 1 or 2 credit courses for a total of at least 3 credits. All other elective courses must be at least 3 credit courses. Up to two of the six sociology electives and one of the three other social science electives may be independent study or independent research courses (at least 3 credits) supervised by Hopkins faculty. Only one course taken in the summer at JHU may apply towards the sociology electives.

All courses must be taken for a letter grade and a grade of C or better is required.

Foreign language study is strongly encouraged for majors, especially those considering graduate or professional study.

**Senior Honors Program**

The senior year Honors Program affords highly motivated and qualified students the opportunity to pursue, with faculty guidance, a research project of their own design. The Honors Program culminates in an honors thesis; a substantial work of original scholarship. Prerequisites and requirements for the program are as follows:

- All the requirements of a traditional major in sociology.
- Minimum 3.5 GPA in all sociology core curriculum courses.
- Declaration of intention to enroll in Senior Honors Program to faculty advisor by the end of the junior year.
- At least two 300-level courses in sociology by the end of the junior year.
- Foreign language study through the intermediate level (equivalent to four semesters) by the end of senior year.
- Enrollment in the year-long AS.230.502 Senior Honors Program.
- Completion and faculty approval of honors thesis.

For more information on the Senior Honors Program, contact your faculty advisor.

**Social Policy Minor**

The Social Policy minor (https://e-nexcatalog.jhu.edu/departments-program-requirements-and-courses/arts-sciences/social-policy-minor) brings an interdisciplinary focus to the many social problems facing a city such as Baltimore and the nation as a whole, and encourages the search for policy solutions to those problems.

**Global Social Change and Development Track**

The Global Social Change and Development (GSCD) Track (http://krieger.jhu.edu/arrighi/undergraduate/gscd) is geared towards students interested in understanding critical issues surrounding contemporary processes of globalization and international development. The track provides students with a sophisticated set of research and critical-thinking skills, prepares students for twenty-first century professions and helps them to become thoughtful global citizens. Ultimately, students pursuing the Global Social Change and Development track will receive a double major in both International Studies and Sociology.

**Alpha Kappa Delta (AKD) Honor Society**

In spring 2006, the Sociology department was awarded a chapter of the AKD sociology honor society. The chapter welcomed eleven new initiates that year, two faculty members, two new graduate students, and seven undergraduates.

AKD is an open, democratic, international society of scholars dedicated to the ideal of Athrono Katamanthanein Diakonesin or “to investigate humanity for the purpose of service.” AKD seeks to acknowledge and promote excellence in scholarship in the study of sociology, the research of social problems, and other social and intellectual activities that will lead to improvement of the human condition.

AKD was founded at the University of Southern California in 1920 and affiliated with the Association of College Honor Societies in 1967. There are more than 97,000 lifetime members and over 600 chapters of the Society. These are persons with academic records showing excellence in sociology.

Initiates receive a chapter pin, a certificate of membership, and a membership activation form. Members who submit completed activation forms receive a one-year subscription to Sociological Inquiry, the official journal of the Society, the Alpha Kappa Delta Newsletter, election materials, and other services. In addition, the Society sponsors student paper contests, provides honoraria for initiation speakers, provides funds for student travel to regional sociological meetings, funds research symposia, sponsors a distinguished lecture series at the Annual Meeting of the American Sociological Association, and contributes annually to the ASA Minority Scholarship Fund. AKD members wear AKD honor cords at graduation ceremonies.

AKD chapters are important in the academic, professional, and social lives of student and faculty members. They provide opportunities for initiating and sharing activities in keeping with the purposes of the Society. Our local chapter affords the opportunity for faculty, graduate students, and undergraduate students to interact informally and to plan together events to enrich the intellectual and social life of the Department.

To be eligible for membership, majors must have at least junior year standing, an overall GPA of at least 3.0, a sociology GPA of at least 3.5, and have taken at least four courses in sociology.

Election to Alpha Kappa Delta is without regard to race, creed, or national origin. For more information, interested students should contact the AKD Faculty Chapter Representatives: Karl Alexander (karl@jhu.edu), Katrina McDonald (kmcdon@jhu.edu), Stephen Plank (splank@jhu.edu).

**James S. Coleman Award**

This award was established by the Department of Sociology in 1994 in honor of Dr. James S. Coleman, first chair of the department. The award is for outstanding academic achievement by a senior majoring in sociology and is presented at graduation.

The department’s primary educational goal is to train first-class sociology Ph.D.’s. The sociology graduate experience at Johns Hopkins is best characterized as a research apprenticeship – a careful blend of formal instruction, faculty-directed individual study, and supervised as well as self-initiated research. The department’s small size and specific concentrations yield a personalized course of study and close relationships with faculty members and fellow graduate students. The social climate is informal, and the mix of students and faculty, drawn from a wide variety of geographic and social backgrounds, constitutes a rewarding intellectual community.
The department also offers two certificate programs that allow students to concentrate their graduate course of study: Program on Global Social Change (PGSC) and Program on Social Inequality (PSI). Students may pursue certificates in either, both, or neither of the special programs, and credits earned while pursuing a certificate may also be used to fulfill Ph.D. requirements. For more details, please visit http://soc.jhu.edu/graduate/.

Admissions

Applicants must submit an application fee, personal statement, GRE scores, all college transcripts, at least two (preferably three) letters of recommendation, and a sample of written work. International applicants must also submit a TOEFL score and a financial statement (FS-1G Form: Graduate International Student Notification [F-1/J-1]). Applicants should have a broad background in social science, especially sociology, economics, and psychology. Training in mathematics is encouraged. The department gives greatest weight to an applicant’s demonstrated ability and past performance. For more details, please visit http://soc.jhu.edu/graduate/admissions/.

Requirements for the Ph.D. Degree

Core Curriculum

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>AS.230.600</td>
<td>Introduction to Social Statistics</td>
</tr>
<tr>
<td>AS.230.602</td>
<td>Theories of Society</td>
</tr>
<tr>
<td>AS.230.603</td>
<td>Contemporary Social Theory</td>
</tr>
<tr>
<td>AS.230.604</td>
<td>Linear Models for the Social Sciences</td>
</tr>
<tr>
<td>AS.230.608</td>
<td>Proseminar In Sociology *</td>
</tr>
<tr>
<td>AS.230.643</td>
<td>Sociological Analysis</td>
</tr>
</tbody>
</table>

* Students are also required to take one of the following three methods courses as part of their core course requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.230.636</td>
<td>Research Designs for Causal Inference and Mixed Methods</td>
</tr>
<tr>
<td>AS.230.649</td>
<td>Qualitative Research Methods</td>
</tr>
<tr>
<td>AS.230.650</td>
<td>Macro-Comparative Research</td>
</tr>
</tbody>
</table>

To count toward degree requirements, core curriculum courses other than AS.230.815 Trial Research Paper I must be passed with a grade of B- or higher. After the core course requirement is satisfied, additional methods courses from the list above may be used to fulfill the nine-elective course requirement.

Electives

In addition to the core curriculum, graduate students must enroll in nine additional graduate-level courses, up to four of which may be taken outside of the department. All must be passed with a grade of B- or higher. While students are free to select these courses, the department strongly recommends that they be taken from diverse fields of specializations so as to maximize the breadth of exposure to core areas of sociology and other disciplines.

Teaching Assistantships

As part of their preparation for future academic work, graduate students are required to register for AS.230.811 Teaching Assistantship and serve as a teaching assistant for at least one semester.

Foreign Language

One of the requirements for the Ph.D. degree in sociology at Johns Hopkins University is a reading knowledge of a language other than English, and no student is exempt from this requirement. For a language to be eligible the student must show that

1. a body of social scientific literature exists in the language, or
2. the student must use this language to carry out dissertation field work or archival research for the dissertation.

The language test will evaluate comprehension of a social science document. Students are encouraged to complete the language requirement as soon as possible, but no later than the end of their third year.

Residence

A minimum of two consecutive semesters of full-time residence is mandatory for all degrees. However, at least six semesters of full-time residence is recommended by the department for completion of the core curriculum, electives, and completion of a research apprenticeship and a trial research paper. By the end of the fourth year in the program, the student is expected to have written a dissertation proposal and have defended it successfully before the appropriate examining committees.

Research Apprenticeship

AS.230.801 and AS.230.804

Students are required to develop practical research expertise through professional-level participation (data analysis, literature searches/reviews, non-routine data processing or coding, preparation and refinement of research instruments, and data/file management). This requirement is fulfilled by satisfactorily completing a Research Apprenticeship, which is required during the student’s first year of full-time graduate study in the department. The standard for certification is substantial research accomplishment as judged by the faculty supervisor.

Trial Research Paper

(AS.230.815, AS.230.816, AS.230.817)

The Trial Research Paper (TRP) affords students the experience of planning and executing a research project that leads to a scholarly paper. The TRP is expected to be a serious, complete work of scholarship, suitable for conference presentation or journal submission. By the end of the fall semester of their second year, students should invite a faculty sponsor to supervise the design and execution of the TRP project. A TRP proposal must be approved by the faculty sponsor by the end of the spring semester of the second year. By the end of the fall semester of the third year, the faculty sponsor must approve a draft of the paper which will then be reviewed by another department faculty member. The faculty sponsor, at her or his discretion, may extend this deadline to the end of the intersession period following the fall semester. The faculty reviewer will evaluate the paper and, if necessary, recommend revisions that should be made before the paper is certified. The faculty sponsor will determine required revisions and
must certify a final TRP by the end of the spring semester of the third year.

**Dissertation**

The student must propose and conduct original research presented in a dissertation suitable for publication. The department administers an oral examination which must be passed before the student is allowed to defend before a university board. The dissertation must then be defended either at a Graduate Board preliminary oral examination, based on the dissertation proposal, or at a Graduate Board final oral examination, based on the completed dissertation.

**Special Programs**

The department offers two special programs that coordinate activities in its two areas of concentration. Doctoral students may affiliate with one or both of these programs at their discretion. These programs function as fields of doctoral specialization within the Department of Sociology.

**Program on Global Social Change (PGSC)**

This concentration of graduate study focuses on cross-national, comparative research and long-term, world-scale social change. The goal of the program is to give students knowledge of the various theoretical perspectives in these areas, experience in data collection and analysis, and expertise in one or more substantive fields.

The program does not focus on a particular geographic area, although faculty members have conducted extensive research on Latin America, Africa, Asia, the Middle East, and Eastern and Southeastern Europe. Instead of a geographical approach, the emphasis is on issues of development and social change that cut across different countries and world regions. Examples are globalization and regionalization, labor and development, city systems and urban primacy, social movements and revolutions, state violence, migration and labor force formation, family structure and change, social structure and personality, and national and international stratification. Students enroll in a sequence of courses and seminars and participate actively in ongoing faculty projects dealing with one or more of the above issues.

In addition, the interdisciplinary character of graduate education at Johns Hopkins offers students ample opportunity to enroll in courses or collaborate in research of faculty in other departments. Faculty associates of the program include distinguished scholars in anthropology, economics, geography, history, political science, and public health.

A graduate concentration is not required of Ph.D. students.

**Program on Social Inequality (PSI)**

This concentration of graduate study focuses on the causes and consequences of social inequality, the social processes that sustain it, and how social policies can reduce it. These questions are addressed in terms of class, gender, race, ethnicity, and immigration status/citizenship.

The program is designed to train students in the sociological analysis of social inequality among individuals and groups. This training includes course work in areas such as social stratification, the sociology of the family, the sociology of education, sociology of immigration, social structure and personality, social policy, and research design and methods. Students in the PSI program enroll in a sequence of courses and seminars and participate actively in ongoing faculty projects dealing with one or more of the above issues.

In addition, the interdisciplinary character of graduate education at Johns Hopkins offers students ample opportunity to enroll in courses or collaborate in research with faculty in other departments. Faculty associates of the program include distinguished scholars in anthropology, economics, geography, history, political science, and public health.

A graduate concentration is not required of Ph.D. students.

**Joint Program: Doctorate in Sociology and Master’s in Applied Mathematics and Statistics**

The Department of Sociology, Krieger School of Arts and Sciences, and the Department of Applied Mathematics and Statistics, Whiting School of Engineering, announce a joint program leading to a Ph.D. in Sociology and an M.A. or M.S.E. in Applied Mathematics and Statistics. The purpose of the joint program is to offer Sociology doctoral students an opportunity to acquire advanced statistical knowledge and applied research skills.

The joint program requirements include all the Ph.D. requirements in Sociology and the specially designed requirements for an M.A. or M.S.E. in Applied Mathematics and Statistics. For Sociology Ph.D. requirements, see the Sociology Ph.D. Students Handbook. Applied Mathematics and Statistics courses may substitute for AS.230.600 Introduction to Social Statistics and AS.230.604. Two options for fulfilling the requirements are available for an M.A. or M.S.E. in Applied Mathematics and Statistics. For both options, students are required to meet the Applied Mathematics and Statistics department’s computing requirement (fulfilled through EN.550.413 Applied Statistics and Data Analysis), the purpose of which is to ensure that students are able to effectively use computers to solve mathematical problems.

Note: All Joint Program students are required to complete Responsible Conduct of Research (RCR) training, which is in addition to the HIPPA training required for the sociology Ph.D.

For more information, please visit [http://soc.jhu.edu/graduate/jointprogram/](http://soc.jhu.edu/graduate/jointprogram/).

**Facilities**

Each resident graduate student is provided office or desk space to conduct his or her studies and research. In addition, the department has a computer lab with a network of computers and printers for graduate student use. Close working relationships exist with the Center for Social Organization of Schools and the Institute for Policy Studies, which provide excellent opportunities for research training.

**Financial Aid**

The department strives to provide five years of financial aid for all students who are in good academic standing. Eligibility for financial aid in the fifth year ordinarily requires successful oral defense of the dissertation proposal by May 31, following their fourth year in the Ph.D. program.

The department has a number of assistantships that are awarded each year to graduate students in the Ph.D. program. Opportunities are also available for graduate students to work as salaried research assistants.
with members of the Sociology faculty and staff at associated research centers.

For current faculty and contact information go to http://soc.jhu.edu/directoryindex/faculty/

**Faculty**

**Chair**
Andrew J. Cherlin
Benjamin H Griswold III Professor of Public Policy; sociology of the family, demography, social policy.

**Professors**

Kathryn Edin
Bloomberg Distinguished Professor; poverty, inequality, social policy

Lingxin Hao
Sociology of the family, public policy, immigration, social inequality, sociology of education, quantitative methodology.

Stephen L Morgan
Bloomberg Distinguished Professor; education, inequality, demography, and methodology

Beverly J. Silver
Historical capitalism, comparative and world-historical research methods, global inequality and development, labor and social movements.

**Associate Professors**

Rina Agarwala
International development, gender, labor, migration, globalization, India

Joel Andreas
Post 1949 Chinese society, transitions to and from socialism, industrial democracy, education and class reproduction.

Stefanie A. DeLuca
Sociology of education, sociology of neighborhoods, life course studies.

Ho-Fung Hung
Global political economy, contentious politics, nationalism, and social theory.

Katrina Bell McDonald
Sociology of the family, gender/ethnic identity, race and social class.

**Assistant Professors**

Julia Burdick-Will
Urban sociology, education, stratification

Ryan Calder
Economic sociology, political sociology, political economy, Middle East, Southeast Asia, Globalization, finance, Islamic banking, Islamic jurisprudence

Meredith Greif
Race, urban sociology, and health in developing countries

Michael Levien
Political and developmental sociology.

**Professor Emeritus**

Melvin L. Kohn
Academy Professor in The Academy at JHU/KSAS; social structure and personality, cross-national comparative analysis, social class and stratification, sociology and social psychology of work.

**Research Professor**

Emily Agree
Gerontology demography.

Karl L. Alexander
Academy Professor in The Academy at JHU/KSAS, sociology of education, social stratification

**Adjunct/Lecturers**

Joyce Epstein
Research Professor (Center for Social Organization of Schools); sociology of education, evaluation research, social psychology.

Kelly Gebo
Adjunct Assistant Professor (School of Medicine); medical sociology and mental health.

Huei-ying Kuo
Senior Lecturer/Assistant Research Scientist; Chinese diasporic business networks, Japanese and British imperialism, as well as Chinese nationalism in East and Southeast Asia.

James McPartland
Research Professor (Center for Social Organization of Schools); sociology of education, race relations, formal organizations.

Sydney Van Morgan
Director of International Studies

Timothy Nelson
Senior Lecturer/Associate Research Scientist; low income non-custodial fathers, congregational studies, African-American religion.

Magda von der Heydt
Senior Lecturer (Latin American Studies Program); socio-economic history of Latin America, developmental processes.

**Joint Appointments**

David M. Altschuler
Adjunct Associate Professor (Institute for Policy Studies) Bloomberg School of Public Health; de-institutionalization and community-based services, delinquency and criminal justice, voluntary organizations and philanthropy, social policy.

Nan M. Astone
Associate Professor, Bloomberg School of Public Health; demography, urban poverty, adolescence.

Stanley Becker
Professor, Bloomberg School of Public Health; demography.

William W. Eaton
Professor, Bloomberg School of Public Health; epidemiology of schizophrenia, research methods, sociology of mental disorders and mental hygiene.

Margaret E. Ensminger
Professor, Bloomberg School of Public Health; poverty, family, adolescence, social structure and individual lives, substance use, criminal behavior, life course.

Thomas A. LaVeist
Professor, Bloomberg School of Public Health; medical sociology, mortality, health services, aging.

Lori Leonard
Associate Professor, Bloomberg School of Public Health; global health, anthropology, ethnography, reproductive health, adolescents, women’s health.

Vicente Navarro
Professor, Bloomberg School of Public Health; health and social policy, international health, health care policy.

Sandra J. Newman
Director, Adjunct Professor (Institute for Policy Studies) Bloomberg School of Public Health; policy analysis, housing policy for vulnerable populations, long-term care policy.

Marc Stein
Assistant Professor, School of Education; neighborhoods, school choice, academic achievement.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

AS.230.101. Introduction Sociology. 3 Credits.
Introduces students to basic sociological concepts and perspectives, and applies them to a variety of topics including family, work, and the dynamics of class, gender, and racial/ethnic inequalities in the United States and globally.
Instructor(s): T. Nelson
Area: Social and Behavioral Sciences.

AS.230.108. Freshman Seminar: Disability & Society. 3 Credits.
This seminar is designed to introduce students to, and examine the medical and human state of disability. It is structured to give students basic insight into how disability is defined, experienced, and understood in modern society, and to provide an introduction to the study of disability. We will look historically at the circumstances surrounding the oppression of individuals with disabilities. We will also explore how cultural depictions of disability in popular culture, films, television, music, literature, and the internet media form and reinforce disability stereotypes. Throughout this course, we will also analyze the benefits and detriments of government policies created to level opportunities for individuals with disabilities. Finally, we will also look at present bioethical issues related to disability including selective abortion, genetic testing, growth limitation, and cochlear implantation. Dean’s Prize Freshman Seminar
Area: Social and Behavioral Sciences.

AS.230.109. Freshman Seminar: Hot Topics in Education. 3 Credits.
This course examines current school reform initiatives and the controversies surrounding them through a sociological lens. Freshmen Only
Instructor(s): J. Burdick-Will
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.112. Freshmen Seminar on Race & Education. 3 Credits.
The goal of this course is to explore issues of race and ethnicity in American education. We begin by studying the landmark Supreme Court case, Brown V. Board of Education, and related school segregation and resegregation issues. Through lectures, discussions, and films, students will become familiar with various sociological lens through which the educational issues facing blacks, Asians, Latinos, and American Indians are analyzed. Cross-listed with the Center for Africana Studies.
Instructor(s): P. Bennett
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.123. Trust and Altruism: Existence and Forms in Theory and Practice. 3 Credits.
Trust is often cited as necessary to the successful functioning of small groups, formal organizations, and democratic society. Altruism is a concept that is debated regarding its very existence – whether there is a sociological, biological, or other basis for saying it exists. Through interdisciplinary readings – primarily from sociology but also evolutionary biology, psychology, and philosophy – we will consider theories of trust and altruism, as well as claims about other mechanisms that can secure mutually beneficial cooperation. Case studies from families, education, neighborhood ecology, and on-line communities are featured. Freshmen only.
Instructor(s): S. Plank
Area: Social and Behavioral Sciences.

AS.230.127. Freshmen Seminar: Social Interaction. 3 Credits.
This course introduces students to ways of seeing social interaction, from mundane acts like conversation and riding the bus to extraordinary events like riots, escape panics and battlefield atrocities. The course will employ a “hands on” approach in which students will DO and not just read about sociology. Locations in and around campus will serve as laboratories to observe (and instigate) interactions for analysis. Freshman Only.
Instructor(s): T. Nelson
Area: Social and Behavioral Sciences.

AS.230.129. Social Science Research Methods Practicum. 3 Credits.
Taught by a sociologist and a political scientist, this interdisciplinary course gives students hands-on training with several social scientific research methods. Both quantitative and qualitative methods will be introduced, including survey, secondary data analysis, participant observation, path dependency, and event-structure analysis. Students will be expected to consider the strengths and weaknesses of each method, including the types of validity threats associated with each.
Area: Social and Behavioral Sciences.

AS.230.140. Introduction to Globalization. 3 Credits.
This course offers a broad introduction to the social, economic and political dimensions of globalization. Themes include theories of globalization, the impact of global processes such as immigration and capital mobility on work and family, and how local protest has shaped global social change.
Area: Social and Behavioral Sciences.
**AS.230.145. Social Problems in Contemporary China. 3 Credits.**
This course will introduce students to contemporary Chinese society in the era of reform through examination of major social problems. We will examine issues such as: urban-rural divisions and the hukou system; urbanization and the plight of millions of peasant workers migrating into China’s cities; changing class structure and the lives of the new urban underclass such as laid-off state workers; the one-child policy and its impacts on women, children, and society in China; education and gender inequality; land disputes and rural protests; corruption and stalled political reforms; government media control and contesting cyber-space; pollution and emerging environmental movement; ethnic conflicts; and challenges faced with China’s medical care and public health system. The course will also discuss the impact of the rise of China, and its past, current, and possible future development paths in the region and the world. Through lectures, discussions, group projects, and documentary films, students will get a bird’s eye view of contemporary Chinese society, and gain some insights on the problems of balancing economic growth and social development. Cross-listed with East Asian Studies
Instructor(s): L. Zhang
Area: Social and Behavioral Sciences.

**AS.230.150. Issues in International Development. 3 Credits.**
This course will provide an undergraduate level introduction to the study and practice, as well as the successes and failures, of international development. Students will be introduced to the various theoretical frameworks used to explain underdevelopment. Students will also explore the practice of development since the 1950s by examining specific strategies employed in Latin America, South Asia, East Asia, and Africa. Using a variety of country-specific case studies, students will have the opportunity to apply the theoretical and practical frameworks learned in the class to assess the successes and failures of real-life cases. Special Note: Fulfills Economics requirement for GSCD track students only. Freshmen and sophomores only.
Instructor(s): M. Levien
Area: Social and Behavioral Sciences.

**AS.230.166. Chinese Migration in Modern World History 1500’s-2000’s. 3 Credits.**
This interdisciplinary course applies theories of economic sociology to examine the effects of Chinese overseas migration on modern world economy from the sixteenth century to the contemporary era. It examines the contribution of overseas Chinese to the development of capitalism in the following junctures: the East-West economic integration in the pre-modern era, China’s modern transformation after the Opium War (1839-1842), the making of US national economy in the early twentieth century, as well as the postwar economic miracles in the Pacific Rim, among others. Special Note: Fulfills History requirement for GSCD track students.
Instructor(s): H. Kuo
Area: Social and Behavioral Sciences.

**AS.230.175. Chinese Revolutions. 3 Credits.**
This course introduces the origins, operation and impacts of five major revolutions in modern China between 1850 and 1950. These include the Taiping Rebellion, the republican revolutions, federalist and southern automatic movements, labor strikes as well as peasant rebellions. It draws on the existing historiography that examines China’s transition from an empire to a republic, impacts of western and Japanese influences to China, as well as the continuity and change of Chinese social organizations. Cross list with International Studies and East Asian Studies. Fulfills IS History requirement.
Instructor(s): H. Kuo
Area: Social and Behavioral Sciences Writing Intensive.

**AS.230.199. Criminal Justice & Correction. 3 Credits.**
An overview of the criminal justice system including court watching and riding with a police officer (optional). Class includes guest visits, field trips, and term projects.
Instructor(s): S. Harris
Area: Social and Behavioral Sciences

**AS.230.202. Research Methods for the Social Sciences. 3 Credits.**
The purpose of this course is to provide a sound introduction to the overall process of research and the specific research methods most frequently used by sociologists and other social scientists. Required for IS GSCD track students.
Instructor(s): L. Hao
Area: Social and Behavioral Sciences Writing Intensive.

**AS.230.203. Intro Latin American Societies. 3 Credits.**
This course is designed as an introduction to latin america’s societies for beginners. The course is organized thematically, providing a survey of latin america through its historical, economic, social, political and cultural dimensions. We will analyze the pre-columbian civilizations and the legacy of colonialism to understand the origins of the multiethnic societies and then focus on the contemporary development. It will offer fundamental background information to build a solid base for further specialization in a region or a theme.
Area: Social and Behavioral Sciences.

**AS.230.205. Introduction to Social Statistics. 4 Credits.**
This course will introduce students to the application of statistical techniques commonly used in sociological analysis. Topics include measures of central tendency and dispersion, probability theory, confidence intervals, chi-square, anova, and regression analysis. Hands-on computer experience with statistical software and analysis of data from various fields of social research. Special Note: Required for IS GSCD track students.
Prerequisites: Statistics Sequence Restriction: Students who have completed EN.550.111 OR EN.550.113 may not enroll.
Instructor(s): D. Pasciuti
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.
AS.230.208. Introduction to Race and Ethnicity. 3 Credits.
This course offers an historical overview of race and ethnicity in American society, and the processes that have led to ethnic and racial boundaries. We explore the social dynamics of racial/ethnic hostility and racial/ethnic protest movements. In addition, we examine how race and ethnicity have been used to justify segregation, domination and genocide, but also to create a sense of community, shared responsibility and belonging. Cross-listed with Africana Studies
Instructor(s): K. McDonald
Area: Social and Behavioral Sciences.
AS.230.213. Social Theory. 3 Credits.
This course provides an introduction to classical sociological theories (with an emphasis on Marx, Weber, and Durkheim). Contemporary theoretical perspectives on social inequality, conflict, and social change are also explored. Emphasis is placed on understanding the theoretical constructs as well as on applying them in the analysis of current social issues. Special Note: Required for IS GSCD track students.
Instructor(s): J. Andreas
Area: Social and Behavioral Sciences
Writing Intensive.
AS.230.223. Housing and Homelessness in the United States. 3 Credits.
This course will examine the role of housing, or the absence thereof, in shaping quality of life. It will explore the consequences of the places in which we live and how we are housed. Consideration will be given to overcrowding, affordability, accessibility, and past and existing housing policies and their influence on society. Special attention will be given to the problem of homelessness.
Instructor(s): M. Greif
Area: Social and Behavioral Sciences.
AS.230.224. Migration and Social Change in China. 3 Credits.
This course, titled “Migration and Social Change in China: a Global Perspective,” assists students to understand rapid social change in China and globalization of production through the window of the massive rural-urban migration. While focusing on migrant labor, the course will raise and discuss a wide range of issues, including rural development, rural-urban inequality, government policy, public health, environmental degradation, capital relocation and global commodity chain.
Area: Social and Behavioral Sciences
AS.230.225. Population, Health and Development. 3 Credits.
This course will cover the major world population changes in the past century as well as the contemporary situation and projections for this century. Topics include rapid population growth, the historical and continuing decline of death and birth rates, contraceptive methods as well as family planning and child survival programs, population aging, urbanization, population and the environment and the demographic effects of HIV/AIDS
Instructor(s): S. Becker
Area: Social and Behavioral Sciences.
AS.230.228. Colonialism in Asia and Its Contested Legacies. 3 Credits.
This seminar examines the theories and historiography of colonialism in Asia, with special focus on the development of British Straits Settlements and Hong Kong as well as Japanese Taiwan. We will review the competing discourses about the impact of colonial dominations in these areas from the 1800s to the present-day. In the beginning of the era, the British built up the economic linkage between Hong Kong and Penang, Malacca as well as Singapore to sustain its dominance throughout the “Far East.” In the middle of the period, the expanding Japanese empire developed Taiwan as a footstep to compete with the British interests in South China and Southeast Asia. Hong Kong and the Straits Settlements, especially Singapore, became the contested terrain where two colonial powers vied for their influences in the region. The competition was not only about trade, but about the construction of a new East Asian regional order after the end of the Chinese hegemony. In the end of the period, the intervention of the US power in postwar Asia facilitated the retreat of the colonial establishments, British and Japanese ones included. The course that compares the colonial establishments and discourses on colonial legacies among the three areas points out that colonialism constituted an inalienable part of Asian history. Cross listed International Studies (CP) and East Asian Studies.Fulfills History requirement for IS GSCD track students only.
Instructor(s): H. Kuo
Area: Social and Behavioral Sciences
Writing Intensive.
AS.230.234. Comparative Perspectives on Race & Ethnicity. 3 Credits.
This course is designed for students to explore the meanings and significance of race and ethnicity in different parts of the world. Students will learn to distinguish between race and ethnic concepts, and assess the impact of these processes on social relations, cultural identities, and structures of power and inequality within and across countries. The focus will be on understanding change and stability in race and ethnic relations as a result of forces such as, globalization, migration, and democracy in regions as diverse as North America, Europe, Asia, and Latin America. Each week will be dedicated to a different region of the world, and readings, assignments, and discussions will offer opportunities to engage with the literature and to reflect on real life case studies and examples. The first week will open with reflections about race in the United States both before and after Obama. Subsequent weeks will turn to themes such as, immigration debates in Europe and Asia, the politics of Islamophobia, and indigenous struggles in Latin America.
Area: Social and Behavioral Sciences.
AS.230.237. Sociology and Film. 3 Credits.
Do films merely mirror society, or do they in fact shape societal experience? This class will investigate these questions through a filmic analysis of sociological issues. We will consider both narrative and documentary films and use them to engage in sociological questions of class, race, and gender. We will discuss what the historical and current trends in film making and film subject say about society, and how these trends may in turn influence society.
Instructor(s): E. Talbert
Area: Humanities, Social and Behavioral Sciences.
AS.230.240. Introduction to Environmental Sociology. 3 Credits.
The first part of the course will critically examine the major theoretical perspectives on environmental sociology including nature as a social construction, ecological Marxism and ecological modernization. The second part of the course will examine key aspects of the relationship between society and the environment including risk perception, the environmental effects of economic globalization, the distribution of environmental goods and bads, population growth, environmental movements, and debates about state-led environmental protection.
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.243. Sociology of Education. 3 Credits.
Significant gaps in academic achievement persist among students from different socioeconomic groups and have actually widened over the past fifty years. Through a sociological lens, we will identify the sources of these gaps and consider recent intervention efforts to narrow them. Students will use multiple data sources to explore the causes of under-achievement in one Baltimore neighborhood and will design a targeted intervention to improve the academic outcomes of students in that neighborhood.
Area: Social and Behavioral Sciences.

AS.230.244. Race and Ethnicity in American Society. 3 Credits.
Race and ethnicity have played a prominent role in American society and continue to do so, as demonstrated by interracial and interethnic gaps in economic and educational achievement, residence, political power, family structure, crime, and health. Using a sociological framework, we will explore the historical significance of race and its development as a social construction, assess the causes and consequences of intergroup inequalities and explore potential solutions.
Instructor(s): M. Greif
Area: Social and Behavioral Sciences.

AS.230.245. Inequality & Social Policy in U.S.A.. 3 Credits.
In the US and other industrialized countries, problems of income inequality and poverty have taken a sharp turn for the worst in recent years. The purpose of the course is to give students an opportunity to learn about the causes of this increasing inequality and poverty in US cities like Baltimore, and to explore the potential for public policies to rectify these problems. Students will read about the main theoretical and empirical perspectives on the issues; examine the relationship between inequality and class, gender and race; study the history and present shape of social policy in the US; and explore the consequences of particular initiatives for the status of the urban poor.
Instructor(s): A. Livingstone
Area: Social and Behavioral Sciences.

AS.230.246. Men and Women in Society. 3 Credits.
This course will explore what it means to be male or female through academic writings, fiction, and film. It will examine how genders are defined by individuals, cultures, and institutions, and how those meanings shape everyday life for men and women. Power, inequality, and intersections with race-ethnicity, class, and sexuality will be a primary focus. Theories of gender addressed will include those related to masculinity, social psychology, feminism, and intersectionality. Though the course will primarily consider the United States, gender in other countries and cultures will also be addressed. Cross-listed with WGS.
Instructor(s): K. McDonald
Area: Social and Behavioral Sciences.

AS.230.260. Political Sociology. 3 Credits.
This course explores the interaction between political power and social forces in macro-comparative and international perspectives, focusing on how political institutions (such as states, political parties, and international governing bodies) are shaped by actions of different social groups (such as classes, ethnic groups, social movements), and vice versa. The class will cover the historical emergence of sovereign nation-state as the most salient political organization across the world, as well as its evolution into the form as we know it today. The class will also discuss the array of challenges that modern nation-states are facing under globalization and restructuring of world order following the end of Cold War. Cross-listed with Political Science.
Instructor(s): H. Hung
Area: Social and Behavioral Sciences.

AS.230.255. Maritime East Asia. 3 Credits.
This course examines the transnational connections among merchants and migrants in the waters of East and Southeast Asia from a historical and comparative perspective. In this class, we will explore how diplomatic ties, trade and migration between the thirteenth and eighteenth centuries contribute to the making of cosmopolitan cities such as Quanzhou, Macau, Nagasaki, Fort Zeelandia (Formosa), Malacca, Singapore and Batavia. The course will also address the role that transnational trade and migration networks played in the incorporation of East and Southeast Asia into the Western-led capitalism in the nineteenth century. The course will close with an examination of how the legacies of the long-standing transnational maritime connections continue to shape contemporary inter-state competition and negotiation in the region. Key concepts to be introduced include tribute trade system, rice economy, pan-Asianism, and ASEAN free trade zone. Cross listed with East Asia Studies.
Instructor(s): H. Kuo
Area: Social and Behavioral Sciences
Writing Intensive.
**AS.230.302. Class Stratification & Personality. 3 Credits.**
230.302 (S) CLASS, STRATIFICATION, AND PERSONALITY (3) Kohn Limit 30 Juniors/Seniors only or instructor’s consent An intensive examination of the research literature, much of it based on survey research carried out by the instructor and his international collaborators, on the relationships of social class and social stratification with personality. The course will examine the links between people’s positions in the class structure and the stratification hierarchy of their society and their more proximate conditions of life, particularly their job conditions, and how these conditions, in turn, affect (and are affected by) such basic dimensions of personality as intellectual flexibility, self-directedness of orientation, and feelings of well-being or distress. The research has been conducted principally in the United States, Japan, Poland when it was socialist, Poland and Ukraine during their transitions from socialism to nascent capitalism, and (in the instructor’s current research) China during its very different transformation. Cross-listed with Psychological & Brain Sciences
Instructor(s): M. Kohn
Area: Social and Behavioral Sciences
Writing Intensive.

**AS.230.303. Sociology of Disability. 3 Credits.**
This course introduces students to themes within the sociology of disability by critiquing traditional notions of disability, an exploring how societal institutions influence the classification, significance, and experiences of disability. Cross-listed with Public Health Studies.
Instructor(s): C. Villenas
Area: Social and Behavioral Sciences
Writing Intensive.

**AS.230.304. Social Organization and Social Control in Schools. 3 Credits.**
We will ask: "How do arrangements of tasks, rewards, roles, and opportunities in schools affect student learning, behavior, and sense of attachment?" and "In what ways are social control processes in schools related to the demands and dynamics of other institutions, particularly the family and the labor market?" Before addressing these questions, we will define social organization and social control, and describe the forms (both intended and unintended) they take in schools.
Instructor(s): S. Plank
Area: Social and Behavioral Sciences.

**AS.230.309. Segregation & Social Inequality. 3 Credits.**
This course presents an in-depth study of racial and ethnic residential segregation and its relationship to social inequality. Through various theoretical perspectives, students will explore the history and contemporary patterns of residential segregation in the United States. In doing so, students will learn about the persons, organizations, and social phenomena that contribute to neighborhood segregation, such as homeowner associations, federal and local governments, developers, as well as differences between groups in racial preferences and socioeconomic status. Through lectures, readings, discussions, and films, students will gain insight into the causes of segregation, as well as its social, economic, and demographic consequences. Cross listed with the Center for Africana Studies.
Instructor(s): P. Bennett
Area: Social and Behavioral Sciences.

**AS.230.310. Becoming An Adult. 3 Credits.**
While students may already be personally familiar with the subject matter, the course examines the sociological and psychological dimensions of this demographically dense period known as the transition to adulthood. Emphasizes life course theories of human development through readings of empirical work on adolescence, the transition to college, early employment and early family formation. Attention is paid to the ways class; gender; race and nationality influence the pathways, choices and outcomes of young people. A Statistics/ Sociology background is helpful, but not required.
Instructor(s): S. Deluca
Area: Social and Behavioral Sciences
Writing Intensive.

**AS.230.312. Education & Society. 3 Credits.**
This course examines how educational institutions affect students’ skills, values, and social mobility across generations. Research reviewed that compares educational institutions according to their formal and interpersonal structures. This course examines how educational institutions affect students’ skills, values, and social mobility across generations. Research reviewed that compares educational institutions according to their formal and interpersonal structures. Restricted to juniors and seniors only.
Instructor(s): K. Alexander
Area: Social and Behavioral Sciences
Writing Intensive.

**AS.230.313. Space, Place, Poverty & Race: Sociological Perspectives on Neighbors & Public Housing. 3 Credits.**
Is a neighborhood just a grouping of individuals living in the same place, or do neighborhoods have collective meanings and impacts on children and families? We will capitalize on research methodologies used to define and describe neighborhoods and their effects on economic and educational outcomes. These include case studies, census data, surveys, quasi/experimental data. Focus is on how research measures neighborhood effects and incorporates community level processes into models of social causation (e.g., social capital/control, community efficacy, civic engagement). Also examined: patterns in residential mobility, segregation, and preferences within black and white populations; development of housing policy in the U.S.; programs to determine how neighborhoods affect issues of social importance. Statistics and public policy background is helpful but not required.
Instructor(s): S. Deluca
Area: Social and Behavioral Sciences
Writing Intensive.

**AS.230.314. International Development. 3 Credits.**
“Recent and long-term trends in the distribution of wealth, status, welfare and power will be analyzed in light of theories of national and international development.”
Instructor(s): B. Silver
Area: Social and Behavioral Sciences.

**AS.230.316. African American Family. 3 Credits.**
This course is an examination of sociological theories and studies of African-American families and an overview of the major issues confronting African-American family life. The contemporary conditions of black families are explored, as well as the historical events that have influenced the family patterns we currently observe. Special attention will be given to social policies that have evolved as a result of the prominence of any one perspective at a given point in time.
Instructor(s): K. McDonald
Area: Social and Behavioral Sciences.
AS.230.317. Sociology of Immigration. 3 Credits.
This course surveys sociological theories and research on immigration to the U.S. Theoretical approaches include theories of international migration, economic sociology, immigration, and assimilation. Research topics include the impact of U.S. immigration laws and policies on immigrant inflows and stocks, self-selection of immigrants, the impact of immigration on the native-born population and the U.S. labor market and economy, and the adaptation of the first and second generations. Instructor(s): L. Hao
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.318. State and Society in Modern India. 3 Credits.
This course examines the complex, at times conflicting, relationship that has emerged between Indian seats of power from above and Indian expressions of society from below. Attention will be placed on the period between 1947 to the present. Instructor(s): R. Agarwala
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.320. Education & Inequality: Individual, Contextual, and Policy Perspectives. 3 Credits.
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.321. Revolution, Reform and the Social Inequality of China. 3 Credits.
This course explores various aspects of social inequality in China during the Mao Zedong and the post-Mao reform eras. We will examine inequality within villages, the rural/urban divide, urban inequality, education and health policies, and gender and ethnic relations. Each of these issue areas will be tackled analytically, but the aim is also to understand what it was/is like to live in China during and after the Mao era. The course is designed for both undergraduate and graduate students. Cross-listed with East Asian Studies and International Studies (CP).
Instructor(s): J. Andreas
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.322. Quantitative Research Practicum. 3 Credits.
This course provides “hands on” research experience applying sociological research tools and a sociological perspective to problems of substance. Quantitative methods will be emphasized, as applied to census data, survey data and/or archival data. Students will design and carry out a research project and write a research report. Juniors and seniors only. Sophomores require instructor’s permission. Recommended Course Background: AS.230.205, AS.230.202
Instructor(s): S. Plank
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

AS.230.323. Qualitative Research Practicum. 3 Credits.
This course provides “hands on” research experience applying sociological research tools and a sociological perspective to problems of substance. Qualitative observational and/or interviewing methods will be emphasized. Students will design and carry out a research project and write a research report. This course fulfills the “research practicum” requirement for the Sociology major.
Instructor(s): K. McDonald
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.324. Gender and International Development. 3 Credits.
This course employs a comparative perspective to examine the gendered impact of international development experiences and policies. Students will discuss the historical evolution of how the concept of gender has been constructed, conceptualized, and integrated into international development theory and practice. The course will also examine how greater international development. In particular, we will examine structural theories of poverty reduction, individual theories of power and processes of stratification at the household and family level. Specific issue areas will include the globalization, class and work political participation and social movements.
Area: Social and Behavioral Sciences.

AS.230.325. Global Social Change and Development Practicum. 3 Credits.
This course provides “hands on” research experience in the field of global social change and development. Students will participate in a collaborative research project analyzing the causes and consequences of the recent upsurge of protest around the world in comparison with previous historical waves of social unrest. The course fulfills the "research practicum" requirement for Sociology majors and is required for the GSCD track.
Prerequisites: Prereq: AS.230.265 or permission of Instructor.
Instructor(s): B. Silver
Area: Social and Behavioral Sciences.

AS.230.333. Quality/Inequality in United States Educations. 3 Credits.
Instructor(s): K. Alexander
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.334. The City in Time and Space: Historical Sociology of the Urban World. 3 Credits.
Area: Social and Behavioral Sciences.

AS.230.337. Global Crises: Past and Present. 3 Credits.
Area: Social and Behavioral Sciences.

AS.230.338. Comparative Sociology of Religious Fundamentalism. 3 Credits.
The rising tide of global religious fundamentalism in the last three decades has challenged the basic tenets of all theories of progress, and attracted significant popular and scholarly attention. This course combines theoretical material with comparative analyses of selective case studies to investigate and question the basic dichotomies that underlie our understanding of religious fundamentalism: cultural versus political, Western versus non-Western, modern versus anti-modern, and reactionary versus revolutionary.
Instructor(s): L. Bushra
Area: Social and Behavioral Sciences.

AS.230.341. Sociology of Health and Illness. 3 Credits.
This course introduces students to medical sociology, which is the application of the sociological perspective to health and health care. Major topics include stress, social epidemiology, and the social organization of health care.
Instructor(s): E. Agree
Area: Social and Behavioral Sciences.
AS.230.343. Political Sociology of Latin America. 3 Credits.
This course provides an overview of Latin America through its historical, economic, social, and political dimensions. Emphasis will be given to the analysis of social structures: class, race and ethnicity, and the contemporary social movements. The course begins with an overview of the pre-Columbian civilizations and colonial legacies that gave rise to the multiethnic societies and the ethnic conflicts which characterize contemporary Latin America. Cross-listed with Program in Latin American Studies and International Studies (CP)
Instructor(s): M. von der Heydt-Coca
Area: Social and Behavioral Sciences

AS.230.344. Health and Society in Contemporary China. 3 Credits.
This class examines the social and health consequences of systemic transformations in China, including collapse of the urban work-unit system, resurgence of infectious disease, and implementation of the One-Child Policy. Dean’s Teaching Fellowship; Cross listed with East Asian Studies, Public Health and International Studies.
Instructor(s): R. Core
Area: Social and Behavioral Sciences
Writing Intensive

AS.230.346. Economic Sociology of Latin America. 3 Credits.
This course will offer an overview of Latin America’s economic reality as an intertwined process of economic and political domestic factors within the constraints of the world economy. Latin American development will be analyzed from a historical perspective. The first half of the semester the course will focus on the analysis of the economic developmental patterns starting in the middle of the 19th century to the populist era in the middle of the 20th century. In the second half of the semester, we will analyze in depth the contemporary neoliberal approach to development. Globalization is the force that drives economic, social and political processes in Latin America. The course will include case studies as well the social conflicts generated by the increasing polarization of the society. Students will be exposed to important sociological theories. Fulfills Comparative Politics and/or History requirement for International Studies. Fulfills Economics for GSCD students.
Instructor(s): M. von der Heydt-Coca
Area: Social and Behavioral Sciences

AS.230.353. Global Social Change. 3 Credits.
This course introduces students to issues of global social change, with a particular focus on the challenges of international development and the contemporary globalization process. Specific themes include world income inequality and global poverty, the rise of supranational organizations (e.g. WTO and EU) and their relations with sovereign states, anti-globalization activism, the rise of China and India in the global economy, and the origins as well as consequences of the current global economic crisis, among others. Lectures will be aided by documentary films and other multi-media materials. Special Note: Fulfills Economics requirement for IS GSCD track students only.
Instructor(s): H. Hung
Area: Social and Behavioral Sciences
Writing Intensive

AS.230.354. Trust & Collective Efficacy: Fragile Resources. 3 Credits.
Trust is often cited as necessary to the successful functioning of small groups, formal organizations, and democratic society. Collective efficacy (social cohesion combined with shared expectations for control of public space) is a related concept. This course will consider theories and empirical evidence regarding trust and collective efficacy, as well as claims about other mechanisms that can secure mutually beneficial cooperation. Case studies from education and neighborhood ecology will be considered.
Instructor(s): S. Plank
Area: Social and Behavioral Sciences

AS.230.356. Contemporary African Social Movements. 3 Credits.
This course is a survey of contemporary social movements in sub-Saharan Africa. The course will begin with an introduction to social movement theory. Subsequent weeks will each focus on a different type of movement (e.g. independence movements, labor movements, women’s movements, environmental movements, etc.)
The limited coverage of African issues in the US media tends to focus on either catastrophes or on development projects that are driven by international NGOs and the governments of northern countries. Through this course, students will gain a clear understanding of the broad range of actions that African civil society is using to address social problems throughout the continent. Materials used will include academic analysis of movements, writings by movement participants themselves, and films. The course will also introduce students to the most widely used social movement theories. Because these theories have been largely developed by social scientists in northern countries, the students will be asked to assess their applicability to African movements. Through this critical application of social theory, students will investigate the specific possibilities and constraints facing social and political actors in contemporary Africa. Cross listed with Dean’s Teaching Fellowship, International Studies (CP) and Africana Studies.
Instructor(s): B. Scully
Area: Social and Behavioral Sciences
Writing Intensive

AS.230.357. The West in the East. 3 Credits.
Area: Social and Behavioral Sciences

AS.230.358. Mini-Term: Chinese Political Economy. 1 Credit.
We will examine the major transformations of the Chinese political economy from the eighteenth century up until the present by looking at the decline of the Chinese economy, the attempts to reverse this decline in the Republican and the Maoist periods, and the dynamics behind the rise of the Chinese economy in recent decades. The course will cover several themes including the class structure, inequality, government policies, urban-rural dynamics, regional variations, human capital, infrastructure, innovation, liberalization, and the relationship with the world economy.
Area: Humanities, Social and Behavioral Sciences.
AS.230.359. Research Seminar on Global Social Protest. 3 Credits.
This course will be run as a collective research working group in which we will design and carry-out a research project on the current upsurge of social unrest around the world, from the Arab Spring to Occupy Wall Street, from the anti-austerity movements rolling Europe to the wave of workers’ protests taking place in China (including the factories where Ipods, Ipad and Iphones are assembled). We are currently witnessing an unusual worldwide clustering of major protest movements that will have important consequences for the shape of social and political institutions in the twenty-first century. We will design and carry-out a research project aimed at documenting the spread and characteristics of this global wave as well as exploring its causes and consequences. The first part of the class will be devoted to research design (determining our central research questions, hypotheses, and data collection procedures); the remainder of the class will be devoted to data collection and analysis. This course is suitable for students who are interested in an empirical and theoretical introduction to the dynamics of global social protest as well as in gaining hands-on research experience on a topic of contemporary social and political relevance.
Instructor(s): B. Silver; S. Karatasli
Area: Social and Behavioral Sciences.

AS.230.360. Globalization, Labor and the State in East Asia. 3 Credits.
The course will examine the relationship between labor, state policies, and globalization in China, South Korea and Japan in comparative perspective. We will look at debates about the role of developmentalist states on economic and social development, as well as transformation in the nature of work and labor relations in the three countries.
Instructor(s): L. Zhang
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.361. Class and Culture. 3 Credits.
This course examines the intersection of social class and culture—both the popular culture of movies, TV, music, etc, and “culture” in the anthropological sense as the shared way of life of a people. The course is divided into three main sections: 1) concepts of class, culture and the ways in which they interact; 2) cultures of each major class within American society, beginning with the “Old” and “New Money” classes, the “New Class” of intelligentsia, the much-invoked Middle Classes, the shrinking Working Class, and continuing through the poverty-stricken Lower Classes; 3) issues of cultural consumption and production and their role in reproducing the class structure.
Instructor(s): T. Nelson
Area: Social and Behavioral Sciences.

AS.230.362. Migration & Development. 3 Credits.
This course focuses on the relationship between international migration and development. The course first introduces theories of international migration, immigrant integration, and international development. Building on this foundation, we then examine how immigrants interact with their homeland and how sending country governments tap their diaspora to improve development outcomes. Cross-listed with International Studies (CP, IR). Fulfills Economics requirement for IS GSCD track students only.
Instructor(s): L. Hao; R. Agarwala
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.363. Sociology of Dispossession. 3 Credits.
The “grabbing” of land and natural resources has, in recent years, generated widespread political conflict across the Global South and put dispossession on the agenda of academics and policy-makers. Nevertheless, compared to other social relations—such as labor exploitation—dispossession has not been central to social scientific understandings of capitalism, the state, “development,” or politics. In this class, we will collectively explore the nascent field that we might call the sociology of dispossession. We will begin with existing theoretical approaches to the problem, and then proceed to challenge, reconstruct or supplant those theories as we consider a wide range of historical examples of dispossession—including the English enclosures, colonial plunder, large dams, mining, water privatization, Special Economic Zones, transnational agricultural investments, conservation projects, and climate-induced displacement. Students will write weekly reading responses and a final paper.
Instructor(s): M. Levien
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.364. Ethnic Violence in Comparative and Global Perspective. 3 Credits.
This course provides a framework for understanding and analyzing different forms of ethnic violence including ethnic riots, ethnic wars, and genocides around the world. Beginning with foundational texts on defining ethnic groups, we will examine causes and dynamics of ethnic mobilization and violence from different disciplines and perspectives. Throughout the course, we will explore texts that treat key themes in studies of ethnic violence including globalization, economic development, inequality, dismantling of the developmental state, migration, state formation and failure, conflict resolution, and democratization; focusing on various cases of ethnic violence in different regions including Eastern Europe, Basque Region, Turkey, Sudan, India, Sri Lanka, China, and historical cases like Northern Ireland.
Instructor(s): S. Kumral
Area: Social and Behavioral Sciences.

AS.230.365. Labor and Globalization. 3 Credits.
The course will focus on the ways in which contemporary processes of globalization (including the current crisis) are transforming the nature of work and employment, using a wide range of local case studies from Africa, Asia, Europe, Latin America and North America. Themes include changes in business organization that impact labor (e.g., automation, outsourcing, subcontracting) and the role of inter- and intra-national labor migration. We will also look at present-day forms of workers’ protest (open and hidden, local and transnational) and how these are shaped by and are shaping global social change. Cross-listed with International Studies
Instructor(s): B. Silver; L. Zhang
Area: Social and Behavioral Sciences.
AS.230.366. From Habeas Corpus to Eminent Domain: Urban Development and Urban Planning in Comparative-Historical Perspective. 3 Credits.
This course offers a broad survey of urban development in the United States by examining both the intended and unintended consequences of urban planning. Using a comparative-historical framework, issues of power, conflict, representation, participation, and planning within urban development and the American city will be addressed and critiqued with specific reference to Baltimore. Cross listed with International Studies (AP). Fulfills History requirement for IS GSCD track students only.
Instructor(s): D. Pasciuti
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.367. Islamic Finance. 3 Credits.
Today, Islamic finance is a global industry comprising nearly $2 trillion in assets, with hubs from Kuala Lumpur to Dubai to London. But half a century ago, nothing called “Islamic finance” existed. So where did Islamic finance come from? Why is it growing so fast? And what does it mean for finance to be Islamic? We discuss the ban on riba in the Quran and hadith, finance in early and medieval Islamic societies, petrodollars and the birth of Islamic banking in the 1970s, the rise of Islamic capital markets since 2000, contemporary shariah-compliant financial structures, and the constitution of piety through financial practice.
Instructor(s): R. Calder
Area: Social and Behavioral Sciences.

AS.230.368. Environmental Sociology. 3 Credits.
This course examines how social structures and processes interact with the natural environment. Major topics include liberal, conservative, and radical perspectives on human-environment interaction; race and class inequalities of exposure to environmental problems; the role of governments in addressing environmental issues; environmental social movements; and environmental problems in global perspective.
Area: Natural Sciences, Social and Behavioral Sciences.

AS.230.372. Social Protest in Contemporary China. 3 Credits.
This class introduces popular resistance in post-1978 China, examining its socioeconomic, political, and cultural background, various types of protests by multiple social groups, and outcomes of protests. Cross listed with Dean’s Teaching Fellowship.
Instructor(s): Y. Li
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.373. Urban Sociology. 3 Credits.
This course will explore the growth and development of urban areas, and how cities create, influence, and perpetuate social and economic inequalities. It will explore how the community environment shapes social interactions, identities, and attitudes. Specific topics will include urban poverty, residential segregation, housing, crime, and health.
Instructor(s): M. Greif
Area: Social and Behavioral Sciences.

AS.230.376. Sociology of Religion. 3 Credits.
This course addresses two primary questions: What social elements influence the varieties of religious belief, organization and action? What are the consequences of these forms of religious expression for both individuals and for society? In addition to readings and exams, students will also attend two different religious services over the course of the semester.
Instructor(s): T. Nelson
Area: Social and Behavioral Sciences.

AS.230.377. Colonialism and Anti-Colonialism. 3 Credits.
This seminar examines the theories and historiography of colonialism and anti-colonial movements. It focuses on the establishment of the colonial division of labor, comparative colonialism, identity formation, and nationalism as well as anti-colonial movement.
Instructor(s): H. Kuo
Area: Social and Behavioral Sciences.

AS.230.379. Undergraduate Research Seminar. 3 Credits.
Seminar for Sociology students writing senior honor theses and conducting pre-approved independent research projects. Sociology majors only. Permission of instructor.
Instructor(s): K. Edin
Area: Social and Behavioral Sciences.

AS.230.380. Poverty and Social Welfare Policy. 3 Credits.
This course examines the causes and consequences of U.S. poverty and explores strategies for addressing it, with some comparisons to other rich nations. We cover the major theoretical explanations scholars have advanced to explain the persistence of poverty and inequality including labor markets, residential segregation, welfare policy, family structure, and the criminal justice system. Within each topic area, students are introduced to contemporary policy approaches aimed at alleviating poverty, and evaluations of these approaches.
Instructor(s): K. Edin
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.384. Global Urbanism: Planet of Slums or World Cities?. 3 Credits.
Cities are at the forefront of a range of global governance challenges. This course will address the relationship between development and the political and economic structure of the world economy in the built environment of the city. By drawing upon both classical texts about cities (do they still work for us, what can they account for) and on a diverse literature on cities and slums, we will focus our attention to the contemporary challenges faced in cities both in the more developed and in the developing world. Through a variety of disciplinary perspectives we will try to understand the underlying social and economic changes and the profound transformations under way throughout the global urban world. Fulfills IR or CP requirement for International Studies students and Political Sociology (IR or CP) for GSCD track. (Formerly AS.191.349)
Instructor(s): D. Pasciuti
Area: Social and Behavioral Sciences
Writing Intensive.
AS.230.385. Schooling, Racial Inequality and Public Policy in America. 3 Credits.
After examining alternative explanations for why individuals obtain different amounts and types of educational training, the course focuses on how an individual’s family background and race affect his or her trajectory through the educational system. The course covers the specific challenges that have confronted urban schooling in America since the 1960s, including the classic literature on the effects of school and community resources on student achievement as well as the development and later evaluation of school desegregation policies. The course also considers case studies of current policy debates in the US, such as housing segregation and school resegregation, voucher programs for school choice, and the motivation for and consequences of the establishment of state-mandated testing requirements. Throughout the course, emphasis is placed upon the alternative modes of inquiry and writing which opposing scholars, policymakers, and journalists use to address these contentious topics.
Instructor(s): S. Morgan
Area: Social and Behavioral Sciences.

AS.230.388. Sociology Of The Family. 3 Credits.
Sociological perspectives on contemporary family life, including marriage and divorce, cohabitation, single parenthood, same sex partnerships, children’s wellbeing, balancing work and family responsibilities, domestic violence, and government policy toward families.
Instructor(s): A. Cherlin
Area: Social and Behavioral Sciences.

AS.230.391. Theories of International Development. 3 Credits.
This course will cover major theoretical approaches to the study of development. We will begin with foundational political economic texts (including those of Adam Smith, Karl Marx, and Karl Polanyi). After setting the historical context of decolonization, we will then proceed to cover major theoretical approaches to the study of development in the past sixty years, including: modernization theory, dependency and world systems analysis, state-centered approaches, neo-institutionalism, the capabilities approach, political-ecology, post-development, feminism, the Washington consensus, social capital, experimental economics, and contemporary sociological reconstructions of Marx, Smith and Polanyi. Cross listed with International Studies (IR); fulfills IS Economics requirement for GSCD track students only.
Instructor(s): M. Levien
Area: Social and Behavioral Sciences.

AS.230.396. Politics and Society. 3 Credits.
This seminar surveys texts that treat key problems of political sociology including the rise of the modern state, the relationship between political and economic power, the origins and nature of liberal democracy, the nation-state and nationalism, states and war, states and welfare, sources of authority, ideology and political contention, social movements, and social revolutions. Fulfills Comparative Politics for International Studies.
Prerequisites: AS.230.213
Instructor(s): J. Andreas
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.399. Economic Development in Comparative Perspective. 3 Credits.
This course reviews the evolution of the literature on economic development over the past half-century and evaluates its strengths and weaknesses in light of developmental experiences in Africa, Asia and Latin America. Course lectures are by Dr. Brian Van Arkadie, an economist with decades of experience in the international development field including as a consultant for the World Bank, the United Nations Development Program and to numerous governments ranging from Tanzania and Uganda to Egypt and Vietnam.
Instructor(s): B. Silver; B. Van Arkadie
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.407. Comparative Labor Movements Research Seminar. 3 Credits.
Research-oriented course on the dynamics of labor and social movements from global and comparative-historical perspective.
Prerequisites: AS.230.265 AND AS.230.325
Instructor(s): S. Karatasli
Area: Social and Behavioral Sciences.

AS.230.415. Social Problems in Contemporary China. 3 Credits.
In this course we will examine contemporary Chinese society, looking at economic development, rural transformation, urbanization and migration, labor relations, changes in class structure and family organization, health care, environmental problems, governance, and popular protest. The course is designed for both graduate and undergraduate students. Undergraduates must have already completed a course about China at Hopkins. Cross-listed with East Asian Studies.
Instructor(s): J. Andreas
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.500. Independent Study. 3 Credits.
Instructor(s): Staff.

AS.230.501. Research Assistantship. 3 Credits.
Instructor(s): Staff.

AS.230.502. Senior Honors Program. 3 Credits.
Instructor(s): Staff.

AS.230.506. Independent Research. 3 Credits.
Instructor(s): Staff.

AS.230.507. Internship. 1 Credit.
Instructor(s): J. Andreas; Staff.

AS.230.508. Internship. 1 Credit.
Instructor(s): H. Hung; K. Alexander; Staff.

AS.230.509. Independent Study. 3 Credits.
Instructor(s): Staff.

AS.230.598. Summer Internship. 1 Credit.
Instructor(s): Staff.

AS.230.599. Independent Study. 3 Credits.
Instructor(s): K. McDonald; M. Levien; P. Bennett; T. Nelson; Y. Ma.
**AS.230.600. Introduction to Social Statistics.**
This course will introduce students to the application of statistical techniques commonly used in sociological analysis. Topics include measures of central tendency and dispersion, probability theory, confidence intervals, chi-square, anova, and regression analysis. Hands-on computer experience with statistical software and analysis of data from various fields of social research.
Instructor(s): P. Pascułti
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

**AS.230.601. Research Design.**
This course is designed to support and foster the ability of students to think critically, theoretically, and empirically about issues of design in sociological research. There are four main areas we will focus on in the course: 1) Understanding causal inference and the objectives of social science; 2) Learning the types of validity in research designs; 3) Becoming familiar with the elements of research design, such as treatment, observation and assignment; 4) Comparing and contrasting experimental and quasi-experimental designs and their applications for the study of social processes and social problems. The course will give a general overview of sociological research designs, but we will critically examine research in a few specific areas, such as education and urban sociology, for the sake of consistent, coherent examples. Sociology/Statistics background is helpful, but not required.
Instructor(s): S. Deluca.

**AS.230.602. Theories of Society.**
Intensive readings from classical theorists (including Marx, Weber, and Durkheim) form the core of this course. Emphasis is placed on exploring the utility of social theory for formulating important sociological questions and conceptualizing social research.
Instructor(s): B. Silver.

**AS.230.603. Contemporary Social Theory.**
This course will explore several important traditions in contemporary social theory, including structural-functionalism, micro-interactionism, exchange and rational choice, post-structuralism, discourse and narrative analysis, and efforts by recent theorists to extend, synthesize, supplement, and revise Marx and Weber’s explanations of inequality, group conflict, and macro-level social change, including world systems analysis.
Instructor(s): J. Andreas.

**AS.230.604. Linear Models for the Social Sciences.**
A seminar in multiple regression (least squares and alternative estimation procedures) with a focus on sociological problems and software applications. Extensions to hierarchical linear models will be included. Graduate students should have completed AS.230.600 or the equivalent. Undergraduates only admitted with instructor’s permission, and AS.230.205 or equivalent. Recommended Course Background: AS.230.205, AS.230.600 or equivalent.
Instructor(s): S. Plank.

**AS.230.605. Categorical Data Analysis.**
This course provides the students with a set of statistical tools to understand and interpret social science research dealing with categorical dependent variables and to prepare students to apply these models in their own research. The models covered in the course include logit, probit, Poisson, and log-linear models, as well as multi-level models of categorical dependent variables.
Instructor(s): L. Hao
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

**AS.230.606. Categorical and Panel Data Analysis.**
This course introduces the main tools of categorical and panel data analysis. Categorical data analysis deals with categorical dependent variables. The first 7 weeks of the course introduce models for dichotomous, multiple-category, and count dependent variables, including logit, probit, ordered logit, multinomial logit, poisson, and negative binomial models. Week 7 covers procedures for constructing data and handling missing data. The last 6 weeks introduce discrete-time models for panel data analysis along three lines: continuous vs. Categorical dependent variables, random-vs. Fixed-effects models and static vs. Dynamic models. This course uses the statistical packages stata.
Area: Social and Behavioral Sciences.

**AS.230.607. Labor in the World System.**
This is an intensive reading seminar on working class formation from a comparative, historical and global perspective, including theoretical and empirical (case study) readings on changes over time in labor process, labor markets, and labor movements. We will build on a range of local case studies to establish spatial and temporal patterns, and discuss the connections between these global patterns and the dynamics of historical capitalism.
Instructor(s): B. Silver; L. Zhang.

**AS.230.608. Proseminar In Sociology.**
Individual one-hour presentations by faculty members will introduce students to the faculty’s substantive interests and research styles.
Instructor(s): A. Cherlin.

**AS.230.609. Dissertation Seminar.**
Advanced seminar for PhD students who are preparing their dissertation proposals or writing their dissertations. Sociology graduate students only.
Instructor(s): L. Hao.

**AS.230.611. World-Historical Sociology.**
In this seminar we will read key texts in comparative sociology. The topics covered are cross-national sociology, comparative national development, comparing world-systems, the modern world-system, globalization, and social movements.
Instructor(s): H. Hung.

**AS.230.612. Seminar on Social Inequality.**
This seminar attempts a broad survey of sociological theorizing and research on social stratification and the role of social institutions in generating and mitigating inequality.
Instructor(s): K. Alexander.

**AS.230.614. Seminar On The Family.**
A discussion-oriented seminar focused on major recent writings on the family, in both the developed and developing nations.
Instructor(s): A. Cherlin.

**AS.230.615. Sem:Panel Data Analysis.**
Instructor(s): L. Hao.

**AS.230.616. Researching Race, Class, & Gender.**
This advanced graduate seminar is designed to help graduate students sort out whether they are headed for careers as race, gender, or class specialists. We will review major sociological work in these sub-fields and work to determine what common elements of these publications makes them a stand out in the discipline. Then students will be asked to craft projects of their own.
Instructor(s): K. McDonald.
In-depth reading and discussion of theories and research on immigration to the U.S. Theoretical issues include international migration, assimilation, and adaptation. Research topics include the impact of U.S. immigration laws on immigrant inflows and stocks, self-selection of immigrants, and the adaptation of the first and second generations. The course focuses on immigration since 1965 and its related controversies and debates.

This course covers hazard models (also called survival analysis), treatment effects models such as propensity score analysis, censored regression models, and statistical approaches to address endogeneity. It is offered in alternate years with AS.230.606, Categorical and Panel Data Analysis.
Instructor(s): A. Cherlin.

This course engages students in the study of educational inequality through in-depth readings on poverty, culture, the family, neighborhoods, and policy. Sociology graduate students or permission of instructor.
Instructor(s): S. Deluca.

This seminar offers a graduate level introduction to the theoretically guided study of national development. The first part of the course analyzes the development theories that dominated the first four decades of the development effort. The second half of the course examines more recent perspectives that have attempted to fill the intellectual void left by the demise of the development paradigm. Throughout the seminar, discussions and readings will focus on the intellectual history of the development theories: What are the relevant questions to ask and what are the appropriate units of analysis for the study of social and political change? What forces have propelled transformations across the world? What explanatory power do the theories hold for our future?
Instructor(s): R. Agarwala.

Instructor's permission required. Selected topics in the study of long-term, world-scale social change.

AS.230.630. Research in International Development.


TBD
Instructor(s): B. Silver; C. Nealon.

AS.230.634. 21st Century Capitalism II.
Permission of instructor required.
Instructor(s): B. Silver; C. Nealon.

AS.230.635. PGSC Research Seminar.
Working seminar focusing on new research in the field of comparative and world-historical sociology. Sociology graduate students or permission of instructor.
Instructor(s): R. Calder.

This course is designed to help students think critically, theoretically, and empirically about issues in design of sociological research that aims to answer causal questions and incorporate mixed methods approaches. Specifically, we will focus on: 1) Understanding causal inference and the objectives of social science; 2) Learning the types of validity in research designs; 3) Becoming familiar with the elements of experimental research design, such as treatment, observation and assignment; 4) Comparing and contrasting experimental and quasi-experimental designs and their applications for the study of social processes and social problems; 5) Understanding designs that employ mixed methods to answer questions of social and policy importance. The course will give a general overview of the challenges of causal inference, but we will focus on research in a few specific areas, such as education and urban sociology, for the sake of consistent, coherent examples. Sociology/Statistics background is helpful, but not required.
Instructor(s): S. Deluca.

AS.230.638. 21st Century Capitalism IV.
Instructor(s): B. Silver; C. Nealon.

This course is designed to help students understand the important theoretical and empirical considerations required to design, collect and analyze sociological data in urban settings. Emphasis will be given to the practical aspects of fieldwork and data collection, as well as the benefits and challenges of mixed methods research designs. The significance of research for public policy will also be highlighted. The workload for each semester will vary, usually tackling one or more of the following aspects of conducting research in urban settings: moving from theoretical puzzles to research questions; designing interview guides; designing human subjects/IRB protocols; preparing logistics for fieldwork; interview training; actual interviewing in the field; writing field notes; analyzing data from interviews; writing papers from qualitative data; blending GIS, qualitative and quantitative data to answer questions. Admission is granted by permission from instructor only.
Instructor(s): S. Deluca.

AS.230.642. Advanced Topics in Education Research.
Instructor(s): S. Plank.

This course is designed to help students think critically, theoretically, and empirically about issues in design of sociological research that aims to answer causal questions and incorporate mixed methods approaches. Specifically, we will focus on: 1) Understanding causal inference and the objectives of social science; 2) Learning the types of validity in research designs; 3) Becoming familiar with the elements of experimental research design, such as treatment, observation and assignment; 4) Comparing and contrasting experimental and quasi-experimental designs and their applications for the study of social processes and social problems; 5) Understanding designs that employ mixed methods to answer questions of social and policy importance. The course will give a general overview of the challenges of causal inference, but we will focus on research in a few specific areas, such as education and urban sociology, for the sake of consistent, coherent examples. Sociology/Statistics background is helpful, but not required.
Instructor(s): S. Deluca.

AS.230.645. PSI Research Seminar.
Seminar focusing on new research in the study of social inequality, with an emphasis on education, neighborhoods, race, family dynamics, health and social policy. Sociology graduate students or permission of instructor.
Instructor(s): S. Deluca.
AS.230.647. Agrarian Change.
This course will explore questions related to historical and contemporary trajectories of agrarian change. It begins with classical theoretical debates on the distinctiveness of peasants and their prospects under capitalism. It will then turn to major themes of agrarian change in the twentieth century: modes of production, class polarization and differentiation, peasant wars, moral economies, everyday resistance, collectivization and decollectivization, food regimes, and depeasantization. It will conclude with new themes in agrarian change, with a particular emphasis on contemporary forms of land dispossession and repossession. The course will be structured as a reading-intensive research seminar.
Instructor(s): M. Levien.

This course provides in-depth familiarity with qualitative research methods, including ethnographic research, participant observation, and intensive interviewing. Alternative conventions in the elaboration of narratives are also explored. The course includes the application of relevant methods.
Instructor(s): K. McDonald
Area: Social and Behavioral Sciences
Writing Intensive.

AS.230.650. Macro-Comparative Research.
The course examines methods of studying long-term, large-scale social change. Both qualitative and quantitative methods are covered.
Instructor(s): B. Silver.

AS.230.651. Political Sociology.
This seminar surveys key problems of political sociology including the rise of the modern state, the origins and nature of liberal democracy, the relationship between political and economic power, the nation-state model and nationalism, ideology and political contention, collective identity, and collective action.
Instructor(s): J. Andreas
Area: Social and Behavioral Sciences.

AS.230.655. Sociology Of Education.
Topics are selected to enable students to understand and extend or revise current theories and measurements of school effects. Topics may include the social organization of schools and classrooms, estimation of cumulative school impact; techniques for examining the interaction of school, individual and family characteristics; definition and measurement of nonacademic outcomes of schooling, formulation of factors which condition the influence of school desegregation; elaboration of attainment models; and study of school, family, and peer group influence processes.
Instructor(s): K. Alexander.

This course presents an in-depth study of racial and ethnic residential segregation and its relationship to social inequality. Through various theoretical perspectives, students will explore the history and contemporary patterns of residential segregation in the United States. In doing so, students will learn about the persons, organizations, and social phenomena that contribute to neighborhood segregation, such as homeowner associations, federal and local governments, developers, as well as differences between groups in racial preferences and socioeconomic status. Through both classics in urban sociology and contemporary works, students will gain insight into the causes of segregation, as well as its social, economic, and demographic consequences.
Instructor(s): P. Bennett.

AS.230.660. Social Structure and Personality.
An intensive examination of the research literature on the relationships of position in the social structure (particularly the class structure and the social stratification hierarchy) with personality, based primarily on research conducted by the instructor and his collaborators in the United States, Japan, Poland when it was socialist, Poland and Ukraine during their transitions from socialism to nascent capitalism, and (currently) China during its very different transformation.
Instructor(s): M. Kohn.

AS.230.800. Independent Study.


AS.230.811. Teaching Assistantship.

AS.230.815. Trial Research Paper I.

AS.230.816. Trial Research Paper II.
AS.230.817. Trial Research Paper III.
Sec. 01 - Staff Sec. 02 - Hung Sec. 03 - Cherlin Sec. 04 - Hao Sec. 05 - Levien Sec. 06 - McDonald Sec. 07 - Greif Sec. 08 - Andreas Sec. 09 - Edin Sec. 10 - DeLuca Sec. 11 - Silver Sec. 12 - Agarwala Sec. 13 - Agree Sec. 14 - Nelson
Instructor(s): Staff.

This course is for graduate students in the PhD program in Sociology to obtain graduate credit for work off campus that provides training and the development of skills in teaching and/or research. Before the practicum is begun, the graduate student must identify a sponsoring faculty member or seek permission from the student’s faculty advisor. The faculty member or adviser must sign a form that certifies that graduate credit will be granted, verifies the nature of the work to be performed by the student and explains how the practicum helps to fulfill the degree requirement. Once completed, the sponsoring faculty member or adviser submits a grade of pass or fail for the student. This course may be used for Curricular Practical Training (CPT).
Instructor(s): Staff.

Cross Listed Courses

History
AS.100.343. The Power of Place: Race and Community in East Baltimore. 3 Credits.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

Political Science
AS.190.653. Organizations.
Graduate students only. "Organizations are the fundamental building blocks of economic, social and political life. This course will examine how different disciplines (sociology, economics, political science) approach the problem of explaining how organizations operate, as well as exploring the structure and development of a very wide range of organizations (firms, interest groups, charitable foundations, universities, militaries, bureaucracies, international organizations, and professions).
Instructor(s): S. Teles
Area: Social and Behavioral Sciences.

AS.191.206. Violence and World Orders. 3 Credits.
This class explores the relationship between two central concepts of International Relations: violence and world order. Some broad questions we will attempt to answer include: What is the role of violence in maintaining or producing certain world orders, both contemporary and historical? How do blatant and more hidden forms of violence work together to foreclose certain possibilities for social, political, and economic existence? How do different logics of violence produce hierarchies of gender, race, citizenship and class? What violence pasts and/or presents are concealed by contemporary ways of thinking about world order? We will explore diverse literatures from International Relations and political theory that addresses these questions. Readings will include contemporary work from International Relations theory as well as Franz Fanon, Michel Foucault, Judith Butler, Achille Mbembe and others. Assignments will include several analytic essays.Cross-listed with Sociology.
Instructor(s): L. Wilcox
Area: Social and Behavioral Sciences.

AS.191.349. Global Urbanism: Planet of Slums or World Cities. 3 Credits.
This course will address the relationship between development and the political and economic structure of the world economy in the built environment of the city. By drawing upon both classical texts about cities (do they still work for us, what can they account for) and on a diverse literature on cities and slums, we will focus our attention to the contemporary challenges faced in cities both in the more developed and in the developing world. Through a variety of disciplinary perspectives we will try to understand the underlying social and economic changes and the profound transformations under way throughout the global urban world.
Instructor(s): D. Pasciuti
Writing Intensive.

Public Policy
AS.195.477. Intro To Urban Policy. 3 Credits.
Perm. Req’d. 195.477 & 195.478 must be taken together by undergraduates Cross-listed with Political Science, Sociology, Public Health Studies, and Geography and Environmental Engineering
Instructor(s): S. Newman
Area: Social and Behavioral Sciences
Writing Intensive.

AS.195.478. Urban Policy Internship. 3 Credits.
195.478 & 195.477 must be taken together by undergraduates Cross-listed with Political Science, Sociology, Public Health Studies, and Geography and Environmental Engineering
Instructor(s): S. Newman
Writing Intensive.

East Asian Studies
AS.310.204. Rural Development in Asia. 3 Credits.
We will examine the transformation of the Asian countryside from the beginning of the twentieth century up until the present by looking at agrarian structure, economic and social development, collectivization and decollectivization, rural industrialization, agribusiness, sustainable agriculture, and rural unrest. Course materials combine theoretical readings with empirical case studies. While theoretical readings examine global processes involving Asia and elsewhere, case studies cover several Asian countries, with an emphasis on China and India.
Instructor(s): B. Gurel
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.
AS.310.307. Governance and Politics in China. 3 Credits.
A dramatic rise of popular protests in China today has spurred lively discussions about the causes, dynamics, and impact of these protests. This course will provide students with an opportunity to understand these issues by discussing the social, institutional and cultural background of protests, major forms of protest, social groups involved, government responses, and social implications of various kinds of protests. The first part of the course will explore significant socio-economic changes since 1978 and the effects of these changes on China’s social structure and stratification. This part will also examine changes in governance and political systems in the reform era and review important theories of contentious politics. The second part will examine protests by distinct social groups, including peasants, workers, homeowners, and ethnic minority groups, pro-democratic activists, among others. This part will identify similarities and differences in the demands and actions of different groups, introduce the major forms of popular resistance, and explore how the state deals with them accordingly. The course will conclude with discussion of the outcomes of social protests in China and make a cross-national comparison between protests in China and other authoritarian states. By taking China as an example, this course will enhance students’ knowledge about forms of popular contention and government responses in an authoritarian regime as well as help students develop analytical and critical thinking skills with regard to contentious politics.
Instructor(s): Y. Li
Area: Social and Behavioral Sciences
Writing Intensive.

AS.360.247. Introduction to Social Policy: Baltimore and Beyond. 3 Credits.
How can we address pressing social problems, such as inner city poverty, inequality in educational attainment among children from different backgrounds, and disparities in access to health care? Social policy refers to the programs, legislation and governmental activities that regulate access to important social, financial and institutional resources needed by members of a society to address these concerns. Social policy also aims to reduce inequality, especially in the areas of education, health, income, housing, neighborhoods, and employment. The study of social policy is interdisciplinary, and this course will introduce students to the basic concepts in economics, political science, and sociology relevant to the study of social problems and the programs designed to remedy them. We will cover issues of national policy importance, as well as issues specifically affecting Baltimore City and the metropolitan region. This course is open to all students, but will be require d for the new Social Policy Minor. The course is also recommended for students who are interested in law school, medical school, programs in public health, and graduate school in related social science fields. Cross list with Sociology, Economics and Political Science.
Instructor(s): A. Sheingate; B. Morgan; K. Edin
Area: Social and Behavioral Sciences
Writing Intensive.

Program in Latin American Studies
AS.361.357. Development in Latin America Today: Theories and Practices. 3 Credits.
The course examines a new wave of development theories and projects that have emerged in Latin America in response to changes such as the empowerment of indigenous movements, the rise of China, the contestation of U.S. hegemony and the current global crisis. Theoretical questions are examined in light of real case studies and reports from the United Nations. Cross-listed with Sociology
Instructor(s): F. Filomeno
Area: Humanities, Social and Behavioral Sciences.

Center for Africana Studies
AS.362.111. Introduction to African American Studies. 3 Credits.
This course is an introduction to the origins and emergence of African American Studies as an academic discipline in the American academy. The course is centered on the social realities of people of African descent living in the United States.
Instructor(s): K. McDonald
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.362.175. Freshman Seminar: Remembering the Black Power Movement. 3 Credits.
This course critically examines trends, developments, contradictions, and dilemmas related to the Black Power Movement for black identity and self-determination in the late 1960s and 1970s.
Instructor(s): F. Hayes
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

Space Science and Engineering
This minor is open to all students in the Whiting School of Engineering and the Krieger School of Arts and Sciences who have the prerequisites for the required courses. The objective of the Minor is to prepare students for a career in Space Science and Space Engineering, either directly as an entering professional in industry, government laboratories and other organizations or as a student in a graduate program. The educational goal of the Minor is to enable students to:
• Apply their understanding and mastery of the fundamental scientific, engineering, and mathematical principles obtained through their major subject of study to space science and space engineering.
• Develop an understanding and capacity for interdisciplinary approaches to technical activities.
• Improve their ability to work in multidisciplinary teams, which are typical in space and other complex technical activities, through interdisciplinary education and internship(s) or equivalent experience(s).

Minor in Space Science and Engineering
For a detailed explanation of the minor and its requirements, including sample programs of study, please visit the Student Handbook for the Minor in Space Science and Engineering (http://krieger.jhu.edu/pa-intranet/academic-resources/student-handbook-for-the-minor-in-space-science-and-engineering).
Study of Women, Gender, and Sexuality

The Program for the Study of Women, Gender, and Sexuality (WGS) promotes interdisciplinary scholarship on women, gender, sexuality, and related issues. The program coordinates a wide array of course offerings for both undergraduate and graduate students. It incorporates non-Western intellectual traditions where gender and sexuality are discussed in relation to class, ethnicity, and race in everyday life, political organization, and situations of violent conflict. The program also provides opportunities for intellectual exchange across disciplines by sponsoring lectures, symposia, seminars, and workshops for faculty and students alike. Through both interdisciplinary and specialized courses, students are encouraged to develop critical and comparative approaches to the study of gender and associated topics; race, class, and violence being among them.

Courses in the program are taught by prominent faculty members from many disciplines and are cross-listed through a variety of departments. New courses are added each year. Recent offerings have included Feminist and Queer Theory, The Poetics and Politics of Sex, and seminars that incorporate non-Western perspectives on religion and sexuality. WGS also offers community-based learning, where students combine volunteer work in a local social service agency with a seminar that explores the connections between social justice and academic inquiry. Each of these courses is offered on a regular basis. Together, they form the basis of a flexible minor. More generally, the minor—which is open to students from any department—aims to help integrate work undertaken across a broad range of offerings in the humanities, sciences, and social sciences.

Minor

The requirements for the minor consist of six one-semester courses chosen from the core offerings and the offerings cross-listed with the Program for the Study of Women, Gender, and Sexuality.

Details about minor requirements include:

- Two core courses are required. In the recent past, the core courses have been Introduction to the Study of Women, Gender, and Sexuality, Feminist and Queer Theory, Gender and Health, The Poetics and Politics of Sex, Religion and Gender or Sexuality, and the community-based learning course Working for Social Justice in Contemporary Urban Space.
- Only two introductory 100- or 200-level courses may be counted toward the minor.
- With approval, students may elect to apply two semesters of independent study to fulfill the minor requirements.
- Students electing to minor in the Program for the Study of Women, Gender, and Sexuality may declare their intention to the program at any time, but they are encouraged to seek advice about course selection early in their academic careers.
- Students must earn a C- or better in all minor requirements and courses may not be taken satisfactory/unsatisfactory.

Minor Requirements *

**Two core courses (selected from the following):**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>AS.363.201</td>
<td>Introduction to the Study of Women, Gender, and Sexuality</td>
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</tbody>
</table>

For current course information and registration go to https://isis.jhu.edu/classes/

Please refer to departmental listings for more complete information. Some of these courses are offered on an irregular basis.

For current faculty and contact information go to http://anthropology.jhu.edu/wgs/directory.html

**Faculty**

**Directors**

Katrin Pahl
Director

Todd Shepard
Director

**Associate Professors**

Sam Chambers
Ph.D., Associate Professor (Political Science).

Jennifer Culbert
Ph.D., Associate Professor (Political Science).

Jeremy Greene

*At least four 300- or 400-level courses are required for the minor.*

While core courses offered in recent years are listed as options, not all courses listed as core courses will be offered on a regular basis and some may have been offered only once. They are listed to provide examples of the types of courses that may be offered.
Theatre Arts and Studies

The program offers a comprehensive approach to the arts of acting, directing, playwriting, and theatre history, along with the fundamentals of technical direction, play production, play analysis, and theatre management.

For those students who intend to prepare for a career in the theatre, the courses offered are taught exclusively by established professionals with experience on Broadway, in the best of regional theatres, and in many countries of the world.

For those students not focused on a career in theatre arts, the courses offer a broader perspective, an understanding of societal traditions and culture, and an appreciation for the arts, whether theatrical, literary, musical, or visual. Students pursuing careers in medicine, engineering, law, international relations, science, and others have been challenged and enriched by the school's courses in theatre arts.

For those who seek careers in the arts, the acting and directing workshops, playwriting courses, and independent study opportunities provide rigorous training in acting and other theatre crafts, as well as an appreciation for and an understanding of the history of dramatic arts, its cultural significance, and the industries it has produced.

Located in the program's home, the historic Merrick Barn, The Johns Hopkins University Theatre provides a vehicle for the fulfillment of student lab requirements. The University Theatre produces several plays each year in the John Astin Theatre and occasionally in the Meyerhoff Auditorium at the Baltimore Museum of Art, which adjoins the Homewood campus. Classes are also held in the Barn.

Theatre Arts and Studies Minor

All courses for the minor here must be taken for letter grades and receive a grade of C- or higher. Courses taken at another institution may not apply towards the minor without permission of the Director of Undergraduate Studies.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AS.225.100</td>
<td>Introduction to Theatre</td>
<td>3</td>
</tr>
<tr>
<td>or AS.225.300</td>
<td>Contemporary Theatre &amp; Film</td>
<td>3</td>
</tr>
<tr>
<td>AS.225.301</td>
<td>Acting &amp; Directing Workshop I</td>
<td>3</td>
</tr>
<tr>
<td>AS.225.302</td>
<td>Acting &amp; Directing Workshop II</td>
<td>3</td>
</tr>
<tr>
<td>AS.220.105</td>
<td>Fiction/Poetry Writing I</td>
<td>3</td>
</tr>
<tr>
<td>One theatre history course:</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AS.225.326</td>
<td>Three Giants of Theatre: Ibsen/Strindberg/Brecht</td>
<td></td>
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<tr>
<td>or AS.225.328</td>
<td>The Existential Drama: Philosophy and Theatre of the Absurd</td>
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<tr>
<td>or AS.225.345</td>
<td>History of Modern Theatre &amp; Drama</td>
<td></td>
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<tr>
<td>One drama course in other program</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>One additional theatre course</td>
<td>3</td>
<td></td>
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<tr>
<td>Total Credits</td>
<td>21</td>
<td></td>
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</tbody>
</table>

* Courses are identified by the POS-Tag THEA-DRAMA. Alternatively, another theatre history course from within the program (not counted towards another requirement) may apply towards this requirement with permission of the director of undergraduate studies.

** This course may be an acting, theatre production, playwriting, or theatre history course.

For current faculty and contact information go to http://krieger.jhu.edu/theatre-arts/directory

Faculty

Director
John Astin
Visiting Professor (Dramatic Arts), Writing Seminars: acting, directing, theatre history, production and management.

Decker Professor in the Humanities, Writing Seminars
John T. Irwin
Decker Professor in the Humanities, Writing Seminars: criticism and poetry in the theatre.

Professors
Richard A. Macksey
Professor, The Humanities Center, History of Science and Technology: theatre history and criticism.

Ronald Walters
Professor, History: American cultural and social history.

Visiting Instructors
Margaret (Peg) Denithorne
Instructor: acting, directing, theatre history.

James Glossman
Instructor: directing, acting, theatre management, theatre history.

Joseph Martin
Instructor: theatre history, dramaturgy.
Instructor: technical direction, theatre crafts, theatre management.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

AS.225.100. Introduction to Theatre. 3 Credits.
An introduction to the drama: how and why the theatre came into being; its role in human history; and how changing social structures in different regions and epochs have shaped different kinds of theatre, plays and performance. Also: how theatre "works" for us and on us, and the major plays of world drama.
Instructor(s): J. Martin
Area: Humanities.

AS.225.215. Performing Musical Theatre. 3 Credits.
Effective performance in musical theatre demands a committed analysis of the musical and dramatic values of the song and the libretto from which it springs, in order to develop a fresh, organic interpretation. This course will provide you with the training to both analyze and interpret musical theatre scenes and songs and to make the most of them in performance. Instructor Permission Only.
Instructor(s): M. Denithorne
Area: Humanities.

AS.225.300. Contemporary Theatre & Film. 3 Credits.
An introduction to the performing arts, including an overview of theatre history, acting styles and the interaction of art and society. A personal view from inside.
Instructor(s): J. Astin
Area: Humanities.

AS.225.301. Acting & Directing Workshop I. 3 Credits.
An introduction to the fundamentals of acting through exercises, improvisation, and work on scenes from established plays and Shakespearean sonnets, based on the teachings of Stanislavsky, Greet, Boleslavsky, Michael Chekhov, Clurman, and Meisner. This course also includes a brief survey of major playwrights. Plays will be read, analyzed, and employed in scene work. Audition: Friday April 11 (9:00am to 11:00am). Auditions for Freshmen positions in the class will be held in the fall. Permission only, signature required.
Instructor(s): J. Astin
Area: Humanities.

AS.225.302. Acting & Directing Workshop II. 3 Credits.
The Sanford Meisner repetition exercises are explored in detail. They form the basis of Workshop II. The Uta Hagen exercises are also pursued. As in Workshop I, the principal classroom activities will consist of scene work, exercises, lectures, and discussion. Some rehearsal will also take place during school hours. It is expected that substantial out-of-class time be spent on rehearsals and exercises. Recommended Course Background: AS.225.301
Instructor(s): J. Astin
Area: Humanities.

AS.225.303. Acting or Directing Workshop III. 3 Credits.
Special attention is given to the development of spontaneity and emotional freedom using the principles of Workshops I and II. Hands on work with John Astin’s “The Process” and the second Silverberg workbook are employed, along with the Uta Hagen text. Boleslavsky and Michael Chekhov are introduced. The Clurman, Meisner, Stanislavsky and Strasberg approaches are included. Substantial out of class time is required. Recommended Course Background: Two acting courses.
Instructor(s): J. Astin
Area: Humanities.

AS.225.304. Acting for Musical Theatre. 3 Credits.
Workshop IV is an advanced class for actors who have gained some control over their instruments and are ready for character work and full performances. Work will be co-ordinated with productions in which the actor performs and in which the directors direct. Play analysis, characterization, fullness of performance, diction, accents, and other elements of building a performance are covered. Permission only, signature required. Recommended Course Background: AS.225.302, AS.225.303
Instructor(s): M. Denithorne
Area: Humanities.

AS.225.307. Directing Seminar. 3 Credits.
Fundamentals of mounting, casting and staging the play; various theories of directing; students must commit to a practical lab. It is understood that students have a working familiarity with acting fundamentals.
Instructor(s): J. Astin; J. Glossman
Area: Humanities.

AS.225.308. Shakespeare in Performance. 3 Credits.
The techniques and craft of following a Shakespearean text directly into character and action. Students will work with a selection of Shakespeare's plays --- A Midsummer Night’s Dream, Hamlet, and Richard III --- in exploring specific ways in which the power of the lines can be translated dynamically and immediately into vocal and physical performance. This course can be repeated for credit, because it covers different topics. (Some background in the acting sequence is encouraged).
Instructor(s): J. Glossman
Area: Humanities.

AS.225.310. Stagecraft. 3 Credits.
A hands-on approach to the technical and theoretical elements of production. Meets in the Merrick Barn Scene Shop. Permission Required.
Instructor(s): W. Roche
Area: Humanities.

AS.225.311. Scene Study. 3 Credits.
Classes and scenes tailored to the needs of the actors. Some rehearsal will take place during school hours. It is expected that substantial out-of-class time be spent on rehearsals and exercises.
Prerequisites: AS.225.301
Instructor(s): J. Astin
Area: Humanities.

AS.225.312. Acting Workshop: Chekhov and O’Neill. 3 Credits.
Using the plays of Anton Chekhov and Eugene O’Neill, the acting fundamentals from the Workshops are applied in both preparation and scene work as the student employs the basics in order to build a character for the stage. Play analysis is included. Recommended Course Background: At least one acting workshop.
Instructor(s): J. Astin
Area: Humanities.
AS.225.313. The Story of Theatre - an Introduction to Drama and Performance. 3 Credits.
An exploration of World Theatre from the Greeks to modern times, including the major playwrights and their plays, performance styles throughout the ages, and the surrounding social and cultural contexts.
Instructor(s): J. Martin
Area: Humanities.

AS.225.314. Theater: Technical Direction. 3 Credits.
An introduction to Technical Direction including pre-production and production with an overview of materials, tools, rigging and safety, together with design and its implementation.
Instructor(s): J. Astin; W. Roche
Area: Humanities.

AS.225.315. Scene Study 2. 3 Credits.
Instructor(s): J. Astin
Area: Humanities.

AS.225.316. American Women Playwrights of the 20th and 21st Centuries. 3 Credits.
This course is designed to help students deepen their appreciation and understanding of the accomplishments of American Women Playwrights of the 20th and 21st Centuries. Students will explore the growth, development and impact of women writers in the first half of the century, the second half of the century and the women playwrights of today.
Area: Humanities.

AS.225.319. Performance II. 4 Credits.
The student is given specific acting assignments, and develops themselves as special projects for public performance under the direct supervision of the instructor. A professional level of performance is the goal. Audition Req’d. Out of class rehearsal time required. Check at the Barn (6-0618). Auditions TBA.
Instructor(s): J. Astin
Area: Humanities.

AS.225.320. Performance. 3 Credits.
The student is given specific acting assignments, and develops them as special projects for public performance under the direct supervision of the instructor. A professional level performance is the goal. Audition Required. Out of class rehearsal time required. Permission only, signature required.
Instructor(s): M. Denithorne
Area: Humanities.

AS.225.321. The Lab - The Actor/Director/Playwright Lab. 3 Credits.
Student actors, directors, and playwrights will explore their respective crafts with emphasis on process and individual artistic growth. Participants in the class will also collaborate on the creation of new material for the stage. Recommended Course Background: one course in Acting, Directing, or Playwriting.
Instructor(s): M. Denithorne
Area: Humanities.

AS.225.323. Design for the Stage. 3 Credits.
The fundamentals of stage design, with an emphasis on process, including script analysis, research, conceptualization, and implementation, from the first reading of the play to opening night, along with an overview of theatre architecture from the Greeks to the current day and into our imagined future.
Instructor(s): W. Roche
Area: Humanities.

AS.225.324. Adaptation for the Stage. 3 Credits.
For aspiring playwrights, dramaturgs, and literary translators, this course is a workshop opportunity in learning to adapt both dramatic and non-dramatic works into fresh versions for the stage. Students with ability in foreign languages and literatures are encouraged to explore translation of drama as well as adaptation of foreign language fiction in English. Fiction, classical dramas, folk and fairy tales, independent interviews, or versions of plays from foreign languages are covered.
Instructor(s): J. Martin
Area: Humanities
Writing Intensive.

AS.225.325. The New American Theater. 3 Credits.
Examines powerful new trends within American Theatre, bringing together an important circle of playwrights, directors, and theorists: Shepard, Mamet, Bogart, August Wilson, Suzan-Lori Parks, José Rivera, Kushner, Shanley, Wallace, and Ruhl.
Instructor(s): J. Martin
Area: Humanities
Writing Intensive.

AS.225.326. Three Giants of Theatre: Ibsen/Strindberg/Brecht. 3 Credits.
This course explores the wide ranging works of three giants of the modern drama that shaped, and then reshaped, the twentieth century theatre. The roots of both the conventions of today’s theatre and contemporary innovative work lie with these writers. We will also explore putting scenes on their feet utilizing the acting approaches of Stanislavsky, Vakhtangov and Brecht. Plays include Peer Gynt, The Wild Duck, The Ghost Sonata, The Dream Play, Threepenny Opera, Mother Courage, and others, with theatre theory excerpts from Brecht and Antonin Artau.
Area: Humanities
Writing Intensive.

AS.225.328. The Existential Drama: Philosophy and Theatre of the Absurd. 3 Credits.
Existentialism, a powerful movement in modern drama and theatre, has had a profound influence on contemporary political thought, ethics, and psychology, and has transformed our very notion of how to stage a play. Selected readings and lectures on the philosophy of Kierkegaard, Nietzsche, Camus and Sartre -- and discussion of works for the stage by Sartre, Ionesco, Genet, Beckett, Albee, Pinter, Athol Fugard (with Nkai & Nshone), Heiner Müller and the late plays of Caryl Churchill. Opportunities for projects on Dürenmatt, Frisch, Havel, Witkiewicz, and Mrozek.
Instructor(s): J. Martin
Area: Humanities
Writing Intensive.

AS.225.329. Acting and Directing Musical Theatre. 3 Credits.
Musical Theatre is a unique form of theatrical expression that requires special skills of its actors and directors. In this course, students will study the form and structure of musicals as they apply to acting and directing. Students will direct and perform musical numbers as well as book scenes from classic and contemporary American musicals.
Instructor(s): M. Denithorne
Area: Humanities.
AS.225.330. Playwriting Strategies. 3 Credits.
A seminar and workshop in playwriting with Dr. Joe Martin, playwright and dramaturge. Student writers, developing their plays, will learn how to open up to the creative process, “brainstorm,” refine their work, and shape it toward an act of artistic communication. Writer’s techniques, such as attending to plot or “story,” delineation of character, creating effective “dialog,” even overcoming “writer’s block,” will be addressed. This course is designed to be complementary to – not a replacement for – playwriting classes in the Writing Seminars.
Instructor(s): J. Martin
Writing Intensive.

AS.225.331. Acting Styles and the “Viewpoints”. 3 Credits.
This course is designed for acting students who have already completed one or both of the first levels in acting or the first level in directing. Uses the cutting edge approach to enhanced physicality and presence in acting – The Viewpoints, originally developed by Anne Bogart and Tina Landau. The second half of the course involves work on scenes from Commedia delle’Arte to modern absurdist plays.
Instructor(s): J. Martin
Area: Humanities.

AS.225.332. Acting and Directing Workshop IV. 3 Credits.
Workshop IV is an advanced class for actors who have gained some control over their instruments and are ready for character work and full performances. Work will be co-ordinated with productions in which the actor performs and in which the directors direct. Play analysis, characterization, fullness of performance, diction, accents, and other elements of building a performance are covered.
Prerequisites: AS.225.302 OR AS.225.303
Instructor(s): J. Astin OR J. Martin
Area: Humanities.

AS.225.336. Science and Theatre. 3 Credits.
Innovative modern playwrights and have gone beyond the boundaries of the living room, the kitchen and the front porch to explore the interaction of the human mind and human passions with the drama of the cosmos. Few elements of science remain unexplored by theatre, be it medicine, particle physics, astronomy, mathematics or chemistry. These unique plays often require experiments with new forms of theatre, and a new way of writing for theatre. We will examine prominent works for theatre which engage with science, including: The Life of Galileo (Brecht, astronomy), Copenhagen (Frayn, physics), Arcadia (Stoppard, mathematics), Semmelweis (Bjorneboe, medicine), The Man who Mistook His Wife for a Hat (Sachs/Brook, neuroscience); Einstein’s Dreams (Lightman et al.). The course will include lectures, informal readings (together) of scenes to inform discussions of the works; final small group presentations; one short paper and a choice of a final essay or research paper.
Instructor(s): J. Martin
Area: Humanities, Natural Sciences.

AS.225.344. Theatre History and Dramatic Traditions II. 3 Credits.
Traces the evolution of the drama and performance from Shakespeare up to the 20th Century, with a special emphasis on comic and tragic traditions - and the new “hybrid” forms which emerged in the modern age. Shakespeare, Webster, Moliere, Racine, and Commedia del’Arte, alongside Bond Brecht and other moderns.
Area: Humanities
Writing Intensive.

AS.225.345. History of Modern Theatre & Drama. 3 Credits.
Designed to impart a deepened appreciation and understanding of today’s theatre by surveying the major playwrights, historical movements, and theatre practices of the 20th century. The course also seeks to help students understand theatre’s relationship to the societal and political power structure of each era and to introduce students to great dynamic literature in its intended form, which is performance.
Instructor(s): J. Astin; M. Denithorne
Area: Humanities
Writing Intensive.

AS.225.346. Creative Improvisation. 3 Credits.
An exploration of the imagination and the senses using basic techniques of improvisation. Exercises, conflict resolution, ensemble building, and theatre games. Texts: Spolin, Johnstone, LaBan and Feldencreis. Open to all students.
Instructor(s): M. Denithorne
Area: Humanities.

AS.225.347. International Theatre and Peace. 3 Credits.
This course brings together the arts and the new and vital field of peace studies, and demonstrates how theatre has fulfilled this function through time, and across borders.
Area: Humanities
Writing Intensive.

AS.225.375. Critical Moments in American Radical Theatre. 3 Credits.
Area: Humanities.

AS.225.501. Independent Study. 1 - 3 Credit.
Permission only.
Instructor(s): J. Astin; J. Glossman.

AS.225.502. Independent Study. 3 Credits.
Instructor(s): J. Astin; J. Martin.

AS.225.520. Projects in Theater. 3 Credits.
Special projects created for and tailored to the individual theatre student. Enrollment limited. Permission Required.
Instructor(s): J. Martin.

AS.225.590. Summer Internship in Theatre. 1 Credit.
Instructor(s): J. Astin.

AS.225.599. Independent Study. 3 Credits.
Instructor(s): J. Astin.

Cross Listed Courses

Film and Media Studies

AS.061.223. Special Topics: Performance Art and Video. 3 Credits.
This course will explore the history and current state of video and performance art, two of the most important movements in contemporary art. How have they influenced each other and how have they affected mainstream media and cultural notions of art? Students will view significant works and their presentation in galleries, museums, and public spaces, and will create individual and collaborative performances pieces of their own.
Instructor(s): S. Barber
Area: Humanities.
German Romance Languages Literatures
AS.211.312. Acting French: learning about French language and culture through theater. 3 Credits.
Performing a play in a foreign language not only improves language skills, but develops the ability to express oneself through the body and to communicate both efficiently and elegantly. Using excerpts from popular French stage plays by Camus, Sartre, Feydeau, Ionesco, Pagnol and Rostand among others, this course aims to help students to 1) improve French pronunciation, intonation, syntax, and vocabulary; 2) appreciate and understand linguistic nuance and socio-cultural practices; 3) learn fundamentals of acting that carry over into everyday communication, from body language and vocal projection to the expression of emotion and improvisation. Students will view filmed representations of select plays as well as present an end-of-semester staging. Recommended course background: AS.210.301.
Instructor(s): K. Cook-Gailloud
Area: Humanities.

AS.211.346. 20th Century French Theater and Performance. 3 Credits.
Taught in English. In this course, we will survey the themes and techniques that marked the theory and practice of theater in France in the 20th century. As we make our way from the early century avant-garde movements such as Futurism and Surrealism to Antonin Artaud’s Theater of Cruelty, from the Theater of the Absurd and mid-century existentialists to the post-1968 turn to collective authorship, our goal will be twofold: First, we will examine the prominent plays of the era as literary products, generated from within specific socio-political contexts. Second, we will attempt to re-construct their three-dimensional lives in performance, how they looked, sounded and felt to those watching. In addition, we will examine how French theater went from being a playwright-centered institution to a director-centered one, and how acting styles transitioned from psychological realism to a focus on the human body. Course materials will include plays, theoretical texts on the theater, as well as directors’ manifestos, rehearsal notes, set and costume designs and filmed recordings of theatrical events. Cross-listed with Theatre Arts and Studies. THIS COURSE CAN COUNT EITHER AS A 212 (LITERATURE--AS.212.346) OR AS A 211 (CULTURE) COURSE FOR THE FRENCH MAJOR AND MINORS.
Instructor(s): E. Fisek
Area: Humanities.

Writing Seminars
The Writing Seminars exists to help students combine imaginative writing with scholarship in the general context of the humanities.

Requirements for a B.A. degree
Also see Requirements for a Bachelor’s Degree (p. 24)
AS.220.105 Fiction/Poetry Writing I and AS.220.106 Fiction/Poetry Writing II are prerequisite courses required for all majors and others who want to take advanced courses in writing. Majors must receive a grade of C- or better in all courses required for the major and no major requirements may be taken satisfactory/unsatisfactory.

AS.220.105 Fiction/Poetry Writing I 3
AS.220.106 Fiction/Poetry Writing II 3
Four courses of English literature. * 12
Two courses in philosophy. It is recommended that one course be a Philosophy Department introductory course. 6
Two courses in history. Majors are encouraged to take one history survey course in the History Department. May include one course from History of Art or from History of Science and Technology. 6
AS.220.200 Introduction to Fiction 3
AS.220.201 Introduction to Poetry 3
One fiction course at the 300-400 level. 3
One poetry course at the 300-400 level. 3
One advanced writing workshop. 3
Three elective courses at the 200-400 level within the department. 9
Foreign language proficiency through the second semester of the intermediate level is required.

* Expository Writing may not apply towards the English literature requirement.
Honors
A GPA of 3.5 or better in all major requirements is required to earn honors in the major.

The Writing Seminars offers a Master of Fine Arts (M.F.A.) in fiction and poetry. Students admitted to the M.F.A. program enroll in two years of coursework and produce a substantial manuscript in the form of a novel or collection of fiction or poetry. M.F.A. candidates are chosen on the basis of a manuscript, college transcripts, GRE scores, and appropriate letters of recommendation that testify to the student's ability and willingness to undertake serious study in the literary arts. Since all students receive financial aid in the form of full tuition and a teaching assistantship, applicants must be able to demonstrate aptitude for college teaching.

The program requires two full years of residency in Baltimore. Students enroll each semester in two courses: a writing workshop in poetry or fiction and a second course in craft or literature taught within the department. At the end of the first year, students present a portfolio of revised work for faculty review. Successful completion of this work is a requirement for continuation in the second year.

The M.F.A. degree in The Writing Seminars is designed for students committed to the study and practice of literary writing at the highest level of accomplishment. Approximately five poets and five fiction writers will be admitted annually. Our pedagogy emphasizes genre-informed discussions, faculty conferences, independent readings, and interactions with visiting writers. Culminating in a book-length thesis, this immersion in literary study is designed to inculcate the habits and skills necessary for a productive writer's life.

Students applying to the M.F.A. program should have a bachelor's degree. All must demonstrate competence in a foreign language at the college level.

For current faculty and contact information go to http://writingseminars.jhu.edu/faculty_directory/index.html

Faculty
Co-Chairs
Jean McGarry
Professor, fiction
Mary Jo Salter
Professor, poetry

Professor
Brad Leithauser
Fiction

Visiting Associate Professors
Wayne Biddle
Nonfiction

Senior Lecturers
Glenn Blake
Fiction
Tristan Davies
Fiction

Associate Professor
David Yezzi
Poetry

Decker Professor in the Humanities
John T. Irwin
Criticism and poetry

Assistant Professors
James Arthur
Poetry
Matthew Klam
Fiction
Dora Malech
Poetry
Eric Puchner
Fiction

Richard A. Macksey Professor for Distinguished Teaching in the Humanities
Alice McDermott
Fiction

Professor Emeritus
John Barth
Fiction

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

AS.220.101. Narrative Medicine. 3 Credits.
In this course, we'll explore the new field of narrative medicine. What role does storytelling play in medicine? How can studying the literature of illness and healing result in better patient care? Students will read and discuss a variety of narratives authored by both patients and physicians, from short stories to personal essays to poems. They will also examine research on the impact of narrative training on clinical practice, and meet guest speakers from the local medical community. Finally, students will craft their own essays and fiction and receive feedback in a workshop setting.
Area: Humanities
Writing Intensive.
AS.220.105. Fiction/Poetry Writing I. 3 Credits.
A course in realist fiction and traditional verse, with readings in Eudora Welty, Vladimir Nabokov, Henry James, Robert Frost, Paul Fussell, John Gardner, Seamus Heane, and Gwendolyn Brooks. This first course for writers is a study of forms of short fiction and metered verse. Students compose short stories and poems; includes practice of critical attention to literary models and workshop of student writing. This course is a prerequisite for most upper level courses. This course is part one of the year-long Introduction to Fiction and Poetry, and must be taken before AS.220.106.
Instructor(s): Staff
Area: Humanities
Writing Intensive.

AS.220.106. Fiction/Poetry Writing II. 3 Credits.
The second half of IFP, a course in counter-traditional antirealist fiction and free verse (Emily Dickinson, Virginia Woolf, Elizabeth Bishop, Franz Kafka, Italo Calvino, and William Carlos Williams). This course is a prerequisite for most upper level courses.
Prerequisites: AS.220.105
Instructor(s): A. Allen; C. Siskel; S. Robinson
Area: Humanities
Writing Intensive.

AS.220.108. Introduction to Fiction & Nonfiction. 3 Credits.
A course in realist fiction and nonfiction, with readings by Eudora Welty, Vladimir Nabokov, Henry James; George Orwell, Beryl Markham and Truman Capote. Students compose short stories and essays with attention to literary models. AS.220.105 can be substituted for AS.220.108.
Instructor(s): J. Cavanaugh-Simpson
Area: Humanities
Writing Intensive.

AS.220.112. The Problems with Myth: Mythology in 20th Century Literature. 3 Credits.
This course examines how and why important 20th century writers reinterpreted ancient myths to explore modern themes of ennui, violence, and the absurd hero. We begin with classical authors then jump to those of the 20th century: for example, Louise Glück, James Joyce, Albert Camus, and Eugene O’Neill. In addition to reading literature and essays, students write original poems and sketches in order to understand how mythic narratives continue to satisfy the modern voice.
Instructor(s): R. Oh
Area: Humanities
Writing Intensive.

AS.220.115. Mitchell, Fitzgerald, and American Class Identity. 3 Credits.
English General Banastre Tarleton was reviled throughout the American South for his extreme brutality during the War of American Independence. Why, then, did Margaret Mitchell select Tarleton as the surname for the twin brothers who are courting the Southern belle Scarlett O’Hara in Gone with the Wind? Did Mitchell intend the name both as an historical reference, and as a literary reference? In four short stories, F. Scott Fitzgerald used the fictional town of Tarleton, Georgia as the backdrop for his disparagement of the notion that social integration was desirable—much less even possible. Did Mitchell conceive her novel as a counterweight to Fitzgerald’s depictions of the futility of attempts at class mobility—not only in those stories, but also in The Great Gatsby? What’s at stake in the commitment to resisting or promoting class fluidity? How does Mitchell’s debate with Fitzgerald illustrate the role social standing plays in modern America?
Area: Humanities
Writing Intensive.

AS.220.118. Plagues and Pandemics in Literature. 3 Credits.
All plagues seem to begin in mystery: What is happening? Why? Who can we blame? What needs to change? How do we react to these questions in the midst of a mass disaster has fascinated writers for centuries. Looking to literature, this class will examine pandemics ranging from the Black Death to Influenza to HIV/AIDS. We will also discuss vampires, zombies, and laboratory experiments gone disastrously wrong. Students will write their own poems and short stories.
Instructor(s): P. Kirkpatrick
Writing Intensive.

AS.220.120. Musical Theater: History and Lyrics, from Guys & Dolls to Glee. 3 Credits.
This course examines the history of musical theater, from Gilbert and Sullivan to Hammerstein to Sondheim, in all its forms: stage, film, live actions, cartoons, and jukebox musicals. We will watch films in class, including CAROUSEL, GUYS & DOLLS, SOUND OF MUSIC, SWEENEY TODD, RENT, ACROSS THE UNIVERSE, GLEE episodes, and more. Students write lyrics and imitations, and a short paper on a favorite lyricist. Optional field trips to DC and Baltimore theaters to see musicals live.
Area: Humanities
Writing Intensive.

AS.220.125. Short Fiction of David Foster Wallace. 3 Credits.
In this course we will explore David Foster Wallace’s shorter fiction with an eye towards the philosophical questions raised therein: How can we be authentic when the self is a social construct? How do we escape solipsism while remaining aware of our helpless subjectivity? How do we feel empathy while acknowledging irony? Is it impossible to escape the self, or is that just me? Recommended Course Background: AS.220.105
Area: Humanities

AS.220.138. Make ‘Em Laugh. 3 Credits.
The quickest way to kill a joke is to explain it. So how do we learn to be funny? In this class, we’ll explore techniques in humor writing. Whether poking holes in accepted absurdities or helping us laugh at death, humor makes us smile and think. Each week, we’ll focus on a different type of humor—dark comedy, satire, etc.—through stories, nonfiction, criticism, and author interviews. Students will write imitations and original work.
Instructor(s): G. Kirby
Area: Humanities
Writing Intensive.
AS.220.146. Introduction to Science Writing. 3 Credits.
Science writing is science written in plain English and told as a story. Students research, write, edit others, rewrite. They also analyze published stories for structure, substance, accessibility, and clarity.
Area: Humanities
Writing Intensive.

AS.220.148. Portraits of the Artists: Writing Self in Fiction. 3 Credits.
Flannery O'Connor once said "Anybody who has survived his childhood has enough information about life to last him the rest of his days." Fiction is a carefully hewn combination of memory and imagination, and while it is impossible to know how much of the literary canon is sourced in autobiography, the truism holds firm: people write what they know. In this course, we will focus on modern and contemporary autobiographical fiction, looking closely at source, creative process, craft, and style, in order to answer the essential question, How does a writer successfully roll fact into fiction? Students will complete writing activities and participate in discussions and workshops. They will produce either an autobiographical story, or the first chapter of a longer work. Novels: Portrait of the Artist as a Young Man, Joyce; The Bell Jar, Plath; The Lover, Duras. Stories by Hemingway, Updike, Munro, O'Brien, Casey.
Instructor(s): J. Slovak
Area: Humanities.

AS.220.149. Introduction to Formal Poetry. 3 Credits.
Robert Frost said writing free verse is like playing tennis with the net down. This course will focus on the supporting structures of poetry—such as meter and rhyme—and provide students with the opportunity to study, write, and workshop a variety of verse-forms including the villanelle, ghazal, and sestina. In addition to selections from Paul Fussell’s Poetic Meter & Poetic Form, students will read a range of formal poems. By the end of the course, students will understand Frost’s insight, and, having practiced the art of meter, be better prepared to write “free verse.”
Area: Humanities
Writing Intensive.

AS.220.150. Steal This Book. 3 Credits.
From Spike Lee to The Clash, art can wield immense influence on our worldview. This class will explore the intersection of social critique and American literature. Class texts will also include a range of pertinent films, documentaries, and popular music. We’ll examine the social utility of art and how artists use their craft to make a statement. Classwork includes Blackboard posts on current events, weekly creative writing assignments, and a final portfolio of creative work.
Instructor(s): J. Takacs
Area: Humanities
Writing Intensive.

AS.220.152. Words of Light: Poetry and Photography. 3 Credits.
This class will focus on poetry’s relationship to time and the visual. Students will read a body of poetry and criticism (essays by Walter Benjamin, Susan Sontag, Penelope Pelizzon, et al.) looking at how the descriptive nature of lyric poetry is fundamentally related to photography — more closely related to photography, in fact, than poetry is to painting or sculpture. In addition to bringing a worthwhile discussion of the readings to each class, students will submit one original poem and one original photo each week for credit. *IFP 1 preferred.
Instructor(s): S. Greer
Area: Humanities
Writing Intensive.

AS.220.153. Writing from Art. 3 Credits.
In this course, students will engage with ekphrastic writing across genres. Using poetry, fiction, and personal essays inspired by Joseph Cornell’s boxes as an entry point, we will consider how writers engage with other forms of art. Students will develop and workshop each others responses. Readings include Charles Simic, William Gibson, Mark Doty, and selections from Jonathan Safran Foer’s anthology of Cornell-based writing, “A Convergence of Birds.”
Area: Humanities
Writing Intensive.

AS.220.155. Introduction to Creative Writing: Chaos and Order in Literature. 3 Credits.
In this literature and creative writing course, we’ll consider the ways in which the ideas of “chaos” and “order” implicitly or explicitly shape literature. From Greek tragedy to “fractal” poetry, from Shakespeare’s landscapes to the Deep South and Wild West, we will investigate humans’ essential and paradoxical relationship with the unknown. We will experiment with chaotic and structured forms in our own poems, stories and essays to explore these fundamental themes.
Area: Humanities
Writing Intensive.

AS.220.156. Poetry and the Visual Arts. 3 Credits.
This course will examine the interplay between poetry and the visual arts. We will look at poems inspired by great paintings and sculptures and vice versa: paintings and sculptures inspired by great poems. We will also explore ekphrasis in both poetry and painting. The course will include field trips to local museums and poetry writing workshops.
Area: Humanities.

AS.220.182. The American Political Novel. 3 Credits.
An examination of several major American authors who engaged some of the most controversial political issues of their day: race relations and the role of the federal government in enforcing civil rights. We’ll explore a chain of literary influence that stretches from the early 1850s to the late 1990s. How did Robert Penn Warren conceive All the King’s Men (a fictional account of Louisiana’s governor and senator Huey Long) as a response to Herman Melville’s Moby Dick, Mark Twain’s Huckleberry Finn, and William Faulkner’s Absalom, Absalom!? And how, in turn, did Joe Klein conceive Primary Colors (a fictional account of Arkansas’s governor Bill Clinton) as a response to All the King’s Men? We’ll also consider Billy Lee Brammer’s The Gay Place (a fictional account of Texas’s senator Lyndon Johnson).
Area: Humanities
Writing Intensive.

AS.220.184. Writers Who Act / Actors Who Write: Introduction to Writing for Solo Performance. 3 Credits.
Students write, develop, and perform their own solo performance pieces. Monologue forms investigated: interview-based documentary, autobiography, fiction. Writing exercises and in-class critiques. Works analyzed: Anna Deveare Smith, Doug Wright, Dario Fo, Mel Brooks, Richard Pryor, Moines Kaufman, films where one actor plays many roles (Kind Hearts & Coronets, Dr. Strangelove, Monty Python’s Holy Grail, etc.) Field trips: one-man show at Everyman Theatre, slam poetry, stand-up comedy, cabaret. Culminating showcase of student work. No acting experience necessary.
Area: Humanities
Writing Intensive.

AS.220.160. The Power of Lyric Poetry. 3 Credits.
This class will focus on lyric poetry — its relationship to music, and how it is written and read. The syllabus will be flexible, allowing each student to pursue a creative project that he or she considers significant. The class will begin with the ancient Greek, Roman, and Medieval lyric poets and proceed to the modernists and the avant-garde. Readings will include selections from these periods, and students will study the lyrical poetry of their own choosing. The final project will be a personal collection of poems written and assembled into a book.
Area: Humanities
Writing Intensive.
AS.220.186. The American Poem. 3 Credits.
This course will examine the broad family tree of American poetry, from Whitman and Dickinson to the present day. We will focus on several poets of the 20th century as exemplars of major trends and/or instigators of change over the last hundred years, and we will seek to chart their influences. Through our own poems and essays, we will enter into a conversation with the myriad voices that have composed the poem in America.
Instructor(s): S. Lackaye
Area: Humanities
Writing Intensive.

AS.220.187. Songwriting: The Poetry of Music. 3 Credits.
We will investigate song as both inherent in poetry and as a possible vehicle for it, focusing on the lyricist’s particular challenges and possible techniques. We’ll look at what makes Goethe’s poetry attractive to a musician like Schubert, and what Bob Dylan’s lyrics share with those of Keats and Shakespeare. We’ll follow the tradition of forms like the ballad and the blues song, and compose a few of our own.
Area: Humanities
Writing Intensive.

AS.220.195. Fitzgerald’s Short Stories. 3 Credits.
An examination of F. Scott Fitzgerald’s major short stories in the 1920s and 1930s. We’ll analyze Fitzgerald’s commitment to exploring the tension between two opposing intellectual movements: literary naturalism (which championed the primacy of environmental determinism) and literary realism (which championed the primacy of free will). We’ll trace Fitzgerald’s mercurial loyalty to each movement: his abandonment of one school of thought for the other, from one year to the next. In “May Day” he even embraced both movements equally—testimony to his belief that “the test of a first-rate intelligence is the ability to hold two opposed ideas in mind at the same time and still retain the ability to function”. Did Fitzgerald ultimately advocate one school of thought over the other? Or, did he intend simply to stage the debate between them?
Instructor(s): J. Rockefeller V
Area: Humanities
Writing Intensive.

AS.220.200. Introduction to Fiction. 3 Credits.
Study in the reading and writing of short narrative with focus on basic technique: subject, narrative voice, character, sense of an ending, etc. Students will write weekly sketches, present story analyses in class, and workshop one finished story. Selected parallel readings from such models of the form as Henry James, Anton Chekov, James Joyce, John Cheever, Alice Munro, and others. Permission Required. (Formerly AS.220.191.)
Prerequisites: AS.220.105 and AS.220.106
Instructor(s): G. Blake; K. Noel; R. Roper; T. Davies
Area: Humanities

AS.220.201. Introduction to Poetry. 3 Credits.
A study of the fundamentals and strategies of poetry writing. This course combines analysis and discussion of traditional models of poetry with workshop critiques of student poems and student conferences with the instructor. Permission Required. (Formerly AS.220.141.)
Prerequisites: AS.220.105 AND AS.220.106
Instructor(s): D. Malech; G. Williamson
Area: Humanities.

AS.220.202. Introduction to Non-Fiction: Matters of Fact. 3 Credits.
A first course in nonfiction writing, emphasizing how facts can be woven into narrative forms to portray verifiable, rather than imagined, people and events. Students read and discuss model works, then write frequent papers to refine their own style. (Formerly AS.220.145.)
Instructor(s): W. Biddle
Area: Humanities
Writing Intensive.

AS.220.203. Introduction to Science Writing. 3 Credits.
Instructor(s): A. Bohac; E. Gray
Area: Humanities
Writing Intensive.

AS.220.204. Introduction to Dramatic Writing: Film. 3 Credits.
An examination of the screenplay as a literary text and blueprint for production. Professional screenplays will be critically analyzed, with focus on character, dialogue, plot development, conflict, pacing, dramatic foreshadowing, the element of surprise, text and subtext, and visual story-telling. Students write one complete script. Formerly AS.220.342.
Area: Humanities
Writing Intensive.

AS.220.205. Introduction to Dramatic Writing: Plays. 3 Credits.
Instructor(s): M. Lapadula
Area: Humanities
Writing Intensive.

AS.220.206. Becoming a Science Journalist. 3 Credits.
This course is designed to teach students the skills of daily science news reporting. The focus is on turning complex scientific information into lively prose for the general public. Lectures will cover such topics as how to compose news “ledes,” how to get great quotes, how to find stories, and how best to interact with researchers and outside experts. Scientists from Johns Hopkins, University of Maryland, and other local institutions will present their latest research to the class. Students will ask questions, as journalists would, at a news conference. Students will convert these talks into news stories, which will be critiqued in class. As a final project, students will be asked to write a daily news story of their own devising. Please note that a brief writing test is required for this course. To schedule this test, please contact the instructor at dgrim5@jhu.edu.
Instructor(s): D. Grimm
Area: Humanities
Writing Intensive.

AS.220.209. Poetic Symbols: Past and Future. 3 Credits.
Poetic Symbols: Past and Future. In this course we will trace the lineages of familiar poetic symbols, or tropes, that have occurred centrally and with regularity in literary history. We will investigate how they evolve with time and reveal changing styles and sensibilities from author to author and age to age. That’s the past. The future is the next poem you will write as the assignment for each of the symbols we read. Recommended Course background: AS.220.105
Instructor(s): G. Williamson
Area: Humanities.
AS.220.210. Introduction to Non-Fiction: Science as a Social Activity. 3 Credits.
Using the political and economic milieu of science and technology as a context for our writing, we will study how social factors such as government, money, secrecy, and ethics affect the conduct and public presentation of scientific and medical research. Controversies from 20th century history as well as current events will be discussed. Writing assignments to satisfy the W requirement will consist of short papers derived from classroom topics.
Instructor(s): W. Biddle
Area: Humanities
Writing Intensive.

AS.220.303. Intermediate Dramatic Writing: Plays. 3 Credits.
Intensive workshop development of one play by each student. Repeatable for credit with permission of instructor. Permission Required.
Prerequisites: Prerequisite AS.220.205
Instructor(s): M. Lapadula
Area: Humanities
Writing Intensive.

AS.220.309. Writing Healthy Baltimore. 3 Credits.
Students will explore public health issues in Baltimore and then write about them first in short pieces, and then in longer, polished works. The framework will be the mayor’s Healthy Baltimore 2015 initiative – launched in 2011 to address the city’s top-10 public health problems, including obesity, smoking, drug and alcohol abuse, STDs, cancer, and environmental health hazards. Students will study the initiative and its historical context; examine data sets; explore where and how the initiative intersects with public health practitioners and advocacy groups at the neighborhood level; and write what they learn in different formats, including essays, breaking news, and substance analysis. Students will then “workshop” each other’s papers.
Instructor(s): K. Masterson
Area: Humanities
Writing Intensive.

AS.220.310. Intermediate Fiction: Nature Writing. 3 Credits.
Our central text will be Thoreau’s “Walden”. Most of our readings will be American, though we will read excerpts from Lucretius and Darwin. We will examine various ways in which the natural world has been depicted in nonfiction, fiction, and poetry. Students will write critical papers on nature writers as well as to do creative nature writing of their own. Our authors may include: Emerson, Rachel Carson, Loren Eiseley, John Updike, Robert Frost, Donald Culross Peattie.
Instructor(s): B. Leithauser
Area: Humanities
Writing Intensive.

AS.220.311. Intermediate Fiction: Point of View. 3 Credits.
A consideration of not just the obvious point-of-view choices writers face - first person or third? one perspective or many? - but also questions of reliability and distance. Reading may include Chekhov, Faulkner, Nabokov, Munro, Diaz, and others. Students will write and workshop their own short stories.
Instructor(s): R. Puchner
Area: Humanities.

AS.220.316. Seminar: Opinion Writing. 3 Credits.
The study of exposition and argument in literary prose, with exposure to journalistic practices. Instructor will assign topics on which students write essays and subsequently discuss in class and critique for style, grammar, coherence, and effectiveness. Permission required.
Instructor(s): J. Cavanaugh-Simpson
Area: Humanities
Writing Intensive.

AS.220.319. Intermediate: Nonfiction/Nonfact. 3 Credits.
Instructor(s): W. Biddle
Area: Humanities
Writing Intensive.

AS.220.320. Intermediate Poetry: Poetics. 3 Credits.
A study of how to read poetry closely and how to write critical prose about it. Readings in the course may include T.S. Eliot, Robert Frost, John Crowe Ransome, W.H. Auden, Robert Lowell, Randall Jarrell, and others. Completion of Introduction to Poetry required.
Prerequisites: AS.220.201
Area: Humanities.

AS.220.324. Intermediate Fiction: Landscape & Setting. 3 Credits.
An intermediate fiction workshop focusing on the question of place. We’ll read 19th, 20th, and 21st century short fiction (including some set in Baltimore) in which setting strongly affects plot. While we’ll talk about each story holistically, we’ll also spend time discussing how authors make the physical world feel three-dimensional, and how place can lean on— even change— what happens in a story. Students will write stories and exercises, including exercises that involve exploring Baltimore in order to observe and write about the city in which we live.
Instructor(s): K. Noel
Area: Humanities.

AS.220.325. Intermediate Fiction: Story and Plot. 3 Credits.
The study of plot, with questions, both practical and theoretical, inevitably raised by the short story form. Readings in Chekhov, James, O’Connor, Cheever, Joyce, and Hemingway.
Instructor(s): K. Noel
Area: Humanities.

AS.220.327. Intermediate Fiction: Characters. 3 Credits.
A study of fictional persons in works by Fitzgerald, Joyce, W.C. Williams, and Rilke. Students write sketches and compose at least one complete story.
Instructor(s): T. Davies
Area: Humanities.

AS.220.328. Intermediate Fiction: Narrative Voice. 3 Credits.
Instructor(s): J. McGarry
Area: Humanities
Writing Intensive.

AS.220.329. Intermediate Fiction: Forming The Short Story. 3 Credits.
Readings in the first hundred years of the short story in the Western tradition. Authors include Hoffmann, Kleist, Pushkin, Gogoi, Turgenev, Maupassant, James, Chekhov, and Wharton. Numerous pastiches will be assigned.
Instructor(s): T. Davies
Area: Humanities
Writing Intensive.
AS.220.331. Intermediate Fiction: Forms of Fiction. 3 Credits.
A look at some non-realistic methods, in stories and novels, for dealing with the "real world." Students will write one page exercises and short stories. Permission Required.
Instructor(s): T. Davies
Area: Humanities.

AS.220.332. Writing Central Baltimore. 3 Credits.
A workshop in writing about a single geographical area, in this case the amalgamated districts popularly known as Central Baltimore. Subjects will include the area history, demographics, and future. Research and a series of written projects will be required, including both individual and group work.
Prerequisites: AS.220.105 and AS.220.106 and AS.220.200
Area: Humanities.

AS.220.333. Intermediate Fiction: The Anatomy. 3 Credits.
Registration Restrictions: Permission Required. A workshop with readings in encyclopedic fictional forms. Authors will include Petronius, Robert Burton, and Joyce. Numerous sketches to be assigned including the exploration of digital media.
Prerequisites: AS.220.200
Area: Humanities.

AS.220.334. Intermediate Fiction: Indexed Fiction. 3 Credits.
A course in fiction writing that utilizes a wiki environment. Students will write and maintain multiple fictional data sets, read and edit other students' work in the same, and coordinate and interlink their sets with the goal of creating a collaborative web-based fiction.
Prerequisites: AS.220.200
Area: Humanities.

AS.220.335. Intermediate Fiction: Fiction and Fact. 3 Credits.
Perm. Req'd. A workshop in fictions that are "on" something, that is: fictions that take as their organizing principal the consideration of some material or intellectual subject. Readings will include famous examples of the anatomical form as well as writings in contemporary metaphysics.
Instructor(s): T. Davies
Area: Humanities
Writing Intensive.

AS.220.337. Intermediate Dramatic Writing: Film. 3 Credits.
An intensive workshop focusing on methodology: enhancing original characterization, plot development, conflict, story, pacing, dramatic foreshadowing, the element of surprise, text and subtext, act structure, and visual storytelling. Each student is expected to present sections of his/her "screenplay-in-progress" to the class for discussion. The screenplay Chinatown will be used as a basic text.
Area: Humanities
Writing Intensive.

AS.220.339. Seminar: Science Stories. 3 Credits.
Science Stories is designed to teach students the skills of daily science news reporting and writing. Lectures will cover topics such as how to write news ledes, how to get great quotes, how to find stories, and how best to interact with researchers and outside experts. Every other week, scientists from local institutions will present their latest research to the class. Students ask questions and are given a week to write up a daily news story, which is workshopped during the following class. As a final project, students will be asked to find and write a daily news story on their own.
Prerequisites: AS.220.146 or 220.203 or permission of instructor
Instructor(s): D. Grimm
Area: Humanities
Writing Intensive.

AS.220.344. Intermediate Fiction: The Short-Short Story. 3 Credits.
A consideration of the short-short story. Students will weekly present in the short-short story form. We will read the following anthologies: Short Shorts, Flash Fiction, Micro Fiction, and Sudden Fiction.
Prerequisites: AS.220.200
Instructor(s): G. Blake
Area: Humanities
Writing Intensive.

AS.220.345. Intermediate Fiction: Alternative Fictions. 3 Credits.
Instructor(s): B. Leithauser
Area: Humanities
Writing Intensive.

AS.220.351. Intermediate Fiction: Forms of International Fiction. 3 Credits.
A course which reads fiction written by leading innovators in form such as, but not limited to, Franz Kafka, Jorge Luis Borges, Angela Carter, Amos Oz, Italo Calvino, Gabriel Garcia Marquez, A.S. Byatt, Margaret Atwood, Ian McEwan. Students will write variations of the forms of fiction.
Prerequisites: AS.220.200
Area: Humanities.

AS.220.368. Intermediate Fiction: Contemporary American Fiction. 3 Credits.
This seminar will examine how three schools of American fiction address the fate of linear narrative in the late 20th century. Permission required.
Area: Humanities.

AS.220.376. Intermediate Fiction: Outdoor Stories. 3 Credits.
Students will write sketches and stories, in a class organized around readings in classic texts of wilderness encounter. Hawthorne, Tolstoy, Hemingway, Faulkner, Styron, Cormac McCarthy, Kate Chopin, Melville, McGuane, Conrad. Permission Required.
Instructor(s): R. Roper
Area: Humanities
Writing Intensive.

AS.220.377. Intermediate Poetry: Poetic Forms. 3 Credits.
A consideration of a variety of poetic forms and conventions, analysis and discussion of characteristic approaches, with a balance of workshop of student poems. Admission requires completion of Introduction to Poetry. Permission Required.
Instructor(s): G. Williamson
Area: Humanities.
AS.220.378. Poetic Forms II. 3 Credits.
The course builds on the information and techniques encountered in Poetic Forms I, and uses them in reading and imitating a range of contemporary poets. Permission Required.
Instructor(s): G. Williamson
Area: Humanities.

AS.220.380. Intermediate Fiction: The Scene. 3 Credits.
Emphasis in writing scenes-the building blocks of fiction-units of action, units of dialogue. Readings will include the stories of Chekhov, Cheever, Hemingway, and Carver. Recommended Course Background: AS.220.200
Instructor(s): G. Blake
Area: Humanities.

AS.220.382. Intermediate Poetry: Narrative Strategies in Poetry Writing. 3 Credits.
Before a poem is anything else, it is the hint, implication, outline, or raw matter of a story, that fundamental human-making shape of expression. Story-writing is learned behavior and its alternative approaches are the makers of form and vision, of communication that is worth re-experiencing, or not. In this course we consider how poets have written narratives and how today’s poets continue to do so. We will read one book of poems by each of eight contemporary poets who will visit the class, including Pulitzer Prize winners Claudia Emerson and Stephen Dunn, and discuss narrative strategies with these poets. Students will then write a poem “imitating” each visitor and we will workshop the poems on next class meeting after the visit. There will also be short response papers and a final essay (or examination--the student’s choice).
Instructor(s): D. Smith
Area: Humanities.

AS.220.383. Intermediate Fiction: The 20th Century. 3 Credits.
We will look at modern American novelas. Authors will include: Henry James, Edith Wharton, Katherine Anne Porter, John Updike, Steven Milhauser, Truman Capote, Elizabeth Spencer. Frequent short writing assignments, to be discussed in workshop.
Instructor(s): B. Leithauser
Area: Humanities.

The class will read and discuss classic autobiographical texts by Benjamin Franklin, Frederick Douglass, Henry Thoreau, Henry Adams, Gertrude Stein, Malcolm X, and others. Students will write and workshop their own life stories of substantial length.
Instructor(s): W. Biddle
Area: Humanities.

Writing Intensive.

AS.220.387. Intermediate Poetry: The Poet as Observer. 3 Credits.
A workshop course with readings and writing assignments that emphasize the artistic value of the outward gaze. Students will keep a daily journal of observations, and over the semester will develop those observations into at least 10 new poems. Course readings will include work by Rainer Maria Rilke, Elizabeth Bishop, and Theodore Roethke. Permission Required.
Instructor(s): J. Arthur
Area: Humanities.

AS.220.389. Intermediate Poetry: The Dramatic Element. 3 Credits.
This course will explore the dramatic mode of poetry, from the plays of the Greeks and Shakespeare to the lyric poems of Hardy, Yeats, Frost, Brooks, Hecht, and others. Weekly writing assignments, suggested by the readings, will include character monologues, dialogue, conflict, and other aspects of the dramatic lyric. Student poems will be discussed in a workshop format.
Instructor(s): D. Yezzi
Area: Humanities.

AS.220.391. Performing Poetry & Fiction: An Acting Workshop for Writers. 3 Credits.
This hands-on performance workshop, combining literary and theatrical practice, will look closely at what makes a performance or reading compelling, clear, and resonant. Through textual analysis, vocal technique, and group discussion, students will create a plant and powerful reading style to best serve their work. The course includes regular writing assignments in poetry or fiction and weekly performance and group discussion.
Instructor(s): D. Yezzi
Area: Humanities
Writing Intensive.

AS.220.392. Intermediate Poetry: Tall Tales and Short on Narrative Poetry. 3 Credits.
Tall Tales and Short: On Narrative Poetry. Many of the most resonant and influential stories in history have been told in verse—The Iliad, The Aeneid, Beowulf, The Divine Comedy, The Prelude. This course will examine narrative poems—from Homer to the present, both long and short—with an eye toward how they function formally and generically. Students will adapt an array age-old storytelling techniques for their own poems. There will be weekly writing assignments in poetry and group discussion of student writing.
Instructor(s): D. Yezzi
Area: Humanities
Writing Intensive.

AS.220.393. Intermediate Poetry: Poets in Conversation. 3 Credits.
An exploration of poetic process as ongoing discourse within and across generations. Readings, writing assignments, and in-class workshop of student poems will encourage and enable course participants to join the conversation themselves.
Instructor(s): D. Malech
Area: Humanities
Writing Intensive.

AS.220.397. Intermediate Poetry: The Lyric. 3 Credits.
What is a lyric poem in the 21st Century? What causes such a thing? What does it sound like? What is it good for? Who writes them? We will. By reading lyric poems written over the last 500 years in English, and by writing our own original work we will find some answers to these questions. This class will have a special emphasis on Free Verse and the particular challenges and joys of such a poem. This workshop aims to generate new work and to cultivate skills necessary for a writer. Permission Required.
Area: Humanities.
AS.220.400. Advanced Poetry Workshop. 3 Credits.
The capstone course in poetry writing. Consideration of various poetic models in discussion, some assigned writing, primarily workshop of student poems. Students will usually complete a “collection” of up to 15 poems. Permission Required. (Formerly AS.220.396.)
Prerequisites: AS.220.201
Instructor(s): D. Yezzi
Area: Humanities.

AS.220.401. Advanced Fiction Workshop. 3 Credits.
The capstone course in writing fiction, primarily devoted to workshop of student stories. Some assignments, some discussion of literary models, two or three completed student stories with revisions. Completion of Intermediate Fiction is required for admission. Permission Required. (Formerly AS.220.355)
Instructor(s): A. McDermott; B. Leithauser
Area: Humanities.

AS.220.403. Readings in Poetry: The Branch Will Not Break. 3 Credits.
Readings in Contemporary Poetry. Confession, place, myth and image are the four compass points of American poetry best embodied in the work of James Wright. With the work of Wright at the center of the compass, we will read the Selected Poems of four major living poets and discover how these directions and forces play out over the course of a career. Permission required.
Instructor(s): S. Scafidi
Area: Humanities.

AS.220.404. Readings in Fiction: Narrative Design. 3 Credits.
A readings course in the novel studying works by Jane Austen, Honore de Balzac, Ivan Turgenev, Henry James, Thomas Mann, Joseph Conrad and Elsa Morante. Students keep a notebook of critical responses to the novels and write a final paper.
Instructor(s): J. McGarry
Area: Humanities.

AS.220.406. Readings in Fiction: Hard-Boiled Fiction and Film Noir. 3 Credits.
Students read six novels by Hammett, Chandler, Cain, Burnett, and Woolrich and view seven films made from these novels by Huston, Hawks, Wilder, Dmytryk, Richards, Walsh, and Farrow. Cross-listed with Film and Media Studies.
Area: Humanities Writing Intensive.

AS.220.409. Readings in Fiction: Faulkner, Fitzgerald, & Hemingway. 3 Credits.
An examination of the fiction of three American modernist masters in the context of the early 20th century movement in the verbal and visual arts. Not a workshop course.
Area: Humanities.

AS.220.410. Readings in Poetry: Four Women Poets. 3 Credits.
A study of technique and strategy in the poetry of Emily Dickinson, Marianne Moore, Elizabeth Bishop, and Amy Clampitt. Not a workshop course.
Instructor(s): M. Salter
Area: Humanities.

AS.220.411. Readings in Poetry: Sex & Death in Contemporary American Poetry. 3 Credits.
Between sex and death the body has a varied wild life in American poetry. In a survey of contemporary work this seminar will consider the life of the body, its relationship to the imagination and the kaleidoscopic world of the senses. Reading erotic poems, elegies, poems of sickness and health, and of age and youth, we will find an intimate politics of the body. Students will read and respond critically to American poems written over the last forty years.
Instructor(s): S. Scafidi
Area: Humanities.

AS.220.412. Readings in Poetry: Eliot, Crane & Stevens. 3 Credits.
An examination of the poetry of Eliot, Crane and Stevens in the context of the modernist movement in the verbal and visual arts. Not a workshop course. Juniors and seniors majors are given preference.
Instructor(s): J. Irwin
Area: Humanities.

AS.220.416. Readings in Fiction: Five from the Fifties. 3 Credits.
We will examine five American writers who were emerging or thriving in the middle of the 20th century: John Cheever, Flannery O’Connor, Peter Taylor, John Updike, and Vladimir Nabokov. We will read short stories by all five, as well as the following novels: O’Connor’s Wise Blood, Updike’s Of the Farm, Nabokov’s Lolita and Pale Fire.
Instructor(s): B. Leithauser
Area: Humanities Writing Intensive.

AS.220.417. Advanced Nonfiction Workshop. 3 Credits.
Classes will be devoted to writing and collective editing of factual work of significant length and ambition, including essays, journalistic reports, histories, and biographies. Instructor permission required.
Instructor(s): W. Biddle
Area: Humanities Writing Intensive.

AS.220.418. Readings in Fiction: The Novella. 3 Credits.
Registration Restrictions: Permission required. Twentieth-century novellas, with a new author and book each week. The course asks: What can and has been accomplished by American fiction writers in fewer than 150 pages?
Area: Humanities Writing Intensive.

AS.220.419. Readings in Poetry: Auden & His Circle. 3 Credits.
Permission Required
Instructor(s): M. Salter
Area: Humanities Writing Intensive.

AS.220.420. Readings in Contemporary Fiction: Coetzee, Delillo, Freudenberger, Johnson. 3 Credits.
The central concern of this course is to read, study, think about, and discuss several novels and short story collections paying special attention to the voice and structural techniques these authors have invented to create compelling works.
Instructor(s): M. Klam
Area: Humanities.
AS.220.421. Readings in Poetry: Poetry of War. 3 Credits.
A study of modern war poetry, especially of the two World Wars, including work by W.B. Yeats, Rupert Brooke, Wilfred Owen, W.H. Auden, Louis MacNeice, Randall Jarrell, Henry Reed, Richard Wilbur, Anthony Hecht. Some poetry concerning other conflicts, from the Trojan War to the war in Iraq, will also be addressed. What is the role of poetry in responding to political events? Students will write critical papers as well as poems.
Instructor(s): M. Salter
Area: Humanities
Writing Intensive.

AS.220.422. Readings in Fiction: Women Behaving Badly!. 3 Credits.
This course will focus on fiction that centers around a profoundly flawed female protagonist, an antiheroine. Why is it that we love some of these women in spite of their wrongdoing? How do we connect to a character who is acting in ways that we would never hope to act? And how is it that bad behavior is often perceived as sexy? Are evil women any less or more evil than their male counterparts? Students will read 8 books with villainesses whose crimes range from poor parenting to serial killing. One final paper (10-20 pages) will be due at the end of the semester on a topic of the student’s choosing, relating to one or more of the protagonists from the reading list.
Area: Humanities.

AS.220.423. Readings in Fiction: Castaways in Literature. 3 Credits.
Our primary text will be Defoe’s Robinson Crusoe. We will read spin-offs of Robinson Crusoe (Muriel Spark’s Robinson, J. M. Coetzee’s Foe, Elizabeth Bishop’s “Crusoe in England”) as well as Golding’s Lord of the Flies and Sylvia Townsend Warner’s Mr. Fortune’s Maggot. Selections from Homer, Swift, and Byron. We will conclude with Shakespeare’s The Tempest. (Leithauser)
Instructor(s): B. Leithauser
Area: Humanities
Writing Intensive.

AS.220.424. Science as Narrative. 3 Credits.
Class reads the writings of scientists to explore what their words would have meant to them and their readers. Discussion will focus on the shifting scientific/cultural context throughout history. Authors include Aristotle, Copernicus, Galileo, Descartes, Newton, Darwin, Freud, Einstein, Heisenberg, Bohr, Crick and Watson.
Instructor(s): R. Panek
Area: Humanities
Writing Intensive.

AS.220.425. Readings in Fiction: The Story Cycle. 3 Credits.
A study of the short story cycle as a literary form. Authors may include Joyce, Schulz, Anderson, Welty, Calvino, Munro, Erdrich, Diaz and others.
Instructor(s): R. Puchner
Area: Humanities.

AS.220.426. Readings in Poetry: Early Auden and his Contemporaries. 3 Credits.
A close study of the writing that Auden, Isherwood, Spender, and MacNeice produced during the 1930s against the backdrop of the Great Depression, the Spanish Civil War, and the rise of Nazism. This is not a workshop course, but students will have the opportunity to respond artistically as well as analytically to the course readings.
Instructor(s): J. Arthur.

AS.220.427. Readings in Fiction: The Novella. 3 Credits.
A study of the novella as a literary form. Authors may include Melville, Turgenev, Tolstoy, Chekhov, Kafka, James, Wharton, Baldwin, Porter, Rulfo, Smiley, and others.
Instructor(s): R. Puchner
Area: Humanities
Writing Intensive.

AS.220.428. Readings in Fiction: The Stories and Letters of Anton Chekhov. 3 Credits.
We will read the major long and short stories of Chekhov, along with selected letters written in the full course of his lifetime. Juniors and Seniors only.
Prerequisites: AS.220.105 AND AS.220.106 AND AS.220.200 AND 300 level Intermediate Fiction
Instructor(s): J. McGarry
Area: Humanities.

AS.220.501. Independent Study. 3 Credits.
Ordinarily no more than one independent study course may be counted among the eight Writing Seminars courses presented for graduation.

AS.220.502. Independent Study. NULL Credits.
Instructor(s): Staff.

AS.220.505. Writing Seminars Internship. 1 Credit.
Instructor(s): Staff.

AS.220.506. Writing Seminars Internship. 1 Credit.
Instructor(s): G. Williamson; T. Davies.

AS.220.507. Honors Thesis. 3 Credits.
Permission Required.
Instructor(s): Staff.

AS.220.508. Honors Thesis. 0 - 2 Credit.
Department Permission Required.
Instructor(s): J. McGarry.

AS.220.509. Practicing Journalism Internship. 1 Credit.
This internship is given in conjunction with local media and must be taken on a satisfactory/unsatisfactory basis. It covers many aspects of the operation of a metropolitan newspaper or magazine or TV station.
Instructor(s): Staff; T. Davies.

AS.220.510. Practicing Journalism. 1 Credit.
Permission Required.
Instructor(s): T. Davies
Area: Humanities.

AS.220.513. Teaching Writing. 3 Credits.
Permission Required.
Instructor(s): Staff
Area: Humanities.

AS.220.516. Practicing Journalism Internship. 1 Credit.
Instructor(s): D. Basford; J. Arthur; J. McGarry; T. Davies; W. Biddle.

AS.220.556. Teach Writing-Internship. 1 Credit.
Instructor(s): S. Dixon.

AS.220.598. Independent Study. 3 Credits.
Instructor(s): G. Blake; G. Williamson; J. McGarry; Staff; T. Davies.
The central concern of this course is to read, study, think about, and discuss several novels and short story collections, paying special attention to the voice and structural techniques these authors have invented to create compelling works. Restricted to Graduate Students. Instructor(s): M. Klam
Area: Humanities.

AS.220.610. Readings in Fiction: Alternatives to Realism.
Instructor(s): A. McDermott.

Area: Humanities.

AS.220.613. Writing about Science.
A seminar in the writing of factual prose about scientific matters, whether for the general reader or for professional scientists as audience. Weekly writing, editing, and reading assignments. Permission required.
Instructor(s): A. Finkbeiner.

AS.220.614. Graduate - Science Workshop.
Intensive seminar, at a professional level, in writing factual prose about science for the general reader. Students find, research, and structure their own stories. Weekly writing, editing. Permission required.

AS.220.619. Graduate Poetic Forms I.

AS.220.623. Fiction Workshop.
Discussion and critique of fiction manuscripts by students enrolled in the M.F.A. program. Some assignments possible.
Instructor(s): B. Leithauser.

AS.220.624. Graduate Fiction Workshop.
Discussion and critique of fiction manuscripts by students enrolled in the MFA program. Some assignments possible.
Instructor(s): R. Puchner.

AS.220.625. Poetry Workshop.
Discussion and critique of poetry manuscripts by students enrolled in the M.F.A. program. Some assignments possible.
Instructor(s): J. Arthur.

AS.220.626. Graduate Poetry Workshop.
Discussion and critique of poetry manuscripts by students enrolled in the MFA program. Some assignments possible.
Instructor(s): M. Salter.

AS.220.628. Graduate Seminar: Landscape & Setting.
Instructor(s): M. Klam.

A study of American poetry written after 1945 with discussion of aesthetic movements, events, historical and contextual, and the character of evolution and practices in poetic structures. Readings vary.
Instructor(s): D. Smith
Area: Humanities.

Instructor(s): J. Irwin
Writing Intensive.

AS.220.634. Forms of Poetry: Syllable and Stress.
Area: Humanities.

We will read all--or most--of Chekhov’s short stories, his "notebook," as well as the letters that have been translated into English.

A study of three major poets (English, Irish, American) who each introduced signature tones, techniques, and themes in modern poetry. Some other figures, such as Louise Bogan and the World War I poets, may be discussed.
Instructor(s): M. Salter.

A course in the poetry of the 14th-century alliterative revival in which students will read and study Middle English works such as Patience, Cleanstone, Pearl, Gawain, the Green Knight, and Piers Plowman. Graduate students only.
Instructor(s): J. Irwin
Area: Humanities.

AS.220.645. Graduate Readings in Fiction: Castaways in Literature.
Our primary text will be Defoe’s Robinson Crusoe. We will read spin-offs of Robinson Crusoe (Muriel Spark’s Robinson, J. M. Coetzee’s Foe, Elizabeth Bishop’s “Crusoe in England”) as well as Golding’s Lord of the Flies and Sylvia Townsend Warner’s Mr. Fortune’s Maggot. Selections from Homer, Swift, and Byron. We will conclude with Shakespeare’s The Tempest. Graduate students only.
Instructor(s): B. Leithauser
Area: Humanities.

AS.220.646. Graduate Readings in Fiction and Poetry.
A graduate course designed to develop both close reading and genre study, and to support the teaching of Introduction to Fiction and Poetry (IFP) I and II. Readings in selected works of American, English, and European poetry and short fiction. Course required by all graduate students in fiction and poetry.
Instructor(s): D. Yezzi; R. Puchner

A practical study of prosody rooted in the formalist tradition and continuing into theories of free verse. Readings include essays by Ezra Pound, William Carlos Williams, T.S. Eliot, Charles Olson, and Denise Levertov. This is not a workshop course, but students will have the opportunity to respond artistically as well as analytically to the course readings. Graduate students only.
Instructor(s): J. Arthur
Area: Humanities.

AS.220.648. Forms: The Longer Poem as Anthology.
A study of form through three poets especially concerned with formal variety as a complement to, and manifestation of, theme and voice. Readings will include book-length works by George Herbert (The Temple); Auden (The Sea and the Mirror); Schnackenberg (The Throne of Labdacus).
Instructor(s): M. Salter
Area: Humanities.

AS.220.800. Independent Study.
Instructor(s): Staff.

Instructor(s): Staff.
Cross Listed Courses

Film and Media Studies

**AS.061.205. Introduction to Dramatic Writing: Film. 3 Credits.**
We will explore the basic principles of visual storytelling in narrative film as they apply to the design and execution of a screenplay. During the course of the semester, each student will work on different writing exercises as they search for their specific story and the best way to approach it and execute it. We will study different narrative tools and methods of screenwriting by analyzing specific films to ascertain how they work or fail to do so at script level. Through in-class critiques, group discussions and one-on-one sessions, students will apply these techniques to their own work as they undergo the process of designing, breaking down, outlining and writing a screenplay for a short film. In-class analysis and debate on the strengths and challenges posed by the students’ work will help shape the thematic emphasis of the second half of the course.

Instructor(s): R. Buso-garcia
Area: Humanities
Writing Intensive.

**AS.061.315. Screenwriting By Genre. 3 Credits.**
Story design for the screenplay with special attention to the genres of comedy, horror, melodrama, and adventure. Regular workshops, short written exercises, and a longer final project.

**Prerequisites:** AS.061.313 or AS.220.342 or instructor’s permission
Instructor(s): L. Bucknell
Area: Humanities
Writing Intensive.

**AS.061.371. Unrealities: The Fantastic in Film & Fiction. 3 Credits.**
The fantastic, the absurd, the blackly comic in films by Cocteau, Hitchcock, and others; and in the short fiction of Bartheleme, Cortázar, Hrabal, and others. Several short creative exercises and a longer final project.

Instructor(s): L. Bucknell
Area: Humanities
Writing Intensive.

**AS.061.373. Intermediate Dramatic Writing: Film. 3 Credits.**
We will explore different approaches towards understanding the fabric of story as it pertains to film. Students will be exposed to key challenges in conceiving, designing, structuring and executing a compelling, original, memorable and vibrant feature-length screenplay. By studying key examples we will discuss possible solutions to these issues. In every class, students will share their work in progress and will help each other find approaches or solutions to their specific challenges and issues. We will analyze films with screenplays that effectively play with the form to create lasting, thought-provoking and affecting stories. Through in-class critiques, group discussions and one-on-one sessions, students will apply new tools and approaches to their own work as they undergo the process of designing, breaking down, outlining and writing a full step outline, a beat sheet and the first ten pages of a feature length screenplay. As the semester progresses, in-class analysis and debate on the strengths and challenges posed by the students’ work will shape the thematic emphasis of each class.

**Prerequisites:** AS.220.204 OR AS.061.205
Instructor(s): R. Buso-garcia
Area: Humanities
Writing Intensive.

Anthropology

**AS.070.203. Healing: Politics and Poetics. 3 Credits.**
Metaphors of health and illness; individual and social. The body in pain and the body politic. Ethnographies of historical memory vis-à-vis medicine, epidemics, sacredness, shamanism, terror, humanitarianism, truth and reconciliation.

Instructor(s): J. Obarrio
Area: Humanities, Social and Behavioral Sciences.

**AS.070.306. Healing: Politics and Poetics. 3 Credits.**

Area: Humanities, Social and Behavioral Sciences Writing Intensive.

**AS.070.322. Anthropology and Fiction. 3 Credits.**
Looking at fiction, poetry, visual montage, and other forms of experimental writing in contemporary anthropology, we will explore ethnography as a creative practice of provoking altered states such as compassion, dream, wonder, and shame.

Instructor(s): A. Pandian
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

**AS.070.337. Digital Media, Democracy, and Control. 3 Credits.**
This course examines how digital technologies enable new publics that circumvent state and social controls as well as how they are mobilized to confirm existing racial, gendered, and political hierarchies.

Area: Humanities, Social and Behavioral Sciences Writing Intensive.

German Romance Languages Literatures

**AS.213.309. Walter Benjamin and His World. 3 Credits.**
All readings and class discussions in English. This course will provide an introduction to the thought, writing, and world of Walter Benjamin— one of the most interesting and influential German writers of the early 20th century. Although he died in exile having published only a single book in his lifetime, in the past three decades his ideas and preoccupations have changed the way we think about Cultural Studies, Media Studies, Literary Studies, German thought, Jewish mysticism, and the philosophy of history. We will be examining some of his major writings in tandem with precursors such as Charles Baudelaire and Louis Aragon; contemporaries such as Theodor Adorno and Gershom Scholem; and the legacy of his work among contemporary theorists, critics, and artists.

Instructor(s): M. Caplan
Area: Humanities
Writing Intensive.
AS.213.336. Dancing About Architecture: Jewish Humor and the Construction of Cultural Discourse. 3 Credits.
Are all Jews funny, or only the ones from New York? This course will be an advanced-undergraduate examination of literary, theatrical, cinematic, and televised representations of Jewish culture focusing on the construction of cultural discourse through comedy. Taking as a point of departure Sigmund Freud's Jokes and Their Relation to the Unconscious, we will consider the joke as a mode of narration and cultural coding with specific resonances for the Jewish encounter with modernity. Among the topics to be addressed in this course will be the origins of modern Jewish humor in traditional modes of storytelling and study; the problems of anxiety and otherness articulated and neutralized through humor; the significance of Jews in creating popular culture through the mass media (particularly though not exclusively in the United States) as well as the role of these mediums in transmitting and translating Jewish references to the general culture; the status of the Yiddish language as a vehicle for satire and a vehicle of resistance between tradition and modernity; the uses and abuses of Jewish stereotypes and the relationship of Jewish humor to anti-Semitism; the connections between Jewish humor and other modes of minority discourse; and the question of translation of Jewish humor both from Yiddish into other languages and from the Jewish “in-group” to a “post-ethnic” audience. Authors and performers to be examined will include Avrom Goldfaden, Sholem Aleichem, Franz Kafka, Dzigan and Szumacher, Lenny Bruce, the Marx Brothers, Mel Brooks, Phillip Roth, Woody Allen, Larry David, Sarah Silverman, and the Coen Brothers. All readings and discussions conducted in English.
Instructor(s): M. Caplan
Area: Humanities.

AS.214.612. The dichotomy 'prodesse'-‘delectare' from Horace to the Twentieth-Century.
Rooted in antiquity, a crucial notion in theory of literature is that a literary work must provide both entertainment and instruction to its readers. In the history of human reflection on artistic production this notion's importance can be compared to that of imitation. This course will examine instances of this notion's appearance across the centuries, from Horace to Boccaccio, and all the way to our times. Special attention will be given to the connection between aesthetics and ethics and to the pleasure of reading.
Area: Humanities
Writing Intensive.

AS.216.300. Contemporary Israeli Poetry. 3 Credits.
This course examines the works of major Israeli poets such as Yehuda Amichai, Nathan Zach, David Avidan, Dan Pagis, Dalia Rabikovitch, Yona Wollach, Yair Horwitz, Maya Bejerano, and Yitzhak Laor. Through close reading of the poems, the course traces the unique style and aesthetic of each poet, and aims at presenting a wide picture of contemporary Hebrew poetry. Students may receive credit for AS.216.300 or AS.300.413, but not both.
Prerequisites: Students may receive credit for AS.216.300 or AS.300.413, but not both.
Instructor(s): N. Stahl; Z. Cohen
Area: Humanities.

AS.216.342. The Holocaust in Israeli Society and Culture. 3 Credits.
This course examines the role of the Holocaust in Israeli society and culture. We will study the emergence of the discourse of the Holocaust in Israel and its development throughout the years. Through focusing on literary, artistic and cinematic responses to the Holocaust, we will analyze the impact of its memory on the nation, its politics and its self-perception.
Instructor(s): N. Stahl
Area: Humanities
Writing Intensive.

AS.216.398. Zionism, Post-Zionism and Modern Hebrew Literature. 3 Credits.
This course studies the development of modern Hebrew literature through its relation to Zionism and Post-Zionism. Based on a close reading of both literary and non-literary Zionist and Post-Zionist texts, we will explore the thematic, social, political, aesthetic and stylistic influences that these two movements have had on modern Hebrew literature. Writers to be discussed include: Herzl, Nordau, Achad-ham, Jabotinsky, Klauensner, Brenner, Berdyckewski, Agnon, Greenberg, Kahana-Carmon, Oz, Yehoshua, Grossman, Castel-Bloom, and Laor. Students may receive credit for AS.216.398 or AS.300.398, but not both.
Prerequisites: Students may receive credit for AS.216.398 or AS.300.398, but not both.
Instructor(s): N. Stahl
Area: Humanities.

AS.216.412. The Divine in Literature and Cinema. 3 Credits.
This course studies various issues concerning literary and cinematic representations of the divine. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and will familiarize ourselves with the general problem of the relation between religion, literature and cinema. Among the topics to be discussed are, negative theology in literature and film, theodicy and anti-theodicy, the question of religion and literary modernism, providence and narratology in the modern novel and in contemporary cinema.
Instructor(s): N. Stahl.

AS.216.612. The Divine in Literature and Cinema.
This course studies various issues concerning literary and cinematic representations of the divine. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and will familiarize ourselves with the general problem of the relation between religion, literature and cinema. Among the topics to be discussed are, negative theology in literature and film, theodicy and anti-theodicy, the question of religion and literary modernism, providence and narratology in the modern novel and in contemporary cinema.
Instructor(s): N. Stahl.

AS.225.324. Adaptation for the Stage. 3 Credits.
For aspiring playwrights, dramaturgs, and literary translators, this course is a workshop opportunity in learning to adapt both dramatic and non-dramatic works into fresh versions for the stage. Students with ability in foreign languages and literatures are encouraged to explore translation of drama as well as adaptation of foreign language fiction in English. Fiction, classical dramas, folk and fairy tales, independent interviews, or versions of plays from foreign languages are covered.
Instructor(s): J. Martin
Area: Humanities
Writing Intensive.
Humanities Center

**AS.300.308. The Israeli Novel. 3 Credits.**
This course studies the Israeli novel through close reading of the works of major Israeli writers such as, Ya’akov Shabtai, Amos Oz, A.B Yeshoshua, Amalia Kahana-Carmon, Yehoshua Knaz, David Grossman, Orly Castel-Bloom, Yoel Hoffmann and Etgar Keret. We will focus on questions of style, genres and thematic choices. Among the topics to be discussed are Jewish history and tradition, social and political critiques and minority representations. Classes conducted in English, but students with knowledge of Hebrew are encouraged to read texts in the original.

Instructor(s): N. Stahl
Area: Humanities

**AS.300.356. From Literature to Film - the case of Israeli Cinema. 3 Credits.**
This course explores the differences and similarities between two artistic mediums: literature and cinema. Our case study will be the interesting transformation of Hebrew fiction into Israeli films-- a dominant phenomenon in Israeli cinema since its very beginning. Our main framework will be narrative theories, but we will also consider the specific historical, ideological and geo-political aspects involved in this transformation. By comparing the two artistic modes and studying the transformation of 5 literary works into films, students will become familiar with the history of modern Hebrew literature, contemporary Israeli cinema, and the relationship between these two artistic mediums. Cross-listed with Jewish Studies, Film and Media Studies, and Writing Seminars

Instructor(s): N. Stahl
Area: Humanities
Writing Intensive

**AS.300.375. The God of the Hebrew Writer. 3 Credits.**
Who is the God of the Hebrew poet and what kind of being is he? This course will examine the ways in which Hebrew writers conceived God. Against the background of Medieval Hebrew poetry we will read modern Hebrew poetry, prose and drama and analyze the changes in the notion of God and its depictions from the Middle Ages through Jewish Enlightenment to modernity. We will study the role of the poet as a mediator between God and his people and his or her understanding of God in the aftermath of World War I and the Holocaust.

Area: Humanities

**AS.300.404. The Israeli Novel. 3 Credits.**
This course studies the Israeli novel through close reading of the works of major Israeli writers such as, Ya’akov Shabtai, Amos Oz, A.B Yeshoshua, Amalia Kahana-Carmon, Yehoshua Knaz, David Grossman, Orly Castel-Bloom, Yoel Hoffmann and Etgar Keret. We will focus on questions of style, genres and thematic choices. Among the topics to be discussed are Jewish history and tradition, social and political critiques and minority representations. Classes conducted in English, but students with knowledge of Hebrew are encouraged to read texts in the original. Cross-listed with Jewish Studies and Writing Seminars.

Area: Humanities

**AS.300.413. Israeli poetry. 3 Credits.**
This course examines the works of major Israeli poets such as Yehuda Amichai, Nathan Zach, David Avidan, Dalia Rabikovitch, Yona Wollach, Maya Bejerano, and Yitzhak Laor. These works will be read against the background of the poetry of previous literary generations of writers such as H.N Bialik, Avraham Shlonsky, Natan Alterman and Lea Goldberg in an attempt to uncover changes in style, themes and aesthetic. Through close reading of the poems, the course traces the unique style and aesthetic of each poet, and aims at presenting a wide picture of contemporary Hebrew poetry. Class will be conducted in English and texts will be read in both English translation and the Hebrew original. Open for both Hebrew and non-Hebrew speakers. Students may receive credit for AS.216.300 or AS.300.413, but not both.

Prerequisites: Students may receive credit for AS.216.300 or AS.300.413, but not both.

Instructor(s): N. Stahl

East Asian Studies

**AS.310.116. Romantic Love in Chinese Literature. 3 Credits.**
This course aims to introduce students to a variety of literary texts featuring romantic love from the 9th to the mid-20th centuries in China. The target materials cover a wide range of literary products from Bo Juyi’s court poem to the modern Shanghai novella by the woman writer Zhang Ailing (Eileen Chang). As we read romance in a variety of narrative forms such as fiction, drama, and poetry, we will examine changing ideas about marriage, love, sexuality, family, emotion, and morality within the literary discourse as well as in society. Thus, students are expected to connect various literary texts about romance to their socio-historical, literary, and political surroundings. At the same time, we will discuss the shifting significance of romance for writers and reading public and consider how literary texts formed ideas about romance in society. The course is organized chronologically and thematically. Reading assignments are all in English.

Instructor(s): F. Joo
Area: Humanities

Interdepartmental

**AS.360.133. Great Books at Hopkins. 3 Credits.**
Students attend lectures by an interdepartmental group of Hopkins faculty and meet for discussion in smaller seminar groups; each of these seminars is led by one of the course faculty. In lectures, panels, multimedia presentations, and curatorial sessions among the University’s rare book holdings, we will explore some of the greatest works of the literary and philosophical traditions in Europe and the Americas. Close reading and intensive writing instruction are hallmarks of this course; authors for Fall 2014 include Homer, Plato, Boccaccio, Shakespeare, Madame de Lafayette, Flaubert, Dostoevsky, Chekhov, and Joyce.

Instructor(s): A. Eakin Moss; E. Patton; J. McGarry; J. Neefs; W. Stephens
Area: Humanities
Writing Intensive

Writing Intensive.
Program in Latin American Studies

AS.361.316. Caribbean Writing in Shakespeare, V. S. Naipaul, and Alejo Carpentier. 3 Credits.

Readings and polemics concerned with Shakespeare’s play The Tempest (1610-1611) and its postcolonial afterlives; V. S. Naipaul’s novel A House for Mr. Biswas (1961); and Alejo Carpentier’s El siglo de las luces (1962). The socio historical and political contexts of each work and authorship will be considered in depth in terms of dominant notions of writing in current critical theory. Cross-listed with GRLL, English, and Writing Seminars.

Instructor(s): E. Gonzalez

Area: Humanities, Social and Behavioral Sciences.

Whiting School of Engineering

Engineering education at Johns Hopkins began with the establishment on an engineering school in 1913. Throughout its history, the Whiting School has maintained close ties with the Krieger School of Arts and Sciences, which has led pioneering education and research since the Faculty of Philosophy was assembled in 1876. The Whiting School of Engineering provides its students with an education and research environment that fosters a lifetime ability to create and apply new knowledge and to contribute to their professions.

The Whiting School offers 10 ABET-accredited programs in engineering leading to the Bachelor of Science degree: biomedical engineering, chemical and biomolecular engineering, civil engineering, computer engineering, computer science, electrical engineering, engineering mechanics, environmental engineering, materials science and engineering, and mechanical engineering. The school also offers B.S. and B.A. degrees in applied mathematics & statistics as well as B.A. degrees in biomedical engineering, computer science, general engineering, and geography.

Our commitment to advanced study and research yields outstanding programs that lead to masters and doctoral degrees. In the descriptions that follow, each department lists its faculty and their research, research facilities, graduate programs, and the elementary and advanced courses they offer. More details can be obtained from the departmental websites, through the Whiting School homepage at http://engineering.jhu.edu.

Applied Mathematics and Statistics

The Department of Applied Mathematics and Statistics is devoted to the study and development of mathematical disciplines especially oriented to the complex problems of modern society. A broad undergraduate and graduate curriculum emphasizes several branches of applied mathematics: Probability, the mathematical representation and modeling of uncertainty; Statistics, the analysis and interpretation of data; Operations Research, the design, analysis, and improvement of actual operations and processes; Optimization, the determination of best or optimal decisions; Discrete Mathematics, the study of finite structures, arrangements, and relations; and Scientific Computation, which includes all aspects of numerical computing in support of the sciences.

Probability and Statistics is treated in the curriculum as a single general area, dealing in a unified way with theory and methodology for probabilistic representation of chance phenomena, applications of stochastic modeling to physical and social sciences, formulation of statistical models, fitting of statistical models to data, and interpretation of data. Operations Research and Optimization represents a second general area, dealing in unified fashion with the application of optimization theory, mathematical programming, computer modeling, stochastic modeling, and dynamic programming to planning and policy problems such as scheduling, allocation of resources, and facility location. Discrete Mathematics includes the traditional themes of graph theory and combinatorics, as well as newer topics arising from modern technological and theoretical developments. The fourth general area, Computational and Applied Mathematics, covers topics pertaining to computing, numerical analysis, advanced matrix analysis, and mathematical modeling. Financial Mathematics addresses applications by making use of applied mathematics techniques and models from many of the above-mentioned areas.

In its fundamental role of representing applied mathematics at Johns Hopkins University, the Department of Applied Mathematics and Statistics is complemented by the Department of Mathematics, with its differing emphasis. Located in the School of Engineering, the Department of Applied Mathematics and Statistics fulfills a special integrative role, stemming in part from the affinity of engineers for applied mathematics and in part from the increasing need for interaction between science and engineering. The mathematical sciences, especially the mathematics of modeling, provide a common language and tools through which engineers can develop closer alliances and cooperation with other scientists.

The department’s degree programs include foundational and introductory course work drawing from all areas of the curriculum, along with specialized course work in areas such as probability, statistics, operations research, and optimization. Students, in consultation with their advisors, may develop challenging individual programs. The department emphasizes mathematical reasoning, mathematical modeling, abstraction from the particular, and innovative application all in a problem-oriented setting. The aim is to prepare graduates for professional careers in the mathematical sciences and related areas, in academic institutions as well as in governmental, industrial, and research organizations.

The undergraduate major in applied mathematics and statistics leads to the B.A. and B.S. degrees. The graduate program leads to the M.A., M.S.E., and Ph.D. degrees. In addition, under a combined bachelor’s/ master’s program, exceptionally able undergraduates may be admitted early to simultaneous graduate work.

Facilities

The department is located in Whitehead Hall. Office space and liberal access to computing facilities are provided to resident graduate students. A Reading/Commons Room provides the opportunity for informal discussions among faculty and graduate students. The university’s Milton S. Eisenhower Library maintains an excellent collection of literature in the mathematical sciences, including all of the important current journals.

The undergraduate major in applied mathematics and statistics may serve as preparation for employment as an applied mathematician, for graduate study in applied mathematics or related areas, or as a general quantitative training for a career in business, medicine, or other fields. An undergraduate major in applied mathematics and statistics takes an individually tailored program of courses within the department and in
the Department of Mathematics (calculus, and perhaps further courses such as differential equations, analysis, complex variables, topology, and modern algebra) and electives in science and engineering. By suitable choice of electives, heavy concentration in a specific field of engineering is possible.

In order to develop a sound program suited to individual needs and interests, the student should consult regularly with the faculty advisor. Additional advisory information, including information about the areas of focus described below, may be obtained from the department office.

With the advice and consent of the faculty advisor, each student constructs an individualized program meeting the requirements below. A written copy of the program should be on file with the faculty advisor, with whom it can be revised and updated from time to time.

**Bachelor’s Degrees**

Departmental majors can earn either the B.A. or the B.S. degree by meeting the general university requirements and the general requirements of the School of Engineering (see Requirements for a Bachelor’s Degree (http://e-catalog.jhu.edu/undergrad-students/academic-policies/requirements-for-a-bachelors-degree), including Writing Requirement, in this catalog), and the departmental requirements.

All courses used to meet the following departmental requirements must be passed with grade of C- or higher:

1. **Calculus I, II, and III**
   - AS.110.106 Calculus I 8
   - AS.110.107 and Calculus II (can be used to satisfy the Calculus I and II requirements)
   - or AS.110.108 Calculus I
   - AS.110.109 and Calculus II
   - AS.110.202 Calculus III (satisfies the Calculus III requirements. Advanced placement is acceptable as well)
   - or AS.110.211 Honors Multivariable Calculus

2. **Linear Algebra and Differential Equations**
   - Two courses in linear algebra and differential equations. These two courses must, collectively, touch both areas. There are two ways to meet this two-course requirement:
     - **Option A**
       - Choose one of the following for Linear Algebra:
         - AS.110.201 Linear Algebra 4
         - AS.110.212 Honors Linear Algebra 4
       - Choose one of the following for Differential Equations:
         - AS.110.302 Differential Equations and Applications 4
         - AS.110.417 Partial Diff Equations 4
         - EN.550.386 Scientific Computing: Differential Equations 4
         - EN.550.391 Dynamical Systems 4
     - **Option B**
       - EN.550.291 Linear Algebra and Differential Equations 4
       - Plus an additional course in linear algebra or differential equations chosen from among the following:
         - EN.550.385 Scientific Computing: Linear Algebra 4

3. **Computing Emphasizing Numerical/Scientific Computing**
   - Choose one of the following (or one of the courses approved to meet the Master’s/PhD Computing Requirement): **
     - AS.171.426 Practical Scientific Analysis of Big Data 3
     - AS.250.205 Introduction to Computing 3
     - EN.500.200 Computing for Engineers and Scientists 3
     - EN.510.202 Computation and Programming for Materials Scientists and Engineers 3
     - EN.550.281 Computing in Applied Mathematics 3
     - EN.550.385 Scientific Computing: Linear Algebra 4
     - EN.550.386 Scientific Computing: Differential Equations 4
     - EN.550.400 Mathematical Modeling and Consulting 4
     - EN.550.413 Applied Statistics and Data Analysis 4
     - EN.550.450 Computational Molecular Medicine 4
     - EN.560.220 Civil Engineering Analysis 3
     - EN.570.210 Computation/Math Modeling 3
     - EN.580.200 Introduction to Scientific Computing in BME using Python, Matlab, and R 3
     - EN.580.223 Models and Simulations 4

4. **Discrete Mathematics**
   - Choose one of the following:
     - EN.550.171 Discrete Mathematics 4
     - EN.550.371 Cryptology and Coding 4
     - EN.550.471 Combinatorial Analysis 4
     - EN.550.472 Graph Theory 4

5. **Probability and Statistics**
   - Choose one of the following:
     - EN.550.420 Introduction to Probability 4
     - EN.550.430 Introduction to Statistics 4

6. **Optimization**
   - EN.550.361 Introduction to Optimization 4

7. **Completion of an area of Focus, chosen from the list below.**
   - Two additional courses are to be taken in the area of focus, distinct from those used to satisfy requirements 5 and 6.
   - 8. Courses coded Quantitative Studies totaling 40 credits of which at least 18 credits must be in courses numbered 300 or higher. (Courses used to meet the requirements above may be counted toward this total.)
   - 9. For the B.S. degree, at least 12 credits coded Natural Sciences
     - Laboratory courses that accompany Natural Science courses may be used in reaching this total. (Courses used to meet the requirements above may be counted toward this total.)

**Total Credits** 155
Area of Focus

Two additional courses are to be taken in the area of focus.

Probability and Statistics

Choose two of the following:  
EN.550.400 Mathematical Modeling and Consulting  
AS.110.405 Introduction to Real Analysis  
EN.550.413 Applied Statistics and Data Analysis  
EN.550.426 Introduction to Stochastic Processes  
or EN.550.427 Stochastic Processes and Applications to Finance  
EN.550.433 Monte Carlo Methods  
EN.550.436 Data Mining  
EN.550.437 Statistical Learning With Applications  
EN.550.439 Time Series Analysis

Scientific Computing

Choose two of the following:  
EN.550.385 Scientific Computing: Linear Algebra  
EN.550.386 Scientific Computing: Differential Equations  
EN.550.433 Monte Carlo Methods

Optimization and Operations Research

Choose two of the following:  
EN.550.362 Introduction to Optimization II  
EN.550.400 Mathematical Modeling and Consulting  
EN.550.463 Network Models in Operations Research  
EN.550.453 Mathematical Game Theory

Discrete Mathematics

Choose two of the following:  
AS.110.401 Advanced Algebra I  
EN.550.371 Cryptology and Coding  
EN.550.463 Network Models in Operations Research  
EN.550.471 Combinatorial Analysis  
EN.550.472 Graph Theory

Financial Mathematics

Choose two of the following:  
EN.550.427 Stochastic Processes and Applications to Finance  
EN.550.442 Investment Science  
EN.550.444 Introduction to Financial Derivatives  
EN.550.445 Interest Rate and Credit Derivatives  
* Neither the pair of EN.550.385-EN.550.386 nor EN.550.386-EN.550.388 allowed in fulfillment of the area of focus.

Honors

The Department of Applied Mathematics and Statistics awards departmental honors based on a number of factors, including performance in coursework, research experiences, teaching, and service. If a student completes a senior thesis (EN.550.501 Senior Thesis) and also earns a GPA of 3.5 or higher in Applied Mathematics and Statistics courses, then the student will automatically be awarded departmental honors.

Minor in Applied Mathematics and Statistics

The minor in applied mathematics and statistics should be attractive to students majoring in a variety of disciplines, in both the School of Engineering and the School of Arts and Sciences. The minor provides formal recognition of the depth and strength of a student’s quantitative knowledge beyond the minimal requirements of his/her major.

The requirements of the minor in applied mathematics and statistics are the following:

• Completion of an approved program of study containing at least 18 credits in courses coded Quantitative Studies. The first two courses in calculus (AS.110.106 Calculus I-AS.110.107 Calculus II or AS.110.108 Calculus I-AS.110.109 Calculus II or their equivalents) may not be used to fulfill this requirement.

• Among the courses comprising the 18 credits, there must be (a) at least four courses in the Department of Applied Mathematics and Statistics (each of these must be a 3- or 4-credit course); (b) at least three 3- or 4-credit courses at the 300-level or above, of which at least two must be in the Department of Applied Mathematics and Statistics; and (c) an approved semester course based on a high-level computer language (AS.171.426 Practical Scientific Analysis of Big Data, AS.250.205 Introduction to Computing, EN.500.200 Computing for Engineers and Scientists, EN.510.202 Computation and Programming for Materials Scientists and Engineers, EN.550.385 Scientific Computing: Linear Algebra, EN.550.386 Scientific Computing: Differential Equations, EN.550.388 Scientific Computing: Differential Equations in Vector Spaces, EN.550.400 Mathematical Modeling and Consulting, EN.550.413 Applied Statistics and Data Analysis, EN.550.450 Computational Molecular Medicine, EN.560.220 Civil Engineering Analysis, EN.580.200 Introduction to Scientific Computing in BME using Python, Matlab, and R, or EN.580.223 Models and Simulations), or one of the courses approved to meet the AMS Master’s/PhD Computing Requirement.
• The grade in each course counted in fulfillment of requirements for the minor must be at least a C-.

• Students may not count all 3 courses, EN.550.310 Probability & Statistics for the Physical Sciences & Engineering/EN.550.311 Probability and Statistics for the Biological Sciences and Engineering, EN.550.420 Introduction to Probability, and EN.550.430 Introduction to Statistics toward minor requirements.

• A student wishing to complete a minor in applied mathematics and statistics may obtain more information from the Applied Mathematics and Statistics Department office.

A wide variety of advanced courses, seminars, and research opportunities is available in the Department of Applied Mathematics and Statistics. In addition to graduate programs in probability, statistics, operations research, optimization, discrete mathematics, scientific computation, and financial mathematics, advanced study is possible in interdisciplinary topics in cooperation with other departments, particularly the departments of Biostatistics, Computer Science, Economics, Geography and Environmental Engineering, Health Services Administration, Mathematics, and Sociology. A graduate student in the Department of Applied Mathematics and Statistics may thus develop a program that suits his/her individual interests and objectives.

Various elements of the graduate program are summarized below. Further information is available from the department office.

Admission

To be admitted to an advanced degree program in the department, an applicant must show that he/she has the basic intellectual capacity and has acquired the skills necessary to complete the program successfully within a reasonable period of time. A faculty committee evaluates each applicant’s credentials; there are no rigid requirements.

Prospective applicants should submit transcripts of previous academic work, letters of recommendation from persons qualified to evaluate the applicant’s academic performance and potential for graduate study, a letter describing anticipated professional goals, and Graduate Record Examination (GRE) scores. Foreign students must submit scores from the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS).

Most applicants have undergraduate majors in quantitative fields such as mathematics, statistics, engineering, or a field in the physical sciences, but any major is permitted. Regardless of the major, completion of a program in undergraduate mathematics at least through advanced calculus and linear algebra is essential to begin the normal graduate program.

Requirements for the Master’s Degree in Applied Mathematics and Statistics

Students may work toward either the master of arts (M.A.) degree or the master of science in engineering (M.S.E.) degree in applied mathematics and statistics, or the master of science in engineering (M.S.E.) degree in financial mathematics (described in the next section). Both master’s degrees in applied mathematics and statistics ordinarily require a minimum of two consecutive semesters of registration as a full-time resident graduate student.

To obtain departmental certification for the master’s degree, the student must:

• Complete satisfactorily at least eight one-semester courses of graduate work in a coherent program approved by the faculty advisor. Some 400-level and all 600-level or higher courses in the Applied Mathematics and Statistics Department (with the exception of seminar and research courses) are “graduate level” for the purpose of meeting the Master’s degree requirements. For courses used toward the degree, all grades must be C or higher, at most two grades can be below a B-, and the overall average grade point average in these courses must be at least 3.0.

• Meet one of the following two options:
  • (a) submit an acceptable research report based on an approved project; or
  • (b) complete satisfactorily two additional one-semester graduate courses, as approved by the faculty advisor.

• Demonstrate a working knowledge of the utilization of computers in applied mathematics and statistics.

In consultation with the faculty advisor, a candidate for the master’s degree plans a complete program of proposed course work and submits it in writing for departmental approval. This should be done early in the first semester of residence.

Doctoral students in other departments may undertake concurrently a master’s program in Applied Mathematics and Statistics. Application forms and information are available in the department office.

Requirements for the Master’s Degree in Financial Mathematics

The department offers an M.S.E. degree in Financial Mathematics. The structure of this program is summarized below. More detailed information about this program may be found on the department’s website.

Full-time students in this program are expected to attend courses for three semesters beginning in the fall semester, a summer internship after the spring semester of their first year, and return for a second fall semester.

For departmental certification for this degree, the student must complete the following courses or approved substitute courses with program approval:

Core financial mathematics requirements (4 courses)

<table>
<thead>
<tr>
<th>Class</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.550.442</td>
<td>Investment Science</td>
<td>4</td>
</tr>
<tr>
<td>or EN.550.642</td>
<td>Investment Science-Commodities as a Unique Asset Class</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.444</td>
<td>Introduction to Financial Derivatives</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.445</td>
<td>Interest Rate and Credit Derivatives</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.448</td>
<td>Financial Engineering and Structured Products</td>
<td>4</td>
</tr>
<tr>
<td>or EN.550.446</td>
<td>Risk Measurement/Management in Financial Markets</td>
<td>4</td>
</tr>
</tbody>
</table>

Core applied mathematics requirements (5 courses)

<table>
<thead>
<tr>
<th>Class</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.550.427</td>
<td>Stochastic Processes and Applications to Finance</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.433</td>
<td>Monte Carlo Methods</td>
<td>3</td>
</tr>
<tr>
<td>EN.550.413</td>
<td>Applied Statistics and Data Analysis</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.439</td>
<td>Time Series Analysis</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.461</td>
<td>Optimization in Finance</td>
<td>4</td>
</tr>
</tbody>
</table>
Electives *
3 elective courses:
One in Applied Mathematics and Statistics 4
One course in Financial Mathematics 4
One additional course with prior program approval 4

Financial Mathematics Masters Seminar
Computing requirement (includes the Financial Computing Workshop)
Communication skills requirement (includes the Communication Skills Practicum)
Summer Internship

Total Credits 47

For courses used toward the degree, all grades must be C or higher, at most two grades can be below a B-, and the overall average grade point average in these courses must be at least 3.0.

* Please see department website for approved electives.

Requirements for the Bachelor’s/Master’s Program
Highly motivated and exceptionally well-qualified undergraduates may apply for admission to the combined bachelor’s/master’s program in applied mathematics and statistics. Interested students should apply no later than fall semester of their senior year.

The requirements for this program consist of those for the bachelor’s and master’s programs, as well as:

• At least two consecutive semesters of full-time residence after admission to the program.
• Satisfactory completion of at least 145 course credits.

Requirements for the Ph.D. Degree
The objective of the department’s Ph.D. program is to produce graduates who are broadly educated in applied mathematics and statistics and who can work at the current frontiers of their chosen specialized disciplines. The introductory phase of graduate study acquaints the student with a spectrum of topics, provides an opportunity to fill gaps in his or her background, and affords a close view of the doctoral research process and of potential research areas and advisors. Continuation to advanced study and dissertation research is based upon favorable evaluation of preparedness and potential. The progress of students is evaluated at the end of every semester. The culmination of the program is the doctoral dissertation, representing an original and significant contribution to knowledge in applied mathematics.

In addition to fulfilling the university requirement of a minimum of two consecutive semesters of registration as a full-time resident graduate student, the student must accomplish the following to obtain departmental certification for the Ph.D.:

• Pass the Introductory Examination, normally offered immediately before each semester.
• Pass the Ph.D. Candidacy Examination. This oral examination is normally taken in the third year of residency. The scope of the exam will be governed by a syllabus prepared by the student with the help of the student’s mentor or advisor.

• Pass the Graduate Board Oral Examination, normally taken in the third year of residence.
• Complete satisfactorily a one year elective course (or the equivalent) in some area of application of applied mathematics and statistics.
• Acquire teaching experience under the supervision of the faculty.
• Demonstrate a working knowledge of the utilization of computers in applied mathematics and statistics.
• Complete a program of original research and its clear exposition in a written dissertation. The dissertation must be approved by at least two faculty readers and be certified by them to be a significant contribution to knowledge and worthy of publication in scholarly journals. The candidate defends the dissertation in a public examination held under the auspices of the department.

Additional details on these items may be found on the department’s website.

Course Program
The most common way for students to gain the knowledge and skills to succeed in the Ph.D. program is through course work. In consultation with his or her advisor, each student will develop a program of proposed course work. The relevant courses for the Ph.D. are of three types: basic graduate-level courses, additional specialized courses appropriate to the student’s field of research, and an elective one year course selected to broaden the student in applied mathematics. To promote a well-rounded education and record, all full-time graduate students are expected to enroll in an appropriate number of courses for their stage in the program. Students are required to enroll in and attend EN.550.600 Department Seminar, the Applied Mathematics and Statistics Department Seminar, every semester. Grades of B- or better (or equivalent level of performance in pass/fail courses) are expected of all department Ph.D. graduate students in their course work.

Basic Courses
All students are encouraged to master basic material in:

• probability (EN.550.620), statistics (EN.550.630), and stochastic processes (EN.550.426);
• optimization (EN.550.661);
• numerical and matrix analysis (EN.550.681, EN.550.692); and
• discrete mathematics (EN.550.671, EN.550.672).

Normally, a student will have completed at least eight basic courses by the end of the fourth semester of residence.

Specialized Courses
Each student takes advanced courses appropriate to the proposed area of dissertation research. Sample programs in the areas of probability/statistics, operations research/optimization, discrete mathematics, scientific computation, and numerical analysis are given online at the department’s website, but a student with different goals is free to propose an appropriate program meeting the approval of the research advisor.

Elective Courses
A one-year graduate course (or the equivalent) in a field distinct from the student’s specialized area is required. This is a minimal
requirement. Students are encouraged to take more than two semesters of elective course work, either covering one area in depth or covering two areas. Typical areas in other departments are biology, econometrics, mathematical economics, mathematical ecology, computational geometry, systems theory, health systems, mathematics, facility location, psychometrics, and physics. These courses may complement or supplement the student’s previous experience, but if a student has no previous experience in an area some elementary course work may be necessary as a prerequisite to acceptable graduate level courses. Although students are strongly encouraged to take the elective courses outside the department, with the approval of the advisor they may be chosen within the department, provided they are 600- or 700-level courses in a field clearly distinct from the student’s specialized area.

Financial Assistance

A limited number of teaching and research assistantships providing full tuition and a competitive academic year stipend are available to qualified full-time Ph.D. candidates. Furthermore, the following special fellowships are awarded:

- The Rufus P. Isaacs Fellowship, named in honor of a late member of the faculty acclaimed for his contributions to operations research.
- The Charles and Catherine Counselman Fellowship, generously endowed by Hopkins alumnus Charles Counselman.

In addition, summer employment opportunities are often available within the university and in the Baltimore-Washington corridor.

For current faculty and contact information go to http://www.ams.jhu.edu/people/faculty.html

Faculty

Chair
E. Laurent Younes
Professor: mathematical imaging, shape theory and applied differential geometry, computational probability, statistics.

Vice Dean of Education
Edward R. Scheinerman
Professor: discrete mathematics, graph theory, social networks, random methods, partially ordered sets.

Director of Undergraduate Studies
James A. Fill
Professor: probability, stochastic processes, random structures, and algorithms.

Associate Director of Undergraduate Studies
Doniell E. Fishkind
Associate Research Professor: combinatorics, graph theory, matrix analysis.

Executive Director of Financial Mathematics Master’s Program
David Audley
Senior Lecturer: financial mathematics, term structure models, fixed income derivatives, and quantitative portfolio strategies.

Professors
Gregory L. Eyink
Professor: mathematical physics, fluid mechanics, turbulence, dynamical systems, partial differential equations, nonequilibrium statistical physics, geophysics and climate.

Donald Geman
Professor: image analysis, statistical learning, bioinformatics.

Daniel Naiman
Professor and Director, Financial Mathematics Master’s Program: statistics, computational probability, bioinformatics.

Carey E. Priebe
Professor: image analysis, pattern recognition.

John C. Wierman
Professor: probability, statistics, discrete mathematics, percolation theory, stochastic processes.

Assistant Professors
Amitabh Basu
Assistant Professor: optimization, discrete and combinatorial geometry, convex analysis, operations research.

Daniel P. Robinson
Assistant Professor: optimization, numerical analysis, matrix analysis, complementarity problems.

Research Professor
Helyette Geman
Research Professor: financial mathematics, commodities.

James C. Spall

Associate Research Professor
Bruno Jedynak
Associate Research Professor: statistical modeling, computer vision, applications to road detection, face detection, skin detection, registration of brain MRI, language modeling and bioinformatics.

Assistant Research Professor
Avanti Athreya
Assistant Research Professor: probability, stochastic processes.

Nam Lee
Assistant Research Professor: probability theory, stochastic processes, and their applications.

Senior Lecturer
Beryl Castello
Senior Lecturer: operations research, optimization, facility location, inventory modeling.

Fred Torcaso
Senior Lecturer: stochastic processes, asymptotics, and partial differential equations.
Departments, Program Requirements, and Courses

Joint, Part-Time and Visiting Appointments

Gregory Chirikjian
Professor: Mechanical Engineering, computational structural biology, applied mathematics, robotics.

John Goutsias
Professor: Electrical and Computer Engineering.

Benjamin F. Hobbs
Professor: Geography and Environmental Engineering, energy and environmental systems and economics.

Pablo Iglesias
Professor: Electrical and Computer Engineering.

Takeru Igusa
Professor: Civil Engineering.

S. Rao Kosaraju
Edward J. Schaefer Professor: Computer Science, design of algorithms, parallel computation, pattern matching, robotics computational geometry.

Jerry L. Prince
Professor: Electrical and Computer Engineering, multi-dimensional signal processing, medical imaging, computational geometry.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

EN.550.100. Introduction to Applied Mathematics and Statistics. 1 Credit.
A seminar-style series of lectures and assignments to acquaint the student with a range of intellectual and professional activities performed by applied mathematicians and statisticians. Problems arising in applied mathematics and statistics are presented by department faculty and outside speakers. Recommended Course Background: one semester of Calculus.
Instructor(s): E. Younes
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.103. Mathematics & Politics. 4 Credits.
Instructor(s): M. Sedlock
Area: Quantitative and Mathematical Sciences.

EN.550.111. Statistical Analysis I. 4 Credits.
First semester of a general survey of statistical methodology. Topics include descriptive statistics, introductory probability, conditional probability, random variables, expectation, sampling, the central limit theorem, classical and robust estimation, confidence intervals, and hypothesis testing. Case studies from psychology, epidemiology, economics and other fields serve to illustrate the underlying theory. Some use of Minitab, Excel or R, but no prior computing experience is necessary. Recommended Course Background: four years of high school mathematics. Students who may wish to undertake more than two semesters of probability and statistics should consider EN.550.420-EN.550.430.
Prerequisites: Statistics Sequence restriction: students who have completed AS.230.205 or EN.550.113 may not enroll.
Instructor(s): D. Athreya
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.112. Statistical Analysis II. 4 Credits.
Second semester of a general survey of statistical methodology. Topics include two-sample hypothesis tests, analysis of variance, linear regression, correlation, analysis of categorical data, and nonparametrics. Students who may wish to undertake more than two semesters of probability and statistics should strongly consider the EN.550.420-430 sequence.
Prerequisites: (EN.550.111 OR EN.550.113 OR AS.280.345) OR credit for AP statistics.
Instructor(s): F. Torcaso
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.113. Statistics Through Case Study. 4 Credits.
A case-study based course treating basic statistical theory and methodology. All theoretical material will be presented in the context of timely real-world case studies. Topics covered will include basic probability, random variables and their distributions, the central limit theorem and normal approximation, sampling distributions, statistical inference, confidence intervals, and hypothesis testing. Recommended Course Background: Four years of highschool mathematics.
Prerequisites: Statistics Sequence restriction: AS.230.205 OR EN.550.211 OR EN.550.230 OR AS.280.345 OR AS.200.315 OR EN.550.311 OR EN.560.435 OR EN.550.112 OR EN.550.420 OR EN.550.430 OR EN.550.413
Instructor(s): D. Athreya
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.122. Chance And Risk. 3 Credits.
The course will help students develop an appreciation of probability and randomness, and an understanding of its applications in real life situations involving chance and risk. Applications, controversies, and paradoxes involving risk in business and economics, health and medicine, law, politics, sports, and gambling will be used to illustrate probabilistic concepts such as independence, conditional probability, expectation, and variance. The course is intended primarily for humanities and social science majors. There is no prerequisite beyond high school mathematics. The course is not open to students who have taken AP Calculus BC, AP Statistics, 550.111, 550.112 or more than one semester of Calculus.
Prerequisites: Not open to students who have credit for AP Calculus BC, AP Statistics, 550.111, 550.112, 110.107, or 110.109
Instructor(s): L. Robinson
Area: Quantitative and Mathematical Sciences.
EN.550.171. Discrete Mathematics. 4 Credits.
Introduction to the mathematics of finite systems. Logic; Boolean algebra; induction and recursion; sets, functions, relations, equivalence, and partially ordered sets; elementary combinatorics; modular arithmetic and the Euclidean algorithm; group theory; permutations and symmetry groups; graph theory. Selected applications. The concept of a proof and development of the ability to recognize and construct proofs are part of the course. Recommended Course Background: Four years of high school mathematics.
Instructor(s): B. Castello
Area: Quantitative and Mathematical Sciences.

EN.550.200. Computing for Engineers and Scientists. 3 Credits.
This course introduces a variety of techniques for solving problems in engineering and science on a computer using MATLAB. Topics include structure and operation of a computer, the programming language MATLAB, computational mathematics, and elementary numerical analysis. Co-listed with EN.500.200
Prerequisites: AS.110.106 OR AS.110.108
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.211. Probability and Statistics for the Life Sciences. 4 Credits.
This is an introduction to statistics aimed at students in the life sciences. The course will provide the necessary background in probability with treatment of independence, Bayes theorem, discrete and continuous random variables and their distributions. The statistical topics covered will include sampling and sampling distributions, confidence intervals and hypothesis testing for means, comparison of populations, analysis of variance, linear regression and correlation. Analysis of data will be done using Excel.
Prerequisites: AS.110.106 OR AS.110.108
Instructor(s): B. Jedynak
Area: Quantitative and Mathematical Sciences.

EN.550.230. Introduction to Biostatistics. 4 Credits.
Prerequisites: Statistics Sequence restriction: Students who have completed any of these courses may not enroll: EN.550.211 OR AS.280.345 OR AS.200.315 OR AS.550.310 OR EN.550.311 OR EN.550.435 OR EN.550.420 OR EN.550.430
Instructor(s): D. Athreya
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.251. Math Models/Decision Mkg. 4 Credits.
As society’s enterprises and technologies grow more and more complex, their operation and planning rely increasingly on mathematics-based analyses. This course is an introduction to management science and the quantitative approach to decision making. Emphasis on model development and case studies, using spreadsheets and other computer software, applied to a variety of problems in manufacturing, transportation, finance, and general management.
Prerequisites: AS.110.106 or AS.110.108
Instructor(s): B. Castello
Area: Engineering, Quantitative and Mathematical Sciences.

This course is an introduction to management science and the quantitative approach to decision making. Our focus will be on the formulation and analysis of stochastic models, where some problem data may be uncertain. The covered topics may include Project Scheduling, Decision Analysis, Time Series Forecasting, Inventory Models with Stationary or Nonstationary Demand, Queuing Models, Discrete-Event Simulation, and Quality Management. We emphasize model development and case studies, using spreadsheets and other computer software. The applications we study occur in variety of applications. Recommended Course Background: One semester of calculus
Prerequisites: AS.110.106 or AS.110.108
Instructor(s): B. Castello
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.281. Computing in Applied Mathematics. 3 Credits.
Prereq: Calculus I Overview of some of the more common computational platforms in which to do applied mathematics. The course will cover computing in at least three general areas: numerical linear algebra using Matlab, symbolic mathematics using Maple, and statistics using R. Students will be presented with applications, basic mathematics that underlies the problems to be solved, and computational approaches to their solution.
Instructor(s): D. Naiman
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.284. VBA For Finance. 1 Credit.
Excel VBA is a powerful programming environment that lurks behind the Excel program that many of us have some familiarity with. This course aims to get students up to speed with working with this tool.
Instructor(s): D. Naiman.

EN.550.291. Linear Algebra and Differential Equations. 4 Credits.
An introduction to the basic concepts of linear algebra, matrix theory, and differential equations that are used widely in modern engineering and science. Intended for engineering and science majors whose program does not permit taking both AS.110.201 and AS.110.302.
Prerequisites: ( AS.110.106 OR AS.110.108 ) AND ( AS.110.107 OR AS.110.109 )
Instructor(s): W. Hacker
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.310. Probability & Statistics for the Physical Sciences & Engineering. 4 Credits.
An introduction to probability and statistics at the calculus level, intended for engineering and science students planning to take only one course on the topics. Combinatorial probability, independence, conditional probability, random variables, expectation and moments, limit theory, estimation, confidence intervals, hypothesis testing, tests of means and variances, goodness-of-fit. Recommended course background: Co-requisite, Multivariable Calculus.
Prerequisites: ( AS.110.106 OR AS.110.108 ) AND ( AS.110.107 OR AS.110.109 )
Coerequisites: If you have enrolled or have completed EN.550.420 OR EN.550.430 you may not register for EN.550.310.
Instructor(s): F. Torcaso
Area: Engineering, Quantitative and Mathematical Sciences.
EN.550.311. Probability and Statistics for the Biological Sciences and Engineering. 4 Credits.
An introduction to probability and statistics at the calculus level, intended for students in the biological sciences planning to take only one course on the topics. This course will be at the same technical level as EN.550.310. Students are encouraged to consider EN.550.420-430 instead. Combinatorial probability, independence, conditional probability, random variables, expectation and moments, limit theory, estimation, confidence intervals, hypothesis testing, tests of means and variances, and goodness-of-fit will be covered. Students cannot receive credit for both EN.550.310 and EN.550.311. Students cannot receive credit for EN.550.311 after having received credit for EN.550.420 or EN.550.430. Recommended Course Corequisite: AS.110.202
Prerequisites: ( AS.110.106 OR AS.110.108 ) AND ( AS.110.107 OR AS.110.109 )
Corequisites: If you are enrolled or have completed EN.550.420 OR EN.550.430 you may not register for EN.550.311.
Instructor(s): B. Jedynak
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.314. Actuarial Preparation. 1 Credit.
This is a weekly problem-solving course focused on preparing for Actuarial Exam P. Note: This course will not begin on Thursday, January 28. Enrolled students will be sent a notification email before the first class.
Prerequisites: Co-requisites: Students should be enrolled in or have taken one of 550.310, 550.311, or 550.420
Area: Quantitative and Mathematical Sciences.

EN.550.316. Introduction to Optimization II. 4 Credits.
Appropriate for undergraduate and graduate students without the mathematical background required for EN.550.661. An introductory survey of optimization methods, supporting mathematical theory and concepts, and application to problems of planning, design, prediction, estimation, and control in engineering, management, and science. Study of varied optimization techniques including linear programming, network-problem methods, dynamic programming, integer programming, and nonlinear programming. Students should be familiar with computing and linear algebra. Recommended Course Background: one year of calculus
Prerequisites: ( AS.110.107 OR AS.110.109 OR AS.110.113 ) AND ( EN.550.291 OR AS.110.201 OR AS.110.212 )
Instructor(s): D. Fishkind
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.317. Cryptology and Coding. 4 Credits.
Computing experience. A first course in the mathematical theory of secure and reliable electronic communication. Cryptology is the study of secure communication: How can we ensure the privacy of messages? Coding theory studies how to make communication reliable: How can messages be sent over noisy lines? Topics include finite field arithmetic, error-detecting and error-correcting codes, data compressions, ciphers, one-time pads, the Enigma machine, one-way functions, discrete logarithm, primality testing, secret key exchange, public key cryptosystems, digital signatures, and key escrow. Recommended Course Background: AS.110.204
Prerequisites: EN.550.171 AND ( EN.550.291 OR AS.110.201 )
Instructor(s): D. Fishkind
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.385. Scientific Computing: Linear Algebra. 4 Credits.
A first course on computational linear algebra and applications. Topics include floating-point arithmetic, algorithms and convergence, Gaussian elimination for linear systems, matrix decompositions (LU, Cholesky, QR), iterative methods for systems (Jacobi, Gauss–Seidel), and approximation of eigenvalues (power method, QR-algorithm). Theoretical topics such as vector spaces, inner products, norms, linear operators, matrix norms, eigenvalues, and canonical forms of matrices (Jordan, Schur) are reviewed as needed. Matlab is used to solve all numerical exercises; no previous experience with computer programming is required.
Prerequisites: ( EN.550.291 OR AS.110.201 ) AND ( AS.110.202 OR AS.110.211 )
Instructor(s): W. Hacker
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.386. Scientific Computing: Differential Equations. 4 Credits.
A first course on computational differential equations and applications. Topics include floating-point arithmetic, algorithms and convergence, root-finding (midpoint, Newton, and secant methods), numerical differentiation and integration, and numerical solution of initial value problems (Runge–Kutta, multistep, extrapolation methods, stability, implicit methods, and stiffness). Theoretical topics such as existence, uniqueness, and stability of solutions to initial-value problems, conversion of higher order/ non-autonomous equations to systems, etc., will be covered as needed. Matlab is used to solve all numerical exercises; no previous experience with computer programming is required.
Prerequisites: ( EN.550.291 OR AS.110.201 ) AND ( AS.110.202 OR AS.110.211 )
Instructor(s): K. Hedrick
Area: Engineering, Quantitative and Mathematical Sciences.
A first course on computational differential equations in vector spaces and applications, a continuation of EN.550.385. Topics include root-finding for nonlinear systems of equations (bisection, Newton, and secant methods), numerical differentiation and integration, and numerical solution of initial-value problems (Runge-Kutta, multistep, extrapolation methods, stability, implicit methods, and stiffness) and boundary-value problems (shooting method, relaxation) for ordinary differential equations in finite-dimensional vector spaces. Theoretical topics such as existence, uniqueness, and stability of solutions to initial-value problems, conversion of higher-order/non-autonomous equations to systems, etc., will be covered as needed. Matlab is used to solve all numerical exercises.
Prerequisites: Prerequisites: (AS.110.202 OR AS.110.211) AND (EN.550.291 OR AS.110.201 AND AS.110.302) AND EN.550.385
Instructor(s): G. Eyink
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.391. Dynamical Systems. 4 Credits.
Mathematical concepts and methods for describing and analyzing linear and nonlinear systems that evolve over time. Topics include boundedness, stability of fixed points and attractors, feedback, optimality, Liapounov functions, bifurcation, chaos, and catastrophes. Examples drawn from population growth, economic behavior, physical and engineering systems. The main mathematical tools are linear algebra and basic differential equations.
Prerequisites: EN.550.291 OR AS.110.201 OR AS.110.211
Instructor(s): W. Hacker
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.400. Mathematical Modeling and Consulting. 4 Credits.
Creating, analyzing and evaluating optimization and mathematical models using case studies. Project-oriented practice and guidance in modeling techniques, with emphasis on communication of methods and results. Applications may include transportation networks, scheduling, industrial processes, and telecommunications. Computation will be emphasized throughout using MATLAB.
Prerequisites: EN.550.361 OR EN.550.362
Instructor(s): B. Castello
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.413. Applied Statistics and Data Analysis. 4 Credits.
An introduction to basic concepts, techniques, and major computer software packages in applied statistics and data analysis. Topics include numerical descriptive statistics, observations and variables, sampling distributions, statistical inference, linear regression, multiple regression, design of experiments, nonparametric methods, and sample surveys. Real-life data sets are used in lectures and computer assignments. Intensive use of statistical packages such as S+ to analyze data.
Prerequisites: EN.550.112 or EN.550.310 or EN.550.311 or EN.550.420
Instructor(s): M. Tang
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.420. Introduction to Probability. 4 Credits.
Probability and its applications, at the calculus level. Emphasis on techniques of application rather than on rigorous mathematical demonstration. Probability, combinatorial probability, random variables, distribution functions, important probability distributions, independence, conditional probability, moments, covariance and correlation, limit theorems. Students initiating graduate work in probability or statistics should enroll in EN.550.620. Auditors are not permitted. Students can use any of the 6th, 7th or 8th editions of the textbook. Recommended Course Background: one year of calculus; Corequisite: multivariable calculus.
Prerequisites: (AS.110.108 AND AS.110.109) OR (AS.110.106 AND AS.110.107)
Instructor(s): J. Wierman
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.426. Introduction to Stochastic Processes. 4 Credits.
Mathematical theory of stochastic processes. Emphasis on deriving the dependence relations, statistical properties, and sample path behavior including random walks, Markov chains (both discrete and continuous time), Poisson processes, martingales, and Brownian motion. Applications that illuminate the theory. Students may not earn credit for both EN.550.426 and EN.550.427.
Prerequisites: EN.550.420 AND (EN.550.291 OR AS.110.201 OR AS.110.212)
Instructor(s): J. Wierman
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.427. Stochastic Processes and Applications to Finance. 4 Credits.
A development of stochastic processes with substantial emphasis on the processes, concepts, and methods useful in mathematical finance. Relevant concepts from probability theory, particularly conditional probability and conditional expectation, will be briefly reviewed. Important concepts in stochastic processes will be introduced in the simpler setting of discrete-time processes, including random walks, Markov chains, and discrete-time martingales, then used to motivate more advanced material. Most of the course will concentrate on continuous-time stochastic processes, particularly martingales, Brownian motion, diffusions, and basic tools of stochastic calculus. Examples will focus on applications in finance, economics, business, and actuarial science. Students may not receive credit for both EN.550.427 and EN.550.426.
Prerequisites: EN.550.420
Instructor(s): D. Athreya
Area: Quantitative and Mathematical Sciences.

EN.550.428. Stochastic Processes and Applications to Finance II. 4 Credits.
A basic knowledge of stochastic calculus and Brownian motion is assumed. Topics include stochastic differential equations, the Feynman-Kac formula and connections to partial differential equations, changes of measure, fundamental theorems of asset pricing, martingale representations, first passage times and pricing of path-dependent options, and jump processes.
Prerequisites: EN.550.427
Instructor(s): A. Capponi
Area: Quantitative and Mathematical Sciences.
EN.550.430. Introduction to Statistics. 4 Credits.
Introduction to the basic principles of statistical reasoning and data analysis. Emphasis on techniques of application. Classical parametric estimation, hypothesis testing, and multiple decision problems; linear models, analysis of variance, and regression; nonparametric and robust procedures; decision-theoretic setting, Bayesian methods. Prerequisites: EN.550.420 OR APPROVED ALTERNATIVE AND (EN.550.291 OR AS.110.201 OR AS.110.212)
Instructor(s): D. Naiman
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.431. Statistical Methods in Imaging. 3 Credits.
Denoising, segmentation, texture modeling, tracking, object recognition are challenging problems in imaging. We will present a collection of statistical models and methods in order to address these, including the E.M. algorithm, Maximum Entropy Modeling, Particle filtering, Markov Random Fields and Belief Propagation. Co-listed with EN.580.466. Some practice of Matlab or R is highly recommended. Prerequisites: (AS.110.202 OR AS.110.211) AND (EN.550.310 OR EN.550.311 OR EN.550.420)
Instructor(s): B. Jedynak
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.432. Bayesian Computation. 3 Credits.
These are challenging problems in imaging. We will present a collection of Bayesian methods of estimation, hypothesis testing, and multiple decision problems; linear systems; serial correlation; stationary processes; decision-theoretic setting, Bayesian methods. Prerequisites: EN.550.420 OR APPROVED ALTERNATIVE AND (EN.550.291 OR AS.110.201 OR AS.110.212)
Instructor(s): L. Chang
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.433. Monte Carlo Methods. 3 Credits.
The objective of the course is to survey essential simulation techniques for popular stochastic models. The stochastic models may include classical time-series models, Markov chains and diffusion models. The basic simulation techniques covered will be useful in sampling-generation of random variables, vectors and stochastic processes, and as advanced techniques, importance sampling, particle filtering and Bayesian computation may be discussed. Prerequisites: EN.550.430
Instructor(s): J. Spall
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.434. Nonparametric Statistics. 3 Credits.
Nonparametric, or distribution-free methods for statistical data analysis design statistical decision regions under minimal assumptions on the observed data, avoiding, in particular, making the assumption that their distribution in known, or that it belongs to a specific parametric class (like Gaussian). The course will study the following topics: order statistics, rank-based methods, tests of independence, symmetry, location differences, scale differences and goodness-of-fit, permutation tests with an introduction to the problem of multiple comparisons. Prerequisites: Prereqs: EN.550.310 OR EN.550.311 OR EN.550.430
Instructor(s): E. Younes
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.435. Random Fields and Belief Propagation. Co-listed with EN.580.466. Some advanced techniques, importance sampling, particle filtering and Bayesian computation may be discussed. Prerequisites: EN.550.430
Instructor(s): F. Torcaso
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.436. Data Mining. 4 Credits.
Data mining is a relatively new term used in the academic and business world, often associated with the development and quantitative analysis of very large databases. Its definition covers a wide spectrum of analytic and information technology topics, such as machine learning, artificial intelligence, statistical modeling, and efficient database development. This course will review these broad topics, and cover specific analytic and modeling techniques such as advanced data visualization, decision trees, neural networks, nearest neighbor, clustering, logistic regression, and association rules. Although some of the mathematics underlying these techniques will be discussed, our focus will be on the application of the techniques to real data and the interpretation of results. Because use of the computer is extremely important when “mining” large amounts of data, we will make substantial use of data mining software tools to learn the techniques and analyze datasets. Recommended Course Background: EN.550.413
Prerequisites: EN.550.310 or EN.550.311 or EN.550.430
Instructor(s): B. Jedynak
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.437. Statistical Learning With Applications. 3 Credits.
Statistical modeling and inference, inductive learning and information theory together provide a cohesive framework for machine perception, which amounts to building a data-description machine converting physical measurements (images, molecular counts, etc.) to interpretations or descriptions. Recurring themes include quantifying uncertainty, estimating generalization error, Occam’s razor, the bias/variance dilemma and small-sample learning. Various problems in computational vision and computational biology will be analyzed in this context, including visual tracking, object recognition, cancer diagnosis, neural decoding and learning molecular networks. Instructor(s): D. Geman
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.438. Machine Learning and Statistical Analysis in Finance. 4 Credits.
Managing and analyzing big data in finance can be of ultimate challenge but of ultimate opportunity. The need for statistical tools and machine learning techniques has been gradually influencing the marketplace. This course will explore several topics of machine learning and statistical finance, while the emphasis will be the applications on market prediction, risk detection and validity of finance models. The tentative topics include traditional finance models, linear models, kernel methods (e.g. support vector machine), hidden Markov models, decision trees, dimensionality reduction (e.g. PCA, low rank approximation), conditional modeling and conditional inference, and hypothesis testing. Students will be involved in several projects (computer experiments) to exam those tools with real market data. Recommended Course Background: EN.550.428
Prerequisites: (EN.550.420 OR EN.550.620) AND (EN.550.430 OR EN.550.630)
Instructor(s): L. Chang
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.439. Time Series Analysis. 4 Credits.
Time series analysis from the frequency and time domain approaches. Descriptive techniques; regression analysis; trends, smoothing, prediction; linear systems; serial correlation; stationary processes; spectral analysis. Prerequisites: (EN.550.310 OR EN.550.311 OR EN.550.420) AND (AS.110.201 OR AS.110.212 OR EN.550.291)
Instructor(s): F. Torcaso
Area: Engineering, Quantitative and Mathematical Sciences.
EN.550.440. Stochastic Calculus. 3 Credits.
Introduction to stochastic integration, stochastic differential equations, and the Ito calculus. Emphasis will be on underlying ideas rather than rigorous development. Stochastic processes, Brownian motion, conditional expectation, martingales, Ito and Stratonovich integrals and their calculus, stochastic differential equations, some applications to finance, stochastic flow systems, or other areas should be provided. Recommended Course Background: AS.550.420; stochastic processes recommended, but not required.
Area: Quantitative and Mathematical Sciences.

EN.550.442. Investment Science. 4 Credits.
Intended for upper-level undergraduate and graduate students, this course offers a rigorous treatment of the subject of investment as a scientific discipline. Mathematics is employed as the main tool to convey the principles of invest-ment science and their use to make investment calculations for good decision-making. Topics covered in the course include the basic theory of interest and its application to fixed-income securities, cash flow analysis and capital budgeting, mean-variance portfolio theory, and the associated capital asset pricing model, utility function theory and risk analysis, derivative securities and basic option theory, portfolio evaluation. The student is expected to be comfortable with the use of mathematics as a method of deduction and problem solving. Some familiarity with optimization is desirable but not necessary.
Instructor(s): P. Liu
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.444. Introduction to Financial Derivatives. 4 Credits.
This course will develop the mathematical concepts and techniques for modeling cash instruments and their hybrids and derivatives.
Prerequisites: AS.110.302 AND EN.550.420
Instructor(s): D. Audley
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.445. Interest Rate and Credit Derivatives. 4 Credits.
Advances in corporate finance, investment practice and the capital markets have been driven by the development of a mathematically rigorous theory for financial instruments and the markets in which they trade. This course builds on the concepts, techniques, instruments and markets introduced in EN.550.444. In addition to new topics in credit enhancement and structured securities, the focus is expanded to include applications in portfolio theory and risk management, and covers some numerical and computational approaches.
Prerequisites: EN.550.444
Instructor(s): D. Audley
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.446. Risk Measurement/Management in Financial Markets. 4 Credits.
This course applies advanced mathematical techniques to the measurement, analysis, and management of risk. The focus is on financial risk. Sources of risk for financial instruments (e.g., market risk, interest rate risk, credit risk) are analyzed; models for these risk factors are studied and the limitation, shortcomings and compensatory techniques are addressed.
Prerequisites: EN.550.444
Instructor(s): D. Audley
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.447. Quantitative Portfolio Theory and Performance Analysis. 4 Credits.
This course focuses on modern quantitative portfolio theory, models, and analysis. Topics include intertemporal approaches to modeling and optimizing asset selection and asset allocation; benchmarks (indexes), performance assessment (including, Sharpe, Treynor and Jenson ratios) and performance attribution; immunization theorems; alpha-beta separation in management, performance measurement and attribution; Replicating Benchmark Index (RBI) strategies using cash securities / derivatives; Liability-Driven Investment (LDI); and the taxonomy and techniques of strategies for traditional management: Passive, Quasi-Passive (Indexing) Semi-Active (Immunization & Dedicated) Active (Scenario, Relative Value, Total Return and Optimization). In addition, risk management and hedging techniques are also addressed.
Prerequisites: EN.550.442 OR EN.550.444
Instructor(s): D. Audley
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.448. Financial Engineering and Structured Products. 4 Credits.
This course focuses on structured securities and the structuring of aggregates of financial instruments into engineered solutions of problems in capital finance. Topics include the fundamentals of creating asset-backed and structured securities—including mortgage-backed securities (MBS), stripped securities, collateralized mortgage obligations (CMOs), and other asset-backed collateralized debt obligations (CDOs)—structuring and allocating cash-flows as well as enhancing credit; equity hybrids and convertible instruments; asset swaps, credit derivatives and total return swaps; assessment of structure-risk interest rate-risk and credit-risk as well as strategies for hedging these exposures; managing portfolios of structured securities; and relative value analysis (including OAS and scenario analysis).
Instructor(s): D. Audley
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.450. Computational Molecular Medicine. 4 Credits.
Biomedical research has been transformed by the development of new technologies for sequencing genomes and measuring RNA and protein expression levels. Due to the massive number of interacting components, the traditional approach, which is experimental and component-by-component, is no longer adequate. In contrast, statistical learning, modeling and inference have emerged as core methodologies for analyzing these data and uncovering the relationships between molecules, networks and disease, where knowledge extraction is formulated as a problem in high-dimensional pattern recognition. We will cover selected aspects of this methodology (e.g., measuring associations, testing multiple hypotheses, learning predictors and network models, and stochastic simulation) and illustrate how it enhances our ability to discover molecular disease networks, detect disease, predict clinical outcomes, and characterize disease progression. Meets with EN.550.650.
Prerequisites: EN.550.420 and ( EN.550.310 or EN.550.311 or EN.550.430 )
Instructor(s): D. Geman
Area: Engineering, Quantitative and Mathematical Sciences.
EN.550.453. Mathematical Game Theory. 4 Credits.
Mathematical analysis of cooperative and noncooperative games. Theory and solution methods for matrix game (two players, zero-sum payoffs, finite strategy sets), games with a continuum of strategies, N-player games, games in rule-defined form. The roles of information and memory. Selected applications to economic, recreational, and military situations. Prereq: Multivariable Calculus, probability, linear algebra.
Prerequisites: ( AS.110.202 OR AS.110.211 ) AND EN.550.420 AND ( EN.550.291 OR AS.110.201 )
Instructor(s): B. Castello
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.457. Topics in Operations Research: Supply Chains: Models and Analyses. 3 Credits.
Sports provide interesting topics for a variety of mathematical analyses (optimization, statistical, etc.) The course will discuss a number of these applications.
Prerequisites: EN.550.361 and general mathematical maturity
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.461. Optimization in Finance. 4 Credits.
A survey of many of the more important optimization methods and tools that are found to be useful in financial applications.
Prerequisites: EN.550.442 OR EN.550.444
Instructor(s): F. Torcaso
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.463. Network Models in Operations Research. 4 Credits.
In-depth mathematical study of network flow models in operations research, with emphasis on combinatorial approaches for solving them. Introduction to techniques for constructing efficient algorithms, and to some related data structures, used in solving shortest-path, maximum-volume, flow, and minimum-cost flow problems. Emphasis on linear models and flows, with brief discussion of non-linear models and network design.
Prerequisites: EN.550.361 or EN.550.661
Instructor(s): B. Castello
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.471. Combinatorial Analysis. 4 Credits.
Counting techniques: generating functions, recurrence relations, Polya's theorem. Combinatorial designs: Latin squares, finite geometries, balanced incomplete block designs. Emphasis on problem solving. Recommended Course Background: AS.550.291 or AS.110.201
Instructor(s): E. Scheinerman
Area: Quantitative and Mathematical Sciences.

EN.550.472. Graph Theory. 4 Credits.
Study of systems of “vertices” with some pairs joined by “edges.” Theory of adjacency, connectivity, traversability, feedback, and other concepts underlying properties important in engineering and the sciences. Topics include paths, cycles, and trees; routing problems associated with Euler and Hamilton; design of graphs realizing specified incidence conditions and other constraints. Attention directed toward problem solving, algorithms, and applications. One or more topics taken up in greater depth.
Prerequisites: EN.550.291 OR AS.110.201 OR AS.110.212
Instructor(s): A. Basu
Area: Quantitative and Mathematical Sciences.

EN.550.473. Introduction to Random Graphs. 3 Credits.
This course is an introduction to the theory of random graphs, with particular emphasis on the Erdos-Renyi model. Topics covered are likely to be: review of discrete probability, asymptotics, the Erdos-Renyi model, connectivity, small subgraphs, matchings, Hamiltonian cycles, cliques, chromatic number, graphical evolution, and other random models. Students will do both analytic and computational work, hence must possess a comfortable background in calculus, basic probability, discrete mathematics, and basic computing (Python preferred, but other languages, including Matlab are acceptable).
Prerequisites: ( EN.550.171 OR EN.550.472 OR EN.550.672 ) AND ( EN.550.310 OR EN.550.311 OR EN.550.420 ) AND (intro-level computing course)
Area: Quantitative and Mathematical Sciences.

EN.550.480. Shape and Differential Geometry. 3 Credits.
The purpose of this class is to provide an elementary knowledge of the differential geometry of curves and surfaces, and to place this in relation with the description and characterization of 2D and 3D shapes. Intrinsic local and semi-local descriptors, like the curvature or the second fundamental form will be introduced, with an emphasis on the invariance of these features with respect to rotations, translations, etc. Extension of this point of view to other class of linear transformations will be given, as well as other types of shape descriptors, like moments or medial axes. Recommended Course Background: Calculus III and linear algebra
Instructor(s): E. Younes
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.484. Introduction to Wavelet and Fourier Analysis. 3 Credits.
Prerequisites: ( AS.110.202 OR AS.110.211 ) AND ( EN.550.291 OR AS.110.201 OR AS.110.212 )
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.487. Numerical Methods for Financial Mathematics. 3 Credits.
Diffusion processes described by stochastic differential equations (SDEs) play an important role in the world of finance; one important tool in the study of complex SDEs is numerical simulation. In this class we concentrate on the numerical integration of SDEs, which requires a more complex mathematical construction than the integration of ordinary differential equations (ODEs). The algorithms for approximating SDE solutions are constructed on the basis of stochastic Taylor expansions, which can become particularly elaborate for systems with multiple noise sources. We propose to follow in detail all the steps from writing down an SDE to writing and running the computer code that will generate a “solution” of that SDE with a well-defined error. Python will be used for all applications, and more general programming concepts will be discussed as needed.
Instructor(s): C. Lalescu
Area: Quantitative and Mathematical Sciences.
EN.550.492. Mathematical Biology. 3 Credits.
This course will examine the mathematical methods relevant to modeling biological phenomena, particularly dynamical systems and probability. Topics include ordinary differential equations and their simulation; stability and phase plane analysis; branching processes; Markov chains; and stochastically perturbed systems. Biological applications will be drawn from population growth, predator-prey dynamics, epidemiology, genetics, intracellular transport, and neuroscience.
Prerequisites: EN.550.420 AND (AS.110.201 AND AS.110.302 OR EN.550.291)
Instructor(s): D. Athreya
Area: Natural Sciences, Quantitative and Mathematical Sciences.

EN.550.493. Mathematical Image Analysis. 3 Credits.
Prerequisites: ( AS.110.202 or AS.110.211 ) AND ( AS.110.201 or EN.550.291 )
Instructor(s): E. Younes
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.500. Undergraduate Research. 3 Credits.
Reading, research, or project work for undergraduate students. Pre-arranged individually between students and faculty.
Instructor(s): C. Priebe; D. Fishkind; D. Naiman; E. Scheinerman; J. Wierman.

EN.550.501. Senior Thesis. 3 Credits.
Instructor(s): Staff.

Reading, research, or project work for undergraduate students. Pre-arranged individually between students and faculty. Recent topics and activities: percolation models, data analysis, course development assistance, and dynamical systems.
Instructor(s): Staff.

EN.550.503. Preparation for Research. 1 Credit.
Primarily an independent study course. Readings, assignments, and discussion to prepare students for research in applied mathematics and statistics. Topics include the research process, problem-solving, mathematical writing, LaTeX, Beamer, reading mathematics, literature search, oral presentations, REU programs, and the publication process. Brief meetings to be arranged. Students are expected to spend 3 to 4 hours per week in addition to the meetings. Grading is Satisfactory/Unsatisfactory only.
Instructor(s): J. Wierman.

EN.550.505. Applied Mathematics Pedagogy. 2 Credits.
Instructor Permission Required - Opportunity for students to participate
Instructor(s): B. Castello.

EN.550.506. Independent Study. 0 - 3 Credit.

EN.550.510. Readings: Actuarial Math. 0 - 3 Credit.
Instructor(s): D. Audley.

EN.550.511. Senior Thesis. 3 Credits.
Preparation of a substantial thesis based upon independent student research, under the pre-arranged supervision of at least one faculty member in Applied Mathematics and Statistics. Instructor permission required.
Instructor(s): D. Geman; F. Torcaso.

EN.550.552. Undergraduate Internship. 1 Credit.
Instructor(s): Staff.

EN.550.590. Internship-Summer. 1 Credit.
Instructor(s): Staff.

EN.550.597. Research-Summer. 3 Credits.
Instructor(s): Staff.

EN.550.599. Independent Study. 3 Credits.
Instructor(s): D. Fishkind; E. Scheinerman; J. Fill; N. Lee.

EN.550.600. Department Seminar.
A variety of topics discussed by speakers from within and outside the university. Required of all resident department graduate students.
Instructor(s): J. Wierman.

EN.550.620. Probability Theory I.
The course objectives are to develop probabilistic reasoning and problem solving approaches, to provide a rigorous mathematical basis for probability theory, and to examine several important results in the theory of probability. Topics include axiomatic probability, independence, random variables and their distributions, expectation, integration, variance and moments, probability inequalities, and modes of convergence of random variables. The course will include introductory measure theory as needed. Students are expected to have previous study of both analysis and probability. This course is the first half of a yearlong sequence. The second semester’s course, EN.550.621 Probability Theory II, will cover classical limit theorems, characteristic functions, and conditional expectation.
Prerequisites: EN.550.420 and AS.110.405 or equivalent
Instructor(s): J. Fill.

EN.550.621. Probability Theory II.
Probability at the level of measure theory, focusing on limit theory. Modes of convergence, Poisson convergence, three-series theorem, strong law of large numbers, continuity theorem, central limit theory, Berry-Esseen theorem, infinitely divisible and stable laws.
Prerequisites: EN.550.620 OR AS.110.405
Instructor(s): J. Fill.

This course explores several topics and tools toward modern applications of probability and statistics in computational, cognitive, engineering, and neural sciences. The course will introduce the theoretical background for each topic, while the emphasis will be on the applications that are not often covered in the standard probability and statistics courses. The tentative topics include: Gibbs distribution and the maximum entropy with connections to large deviations and information theory; Nonparametric statistics (“learning theory”) and classifications including consistency, bias/variance tradeoff, and regularization; Markov chains and their applications in MCMC computing and hidden Markov models; Graphical models and their applications; Parameter estimation, the EM algorithm and applications on image template learning. For each topic, there will be a related project assignment, which is composed of both paper work problems and computer experiments, designed to demonstrate the mathematics and the utility of the approach in the topic. Students are required to submit their own work individually.
Prerequisites: EN.550.310 OR EN.550.311 OR ( EN.550.420 AND EN.550.430)
Instructor(s): L. Chang.

EN.550.626. Stochastic Processes II.
Prerequisites: EN.550.426 AND EN.550.621
Instructor(s): J. Fill.
EN.550.630. Statistical Theory.
The fundamentals of mathematical statistics will be covered. Topics include: distribution theory for statistics of normal samples, exponential statistical models, the sufficiency principle, least squares estimation, maximum likelihood estimation, uniform minimum variance unbiased estimation, hypothesis testing, the Neyman-Pearson lemma, likelihood ratio procedures, the general linear model, the Gauss-Markov theorem, simultaneous inference, decision theory, Bayes and minimax procedures, chi-square methods, goodness-of-fit tests, and nonparametric and robust methods.
Prerequisites: EN.550.420 or EN.550.620.
Instructor(s): C. Priebe.

EN.550.631. Statistical Theory II.
Advanced concepts and tools fundamental to research in mathematical statistics and statistical inference: asymptotic theory; optimality; various mathematical foundations.
Instructor(s): B. Jedyak.

EN.550.635. Topics in Bioinformatics.
A "readings" course organized around research articles in the recent bioinformatics and computational biology literatures. In this term, the choice of papers will favor work on inferring phenotype from genotype, and modeling signaling networks, based on gene microarrays bearing the expression levels of thousands of transcripts, and on properties of proteins, such as predicting active sites and detecting harmful mutations. One major objective is to prepare students to comfortably read articles which involve extensive mathematical and statistical modeling as well as techniques from pattern recognition and machine learning. Most papers will be presented by the students. In addition, student expositions will be preceded by "tutorials" by the instructor on various aspects of statistical learning, modeling and prediction, such as properly estimating generalization error in cancer classification and avoiding over-fitting in learning networks of molecular interactions. Recommended Course Background: course in statistics; previous exposure to machine learning or pattern recognition.
Instructor(s): D. Geman.

The focus of this roundtable-format course will be stochastic modeling as relates to system identification and maximum likelihood. The principles and algorithms being covered in this course have tremendous importance in the world at large. For example, maximum likelihood is arguably the most popular method for parameter estimation in most real-world applications. System identification is the term used in many fields to refer to the process of mathematical model building from experimental data, with a special focus on dynamical systems. The system identification process refers to several important aspects of model building, including selection of the model form (linear or nonlinear, static or dynamic, etc.), experimental design, parameter estimation, and model validation. This course will cover topics such as the maximum likelihood formulation and theory for dynamical systems, the EM (expectation-maximization) algorithm and its variants, Fisher information, common model structures, online versus offline estimation, the role of feedback in identification (i.e., open-loop versus closed-loop estimation), standard and extended Kalman filtering, and uncertainty characterization (e.g., confidence regions). Recommended Course Background: Undergraduate-level matrix theory and ordinary differential equations; graduate-level course in probability and statistics (e.g., 550.430 or equivalent; in particular, students should have prior exposure to maximum likelihood and Bayes’ rule). Prior experience in data analysis and algorithms will be helpful.
Instructor(s): J. Spall.

This course will cover quantitative trading strategies, with a critical focus on statistical arbitrage. Students will learn how to apply mathematical and statistical techniques that are commonly employed within the quantitative industry. Upon successful completion of this course, students should have a firm understanding of the lurking problems, potential solutions, and distinct challenges in building and implementing a statistical arbitrage program. We will cover the spectrum of long-term, medium-term, and short-term alpha extraction methodologies, across liquid investment opportunities but primarily focusing on equities, FX, and future markets. This course is appropriate and recommended only for those students who have a serious interest in pursuing a career in statistical arbitrage. The course will run from August 31 - October 7. Note: This short course counts as half of an elective course in financial math as part of the elective requirement for the Financial Mathematics Masters program.
Instructor(s): K. Liew.

EN.550.642. Investment Science-Commodities as a Unique Asset Class.
The aims of the course are the following: 1. understand the properties of commodities and shipping as an asset class distinct from bonds and equity, 2. learn the fundamental economic results, e.g., theory of storage, established for commodities by leading figures like Keynes and Kaldo, 3. recognize the specific difficulties of the different groups, i.e., energy, metals, agricultural and shipping, 4. analyze the forward curve and its stochastic modeling, with or without seasonality, 5. discuss the pricing and hedging of options mostly traded in commodity markets, such as Asian and spread, as well as the valuation of physical assets through alternative approaches, 6. identify the different ways of investing in Commodities: Futures, ETFs, indexes, structured notes. Students should have rudimentary knowledge of financial markets.
Prerequisites: Rudimentary knowledge of financial markets; EN.550.420 and (AS.110.106 or AS.110.108)
Instructor(s): H. Geman.

This course describes how models based on networks encoding the conditional dependency structure between random variables, also called graphical models, can be used to design multivariate probability distributions. A special focus will be made on important particular cases, like Markov Chains, Bayesian networks or Markov Random Fields. We will also discuss parametric estimation and inference problems, and issues arising when some of the variables cannot be observed.
Prerequisites: EN.550.420 or equivalent AND EN.550.430 or equivalent
Instructor(s): E. Younes.

EN.550.646. Advanced Topics in Derivatives Pricing and Spot Trading.
The goal of the course is to briefly describe the key elements in the regulation of OTC derivatives trading; then analyze their consequences for the valuation of these contracts. In particular, the subjects of collateral, margining, CVA will be addressed as well as the consequence of several yield curves and their joint dynamics. Structured products in the post-crisis period will be presented and priced. Lastly, some elements on High frequency trading will be discussed. The course is aimed at second year Master students and will be organized in Seminars based on practitioners’ and academic papers. This course will not begin meetings until the week of October 20.
Instructor(s): H. Geman.
**EN.550.647. Financial Mathematics Masters Seminar.**
This course is only open to students enrolled in the MSE in Financial Mathematics program. Advanced topics chosen according to the interests of the instructor and graduate students. The course will focus on recent research articles in the financial mathematics literature. Instructor(s): D. Audley.

**EN.550.648. Credit and Systemic Risk.**
Credit risk is a topic which has become of fundamental importance after the recent crisis, due to the larger number of credit quality deteriorations and default events. This course deals with mathematical modeling and valuation of credit risk. Students will be exposed to key theoretical principles (doubly stochastic intensity processes, enlargement of filtrations, risk measures), related to the construction of modern credit risk management systems. The course will analyze computational techniques for simulating default times, as well as methodologies for measuring credit losses based on probabilistic tools. We will discuss topics of currently high research interest, such as counterparty risk valuation, systemic risk, liquidity risk, and default contagion.

**Prerequisites:** (EN.550.426 OR EN.550.427) AND EN.550.620

**EN.550.649. Theory of Finance.**
The first part of the course will review in depth the main instruments in the various asset classes, as well as the founding results on investment decision and project undertaking. The second part will analyze the theory of the firm: capital structure, dilution and share repurchase, dividend policy, Modigliani-Miller theorem and will lead to the contingent claim pricing of corporate debt and equity as in Merton (1974). The third part will extend the CAPM to the Arbitrage Pricing Theory of Ross (1976) and its theoretical and operational consequences. The fourth part will be dedicated to the fundamentals of interest rates and stochastic modelling of the yield curve to price caps, floors and swaptions. It will conclude with the Asset Liability Management of a bank, insurance company. This course will not begin until mid-October.

Instructor(s): H. Geman.

**EN.550.650. Statistical Models in Molecular Medicine.**
Computational systems biology has emerged as the dominant framework for analyzing high-dimensional “omics” data in order to uncover the relationships among molecules, networks and disease. The course will cover core statistical methodologies, including machine learning, stochastic processes and statistical inference. Recommended Course Background: EN.550.420 and EN.550.310/EN.550.311/EN.550.430

Instructor(s): D. Geman.

**EN.550.651. Financial Mathematics.**
Advanced introduction to no-arbitrage derivatives pricing theory. Topics include fundamental theorems of asset pricing; equivalent martingale measures; stochastic volatility models; credit linked derivatives; stochastic control & optimal stopping problems in finance. This course assumes a working familiarity with Brownian motion and Ito’s formula. Simulation and numerical methods for derivatives pricing will also be discussed.

**Prerequisites:** EN.550.426 OR EN.550.427 OR EN.550.440 OR EN.550.621.

**EN.550.653. Commodities and Commodity Markets.**
The first half of this course will be devoted to energy markets, both in terms of the market itself and how to model peculiar features of this business. First we will discuss fossil fuels, including physical and financial natural gas and LNG; crude and refined petroleum commodities; and possibly coal markets. Then the focus will turn to electricity markets, including market structures; energy, capacity and ancillary services markets; characteristics of demand; power plant commitment and dispatch; the “stack” or market supply curve; characteristics of different plants and fuels; regional differences in markets; and hedging techniques from trading vanilla products all the way to complex multi-commodity structures. We will discuss renewable energy sources, their characteristics, economics, and effects on the larger market, as well as emissions markets as a way of removing pollution externalities. The first half will conclude by elaborating on risk management techniques; credit; legislation and regulation; and derivative accounting as time permits. The second half of the course will turn to shipping, metals and agricultural markets. The metal physical markets will be described, the major Exchanges presented (LME, SHFE), as well as the warehousing issues in the case of base metals. The case of precious metals will be singled out, and gold in particular; and finally uranium and rare earths. Agricultural (grains and softs) markets will be presented, together with the crucial issues of biofuels, fertilizers, water, and arable land. In all cases, there will be a large focus on the trading activities - both to hedge and to gain exposure to commodities - in spot and derivative markets. Numerous examples of forward curves will be provided, as well as volatility skews. The valuation of swaps, spread options and Asian options will be (re)derived. Students should have rudimentary knowledge of financial markets. Recommended Course Background: EN.550.420 and AS.110.106 or AS.110.108

Instructor(s): G. Schultz; H. Geman.

**EN.550.661. Foundations of Optimization.**
This course considers algorithms for solving various important nonlinear optimization problems and, in parallel, develops the supporting theory. Primary focus will be on unconstrained and bound-constrained optimization. Topics will include: necessary and sufficient optimality conditions; gradient, Newton, and quasi-Newton based line-search and trust-region methods; linear and nonlinear least-squares problems; linear and nonlinear conjugate gradient methods; stochastic optimization; optimal gradient methods; structured non-smooth optimization, and derivative-free optimization. Special attention will be paid to the large-scale case and will include topics such as limited-memory quasi-Newton methods, projected gradient methods, and subspace accelerated two-phase methods for bound-constrained optimization. Recommended Course Background: Multivariable Calculus, Linear Algebra; Coreq: AS.110.405

Instructor(s): D. Robinson.
Design and analysis of mainstream algorithms for solving optimal control, statistical/machine learning, financial engineering, compressed sensing, robust principal component analysis, sparse optimization, and structural engineering problems. Algorithms may include: sequential quadratic programming methods, interior-point methods, stochastic gradient descent algorithm, dual averaging algorithm, limited memory quasi-Newton methods, fast iterative shrinkage-thresholding algorithm, Pegasos, alternating linearization augmented Lagrangian methods, the support vector machine, Bender’s Algorithm, and the method of moving asymptotes. However, other algorithms may be covered depending on the interests of the students. The goals of the course include (i) understanding the algorithms, why they work, and when they should be used; (ii) recognizing the strengths and weaknesses of each algorithm; and (iii) motivating/discussing open research questions.
Instructor(s): D. Robinson.

EN.550.663. Stochastic Search & Optimization.
An introduction to stochastic search and optimization, including discrete and continuous optimization problems. Topics will include the “no free lunch” theorems, beneficial effects of injected Monte Carlo randomness, algorithms for global and local optimization problems, random search, recursive least squares, stochastic approximation, simulated annealing, evolutionary and genetic algorithms, machine (reinforcement) learning, and statistical multiple comparisons. Students should have knowledge of basic matrix algebra. Recommended Course Background: Graduate course in probability and statistics
Instructor(s): J. Spall.

Concepts and statistical techniques critical to constructing and analyzing effective simulations; emphasis on generic principles rather than specific applications. Topics include model building (bias-variance tradeoff, model selection, Fisher information), benefits and drawbacks of simulation modeling, random number generation, simulation-based optimization, discrete multiple comparisons using simulations, Markov chain Monte Carlo (MCMC), and input selection using optimal experimental design.
Instructor(s): J. Spall.

EN.550.665. Tracking and Data Fusion Methods.
The uses are of tracking and data fusion are ubiquitous: GPS tracking; tracking people in crowds using facial recognition; robotic vision and control; cell-phone triangulation for emergency responders; location of military targets; navigation of unmanned vehicles, satellites and space probes; tracking debris in space, etc. This course will start with the basic theory of linear and non-linear Kalman filtering, the Cramer-Rao bound, Fisher information, and simple nearest-neighbor data association methods. After introducing the basic theory, the course will involve student-led discussions in a seminar-like manner on more advanced topics in non-linear filtering, probabilistic data association, and specific applications. The course content will depend somewhat upon student interest. Prereq: Basic Linear Algebra, Multivariate Calculus, 400-level or higher Probability.
Prerequisites: ( EN.550.291 or AS.110.201 ) and ( AS.110.202 or AS.110.211 ) and ( EN.550.420 or EN.550.620 ).

The main goal of this course is to introduce students to combinatorial optimization techniques. The first part of the course will focus on combinatorial algorithms for classical problems. The next part of the course will show how polyhedral theory can be used to deal with combinatorial optimization problems in a unifying manner. Familiarity with linear programming and algorithms desirable but not strictly required. Recommended Course Background: Linear Algebra.
Instructor(s): A. Basu.

EN.550.671. Combinatorial Analysis.
An introduction to combinatorial analysis at the graduate level. Meets concurrently with 550.471. See 550.471 for course description.
Recommended Course Background: EN.550.291 or AS.110.201
Instructor(s): E. Scheinerman.

EN.550.672. Graph Theory.
An introduction to graph theory at the graduate level. See 550.472 for course description. Meets with EN.550.472
Prerequisites: EN.550.291 OR AS.110.201 OR AS.110.212
Instructor(s): A. Basu.

Brief review of topics in elementary numerical analysis such as floating-point arithmetic, Gaussian elimination for linear equations, interpolation and approximation. Core topics to be covered: numerical linear algebra including eigenvalue and linear least-squares problems, iterative algorithms for nonlinear equations and least squares problems, and convergence theory of numerical methods. Other possible topics: sparse matrix computations, numerical solution of partial differential equations, finite element methods, and parallel algorithms.

This class will explore basic aspects of functional analysis, focusing mostly on normed vector spaces. This will include, in particular, the Hahn-Banach and open mapping theorems, a discussion of strong and weak topologies, the theory of compact operators, and spaces of integrable functions and Sobolev spaces, with applications to the study of some partial differential equations. Recommended Course Background: AS.110.415/AS.110.416/AS.110.605 or EN.550.620
Prerequisites: AS.110.405 or equivalent
Instructor(s): A. Basu.

The course will provide fundamental concepts and methods that pertain to the analysis of the variation of anatomical shapes extracted from medical images. It will review basic properties of the most important shape representations (landmark, curves, surfaces, images...), describe distances and discrepancy measures that allow for their comparison, and introduce nonlinear optimal control methods that underlie the Large Deformation Diffeomorphic Metric Mapping (LDDMM) family of registration algorithms. The course will then discuss shape averaging methods and template-centered representations for the analysis of shape datasets. Recommended Course Background: Optimization (EN.550.361 or higher) and (AS.110.202 OR AS.110.211 or higher) AND AS.110.302 or higher.
Prerequisites: ( AS.110.202 OR AS.110.211 or higher) AND ( AS.110.302 or higher)
Instructor(s): E. Younes.
EN.550.690. Neural Networks and Feedback Control Systems.
This roundtable course is an introduction to two related areas: neural networks (NNs) and control systems based on the use of feedback. Artificial NNs are effective conceptual and computational vehicles for many important applications; feedback control is relevant to virtually all natural and human-made systems. NNs are applied in areas such as system modeling and control, function approximation, time-series filtering/prediction/smoothing, speech/image/signal processing, and pattern recognition. Topics to be covered for NNs include network architecture, learning algorithms, and applications. Specific NNs discussed include perceptrons, feedforward networks with backpropagation, and recurrent networks. This course also provides an introduction to feedback control systems, including the role of feedback in regulating systems and in achieving stability in systems. We consider stochastic (noise) effects in feedback systems. We also consider the interface of NNs and control by discussing how NNs are used in building modern control systems in problems where standard methods are infeasible. Recommended Course Background: Matrix theory, differential equations, and a graduate course in probability and statistics.
Instructor(s): J. Spall.

This course is open only to AMS department master's students. Instructor(s): A. Capponi; D. Audley; D. Naiman.

A second course in linear algebra with emphasis on topics useful in analysis, economics, statistics, control theory, and numerical analysis. Review of linear algebra, decomposition and factorization theorems, positive definite matrices, norms and convergence, eigenvalue location theorems, variational methods, positive and nonnegative matrices, generalized inverses.
Prerequisites: ( AS.110.202 OR AS.110.211 ) AND ( AS.110.201 OR EN.550.291 ) AND AS.110.405
Instructor(s): D. Fishkind.

EN.550.693. Turbulence Theory.
An advanced introduction to turbulence theory for graduate students in the physical sciences, engineering and mathematics. Both intuitive understanding and exact analysis of the fluid equations will be stressed. Students should have previous familiarity with fluid mechanics.
Instructor(s): G. Eyink.

EN.550.694. Turbulence Theory II.
This course will continue the theoretical investigation of fluid turbulence, directly following on from EN.550.693. Topics to be considered are turbulent vortex dynamics, Lagrangian dynamics, and special topics such as wall-bounded turbulence, free shear flows, two-dimensional and quasigeostrophic turbulence, MHD turbulence, etc.
Cross-listed with Physics
Prerequisites: EN.550.693
Instructor(s): G. Eyink.

This course will present an overview of topics in science-based parameterization, including dynamics, probability and other applied mathematical methods. These concepts will be presented in a unified format, with some emphasis on scientific computing. Specific topics include: basic probability, statistical dynamics, (moment hierarchies, Liouville/forward equations, path-integral methods), asymptotic closure (homogenization, Chapman-Enskog), closure techniques without any separation of scales (non-linear Galerkin & Weighted residuals, algebraic closures, PDF-based closures, down-scaling), uncertainty quantification (vairance & other measures of uncertainty, Bayesian estimation, ensemble methods), hybrid methods.
Instructor(s): G. Eyink
Area: Engineering, Quantitative and Mathematical Sciences.

This course will discuss turbulence theory relevant for planetary atmospheres and oceans (including Earth's) and astrophysical plasmas. The three basic topics will be two-dimensional & geostrophic turbulence, compressible fluid turbulence, and magnetohydrodynamic turbulence. It would be useful for students to have taken courses EN.550.693-694, but these are not formal prerequisites and material from those courses will be reviewed as required. Exact mathematical results will be developed wherever possible to inform physical theories. The course focuses on coarse-grained nonlinear dynamics, turbulent cascades, wave-turbulence interactions, scaling theories, and relevant experimental observations from satellites and spacecraft.
Instructor(s): G. Eyink.

EN.550.700. Master's Research.
Reading, research, or project work for Master's level students. Arranged individually between students and faculty.
Instructor(s): Staff.

EN.550.701. Master's Independent Study.
Instructor(s): Staff.

Recent advances in computer science, physics, and statistics have been made possible by corresponding sharply quantitative developments in the mathematical theory of Markov chains. Possible topics: rates of convergence to stationarity, eigenvalue techniques, Markov chain Monte Carlo, perfect simulation, self-organizing data structures, approximate counting and other applications to computer science, reversible chains, interacting particle systems.
Instructor(s): J. Fill.

EN.550.730. Topics In Statistics.
Roundtable course covers system identification and maximum likelihood for models, including EM (expectation-maximization) and variants, online versus offline estimation, role of feedback in estimation (openloop versus closed-loop), and uncertainty bounds. Students should have an understanding of matrix theory and ordinary differential equations. Prior experience in data analysis and algorithms will be helpful. Recommended Course Background: EN.550.430; in particular, students should have prior exposure to maximum likelihood and Bayes' rule.
Instructor(s): M. Tang.
EN.550.735. Topics in Statistical Pattern Recognition.
The Dissimilarity Representation for Pattern Recognition. This course will investigate aspects of statistical inference and statistical pattern recognition associated with observing only dissimilarities between entities rather than observing feature vectors associated with the individual entities themselves.
Prerequisites: (EN.550.420 OR EN.550.620) AND (EN.550.430 OR EN.550.630).
Instructor(s): C. Priebe.

This course will cover various topics in financial mathematics and will be co-taught in two parts Part one (Chavez-Bedoya) will cover various aspects of portfolio optimization, and part two (Geman) will cover topics including stochastic time changes, subordination, pure jump Lévy Processes; the Lévy- Kintchine and its relationship to the Fast Fourier transform of option prices. The last part will be dedicated to general changes of probability measure in finance.
Instructor(s): H. Geman, L. Chavez-Bedoya.

One of the most powerful tools currently applied in combinatorics. This course covers the basic method, with applications to graph theory, combinatorics, and especially algorithm design.
Instructor(s): V. Lyzinski.

Analysis of Algorithms. This course in the probabilistic analysis of algorithms (AofA) will be accessible to any student who has had at least one course in probability and will be most beneficial to those who have had at least one probability course at the measure-theoretic level. The course will review basic topics from the theory of probability that have proved useful in AofA. It will provide introductions to more advanced AofA-relevant topics chosen from such topics as: Markov chains, branching processes, urn models, Poissonization (and de-Poissonization), various metrics on distributions, fixed-point characterizations of distributions, convergence of sequences of stochastic processes, perfect simulation using Markov chains (and otherwise), and large deviation principles. The course will interweave probability theory and applications to AofA, focusing on the fundamentally important and exceptionally rich example of limiting distributions for various ways of measuring the cost of executing the QuickSort and QuickSelect algorithms.
Instructor(s): J. Fill.

Instructor(s): Staff.

Open to students in the Financial Mathematics Master’s Program only.

EN.550.805. Communications Practicum.
Open to students in the Financial Mathematics Master’s Program only.

Instructor(s): Staff.

Seminar topics determined by enrolled students and instructor.
Instructor(s): A. Basu.

Continuation of EN.550.692.
Instructor(s): E. Scheinerman.

Biomedical Engineering
www.bme.jhu.edu

Faculty and students in the Department of Biomedical Engineering have been breaking new ground in biomedical research for over 50 years, and we strive to continue this history of innovation and discovery every day. Some examples of biomedical engineering include instrumentation and systems for use in medical environments, health care delivery systems, therapeutic and prosthetic devices such as artificial organs and orthopedic implants, and the application of quantitative methods and engineering-based modeling to basic research in the biological sciences.

The Department of Biomedical Engineering offers three programs of study to prepare students to work in this area: an undergraduate program leading to a bachelor’s degree with a choice of B.S. or B.A., a master’s degree program, and a doctoral degree program.

Research in the department focuses on several general areas: biomaterials, biomedical imaging systems, biomedical sensors and instrumentation, cardiovascular systems physiology, molecular and cellular engineering physiology, systems neuroscience, theoretical and computational biology, cell and tissue engineering, and nanobiotechnology.

Facilities

The center of gravity for the Department of Biomedical Engineering is the Taylor, Ross, Miller, and Smith research buildings on the campus of the School of Medicine. This location favors a close association with other basic medical science programs and provides access to the clinical environment of one of the nation’s top-ranked hospitals. The Homewood campus houses the Whitaker Biomedical Engineering Institute. The Whitaker Institute was established as a vital link between the School of Medicine and the Whiting School of Engineering. The vision of the institute is of an integrative research and education enterprise that provides leadership in moving biomedical engineering to the forefront of biomedical science and practice.

The general facilities of the Department of Biomedical Engineering include seminar rooms that allow broadcasting throughout the university, physiology teaching laboratories, a microfabrication laboratory, a cell and tissue teaching and research laboratory, a student instrumentation laboratory, and a fully-staffed mechanical shop.

Each faculty member maintains a well-equipped laboratory for research in his or her area of interest. A wide variety of equipment in these laboratories is available to students as their interests draw them into active participation in research.

The profoundly interdivisional nature of biomedical engineering education at Johns Hopkins provides students with a wide range of general university facilities. These include the Human Stem Cell Core facility, the Institute for Basic Biomedical Sciences Microscope Core facility, the Tissue Microarray Core facility, the Flow Cytometry Core Facility, the Genetics Resources Core Facility, the Transgenic Core Laboratory, the Welch Medical Library at the School of Medicine, the Eisenhower Library at the Homewood campus, and computing laboratories that are available on both campuses.
The mission of the undergraduate programs is to provide state-of-the-art biomedical engineering education to students in order that they may continue their education in graduate, medical, and professional schools or pursue careers in industry. To this end, our responsibility is as much to the future as it is to the present. Through a strong research and educational environment, we strive to empower our students to explore and define their own frontiers as well as instill the ethical principles that will foster rewarding professional endeavors. The B.S. in Biomedical Engineering degree program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

The biomedical engineering program normally leads to the bachelor of science degree and requires at least 129 credits. The B.S. program is recommended for students who plan careers in engineering or who plan to attend graduate school in engineering. If a student wishes to take a more flexible program with less emphasis on engineering, a B.A. program is also available. Either the B.S. or the B.A. program can meet the needs of a student who plans graduate study in a nonengineering area.

The undergraduate program provides a strong foundation in mathematics, engineering, and science. It emphasizes preparation for advanced study in an area related to biomedical engineering and is broad enough to accommodate students who plan graduate work in biology, medicine, engineering, biophysics, physiology, or biomedical engineering.

Thus, the objective of the undergraduate program is to educate students majoring in biomedical engineering who will attain one or both of the following upon or within a few years of graduation:

- entry into graduate (M.S. or Ph.D. degree programs) or professional schools (medical, dental, veterinarian, business, public health, law)
- employment in jobs that utilize biomedical engineering or a related field.

Each student plans a curriculum suited to his or her goals with the assistance of a faculty advisor. Upon completion of the B.S. in biomedical engineering, students will demonstrate the ability to:

- apply knowledge of advanced mathematics, life sciences, natural sciences, and principles of engineering to problems at the interface of engineering, biology, and medicine and mathematically model and simulate biological systems using computers.
- design and conduct experiments, as well as analyze and interpret data; formulate hypotheses for experiments, including those on living systems; collect and validate data using appropriate equipment; display, describe, summarize, and interpret experimental results in a lab report; relate the experimental results to previous work, including the interaction between living and non-living materials and systems; and practice lab safety.
- design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability; identify a need and define the biomedical engineering problem to be solved, determine the constraints to the problem and assess the successful likelihood for different approaches, undergo the design process of creation, synthesis, and integration and evaluate success of the design to meet the desired need.
- function on multidisciplinary teams; understand team goals and complementary roles and expertise of each team member; share opinions and viewpoints with other team members; and assume and fulfill individual responsibilities within a team.
- identify, formulate, and solve engineering problems; conceptualize the engineering problem, formulate a solution to the problem, and solve problems using experimental, mathematical and/or computational tools.
- understand professional and ethical responsibility; understand the guidelines for ethical and responsible use of human subjects and data for research; understand the guidelines for ethical and responsible use of animals for research; understand professional and ethical standards in the workplace and properly reference the work of others.
- communicate effectively; synthesize, summarize, and explain technical content in a written report; and synthesize, summarize, and explain technical content in an oral presentation.
- understand the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context; understand the contributions biomedical engineers can play in academia, industry, and government; and understand how biomedical engineering solutions are of benefit inside and outside the U.S.
- recognize the need for, and gain an ability to engage in, life-long learning; use library resources, professional journals, and Internet effectively; update technical literacy to understand contemporary issues; and recognize the need for self-assessment.
- comprehend contemporary issues; understand recent developments in biomedical engineering; understand differing viewpoints in academia, government, industry, and business; and gain the ability to search and critically evaluate scientific literature.
- use the techniques, skills, and modern engineering tools necessary for engineering practice; gain proficiency in computer simulations and mathematical analysis tools; create mathematical models; develop laboratory skills applied to living systems; and utilize data acquisition systems.

The program also encourages individual study and research and gives academic credit for them. Students are welcome to work in laboratories on the Homewood campus or at the Medical Institutions in East Baltimore.

Bachelor of Science in Biomedical Engineering

Students seeking the B.S. degree are encouraged to focus their studies on one of five subspecialties that incorporates traditional engineering disciplines and biomedical applications. See the Biomedical Engineering Undergraduate Advising Manual for specifics on focus areas, lists of recommended mathematics and engineering electives, limitations on credits for courses with overlapping material, and the design content of engineering courses.

Requirements for the B.S. Degree

(See also General Requirements for Departmental Majors (p. 24).)

The B.S. degree in biomedical engineering requires 129 credits. The courses listed below must either be taken or passed by examination for advanced credit. Engineering, science, and mathematics courses may not be taken satisfactorily/unsatisfactorily. No more than 6 credits of engineering, science, or mathematics courses in which a grade of D was received may be counted.
**Basic Sciences (22 credits)**

<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.171.101</td>
<td>General Physics: Physical Science Major I</td>
<td>4</td>
</tr>
<tr>
<td>or AS.171.107</td>
<td>General Physics for Physical Sciences Majors (AL)</td>
<td></td>
</tr>
<tr>
<td>AS.171.102</td>
<td>General Physics: Physical Science Majors II</td>
<td>4</td>
</tr>
<tr>
<td>or AS.171.108</td>
<td>General Physics for Physical Science Majors (AL)</td>
<td></td>
</tr>
<tr>
<td>AS.173.111</td>
<td>General Physics Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>AS.173.112</td>
<td>General Physics Laboratory II</td>
<td>1</td>
</tr>
<tr>
<td>AS.030.101</td>
<td>Introductory Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; AS.030.105 &amp; and Introductory Chemistry Lab I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AS.030.102</td>
<td>Introductory Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; AS.030.106 &amp; and Introductory Chemistry Laboratory II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AS.030.205</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
</tbody>
</table>

**Mathematics (24 credits)**

<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.108</td>
<td>Calculus I</td>
<td>8</td>
</tr>
<tr>
<td>&amp; AS.110.109 &amp; and Calculus II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AS.110.202</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.211</td>
<td>Honors Multivariable Calculus</td>
<td></td>
</tr>
<tr>
<td>AS.110.201</td>
<td>Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.212</td>
<td>Honors Linear Algebra</td>
<td></td>
</tr>
<tr>
<td>AS.110.302</td>
<td>Differential Equations and Applications</td>
<td>4</td>
</tr>
<tr>
<td>At least one additional semester of advanced statistics/probability (300 level or above).</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

**Humanities and Social Sciences (18 credits)**

<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>These courses should form a coherent program, relevant to the student's goals, with at least one course at the 300-level or higher. They should include:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>One course in which ethical and social issues related to technology are discussed.</td>
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<tr>
<td></td>
<td>At least two semesters of writing-intensive courses. *</td>
<td></td>
</tr>
</tbody>
</table>

**Biomedical Core Knowledge (35 credits)**

<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.580.111</td>
<td>BME Modeling and Design</td>
<td>2</td>
</tr>
<tr>
<td>EN.580.202</td>
<td>BME in the Real World</td>
<td>1</td>
</tr>
<tr>
<td>Molecular and cellular biology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN.580.221</td>
<td>Molecules and Cells</td>
<td>4</td>
</tr>
<tr>
<td>Creating, analyzing and simulating a linear or nonlinear system model from knowledge of the real biological system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN.580.222</td>
<td>Systems and Controls</td>
<td>4</td>
</tr>
<tr>
<td>EN.580.223</td>
<td>Models and Simulations</td>
<td>4</td>
</tr>
<tr>
<td>Fundamental thermodynamic principles in biology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN.580.321</td>
<td>Statistical Mechanics and Thermodynamics</td>
<td>4</td>
</tr>
<tr>
<td>Engineering analysis of systems-level biology and physiology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN.580.421</td>
<td>Systems Bioengineering I</td>
<td>4</td>
</tr>
<tr>
<td>EN.580.423</td>
<td>Systems Bioengineering Lab I</td>
<td>2</td>
</tr>
<tr>
<td>EN.580.422</td>
<td>Systems Bioengineering II</td>
<td>4</td>
</tr>
<tr>
<td>EN.580.424</td>
<td>Systems Bioengineering Lab</td>
<td>2</td>
</tr>
<tr>
<td>EN.580.429</td>
<td>Systems Bioengineering III</td>
<td>4</td>
</tr>
</tbody>
</table>

**Focus Area (21 credits)**

<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Each student is required to take one of five Biomedical Engineering focus areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>Among the technical elective courses offered, at least 6 credits must come from an approved list of design options. ***</td>
<td></td>
</tr>
</tbody>
</table>

**Computer Programming**

Select 3 credits of computer programming

**General Electives**

Students may choose at least two courses from any area. *** 6

| Total Credits | 129 |

**Bachelor of Arts in Biomedical Engineering**

(See also General Requirements for Departmental Majors (p. 24))

The B.A. in biomedical engineering requires 120 credits. The courses listed below must either be taken or passed by examination for advanced credit. See the Biomedical Engineering Undergraduate Advising Manual for lists of recommended courses, acceptable course substitutions, and limitations on credits for courses with overlapping material.

**Basic Sciences (22 credits)**

<table>
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<td></td>
</tr>
<tr>
<td>AS.173.111</td>
<td>General Physics Laboratory I</td>
<td>1</td>
</tr>
</tbody>
</table>

* See Writing Requirement (p. 24).

**Building on the foundation of this core curriculum, each student is required to take a cohesive sequence of advanced engineering encompassing one of five Biomedical Engineering focus areas. A student’s choice of focus area is made before the start of the junior year and is based on their experience with the Biomedical Engineering Core and their answers to the questions given below:**

- **Systems Biology**—“Do you want to focus on understanding at a fundamental level how biological systems work?”
- **Sensors, Micro/Nano Systems, and Instrumentation**—“Do you want to build things that facilitate research or clinical medicine?”
- **Cell/Tissue Engineering and Biomaterials**—“Do you want to create replacement cells, tissues, and organs?”
- **Computational Bioengineering**—“Do you want to focus on the use of mathematical theory or computers to solve complex biological and medical problems?”
- **Imaging**—“Do you want to develop new imaging technology to reveal how biological systems work or diagnose disease?”

Courses in a focus area must be taken for a total of 21 or more credits. Please refer to www.bme.jhu.edu/undergraduate/resources.htm for applicable courses designed for each focus area by faculty members with research interests appropriate to the area; all faculty members are active participants in shaping the undergraduate curriculum.

*** Among the technical elective courses offered, at least 6 credits must come from an approved list of design options. There are many combinations of courses, programs and independent study opportunities to satisfy this requirement. This is discussed in detail in the Undergraduate Handbook. Please refer to http://www.bme.jhu.edu/undergraduate/documents/BME-Undergraduate-Handbook.pdf.
Exceptional students with degrees in basic sciences may also apply, but would normally have to take a number of courses to overcome deficiencies in their curriculum.

All students have the potential to receive full tuition support by obtaining a position in a research laboratory. Research assistantships are usually advertised by various laboratories in the institution to carry out specific research and development projects. Students without a research assistantship are expected to pay full tuition independently. Fellowships are also awarded to the top students in the program.

Applications for admission are due by the appointed deadline (usually in mid-January).

For more information and to apply online, go to http://www.bme.jhu.edu/graduate/mse/apply.

Requirements for the M.S.E. Degree

Each student will take a minimum of 24 credits of courses at the 400-level or higher and complete a thesis. Students fulfill the course requirement by taking two courses in the Systems Bioengineering sequence (EN.580.421, EN.580.422 or EN.580.429) and other advanced engineering, math, and science courses. (JHU undergraduates waive the SBE sequence and take 8 credits from advanced engineering, math, or science.) Students will also fulfill a minor teaching requirement by providing support to one of three lab-based undergraduate courses and six core lecture courses each semester. Additionally, all students must complete a thesis based on a research problem requiring application of quantitative or applied engineering principles to biomedical engineering.

B.S./M.S.E. Program

Students enrolled in the B.S. program in biomedical engineering may pursue a combined B.S./M.S.E. degree that can be completed in five years. Students should apply in their junior year and adhere to the published deadlines and application requirements. (The only exception is that biomedical engineering undergraduates do not need to take the GRE.) Course work should be carefully structured so as to fulfill all the requirements for the B.S. as well as the M.S.E. degree in a timely and coordinated manner. Students are advised to make an early start toward their master’s thesis. The M.S.E. program grants partial tuition fellowship awards on the basis of academic merit. Research assistantships are usually advertised by various laboratories in the institution to carry out specific research and development projects. Fellowships are also awarded to the top students in the program.

Master of Science in Engineering in Innovation and Design

The Center for Bioengineering Innovation and Design (CBID), housed in the Department of Biomedical Engineering, focuses on the design aspect of Biomedical Engineering. This exciting program gives students opportunities to design, develop, build, and test devices that solve some of the most pressing problems facing clinicians today.

The mission of CBID is to:

- Improve human health by developing medical devices that solve important clinical problems
- Educate a new generation of medical device engineers and fellows
- Facilitate technology transfer and industry collaboration
In the graduate program CBID students will learn to identify clinical needs and innovate a novel solution to solve that clinical problem. Working in teams, students work closely with engineering faculty and physicians throughout the medical institution to come up with device ideas, build prototypes, research intellectual property, learn about the regulatory process, write business plans, and present their designs to fellow students, faculty, and outside advisors.

Undergraduate students in BME can also become involved in medical device design by joining an undergraduate design team which works on solving clinical problems by designing innovative devices.

Incorporated in all the BME design curriculum is a focus on technology commercialization. All students, graduate and undergraduate, will interact with clinical and corporate sponsors and have experiences that promote the development of leadership, communications, and marketing skills, thus helping to ensure our graduates’ professional success.

The CBID M.S.E. is a one-year program lasting from May through the following May. Please see our website for more information on our programs: http://cbid.bme.jhu.edu.

Information can also be found here: http://www.bme.jhu.edu/graduate/masters-design/

Ph.D. in Biomedical Engineering through the School of Medicine

Biomedical Engineering has emerged as one of the most exciting interdisciplinary research fields in modern science. Biomedical engineers apply modern approaches from the experimental life sciences in conjunction with theoretical and computational methods from the disciplines of engineering, mathematics, and computer science to the solution of biomedical problems of fundamental importance. The Biomedical Engineering Graduate Program of Johns Hopkins University is designed to train engineers to work at the cutting edge of this exciting discipline.

The cornerstone of the program is our belief in the importance of in-depth training of students in both life sciences and modern engineering. In-depth training in life sciences is achieved in one of two ways. Typically, incoming Ph.D. students enroll in the first year basic sciences curriculum of the Johns Hopkins University School of Medicine. That is, they learn human biology with the medical students. This is a unique and intensive curriculum covering a broad range of topics including molecules and cells, human anatomy, immunology, physiology, and neuroscience. Students choosing this option typically devote their entire first academic year to these courses. This curriculum is an excellent way to build a broad and solid foundation in the life sciences. Alternatively, students may elect alternative life sciences curricula. These curricula have been carefully designed to provide training in areas of the life sciences that are appropriate to each of the program’s research areas. This option is of particular value to students who enter the program having a strong background in the life sciences. In-depth training in engineering, mathematics, and computer science is achieved through elective courses that are taken in the second year.

All students are admitted with full fellowship. Because the students are fully funded, they can choose to perform their dissertation in essentially any laboratory in the University (subject to the approval of the Program directors). A special program with the National Heart, Lung, and Blood Institute of the National Institute of Health (NIH) allows students to choose from any research laboratories at the NIH.

Students typically do research rotations during the summer before the start of the first academic semester, during the first year (typically as they are taking medical school courses), and during the following summer. They are expected to choose a research laboratory before the start of the second academic year.

Emphasis is placed on original research leading to the doctoral dissertation. The research is usually experimental in nature, and students are expected to learn biological experimentation techniques. Nevertheless, experiment or theory can be emphasized in the research desired by the student.

Requirements for Admission

The School of Medicine program accepts applications for the Ph.D. program until December 15 of each year. We typically recruit students in five areas: Computational Biology, Imaging, Tissue Engineering, Neural engineering, and Molecular, Neural, and Cardiac physiology (MNCP). The program is unique in that it offers the BME student the strengths of one of the best medical schools in the world. If you wish to combine engineering with cutting edge research in medicine, this may be the program for you.

In their first year, our students have the option of taking many of the same courses as the medical students, including human anatomy, molecules and cells, and genes to society. In their second year, our students take advanced engineering courses. Therefore, students that apply to our program need to not only have a strong background in engineering and mathematics, but also sufficient background in chemistry (including organic chemistry) and biology (at least two introductory courses).

The admission process is by committee. The applicant should specify which area they are interested in and write about the kind of research they are considering. The faculty in each area vote and rank the applicants. The final pool of applicants is ranked and voted on by the entire faculty.

About one third of our incoming students are international students. A short list of these students is formed by committee and the top candidates are interviewed by phone. Like all admitted students, international students receive full financial aid as well as a monthly stipend. They too have the freedom to choose from any lab.

Applications should be complete when submitted. In order to be considered a complete application we must have:

- A completed online application form.
- Official transcripts from each college or university attended—Sealed, official transcripts or certified records of all university (undergraduate and graduate) study must be submitted. If you have attended more than one institution, transcripts from each must be included with your application.
- Official Graduate Record Examination—GRE/MCAT scores will be acceptable and can be arranged through the Office of Graduate Affairs (address provided below). The GRE code for applying to graduate programs at the Johns Hopkins School of Medicine is 5316.
  - The BME Ph.D. program does not rely heavily on the GRE exam in making admissions or financial aid decisions. Research experience, course grades, and recommendations carry more weight. However, because the GRE score is part of the application
and does affect admissions decisions in some cases, foreign applicants who took the GRE in its electronic form, in a country where the electronic test is no longer offered, are advised to retake the exam in its paper form. Applications will be considered regardless of which form of the exam was taken.

- **Three letters of recommendation**—These letters should come from faculty members who are acquainted with you and your academic work. These letters should be sealed and comment on your aptitude and promise for independent research.

- **Personal Statement**—a typewritten statement (one page maximum) indicating the basis of your interest in graduate study and your career objectives. Included should be a discussion of any research experience you have had.

Applicants for admission must fulfill the following course prerequisites:

- one year of college level biology (may include quantitative biology or physiology)
- one semester of organic chemistry
- differential equations

If you are interested in applying and do not have the prerequisite courses, you may want to submit your application with an explanatory note indicating you have made or will make arrangements to take the prerequisites before you would matriculate, if your application is accepted. In the past, applicants have taken the prerequisites at their present schools, local community colleges, etc. Courses taken at any accredited college or university are acceptable.

Each applicant must have received a B.A. or B.S. degree or its equivalent prior to matriculation. A Masters degree is not required for admission to our program.

All written correspondence and supporting documents should be sent directly to:

The Office of Graduate Affairs
The Johns Hopkins School of Medicine
1830 E. Monument St., Suite 2-107
Baltimore, MD 21205-2196
410-614-3385 phone
410-614-3386 fax
grad_study@jhmi.edu

**Processing**

The Ph.D. Program admissions committee will not consider any application until it is complete. Once an application has been received the applicant will be notified if supporting materials are missing.

**Interview**

The admissions committee will review completed applications and invite applicants to come to Johns Hopkins for a personal interview with faculty. Applicants from North America must come for an interview to be considered for admission. In the case of overseas applicants, for whom such a trip is not possible, a small number of telephone interviews will be conducted. The final admissions decisions will be made from the pool of interviewed applicants. Interviews are generally conducted in March.

**Acceptance**

Applicants will be notified by end of March of the outcome of their application. An offer of admission from the program will include a yearly stipend, full tuition, and paid medical and dental insurance. This applies to every accepted applicant, regardless of citizenship or national origin. Those offered admission will be asked to let us know their decision as soon as possible. In any case, we must have the applicant’s decision by April 15. Applications can be found at [www.hopkinsmedicine.org/graduateprograms/application.cfm](http://www.hopkinsmedicine.org/graduateprograms/application.cfm).

**Financial Aid**

Fellowships for tuition and support stipends (regardless of citizenship or national origin) are available from the general funds of the university. U.S. citizens and Permanent Residents are eligible for support from training grants from the NIH. Students are encouraged to apply for individual fellowships from the National Science Foundation and for NRSA awards from the NIH. Only online applications for admission are accepted and must be received by December 15.

**Requirements for the Ph.D. Degree**

The first two years are ordinarily devoted to advanced courses in engineering science and in biomedical science. Engineering, mathematics, and other physical science courses to be taken are arranged between students and their advisors. Each student is assigned a panel of three advisors during the first two years. Eighteen credit hours of course work in engineering, mathematics, or physical sciences are required. In addition, students must complete eighteen credit hours of course work in the life sciences. Of these 36 credit hours, at least six must be at the graduate level. At least three credit hours in a course with strong engineering or mathematical theory content at the 600-level must be taken.

Summers are spent working in a biomedical laboratory to gain experience and to seek out a suitable thesis research area. By the beginning of the third year, students should start original research leading to the dissertation. Students must fulfill a modest teaching requirement during one year of their program. The remaining time is spent in thesis research. The program typically takes five to six years to complete.

The student must pass a preliminary oral examination which will be a Graduate Board examination. This is taken in the first half of the third year. The student must then conduct original research, describe it in a dissertation, and pass a final oral examination that is a defense of the dissertation. There is a minimum residency requirement of two consecutive academic years.

**Integrated M.D./Ph.D. Program**

Candidates for the Ph.D. in biomedical engineering who wish to apply jointly for the M.D. degree must apply directly through the School of Medicine. Although the combined programs would normally require at least seven years to execute sequentially, the combined program can ordinarily be completed in six years, with appropriate planning. Good preparation in biology and chemistry as well as mathematics, engineering, and the physical sciences is essential. Life science graduate requirements are met by the first-year program of the School of Medicine. This program is more arduous than the Ph.D. program alone, but it may have marked advantages for students interested in clinical research and applications in hospital systems and in the delivery of health care. The catalog for the School of Medicine should be consulted for admissions requirements and procedures.

Information about applying to the combined M.D.-Ph.D. program can be found at [www.hopkinsmedicine.org/mdphd/admissions/Howtoapply.html](http://www.hopkinsmedicine.org/mdphd/admissions/Howtoapply.html). Applications submitted for consideration of the
combined degree will be reviewed by the Medical School admissions committee. If the Medical School admissions committee accepts the application, it is then passed along to the Biomedical Engineering Ph.D. Program admissions committee for review. A student applying to the combined program who wishes to be considered for the straight Ph.D. program must submit a written request to have his or her application forwarded to the Biomedical Engineering Ph.D. Program office for admission consideration if his or her application is not accepted by the Medical School admissions committee.

For current faculty and contact information go to http://www.bme.jhu.edu/people/completefacultylist.php

Faculty
Chair
Elliot McVeigh
Massey Professor and Director: imaging.

Professors
Jennifer H. Elisseeff
Jules Stein Professor: tissue engineering, biomaterials, cartilage regeneration.

Xingde Li
Endomicroscopy technologies, nanobiophotonics and molecular imaging, early detection (cancer, cardiovascular diseases, wound healing).

Michael I. Miller
Herschel and Ruth Seder Chair in Biomedical Engineering: computational anatomy, medical imaging, image understanding.

Aleksander S. Popel
Physiological flows and molecular transport, microcirculation, cell mechanics.

Steven L. Salzberg
Bioinformatics and computational biology.

Lawrence P. Schramm
Spinal cord injury and regeneration, neural regulation of the circulation.

Reza Shadmehr
Co-director of the Biomedical Engineering PhD program: human motor control and learning in health and disease, functional imaging of the brain, human neurophysiology, computational and theoretical neuroscience.

Jeffrey H. Siewersden
Medical imaging, image-guidance, flat-panel imagers, cone-beam CT, volume imaging, MRI, image science, imaging performance, radiation therapy.

Nitish V. Thakor
Medical instrumentation, medical micro and nanotechnologies, neurological instrumentation, signal processing, and neural prosthesis.

Natalia Trayanova
Murray B. Sachs Professor: computational cardiac electrophysiology and electro-mechanics, mechanisms of arrhythmogenesis and cardiac anti-arrhythmia therapies, cardiac dyssynchrony and resynchronization, development of cardiac models from imaging modalities.

Leslie Tung
Director of the Undergraduate program in Biomedical Engineering: functional electro-physiology of cultured cardiac cell networks, cardiac arrhythmias, analysis of multicellular structure, stem cell-derived cardiac cells.

Xiaojin Wang
Neurophysiology of the auditory cortex, neural mechanisms of speech perception and learning, computational neuroscience.

Raimond L. Winslow
Raj and Neera Singh Professor of Biomedical Engineering: computational cell biology, systems biology, cardiac electrophysiology.

Eric D. Young
Auditory neurophysiology, neural modeling, sensory processes.

David T. Yue
Co-director of the Biomedical Engineering PhD program: Ca2+ signaling experiments and modeling, as related to basic mechanisms and neuronal/cardiovascular disease; Ca2+ ion channels; calmodulin/Ca2+ channel decoding of channel nanodomain Ca2+ signaling; Ca2+ channel modulation; genetically encoded Ca2+ sensors; electrophysiology; fluorescence resonance energy transfer (FRET) imaging; confocal multiphoton, and total internal reflectance fluorescence (TIRF) imaging of Ca2+-related signaling; biophysics; molecular biology; biochemistry.

Associate Professors
Joel S. Bader
Bioinformatics, computational biology, systems biology, synthetic biology.

Jordan J. Green
Cellular engineering, nanobiotechnology, biomaterials, controlled drug delivery and gene delivery.

Rachel Karchin
Computational molecular biology, bioinformatics, genetic variation.

Scot C. Kuo
Cell motility and mechanics, nanoscale biophysics, laser-based bioinstrumentation, advanced multiphoton and confocal microscopy.

Rene Vidal
Computer vision (camera sensor networks, recognition of human activities, dynamic scene analysis, structure from motion), biomedical imaging (processing of high angular resolution diffusion imaging, registration and segmentation of diffusion MRI, segmentation and fiber tracking of cardiac MRI, interactive medical image segmentation), machine learning (generalized principal component analysis, manifold learning and clustering, classification of dynamical systems), signal processing (consensus on manifolds, distributed optimization, compressive sensing).

Kevin J. Yarema
Director of the Master’s degree program in Biomedical Engineering: metabolic glycoengineering, glycobiology, systems biology of glycosylation, carbohydrate-based cancer drug design and delivery, cellular responses to static magnetic fields.

Assistant Professors
Angelo Homayoun All
Spinal cord injury, stem cells, electrophysiology, imaging.

Michael A. Beer
Genomics and computational molecular biology.

Vikram Chib
Decision-making, motivation, movement, neuroscience, robotics, neuroeconomics.

Harry R. Goldberg
Assistant Dean of the School of Medicine: interactive simulations, virtual classrooms.

Warren L. Grayson
Tissue engineering, stem cells, bioreactors, biomaterials and orthopaedics.

Daniel Herzka
Cardiac magnetic resonance imaging, self-navigation, open-ended imaging, fast imaging, high resolution imaging, applications of MRI in cardiac electrophysiology, kinematic imaging, and fetal imaging.

Feilim Mac Gabhann
Computational modeling of growth factor-receptor networks, personalized medicine, individualized medicine, experimental studies of interindividual variation, therapeutic cardiovascular remodeling, novel methods for data visualization and automated image analysis, computational models of virus-host interactions.

Sridevi Sarma
Closed-loop deep brain stimulation, control theory, computational neuroscience and large-scale optimization.

Winston Timp
Epigenetics, single cell analysis, single molecule biophysics, nanotechnology, systems biology, computational biology/bioinformatics.

Joshua T. Vogelstein
Big data science, connectomics, statistical neuroscience.

Youseph Yazdi
Medical instrumentation, medical device design, translation and commercialization of medical devices, biophotonics, optical spectroscopy.

Kechen Zhang
Theoretical neuroscience, computational neuroscience, neural computation.

Professors Emeriti

Richard J. Johns
University Distinguished Service Professor: Industrial liaison.

Murray B. Sachs
University Distinguished Service Professor: Auditory neurophysiology and psychophysics.

Artin A. Shoukas
Systems analysis of circulatory systems, systems physiology.

Adjunct Associate Professor

Yuan Gao
Methylationics, transcriptomics and bioinformatics big data analytics and visualization.

Research Professor

Gary Brooker
Mechanism of receptor independent hormone desensitization, mechanisms of resistance to chemotherapeutic agents, optical methods in microscopy.

Andre Levchenko
Intracellular signal transduction, cell engineering, cancer research.

Alexander A. Spector
Biosolid mechanics, cell mechanics and biophysics, membrane mechanics, mechanotransduction, molecular motors, mathematical and computational modeling.

Associate Research Professor

Robert H. Allen
Design, education, biomechanics, birth mechanics.

J. Tilak Ratnakather
Computational anatomy, biomedical imaging, numerical analysis, mathematical biology of the cochlea.

Assistant Research Professor

Soumyadippta Acharya
Director of the Master’s degree program in Bioengineering Innovation and Design: Biomedical instrumentation, medical device innovation, neuroprosthetics, brain machine interfaces, computational neuroscience.

Siham Asrdeki
Image-based (multi-detector CT and MRI) shape and motion analysis of cardiac disease using mathematical models, analysis of brain development and aging process using diffusion MRI and deformation based morphometry.

David Masica
Novel computational methods to predict the impact of (epi)genetic alterations on human disease and drug response.

J. Webster Stayman
Imaging physics, 3D image reconstruction, novel imaging systems, image-guided interventions and diagnostic imaging.

Fijoy Vadakkumpadan
Patient-specific whole-heart modeling, ex vivo image-based cardiac modeling, image-based cardiac shape analysis, computational methods for brain surface mapping.

Research Associate

Jian Du
Biomaterial scaffolds, glycosylation engineering, stem cell research.

Niranjan Pandey
Angiogenesis, cancer, metastasis, peptide drugs, drug discovery.

David Sherman
Quantitative and clinical neurophysiology, EEG, seizure detection, signal processing, instrumentation.

In Hong Yang
High throughput drug screening for axonal degeneration, myelination, electrical stimulation of nerve, stem cell differentiation.

Wojciech B. Zbijewski
System modeling for optimization of X-ray CT imaging chain, integration in novel reconstruction algorithms.

**Senior Lecturers**

Eileen Haase
Freshmen Modeling and Design, System Bioengineering Laboratory I and II, Cell and Tissue Engineering Laboratory, Molecules and Cells, BME Teaching Practicum.

**Lecturers**

Lawrence B. Aronhime
Senior Lecturer (Center for Leadership Education): innovation, business, technology commercialization, accounting, entrepreneurship, engineering management, business history.

Paul Fearis
Industrial design, medical device design.

**Joint, Secondary, Part-Time, and Visiting Appointments**

Mohamad E. Allaf
Associate Professor (Urology): laparoscopic and robotic surgery.

William S. Anderson
Associate Professor (Neurosurgery): cerebrospinal fluid disorders and movement disorders.

Andreas G. Andreou
Professor (Electrical and Computer Engineering): bioelectronics, integrated micro and nano devices for the life sciences, natural and synthetic sensory systems, neural computation.

Isaac N. Bankman
Assistant Professor (Applied Physics Laboratory): biomedical signal and image processing.

Ronald D. Berger
Professor (Cardiology): mechanisms of sudden cardiac death, new modalities of ablation therapy, device development, signal processing.

Dan E. Berkowitz
Professor (Anesthesiology and Critical Care Medicine): molecular mechanisms of cardiovascular deconditioning in rodent models of microgravity, vasoregulatory dysfunction associated with obesity, diabetes, the role of leptin in vasoregulatory changes.

Paul A. Bottomley
Professor (Radiology): magnetic resonance imaging and spectroscopy, medical imaging.

Henry Brem
Professor (Neurosurgery): clinical treatments for brain tumore, antiangiogenesis therapies, computer navigation systems used during surgery, brain tumor vaccines.

Jeff W.M. Bulte
Professor (Radiology): stem cells, cell therapy, imaging, nanotechnology, in vivo diagnostics.

Charles C. Della Santina
Associate Professor (Otolaryngology-Head and Neck Surgery): electrical stimulation of the inner ear for restoring balance function, neurophysiology, vestibular function testing.

Andrew S. Douglas
Vice Dean for Faculty for the Whiting School of Engineering, Professor (Mechanical Engineering): nonlinear solid mechanics, soft tissue mechanics, mechanics of active materials.

Gene Fridman
Assistant Professor (Otolaryngology-Head and Neck Surgery): novel methods and devices for neural interfacing.

Paul A. Fuchs
Professor (Otolaryngology-Head and Neck Surgery): biophysics and sensory physiology of sensory hair cells and neurons on the inner ear.

Peter L. Gehlbach
Associate Professor (Ophthalmology): microsurgical tools, angiogenesis, antiangiogenesis, viral vectors, oxidative injury as they apply to diseases of the retina and vitreous, microsurgical tools, angiogenesis, antiangiogenesis, viral vectors, oxidative injury.

Donald Geman
Professor (Applied Mathematics and Statistics): statistical learning, visual recognition, computational genomics.

John Goutsias
Professor (Electrical and Computer Engineering): complex interaction networks, biochemical reaction system modeling and analysis, computational systems biology.

Edith D. Gurewitsch
Associate Professor (Gynecology and Obstetrics): birth simulation, birth mechanics, mechanical birth injury, shoulder dystocia, obstetric brachial plexus injury, human subjects testing.

Henry R. Halperin
Professor (Cardiology): cardiovascular medicine, MR compatible devices.

Justin Hanes
Professor (Ophthalmology): drug and gene delivery, biomaterials synthesis, particle transport through biological barriers.

Kalina Hristova
Professor (Materials Science and Engineering): biomolecular materials, biomembranes, biosensor development, signal transduction across biological membranes.

Chao-Wei Hwang
Assistant Professor (Cardiology): optimization of PCI and stent-based drug delivery using computational fluid dynamics, cell-based therapy for the heart and peripheral vasculature, active sensing drug delivery systems.

Pablo A. Iglesias
Professor (Electrical and Computer Engineering): computational biology, models of cellular signal transduction, directed cell motility, cell division, control systems.

Bruno Jedynak
Associate Research Professor (Applied Mathematics and Statistics): statistical models in image processing, language processing, genomics and neuroscience.

David A. Kass
Professor (Cardiology): molecular pathophysiology of heart failure and hypertrophy, pathobiology of cardiac dyssynchrony and resynchronization, cardiac stress regulation by phosphodiesterase.
5, nitric oxide synthase uncoupling, structure-function of sarcomeric proteins to cardiac mechanics, heart failure with preserved ejection fraction.

A. Jay Khanna
Professor (Orthopaedic Surgery): spine surgery, minimally invasive, musculoskeletal imaging, image guidance for surgery, MRI, biomechanics, clinical outcomes.

Konstantinos Konstantopoulos
Professor (Chemical and Biomolecular Engineering): cell adhesion and microfluidics, nanoscale mechanics, receptor biochemistry, quantitative modeling and functional genomics.

Albert C. Lardo
Associate Professor (Cardiology): cardiovascular MRI, cardiovascular CT, image guided therapy.

Jonathan S. Lewin
Professor (Radiology): interventional MRI, intraoperative MRI, neuroradiology.

Hai-Quan Mao
Professor (Materials Science and Engineering): nanomaterials, electrospinning, nanofibers, biomimetic matrix, stem cell expansion and differentiation, nerve regeneration, micellar nanoparticle, therapeutic delivery, biodegradable polymers.

Robert E. Miller
Associate Professor (Pathology Informatics): clinical laboratory instrumentation, laboratory information systems.

Wayne Mitzner
Professor (Environmental Health Sciences, Program in Respiratory Biology and Lung Disease): modeling lung function, lung structure-function interactions, mechanical aspects of lung disease.

Hien Nguyen
Assistant Professor (Surgery): clinical outcomes in hernia surgery, critical care medicine, bariatric surgery and metabolic syndrome.

Carey E. Pribe

Jerry L. Prince
Professor (Electrical and Computer Engineering): multi-dimensional signal processing, medical

Lewis H. Romer
Professor (Anesthesiology and Critical Care Medicine, Cell Biology, and Pediatrics, and the Center for Cell Dynamics): tissue engineering the micro-vasculature, extracellular matrix as an instructive environment, biophysics and biochemistry of matrix assembly, interactions between tyrosine kinases and Rho family GTPases in cell matrix adhesion, mechanochemical coupling in cell-matrix adhesion signaling, harnessing stem and progenitor cells for microvascular restitution.

Mark J. Shelhamer
Associate Professor (Otolaryngology-Head and Neck Surgery): sensorimotor adaptation, nonlinear dynamics, vestibular and oculomotor modeling, space flight adaptation, traumatic brain injury.

Joseph M. Smith
Adjunct Associate Professor (Biomedical Engineering): health care innovations and technologies.

Sean Sun
Associate Professor (Mechanical Engineering): biological force generation, molecular motors, cell motility, statistical mechanics of soft condensed materials.

Jennifer Van Eyk
Professor (Cardiology): proteomics, mass spectrometry, cardiac disease, biomarker discovery, technology development.

Benjamin M.W. Tsui
Professor (Radiology): molecular imaging including SPECT, PET and CT, anatomical and physiological models of humans and small animals, simulation of imaging systems and processes, quantitative image reconstruction methods, image quality assessment.

Tza-Huei (Jeff) Wang
Professor (Mechanical Engineering): BioMEMS and microfluidics, single molecule manipulation and detection, nano/micro scale fabrication, conformational dynamics of biomolecules.

Clifford R. Weiss
Assistant Professor (Radiology and Surgery): Clinical Director of the Johns Hopkins Center for Bioengineering, Innovation and Design (CBID).

Thomas B. Woolf
Professor (Physiology): molecular dynamics calculations, membrane biophysics, computational neurosciences.

Laurent Younes
Professor (Applied Mathematics and Statistics): statistical properties of Markov random fields, image analysis, deformation analysis-shape recognition.

Elias Zerhouni
Professor (Radiology): imaging.

For current course information and registration go to https://isis.jhu.edu/classes/
Courses

EN.580.106. Discover Hopkins: Nanoparticles for Drug Delivery Applications. 1 Credit.
Humans have used medication to treat diseases for many centuries; however, with the ever growing pharmaceuticals industry and stronger, more effective agents being designed, it has become clear that getting these drugs to their target cells only is a significant issue. Possibly the most striking example is intravenously (IV) administered chemotherapy agents. Patients receiving IV chemotherapy experience severe side-effects throughout their entire body such as hair loss, fatigue, nausea and general pain. This clearly illustrates the need for delivering drugs locally or targeting them to reach only the desired tissues, and this is where the field of nanoparticle drug delivery comes into play. Drug delivery involves encapsulating drugs in a delivery vehicle that can help sustain the release at therapeutic levels over an increased period of time and deliver it to the desired site. This course will focus on current developments as well as the methods used in the field of nanoparticle.
Instructor(s): C. Bishop; K. Maisel
Area: Engineering, Natural Sciences.

EN.580.111. BME Modeling and Design. 2 Credits.
Working in teams with upperclassmen this course (1) introduces biomedical engineering freshmen to an orderly method for analyzing and modeling biological systems and (2) introduces engineering principles to solve design problems that are biological, physiological, and/or medical. Freshmen are expected to use the informational content being taught in calculus, physics and chemistry and to apply this knowledge to the solution of practical problems encountered in biomedical engineering. BME freshmen only.
Instructor(s): Staff
Area: Engineering, Natural Sciences.

EN.580.112. BME Design Group. 3 Credits.
A two-semester course sequence where freshmen work with groups of BME upperclassmen mentors, and learn to use engineering principles to solve design problems that are biological, physiological, and/or medical. Freshmen are expected to use the informational content being taught in calculus, physics, and chemistry and apply this knowledge to the solution of practical problems encountered in biomedical engineering.
Instructor(s): R. Allen
Area: Engineering, Natural Sciences.

EN.580.200. Introduction to Scientific Computing in BME using Python, Matlab, and R. 3 Credits.
This course is an introduction to scientific programming and computing designed for first-year students. The aim is to develop core computer skills required to succeed in research. Programming projects are drawn from current biomedical applications within BME. Emphasis is on algorithm development, large scale data analysis, and effective visualization of results, using MATLAB, Python, and R. Prior programming experience is not required.
Instructor(s): M. Beer
Area: Engineering.

EN.580.202. BME in the Real World. 1 Credit.
Open only to engineering students; A series of weekly lectures to inform students about careers in biomedical engineering and to discuss technological, social, ethical, legal, and economic issues relevant to the profession. Topics include academic careers in biomedical engineering; biomedical engineering in industry (large corporations to sole entrepreneurship); health care delivery; ethical issues; legal issues (patenting, licensing, product liability); standards and government regulations; and economic issues in biomedical engineering industry (start-up companies, global businesses).
Instructor(s): A. Popel.

EN.580.211. BME Design Group. 3 Credits.
Sophomore-level version of EN.580.311-312 or Perm. Req’d
Instructor(s): R. Allen
Area: Engineering, Natural Sciences.

EN.580.212. BME Design Group. 3 Credits.
Sophomore-level version of EN.580.111-112. Permission of course directors required.
Instructor(s): R. Allen
Area: Engineering, Natural Sciences.

EN.580.221. Molecules and Cells. 4 Credits.
An introduction to modern molecular and cellular biology in the context of potential biomedical engineering applications. Topics covered: reactions between molecules, including receptor-ligand and antigen-antibody specificity, protein structure, enzyme catalysis, genetic information, protein processing and secretion, cell physiology and cell functions. Advanced quantitative treatment including multi-state kinetics, Monte Carlo simulations of biochemical reactions, and transport phenomena. Recommended Course Background: AS.030.101 and AS.030.104
Instructor(s): E. Haase; F. Macgabhann; K. Yarema
Area: Natural Sciences.

EN.580.222. Systems and Controls. 4 Credits.
An introduction to linear systems: analysis, stability and control. Topics include first and second order systems, linear time invariant discrete and continuous systems, convolution, Fourier series, Fourier transforms, Laplace transforms, stability of linear systems, input output and state space representation of linear systems, stability, observability, controllability, and PID controller design. Recommended Course Background: AS.171.102 and AS.110.201, AS.110.302 or EN.550.291
Instructor(s): M. Miller; S. Sarma
Area: Engineering.

EN.580.223. Models and Simulations. 4 Credits.
This course introduces students to modeling and analysis of biological systems. The first portion of the course focuses on linear systems. Topics include harmonic oscillators, pharmacokinetics, reaction-diffusion equation, heat transfer, and fluid flow. The second half of the course focuses on non-linear systems. Topics include iterated maps, bifurcations, chaos, stability of autonomous systems, the Hodgkin-Huxley model, bistability, limit cycles, and the Poincare-Bendixson theorem. The course also introduces students to the Matlab programming language, which allows them to implement the models discussed in class. Recommended Course Background: AS.110.201, AS.110.302, or EN.550.291
Instructor(s): A. Popel; M. Beer
Area: Engineering.
EN.580.302. Careers in Biomedical Engineering. 1 Credit.
See description for EN.580.202. This course is designed for upperclassmen that wish to meet with weekly speakers to discuss careers issues. Junior/Senior Engineers only.
Instructor(s): A. Popel.

EN.580.311. BME Design Group. 3 Credits.
A two-semester course sequence where juniors and seniors work with a team leader and a group of BME freshmen and sophomores, to solve open-ended problems in biomedical engineering. Upperclassmen are expected to apply their general knowledge and experience, and their knowledge in their concentration area, to teach lower classmen and to generate the solution to practical problems encountered in biomedical engineering. Perm. Req’d.
Instructor(s): R. Allen
Area: Engineering, Natural Sciences.

EN.580.312. BME Design Group. 3 Credits.
A two-semester course sequence where juniors and seniors work with a team leader and a group of BME freshmen and sophomores, to solve open-ended problems in biomedical engineering. Upperclassmen are expected to apply their general knowledge and experience, and their knowledge in their concentration area, to teach lower classmen and to generate the solution to practical problems encountered in biomedical engineering.
Instructor(s): R. Allen
Area: Engineering, Natural Sciences.

EN.580.315. Introduction to Information Processing of Sensory Signals. 3 Credits.
An introductory course to basic concepts of information processing of human communication signals (sounds, images) in living organisms and by machine. Role of sensory signals, introduction (or review) of basic concepts of signals and systems and of information theory, basic psychophysical concepts of auditory and visual perception, physiology of hearing and vision, engineering applications with emphasis on auditory models for speech coding and recognition.
Prerequisites: EN.520.214 OR EN.580.222 or instructor permission.

EN.580.320. How do Cells Compute?. 3 Credits.
Living cells have to make decisions to survive, and they excel at it. In this course, we will study in detail how cells use the static information in their DNA and dynamic information arriving from their environment to compute appropriate responses, how this computation can go terribly wrong in disease and how one can intervene to rectify the decision making. As a part of the course we will review the important concepts related to transcriptional regulation, signal transduction and paracrine cell-cell communication. Recommended Course Background: Introductory college level biology
Area: Engineering.

EN.580.321. Statistical Mechanics and Thermodynamics. 4 Credits.
Basic principles of statistical physics and thermodynamics with application to biological systems. Topics include fundamental principles of thermodynamics, chemical equilibrium and thermodynamics of reactions in solutions, and elementary statistical mechanics.
Recommended Course Background: AS.110.108-AS.110.109, AS.030.101-AS.030.102, AS.171.101-AS.171.102; Freshman/Sophomore Chemistry and Physics
Instructor(s): M. Beer
Area: Engineering, Natural Sciences.

EN.580.404. The Bionic Ear: an odyssey from profound deafness to possible hearing. 1 Credit.
This course aims to examine the growth and success of cochlear implants as a biotechnology tool in aural rehabilitation. A unique perspective will come from Dr. Ratnanather who has been profoundly hearing impaired since birth via his impending CI surgery in mid-semester and subsequent activation. The course will consist of 10-12 seminars. Students will learn among other things the auditory system and clinical aspects of cochlear implantation. Each seminar will involve a discussion of one or two key papers and may include a talk by an otologist. The course will conclude with attendance at a day-long session on rehabilitation and music at CI2012 in downtown Baltimore which reflects Johns Hopkins’ pre-eminent position in pediatric aural rehabilitation. Pass/Fail Only.
Instructor(s): J. Ratnanather
Area: Engineering.

EN.580.410. BME Teaching Practicum. 2 Credits.
Senior biomedical engineering students will assist the core course instructors and PhD students in managing the sections and recitations and/or lab component of a course. Permission required.
Instructor(s): E. Haase.

EN.580.411. BME Design Group. 3 Credits.
Senior-level version of EN.580.311-312. Permission of course directors required
Instructor(s): R. Allen
Area: Engineering.

EN.580.412. BME Design Group. 3 Credits.
Senior-level version of EN.580.311-312. Permission of course directors required
Instructor(s): R. Allen
Area: Engineering.

EN.580.413. Design-Team, Team Leader. 4 Credits.
A two-semester sequence where leaders direct a team of undergraduate biomedical engineering students in a series of design problems. Prior design team experience and permission of course director required. Perm. Req’d.
Instructor(s): R. Allen
Area: Engineering.

EN.580.414. Design Team/Team Leader. 4 Credits.
A two-semester sequence where leaders direct a team of undergraduate biomedical engineering students in a series of design problems. Prior design team experience and permission of course directors required.
Instructor(s): R. Allen
Area: Engineering.
EN.580.415. Ethics of Biomedical Engineering Innovation. 3 Credits.
Engineers confront problems and make decisions that hold long term social consequences for individuals, organizations, communities and the profession. For biomedical engineers, these decisions may relate to: inventions such as medical devices and pharmaceuticals; neural prosthetics and synthetic biological organisms; responsible and sustainable design; availability of biotechnology in the developing world. Using a combination of cases, fieldwork and readings, we examine the ethical issues, standards, theory and consequences of recent and emerging engineering interventions as a way to understand the profession and to form a basis for future decisions. In addition students will learn and practice multiple forms of communication, including oral, visual and written rhetoric. A particular focus will be communication targeted to different stakeholders including other professionals and the public. Students will apply good communication principle to the discussion of biomedical engineering ethics, develop their own ethical case studies and participate in group projects to aid ethical decision-making, and to improve communication of complex biomedical ethical issues to others. Co-listed with 661.425
Instructor(s): F. Macgabhann
Area: Social and Behavioral Sciences
Writing Intensive.

EN.580.420. Build-a-Genome. 4 Credits.
Must understand fundamentals of DNA structure, DNA electrophoresis and analysis, Polymerase Chain Reaction (PCR) and must be either a) Experienced with molecular biology lab work or b) Adept at programming with a biological twist. In this combination lecture/laboratory "Synthetic Biology" course students will learn how to make DNA building blocks used in an int'l. project to build the world’s first synthetic eukaryotic genome, Saccharomyces cerevisiae v. 2.0. Please study the wiki www.syntheticyeast.org for more details about the project. Following a biotechnology boot-camp, students will have 24/7 access to computational and wet-lab resources and will be expected to spend 15-20 hours per week on this course. Advanced students will be expected to contribute to the computational and biotech infrastructure. Successful completion of this course provides 3 credit hours toward the supervised research requirement for Molecular and Cellular Biology majors, or 2 credit hours toward the upper level elective requirement for Biology or Molecular and Cellular Biology majors.
Instructor(s): J. Bader; K. Zeller
Area: Engineering, Natural Sciences.

EN.580.421. Systems Bioengineering I. 4 Credits.
A quantitative, model-oriented investigation of the cardiovascular system. Topics are organized in three segments. (1) Molecular/cellular physiology, including electrical signaling and muscle contraction. (2) Systems cardiovascular physiology, emphasizing circuit-diagram analysis of hemodynamics. (3) Cardio-vascular horizons and challenges for biomedical engineers, including heart failure and its investigation/treatment by computer simulation, by gene-array analysis, by stem-cell technology, and by mechanical devices (left-ventricular assist and total-heart replacement). Recommended Course Background: EN.580.221 and EN.580.222
Instructor(s): N. Trayanova
Area: Engineering, Natural Sciences.

EN.580.422. Systems Bioengineering II. 4 Credits.
A quantitative, model-oriented approach to the study of the nervous system. Topics include functional anatomy of the central and autonomic nervous systems, neurons and networks, learning and memory, structure and function of the auditory and visual systems, motor systems, and neuro-engineering. Recommended Course Background: EN.580.221, EN.580.222, EN.580.223, AS.110.302, EN.580.421; Corequisite: EN.580.424
Area: Engineering, Natural Sciences.

EN.580.423. Systems Bioengineering Lab I. 2 Credits.
A two-semester laboratory course in which various physiological preparations are used as examples of problems of applying technology in biological systems. The emphasis in this course is on the design of experimental measurements and on physical models of biological systems. Priority to Junior BME majors. Recommended Corequisite: EN.580.421.
Instructor(s): E. Haase
Area: Natural Sciences.

EN.580.424. Systems Bioengineering Lab. 2 Credits.
A laboratory course in which various physiological preparations are used as examples of problems of applying technology in biological systems. The emphasis in this course is on the design of experimental measurements and on physical models of biological systems. Recommended Corequisite: EN.580.422
Instructor(s): E. Haase.

EN.580.425. Ion Channels in Excitable Membranes. 3 Credits.
Ion channels are key signaling molecules that support electrical communication throughout the body. As such, these channels are a central focus of biomedical engineering as it relates to neuroscience, computational biology, biophysics, and drug discovery. The course introduces the engineering and molecular strategies used to understand the function of ionic channels. The course also surveys key papers that paint the current picture of how ion channels open and conduct ions. Biological implications of these properties are emphasized throughout. Finally, the course introduces how optical and electrophysiological methods now promise to revolutionize understanding of ionic channels. This course can be seen as a valuable partner of Models of the Neuron (EN.580.439). Recommended Course Background: EN.580.421 and EN.580.422 or equivalent, AS.110.201, AS.110.302
Instructor(s): D. Yue
Area: Engineering, Natural Sciences.

EN.580.429. Systems Bioengineering III. 4 Credits.
Computational and theoretical systems biology at the cellular and molecular level. Topics include organizational patterns of biological networks; analysis of metabolic networks, gene regulatory networks, and signal transduction networks; inference of pathway structure; and behavior of cellular and molecular circuits. Recommended Course Background: EN.580.221 and EN.580.222 or Permission Required.
Instructor(s): J. Bader
Area: Engineering, Natural Sciences.

EN.580.434. Bioelectricity. 3 Credits.
This course has been revised to include numerous examples of bioelectrically active tissues and organs, complemented by relevant engineering principles. Topics include bioelectric currents and potentials, measurements of biological electric fields, wound repair in skin and epithelia, early history of bioelectricity, volume conductor theory, cardiac electrogram and lead theory, electromanipulation of cells, galvanotaxis, stem cell development, bone repair, and neuronal growth. Recommended Prereqs: EN.580.421 and EN.580.422.
Area: Engineering.
EN.580.439. Models of the Neuron. 4 Credits.
Single-neuron modeling, emphasizing the use of computational models as links between the properties of neurons at several levels of detail. Topics include thermodynamics of ion flow in aqueous environments, biology and biophysics of ion channels, gating, nonlinear dynamics as a way of studying the collective properties of channels in a membrane, synaptic transmission, integration of electrical activity in multi-compartment dendritic tree models, and properties of neural networks. Students will study the properties of computational models of neurons; graduate students will develop a neuron model using data from the literature. Recommended Course Background: AS.110.301, EN.580.421-EN.580.422 or equivalent. Meets with EN.580.639
Instructor(s): E. Young
Area: Engineering, Natural Sciences.

EN.580.440. Cell & Tissue Engineer. 3 Credits.
Lectures provide an overview of molecular biology fundamentals, an extensive review on extracellular matrix and basics of receptors, followed by topics on cell-cell and cell-matrix interactions at both the theoretical and experimental levels. Subsequent lectures will cover the effects of physical (shear, stress, strain), chemical (cytokins, growth factors), and electrical stimuli on cell function, emphasizing topics on gene regulation and signal transduction processes. Material on cell-cycle, apoptosis, metabolic engineering and gene therapy will also be incorporated into the course. Junior, Senior, Graduate students only. Recommended Course Background: EN.580.421-EN.580.422
Instructor(s): E. Young
Area: Engineering, Natural Sciences.

EN.580.441. Cellular Engineering. 3 Credits.
This course focuses on principles and applications in cell engineering. Class lectures include an overview of molecular biology fundamentals, protein/ligand binding, receptor/ligand trafficking, cell-cell interactions, cell-matrix interactions, and cell adhesion and migration at both theoretical and experimental levels. Lectures will cover the effects of physical (e.g. shear stress, strain), chemical (e.g. cytokines, growth factors) and electrical stimuli on cell function, emphasizing topics on gene regulation and signal transduction processes. Furthermore, topics in metabolic engineering, enzyme evolution, polymeric biomaterials, and drug and gene delivery will be discussed. This course is intended as Part 1 of a two-semester sequence recommended for students in the Cell and Tissue Engineering focus area. Recommended Course Background: EN.580.221 or AS.020.305 and AS.020.306 or equivalent and AS.030.205 Meets with EN.580.641
Instructor(s): J. Green; K. Yarema
Area: Engineering.

EN.580.442. Tissue Engineering. 3 Credits.
This course focuses on the application of engineering fundamentals to designing biological tissue substitutes. Concepts of tissue development, structure and function will be introduced. Students will learn to recognize the majority of histological tissue structures in the body and understand the basic building blocks of the tissue and clinical need for replacement. The engineering components required to develop tissue-engineered grafts will be explored including biomechanics and transport phenomena along with the use of biomaterials and bioreactors to regulate the cellular microenvironment. Emphasis will be placed on different sources of stem cells and their applications to tissue engineering. Clinical and regulatory perspectives will be discussed. Recommended Course Background: EN.580.221 or AS.020.305 and AS.020.306, AS.030.205 Recommended EN.580.441/EN.580.641 Co-listed with EN.580.642
Instructor(s): J. Elisseeff; W. Grayson
Area: Engineering.

EN.580.445. Networks. 3 Credits.
Networks are ubiquitous in our modern society. The World Wide Web that links us to and enables information flows with the rest of the world is the most visible example. It is, however, only one of many networks within which we are situated. Our social life is organized around networks of friends and colleagues. These networks determine our information, influence our opinions, and shape our political attitudes. They also link us, often through important but weak ties, to everybody else in the United States and in the world. Economic and financial markets also look much more like networks than anonymous marketplaces. Firms interact with the same suppliers and customers and use Web-like supply chains. Financial linkages, both among banks and between consumers, companies and banks, also form a network over which funds flow and risks are shared. Systemic risk in financial markets often results from the counterparty risks created within this financial network. Food chains, interacting biological systems and the spread and containment of epidemics are some of the other natural and social phenomena that exhibit a marked networked structure. This course will introduce the tools for the study of networks. It will show how certain common principles permeate the functioning of these diverse networks and how the same issues related to robustness, fragility, and interlinkages arise in several different types of networks. Biological applications will be highlighted as material is presented. Recommended Course Background: EN.580.222
Instructor(s): S. Sarma
Area: Engineering.

EN.580.446. Survey of Synthetic Biology. 1 Credit.
This course surveys basic fundamentals and current topics in synthetic biology including genome synthesis strategies, synthetic genetic systems, the engineering of proteins and genetic circuits, modeling of signaling and genetic circuits, and intellectual property issues. Meets with AS.020.451/EN.540.446.

EN.580.448. Biomechanics of the Cell. 3 Credits.
Mechanical aspects of the cell are introduced using the concepts in continuum mechanics. We will discuss the role of proteins, membranes and cytoskeleton in cellular function and how to describe them using simple mathematical models. Co-listed with EN.530.410 Recommended course background: AS.171.101-102, AS.110.108-109 and AS.110.202
Instructor(s): A. Spector; S. Sun
Area: Engineering.

EN.580.451. Cell and Tissue Engineering Lab. 3 Credits.
Cell and tissue engineering is a field that relies heavily on experimental techniques. This laboratory course will consist of three six experiments that will provide students with valuable hands-on experience in cell and tissue engineering. Students will learn basic cell culture procedures and specialized techniques related to faculty expertise in cell engineering, microfluidics, gene therapy, microfabrication and cell encapsulation. Experiments include the basics of cell culture techniques, gene transfection and metabolic engineering, basics of cell-substrate interactions I, cell-substrate interactions II, and cell encapsulation and gel contraction. Co-listed with EN.530.451. Senior and Graduate students only; others, instructor permission required. Fall semester only.
Lab Fee: $100
Instructor(s): E. Haase
Area: Engineering, Natural Sciences.
EN.580.452. Cell and Tissue Engineering Lab. 2 Credits.
This laboratory course will consist of three experiments that will provide students with valuable hands-on experience in cell and tissue engineering. Experiments include the basics of cell culture techniques, gene transfection and metabolic engineering, basics of cell-substrate interactions I, cell-substrate interactions II, and cell encapsulation and gel contraction. Spring semester only.
Instructor(s): E. Haase
Area: Engineering, Natural Sciences.

EN.580.455. Introduction to Orthopaedic Biomechanics. 3 Credits.
This course will cover static and dynamic force in the musculoskeletal systems, joint reactions, soft and hard tissue response to force loads, muscle mechanics, material properties, biomechanical lumped parameter systems, modeling and injury mechanisms. Co-listed with EN.580.655. Recommended Course Background: AS.110.302
Instructor(s): R. Allen
Area: Engineering.

EN.580.456. Introduction to Rehabilitation Engineering. 3 Credits.
The primary objective of this course is to introduce biomedical engineering students to the challenges of engineering solutions for persons functioning with disabilities. In order to achieve this goal, other objectives include: gaining a basic appreciation of the modalities used to treat impairments, the opportunities for application of engineering to improve treatment delivery, understanding the science and engineering applied to helping persons with disabilities function in the everyday world and an basic knowledge of the legal, ethical issues and employment opportunities in rehabilitation engineering. By the conclusion of the course, students should be able to: • Understand the breadth and scope of physical impairment and disability and its associated pathophysiology • Characterize the material and design properties of current modalities of treatment of impairments and adaptations for disability • Apply engineering analysis and design principles to critique current and design new solutions for persons with disabilities
Instructor(s): S. Paul
Area: Engineering.

EN.580.466. Statistical Methods in Imaging. 3 Credits.
Denosing, segmentation, texture modeling, tracking, object recognition are challenging problems in imaging. We will present a collection of statistical models and methods in order to address these, including the E.M algorithm, Maximum Entropy Modeling, Markov Random Fields, Markov Chain Monte Carlo, Boltzmann Machines and Multilayer Perceptrons. Recommended Course Background: AS.110.202 and EN.550.310 or equivalent.
Instructor(s): B. Jedynak
Area: Engineering, Quantitative and Mathematical Sciences.

EN.580.469. Design of Economic Health Care Technologies. 2 Credits.
Permission of instructor. This spring semester course is offered to juniors and seniors in engineering with an interest in developing economic health care technologies for global health care needs. Health care technologies for global use need to be cost effective and serve the needs of the disadvantaged population. In the US as well health care costs are spiraling and economic health care technologies and solutions will be necessary. This laboratory course will focus on identifying the health care needs, coming up with innovative technical solutions, designing and building such instrument prototypes and exploring how such technologies can be disseminated globally. A new laboratory, EcoHealth, will be set up to do rapid prototyping and the students will do independent designs in this lab after doing proper needs identification and will be responsible for finding appropriate target needs. Students will be required to write the problem statement and the need analysis, submit a patent on the design, and a short proposal to seek funding from philanthropic or Government/non Government agencies. The course will focus on hands on design and projects, doing research and writing reports (or patents) pertaining to novel and useful technologies, and will receive 2 design credits and writing credits. This course, along with the 4 credit 580.471 (Principles of Design of Medical Instrumentation) offered in fall, and the 2 credit 580.571 (Honors Instrumentation) offered during the intersession comprises an 8 credit design sequence that can serve the requirements for a full Capstone Design experience. The enrollment is restricted and subject to approval by the instructor, Prof. Nitish Thakor (nitish@jhu.edu). Selection of the students will depend on commitment and experience with hands on design and instrumentation development and an interest in global health care needs.
Area: Engineering
Writing Intensive.

EN.580.471. Principles of Design of BME Instrumentation. 4 Credits.
This core design course will cover lectures and hands-on labs. The material covered will include fundamentals of biomedical sensors and instrumentation, FDA regulations, designing with electronics, biopotentials and ECG amplifier design, recording from heart, muscle, brain, etc., diagnostic and therapeutic devices (including pacemakers and defibrillators), applications in prosthetics and rehabilitation, and safety. The course includes extensive laboratory work involving circuits, electronics, sensor design and interface, and building complete biomedical instrumentation. The students will also carry out design challenge projects, individually or in teams (examples include “smart cane for blind,” “computer interface for quadriplegic”). Students satisfying the design requirement must also register for EN.580.571.
Lab Fee: $150. Recommended Course Background: EN.520.345
Instructor(s): N. Thakor
Area: Engineering, Natural Sciences.

EN.580.472. Medical Imaging Systems. 3 Credits.
An introduction to the physics, instrumentation, and signal processing methods used in general radiography, X-ray computed tomography, ultrasound imaging, magnetic resonance imaging, and nuclear medicine. The primary focus is on the methods required to reconstruct images within each modality, with emphasis on the resolution, contrast, and signal-to-noise ratio of the resulting images. Cross-listed with Neuroscience and Electrical and Computer Engineering (EN.520.432).
Prerequisites: EN.580.222 OR EN.520.214
Instructor(s): J. Prince
Area: Engineering.
EN.580.473. Modern Biomedical Imaging Instrumentation and Techniques. 3 Credits.
An intermediate biomedical imaging course covering modern biomedical imaging instrumentation and techniques as applied to diagnostic radiology and other biomedical applications. It includes recent advances in various biomedical imaging modalities, multi-modality imaging and molecular imaging. The course is team taught by experts in the respective fields and provides a broad based knowledge of modern biomedical imaging to prepare students for graduate studies and research in biomedical imaging. Also, the course will offer tours and practical experience with modern biomedical imaging equipment in clinical and research settings. Co-listed with EN.520.434 Recommended course background: EN.520.432 or EN.580.472
Prerequisites: EN.520.432 OR EN.580.472
Instructor(s): B. Tsui
Area: Engineering, Natural Sciences.

EN.580.476. Magnetic Resonance in Medicine. 3 Credits.
This course provides the student with a complete introduction to the physical principles, hardware design, and signal processing used in magnetic resonance imaging and magnetic resonance spectroscopy. The course is designed for students who wish to pursue research in magnetic resonance. Recommended course background: EN.580.222 or EN.520.214. Co-listed with EN.580.673.
Instructor(s): D. Herzka; P. Bottomley; W. Edelstein
Area: Engineering.

EN.580.477. Advanced Topics in Magnetic Resonance Imaging. 3 Credits.
An advanced imaging course with in-depth quantitative coverage of topics central to magnetic resonance imaging, ranging from techniques currently used in the radiology practice to new developments at the cutting edge of MRI research. Topics include: steady-state imaging and contrast mechanisms, MRI simulations, RF pulse and coil design, flow imaging and angiography, cardiac imaging, diffusion imaging, functional MRI, parallel imaging, and high-field imaging. As part of the course, students will be expected to read and understand classic and current literature. The course is taught by a team of experts in the respective fields and will provide an excellent foundation for students interested in deep understanding of magnetic resonance imaging.
Instructor(s): D. Herzka
Area: Engineering.

EN.580.478. Biomedical Photonics. 3 Credits.
This course will cover the basic optics principles including geometric, beam and wave description of light. The course will also cover the basic generation and detection techniques of light and the principles of optical imaging and spectroscopy. After the basis is established, we will focus on some commonly employed optical techniques and tools for biomedical research including various optical microscopy technologies, fiber optics, Raman spectroscopy, Fluorescence (lifet ime), FRAT, FRET and FCS. The recent development in tissue optics, biomedical optical imaging/spectroscopy techniques (such as OCT, multiphoton fluorescence and harmonics microscopy, Structured Illumination, light scattering, diffuse light imaging and spectroscopy, optical molecular imaging, photo-acoustic imaging) will also be discussed. Representative biomedical applications of translational biomedical photonics technologies will be integrated into the corresponding chapters.
Area: Engineering.

EN.580.479. X-ray Imaging and Computed Tomography. 3 Credits.
This course provides students with an intermediate-level understanding of the physics, engineering, algorithms, and applications of medical x-ray imaging and computed tomography (CT). It is intended for senior undergraduates (580.479) and/or graduate students (580.679) in Biomedical Engineering, Computer Science, Electrical and Computer Engineering, or related fields in science and engineering. Topics include the physics of x-ray interaction and detection, image quality modeling and assessment, 3D image reconstruction (including analytical and iterative approaches), and applications in diagnostic and image-guided procedures. Background knowledge required of students includes: 580.472 and/or 580.473 and familiarity with Matlab.
Area: Engineering.

EN.580.483. Nuclear Medicine Imaging. 3 Credits.
This course provides an intermediate-level introduction to the instrumentation, image processing and reconstruction methods used in planar nuclear medicine imaging, single-photon emission computed tomography (SPECT) and positron emission tomography (PET). Topics include radioactive decay, nuclear medicine instrumentation including radiation detectors and associated electronics, analytic and statistical iterative tomographic reconstruction, imaging physics, and image quality in the context of these three modalities. This course will be taught at the School of Medicine Campus. Recommended Course Background: EN.520.432/EN.580.472 and EN.520.434/EN.580.473
Instructor(s): A. Rahimim; B. Tsui; E. Frey; Y. Du
Area: Engineering.

EN.580.484. Ultrasound Imaging: Theory and Applications. 3 Credits.
This course is designed to teach students the theory behind ultrasound imaging and provide an opportunity to apply this theory in a final project. The projects will be centered around advanced beamformers, photoacoustic imaging and thermal imaging. Recommended course background: EN.520.432 or EN.580.472 or equivalent.
Area: Engineering.

EN.580.488. Foundations of Computational Biology & Bioinformatics II. 3 Credits.
This course will introduce probabilistic modeling and information theory applied to biological sequence analysis, focusing on statistical models of protein families, alignment algorithms, and models of evolution. Topics will include probability theory, score matrices, hidden Markov models, maximum likelihood, expectation maximization and dynamic programming algorithms. Homework assignments will require programming in Python. Foundations of Computational Biology I is not a prereq. Recommended Course Background: Math through linear algebra and differential equations, EN.580.221 or equivalent, EN.600.226 or equivalent
Instructor(s): R. Karchin
Area: Engineering, Natural Sciences.

EN.580.491. Learning Theory. 3 Credits.
The course introduces the probabilistic foundations of learning theory. We will discuss topics in regression, estimation, optimal control, system identification, Bayesian learning, and classification. Our aim is to first derive some of the important mathematical results in learning theory, and then apply the framework to problems in biology, particularly animal learning and control of action. Recommended Course Background: AS.110.201 and AS.110.302
Instructor(s): R. Shadmehr
Area: Engineering.
EN.580.492. Build-a-Genome Mentor. 4 Credits.
In addition to producing and sequencing DNA segments like regular B-A students, mentors will help prepare and distribute reagents, and maintain a Moddle site to track student reagent use and productivity. Mentors will also be expected to mentor specific students who are learning new techniques for the first time, contribute to the computational and biotech infrastructure associated with Build-a-Genome, and pursue at least one independent research project. Successful completion of this course provides 3 credit hours toward the supervised research requirement for Molecular and Cellular Biology majors. Co-listed AS.020.451 Permission Required.
Instructor(s): J. Bader; K. Zeller
Area: Engineering, Natural Sciences.

EN.580.495. Microfabrication Lab. 4 Credits.
This laboratory course introduces the principles used in the construction of microelectronic devices, sensors, and micromechanical structures. Students will work in the laboratory on the fabrication and testing of a device. Accompanying lecture material covers basic processing steps, design and analysis CAD tools, and national foundry services. Co-listed with EN.530.495 and EN.520.495 Seniors only. Permission Required.
Instructor(s): A. Andreadou; J. Wang
Area: Engineering, Natural Sciences.

EN.580.501. Fall BME Research - Freshman/Sophomore. 3 Credits.
Instructor(s): Staff.

EN.580.502. Spring BME Research - Freshman/Sophomore. 0 - 3 Credit.
Practicum in Biomedical Engineering Research projects or engineering design projects under the supervision of any member of the BME faculty.
Instructor(s): Staff.

EN.580.511. Fall BME Independent Study - Freshman/Sophomore. 3 Credits.
Instructor(s): K. Yarema; M. Beer; R. Allen.

EN.580.512. Spring BME Independent Study - Freshman/Sophomore. 0 - 3 Credit.
Directed readings or other literature research under the direction of any member of the BME faculty.
Instructor(s): Staff.

EN.580.531. Fall BME Research - Junior/Senior. 3 Credits.
Instructor(s): Staff.

EN.580.532. Spring BME Research - Junior/Senior. 3 Credits.
Research projects or engineering design projects under the supervision of any member of the BME faculty.
Instructor(s): Staff
Area: Engineering.

EN.580.541. Fall BME Independent Study - Junior/Senior. 3 Credits.
Directed readings or other literature research under the direction of any BME faculty member. Junior or Senior standing.
Instructor(s): Staff.

EN.580.542. Spring BME Independent Study - Junior/Senior. 0 - 3 Credit.
Directed readings or other literature research under the direction of any BME faculty member.
Instructor(s): Staff.

EN.580.571. Honors Instrumentation. 2 Credits.
Student must have taken 580.471/771. Students will develop a term paper and patent application and carry out a hands-on individual or team project throughout the semester. Previous projects include design of EEG amplifier, voltage clamp and patch clamp, vision aid of blind, pacemaker/defibrillator, sleep detection and alert device, glucose sensor and regulation, temperature controller, eye movement detection and device control, ultrasound ranging and tissue properties, impedance plethysmography, lie detector, blood alcohol detector, pulse oximeter, etc.
Prerequisites: EN.580.471 OR EN.580.771
Instructor(s): N. Thakor
Area: Engineering.

EN.580.580. Senior Design Project. 3 Credits.
Per Independent or team design project to design and evaluate a system. The design should demonstrate creative thinking and experimental skills, and must draw upon advanced topics of biomedical and traditional engineering. Permission Required.
Instructor(s): R. Allen; Y. Yazdi.

EN.580.581. Senior Design Project.
Independent or team design project to design and evaluate a system. The design should demonstrate creative thinking and experimental skills, and must draw upon advanced topics of biomedical and traditional engineering. Permission Required.
Instructor(s): R. Allen.

EN.580.590. Biomedical Internship. 1 Credit.
Instructor(s): A. Shoukas; J. Bader; L. Tung; S. Sarma; X. Wang.

EN.580.595. BME Senior Design-Summer. 3 Credits.
Instructor(s): J. Green; L. Schramm; R. Allen.

EN.580.597. BME Research - Summer. 3 Credits.
Instructor(s): Staff.

EN.580.598. Design Project. 3 Credits.
Instructor(s): R. Allen.

EN.580.599. Independent Study. 3 Credits.
Instructor(s): A. Shoukas; H. Goldberg; K. Yarema; N. Thakor; S. Kuo.

EN.580.601. Special Topics in Bioengineering Innovation and Design.
This year long seminar series features experts from the medical device industry, venture capital firms, FDA, patent attorneys, entrepreneurs, and many more. They will share their real-world insights into the medical device innovation and commercialization process. Some of the topics covered will include bioethics, regulatory and reimbursement planning, medical device recalls, good design practices, and entrepreneurial success stories. The overarching philosophy of this seminar series is to complement the theoretical and practical aspects of the program curriculum, by learning from the experiences and insights of professionals in the field. These seminars are taken in a sequence of summer, fall, and spring. They are required for CBID masters students and are open to those students only.
Instructor(s): S. Acharya.
EN.580.602. Special Topics in Bioengineering Innovation and Design.
This year long seminar series features experts from the medical device industry, venture capital firms, FDA, patent attorneys, entrepreneurs, and many more. They will share their real-world insights into the medical device innovation and commercialization process. Some of the topics covered will include bioethics, regulatory and reimbursement planning, medical device recalls, good design practices, and entrepreneurial success stories. The overarching philosophy of this seminar series is to complement the theoretical and practical aspects of the program curriculum, by learning from the experiences and insights of professionals in the field. For CBID MSE students only. Registration with instructor’s permission only.
Instructor(s): S. Acharya.

EN.580.603. Special Topics in Bioengineering Innovation & Design.
This year long seminar series features experts from the medical device industry, venture capital firms, FDA, patent attorneys, entrepreneurs, and many more. They will share their real-world insights into the medical device innovation and commercialization process. Some of the topics covered will include bioethics, regulatory and reimbursement planning, medical device recalls, good design practices, and entrepreneurial success stories. The overarching philosophy of this seminar series is to complement the theoretical and practical aspects of the program curriculum, by learning from the experiences and insights of professionals in the field. For CBID MSE students only.
Instructor(s): S. Acharya.

EN.580.604. I: Business of Bioengineering Innovation and Design.
This course comprises two distinct, but related, components. The first is a broad introduction to the terms, concepts, and values of business and management. Particular emphasis will be placed on the economic, financial, and corporate contexts of our business culture, and how they impact the organization, strategy, and decision-making of business firms. The second component is an introduction to the sociological and economic forces that shape the development and diffusion of new technologies. This part is primarily designed to provide a framework for determining the commercial viability of new medical devices and the best path for realizing their value, including how to develop a compelling value proposition, analyze markets and competitors, and protect intellectual property. Throughout, the course utilizes individual exercises, case analyses, and team projects. CBID MSE students only.
Instructor(s): L. Aronhime.

EN.580.605. II: Business of Bioengineering Innovation and Design.
This course comprises two distinct, but related, components. The first is a broad introduction to the terms, concepts, and values of business and management. Particular emphasis will be placed on the economic, financial, and corporate contexts of our business culture, and how they impact the organization, strategy, and decision-making of business firms. The second component is an introduction to the sociological and economic forces that shape the development and diffusion of new technologies. This part is primarily designed to provide a framework for determining the commercial viability of new medical devices and the best path for realizing their value, including how to develop a compelling value proposition, analyze markets and competitors, and protect intellectual property. Throughout, the course utilizes individual exercises, case analyses, and team projects.
Instructor(s): L. Aronhime.

EN.580.606. IV: Business of Bioengineering Innovation and Design.
This course comprises two distinct, but related, components. The first is a broad introduction to the terms, concepts, and values of business and management. Particular emphasis will be placed on the economic, financial, and corporate contexts of our business culture, and how they impact the organization, strategy, and decision-making of business firms. The second component is an introduction to the sociological and economic forces that shape the development and diffusion of new technologies. This part is primarily designed to provide a framework for determining the commercial viability of new medical devices and the best path for realizing their value, including how to develop a compelling value proposition, analyze markets and competitors, and protect intellectual property. Throughout, the course utilizes individual exercises, case analyses, and team projects. CBID MSE students only.
Instructor(s): L. Aronhime.

EN.580.607. Regulation of Medical Devices.
This course introduces graduate students in Bioengineering Innovation and Design to the medical device regulatory framework, as it pertains to bringing a medical device from concept to market. Topics covered include; FDA Design Controls; Regulatory Approval mechanisms, including the 510k and PMA process; Investigational Device exemption (IDE); planning clinical trials needed for bringing a medical device to market; and postmarket surveillance. Students learn from a series of invited lecturers from the FDA as well as professionals from the medical device industry. This summer course is required for CBID masters students and is not open to any other students.
Instructor(s): S. Acharya.

EN.580.608. Identification and Validation of Medical Device Needs.
This course teaches the art and skill of identifying medical device opportunities by experiencing real world scenarios in an immersive clinical environment. Students rotate through multiple clinical disciplines and become part of the team of senior clinicians, surgeons, residents, fellows, nurses and medical technologists. They learn to identify unmet medical device needs through direct observations in a variety of clinical settings including the hospital ward and operating room, interviews (with patients, doctors, nurses, hospital administration), literature survey, and more. Concurrently, they learn the process of filtering all observations to a few valid medical device opportunities by assessing the market size, intellectual property landscape, regulatory framework, and competitor dynamics in addition to the clinical impact that such a device could have. The ability to identify a relevant medical device need is an important first step in the medical device innovation cycle; this course aims to provide students with practical hands-on training in that process.
Instructor(s): C. Weiss; H. Nguyen; S. Acharya.

EN.580.609. BME Teaching Practicum.
Instructor(s): M. Beer.

EN.580.610. Comput Funct Genomics.

EN.580.611. Medical Device Design and Innovation.
For CBID MSE students only. Registration with instructor’s permission only.
Instructor(s): S. Acharya.

EN.580.612. Medical Device Design and Innovation.
For CBID MSE students only.
Instructor(s): S. Acharya.

EN.580.613. Global Health Innovation and Design.
Instructor(s): S. Acharya.
EN.580.616. Introduction to Linear Dynamical Systems.
This course examines linear, discrete- and continuous-time, and multi-input-output systems in control and related areas. Least squares and matrix perturbation problems are considered. Topics covered include state-space models, stability, controllability, observability, transfer function matrices, realization theory, feedback compensators, state feedback, optimal regulation, observers, observer-based compensators, measures of control performance, and robustness issues using singular values of transfer functions. BME EN.580.616 can be used to fulfill the requirement of ME EN.530.616 or ECE EN.520.601.
Instructor(s): S. Sarma.

Limited to CBID students only
Instructor(s): S. Acharya.

For CBID MSE students only. Registration with instructor’s permission only.
Instructor(s): S. Acharya.

EN.580.620. Principles and Practice of Global Health Innovation and Design.
For CBID MSE students only. Instructor’s Permission Required.
Instructor(s): S. Acharya.

EN.580.621. Insight Informed Innovation I.
For CBID MSE students only. Registration with instructor’s permission only.
Instructor(s): B. Craft; P. Fearis.

EN.580.623. Insight Informed Innovation II.
This course is intended to equip students with a structured process and the tools required to: 1. Identify opportunities for new medical devices through unmet, unarticulated and underserved stakeholder needs 2. Link these insights to an exhaustive set of potential solutions 3. Synthesize solutions and features into product concepts Recommended Course Background: Insight Informed Innovation I (summer)
Instructor(s): B. Craft; P. Fearis.

This course will cover basic mechanisms and functions of the inner ear and brainstem. This is a companion course and alternates with EN.580.626, although these can be taken in either order. The focus is on transmission and transduction of sound and head movements by the auditory and vestibular periphery. Topics include: cellular and molecular mechanisms of mechanotransduction, synaptic signaling and development, primary afferents and the first-order brainstem nuclei, as well as clinical consequences of peripheral damage. Undergraduates with knowledge in Neuroscience welcome. Recommended Course Background: an introduction to neuroscience.
Instructor(s): E. Glowatzki; P. Fuchs.

Brain mechanisms and perception of sound and balance. This course is an accompaniment for EN.580.625, although the courses can be taken in either order. Topics include representation of sound and balance in neural discharge patterns, anatomy of the central auditory and vestibular systems, synaptic transmission and signal processing in central neurons, and complex sound perception and movement control. Aspects such as speech perception, sound localization, vestibular reflexes and vestibular compensation are discussed with an integrated perspective covering perceptual, physiological, and mechanistic data. Recommended Course Background: EN.580.222 and EN.580.422 or equivalent. Taught at the School of Medicine.
Instructor(s): E. Young; X. Wang.

EN.580.628. Topics in Systems Neuroscience.
This course consists of weekly discussions of current literature in systems neuroscience. The selected readings will focus on neural mechanisms for perception, attention, motor behavior, learning, and memory, as studied using physiological, psychophysical, computational, and imaging techniques. Students are expected to give presentations and participate in discussions. Recommended Course Background: AS.110.302, EN.520.214, EN.580.421 or equivalent
Instructor(s): K. Zhang; X. Wang.

EN.580.630. Theoretical Neuroscience.
Theoretical methods for analyzing information encoding and functional representations in neural systems. Models of single and multiple neural spike trains based on stochastic processes and information theory; detection and estimation of behaviorally relevant parameters from spike trans; system theoretic methods for analyzing sensory receptive fields; network models of neural systems. Both theoretical methods and the properties of specific well-studied neural systems will be discussed. Recommended Course Background: EN.580.422 or equivalent, EN.550.420 or equivalent, EN.580.222 or equivalent.
Instructor(s): K. Zhang.

EN.580.632. Ionic Channels in Excitable Membranes.
Ion channels are key signaling molecules that support electrical communication throughout the body. As such, these channels are a central focus of biomedical engineering as it relates to neuroscience, computational biology, biophysics, and drug discovery. The course introduces the engineering and molecular strategies used to understand the function of ionic channels. The course also surveys key papers that paint the current picture of how ion channels open and conduct ions. Biological implications of these properties are emphasized throughout. Finally, the course introduces how optical and electrophysiological methods now promise to revolutionize understanding of ionic channels. This course can be seen as a valuable partner of Models of the Neuron (EN.580.439). Recommended Course Background: EN.580.421 and EN.580.422 or equivalent, AS.110.201, AS.110.302
Instructor(s): D. Yue
Area: Engineering, Natural Sciences.
EN.580.633. Horizons in Biological Calcium and Voltage Signaling. 
Introductory survey of current and classic discoveries relating to calcium and voltage signaling in biology. Fluctuations of free calcium concentration within cells, and electrical potential differences across cell membranes, turn out to be the currency by which information is communicated in relation to a vast array of vital biological processes. Understanding how these signals are generated, encoded, and decoded is therefore the key to unraveling complex biological signaling networks, and a Rosetta stone for next-generation disease treatments at the molecular and cellular level. Students and faculty will present a mixture of papers and didactic lectures that will give a flavor of this burgeoning area of biophysics, engineering, and systems biology. Appropriate for seniors and graduate students of all levels.
Instructor(s): D. Yue.

EN.580.634. Bioelectricity. 
Instructor(s): L. Tung.

EN.580.637. Contemporary Topics in the Engineering of Cardiac Tissue. 
Cardiac ionic currents, molecular correlates and blockers, calcium clock repolarization reserve, alternans, electrical remodeling, cardiac memory, defective calcium cycling, ion channel mutations, human embryonic stem cells, paracrine signaling, extracellular matrix and cytoskeleton, synthetic tissue scaffolds, in vitro experimental models. Area: Engineering, Natural Sciences.

EN.580.639. Models of the Neuron. 
See description for EN.580.439. Differs in that an advanced modeling project using data from the literature is required. Graduate version of EN.580.439. Recommended Course Background: AS.110.301-AS.110.302, EN.580.421-EN.580.422 or equivalent.
Instructor(s): E. Young.

See 580.440 for full description.

This course focuses on principles and applications in cell engineering. Class lectures include an overview of molecular biology fundamentals, protein/ligand binding, receptor/ligand trafficking, cell-cell interactions, cell-matrix interactions, and cell adhesion and migration at both theoretical and experimental levels. Lectures will cover the effects of physical (e.g. shear stress, strain), chemical (e.g. cytokines, growth factors) and electrical stimuli on cell function, emphasizing topics on gene regulation and signal transduction processes. Furthermore, topics in metabolic engineering, enzyme evolution, polymeric biomaterials, and drug and gene delivery will be discussed. This course is intended as Part 1 of a two-semester sequence recommended for students in the Cell and Tissue Engineering focus area. Meets with EN.580.441. Recommended Course Background: EN.580.221 or AS20.305 and AS.020.306 (or equivalent) and AS.030.205
Instructor(s): J. Green; K. Yarema.

EN.580.642. Tissue Engineering. 
This course focuses on the application of engineering fundamentals to designing biological tissue substitutes. Concepts of tissue development, structure and function will be introduced. Students will learn to recognize the majority of histological tissue structures in the body and understand the basic building blocks of the tissue and clinical need for replacement. The engineering components required to develop tissue-engineered grafts will be explored including biomechanics and transport phenomena along with the use of biomaterials and bioreactors to regulate the cellular microenvironment. Emphasis will be placed on different sources of stem cells and their applications to tissue engineering. Clinical and regulatory perspectives will be discussed. Co-listed with EN.580.442. Recommended Course Background: EN.580.221 or AS.020.305 and AS.020.306, AS.030.205, EN.580.441/EN.580.641
Instructor(s): J. Elisseeff; W. Grayson
Area: Engineering.

EN.580.655. Introduction to Orthopedic Biomechanics. 
This course will cover static and dynamic force in the musculoskeletal systems, joint reactions, soft and hard tissue response to force loads, muscle mechanics, material properties, biomechanical lumped parameter systems, modeling and injury mechanisms. Co-listed with EN.580.455. Recommended Course Background: AS.110.302
Instructor(s): R. Allen
Area: Engineering.

This course provides the student with a complete introduction to the physical principles, hardware design, and signal processing used in magnetic resonance imaging and magnetic resonance spectroscopy. The course is designed for students who wish to pursue research in magnetic resonance. Recommended course background: EN.580.222 or EN.580.214. Co-listed with EN.580.476.
Instructor(s): D. Herzka; P. Bottomley; W. Edelstein.

EN.580.677. Advanced Topics in Magnetic Resonance Imaging. 
An advanced imaging course with in-depth quantitative coverage of topics central to magnetic resonance imaging, ranging from techniques currently used in the radiology practice to new developments at the cutting edge of MRI research. Topics include: steady-state imaging and contrast mechanisms, MRI simulations, RF pulse and coil design, flow imaging and angiography, cardiac imaging, diffusion imaging, functional MRI, parallel imaging, and high-field imaging. As part of the course, students will be expected to read and understand classic and current literature. The course is taught by a team of experts in the respective fields and will provide an excellent foundation for students interested in deep understanding of magnetic resonance imaging.
Instructor(s): D. Herzka.
EN.580.678. Biomedical Photonics.
This course will cover the basic optics principles including geometric, beam and wave description of light. The course will also cover the basic generation and detection techniques of light and the principles of optical imaging and spectroscopy. After the basis is established, we will focus on some commonly employed optical techniques and tools for biomedical research including various optical microscopy technologies, fiber optics, Raman spectroscopy, Fluorescence (lifetime), FRAT, FRET and FCS. The recent development in tissue optics, biomedical optical imaging/spectroscopy techniques (such as OCT, multiphoton fluorescence and harmonics microscopy, Structured Illumination, light scattering, diffuse light imaging and spectroscopy, optical molecular imaging, photo-acoustic imaging) will also be discussed. Representative biomedical applications of translational biomedical photonics technologies will be integrated into the corresponding chapters.
Instructor(s): X. Li
Area: Engineering.

This course provides students with an intermediate-level understanding of the physics, engineering, algorithms, and applications of medical x-ray imaging and computed tomography (CT). It is intended for senior undergraduates (580.479) and/or graduate students (580.679) in Biomedical Engineering, Computer Science, Electrical and Computer Engineering, or related fields in science and engineering. Topics include the physics of x-ray interaction and detection, image quality modeling and assessment, 3D image reconstruction (including analytical and iterative approaches), and applications in diagnostic and image-guided procedures. Background knowledge required of students includes 580.472 and/or 580.473 and familiarity with Matlab.
Area: Engineering.

EN.580.682. Computational Models of the Cardiac Myocyte.
The cardiac myocyte is one of the most extensively studied cells in biology. As such, it serves as an important example of how to develop quantitative, dynamic, computational models of cell function. “Computational Models of the Cardiac Myocyte” will present a comprehensive review of all aspects of modeling of the cardiac myocyte as an introduction to the discipline of computational cell biology. In this course, students will read and present key papers from the literature, implement and study computer models of the cardiac myocyte, and complete a project. Requirements are knowledge of a programming language (Matlab, C, C++, Java are satisfactory), a course in ordinary differential equations, and an introductory course in molecular and/or systems biology. BME courses Systems Bioengineering i and ii meet the biology requirement. This course is taught at the graduate level, and is open to undergraduates (seniors) with permission of the instructors. Students will need a laptop. Recommended Course Background: EN.580.421 and EN.580.422 or equivalent. AS.110.302 or equivalent, and programming language (EN.500.200, EN.600.107, EN.600.120).
Instructor(s): J. Greenstein; R. Winslow.

This course provides an intermediate-level introduction to the instrumentation, image processing and reconstruction methods used in planar nuclear medicine imaging, single-photon emission computed tomography (SPECT) and positron emission tomography (PET). Topics include radioactive decay, nuclear medicine instrumentation including radiation detectors and associated electronics, analytic and statistical iterative tomographic reconstruction, imaging physics, and image quality in the context of these three modalities. This course will be taught at the School of Medicine Campus. Recommended Course Background: EN.520.432/EN.580.472 and EN.520.434/EN.580.473
Instructor(s): A. Rahmim; B. Tsui; E. Frey; Y. Du
Area: Engineering.

This course is designed to teach students the theory behind ultrasound imaging and provide an opportunity to apply this theory in a final project. The projects will be centered around advanced beamformers, photoacoustic imaging and thermal imaging. Recommended course background: EN.520.432 or EN.580.472 or equivalent.
Instructor(s): E. Doctor; M. Bell.

EN.580.688. Foundations of Computational Biology & Bioinformatics II.
This course will introduce probabilistic modeling and information theory applied to biological sequence analysis, focusing on statistical models of protein families, alignment algorithms, and models of evolution. Topics will include probability theory, score matrices, hidden Markov models, maximum likelihood, expectation maximization and dynamic programming algorithms. Homework assignments will require programming in Python. Recommended Course Background: Math through linear algebra and differential equations, EN.580.221 or equivalent, EN.600.226 or equivalent.
Instructor(s): R. Karchin.

This course will explore the recent advances in Systems Biology analysis of intracellular processes. Examples of the modeling and experimental studies of metabolic, genetic, signal transduction and cell cycle regulation networks will be studied in detail. The classes will alternate between consideration of network-driven and network element (gene, metabolite or protein)-driven approaches. Recommended Course Background: AS.110.201, AS.110.302 or equivalent, advanced biology.
Instructor(s): A. Levchenko.

This course introduces the probabilistic foundations of learning theory. We will discuss topics in regression, estimation, Kalman filters, Bayesian learning, classification, reinforcement learning, and active learning. Our focus is on an iterative rather than batch methods for parameter estimation. Our aim is to use the mathematical results to model learning processes in the biological system. Recommended Course Background: Probability and Linear Algebra.
Instructor(s): R. Shadmehr.

This class will cover machine learning techniques for modeling and segmentation of multivariate mixed data. Topics will include subspace learning (PCA, Probabilistic PCA, Robust PCA, Sparse representation, Rank minimization), manifold learning (Kernel PCA, LLE, Isomap), subspace clustering (K-subspaces, Mixtures of PPCAs, Generalized PCA, Sparse subspace clustering), and manifold clustering (LLMC). These methods will be applied to several problems in computer vision, biomedical imaging, neuroscience, and computational biology.
EN.580.701. Sensorimotor Systems.
Instructor(s): R. Shadmehr.

EN.580.718. Advanced Seminars in Integrative and Systems Biology.
The course is designed to introduce the current concepts, methods and modes of analysis being developed in the context of experimental and computational systems biology, with the particular emphasis on the study of signal transduction and cell-cell communication networks. Topics include development and analysis of computational and experimental models of cell interactions with other cells, with extracellular matrix and with micro- and nano-fabricated analysis platforms. The areas of application range from the bacterial signaling to stem cell development and tissue regeneration. Students will be required to read current journal articles, online presentations and actively participate in the in-class discussions. Every student will also be required to be engaged in individual projects and report on their progress. Graduate Level. Seniors by permission. Fall semester only.

EN.580.719. Advanced Seminars in Integrative and Systems Biology.
The course is designed to introduce the current concepts, methods and modes of analysis being developed in the context of experimental and computational systems biology, with the particular emphasis on the study of signal transduction and cell-cell communication networks. Topics include development and analysis of computational and experimental models of cell interactions with other cells, with extracellular matrix and with micro- and nano-fabricated analysis platforms. The areas of application range from the bacterial signaling to stem cell development and tissue regeneration. Students will be required to read current journal articles, online presentations and actively participate in the in-class discussions. Every student will also be required to be engaged in individual projects and report on their progress. Spring semester only.

Instructor(s): A. Levchenko.

This course uses the current literature to teach advanced topics in carbohydrate engineering. Students will be required to read current papers, selected textbook chapters and online content to prepare for interactive teaching sessions with faculty and other students. Potential topics will include: sugars as information storage entities and signaling molecules; methods to manipulate and characterize complex carbohydrates in vivo, through chemoenzymatic methods, and emerging high-throughput methodology; carbohydrate-based drug development; and the role of sugars in stem cell biology and tissue engineering. Evaluation will be both by faculty and fellow students. Graduate Level. Seniors by permission. Fall semester only.

Instructor(s): K. Yarema.

This course uses the current literature to teach advanced topics in carbohydrate engineering. Students will be required to read current papers, selected textbook chapters and online content to prepare for interactive teaching sessions with faculty and other students. Potential topics will include: sugars as information storage entities and signaling molecules; methods to manipulate and characterize complex carbohydrates in vivo, through chemoenzymatic methods, and emerging high-throughput methodology; carbohydrate-based drug development; and the role of sugars in stem cell biology and tissue engineering. Evaluation will be both by faculty and fellow students. Spring semester only.

Instructor(s): K. Yarema.

We live in a new era in the understanding, diagnosis and treatment of human disease. Over the past ten years, extraordinary advances in modeling and computing technologies have opened the door to an array of possibilities that were previously beyond the reach of biomedical researchers. Today’s powerful computational platforms are allowing us to begin to identify, analyze, and compare the fundamental biological components and processes that regulate human diseases and their impact on the body. The next step, then, is to harness the potential of these theoretical and computational tools and theory in a meaningful way -that is, to apply this “new medicine” to the exploration and treatment of many of our current diseases. This lecture series will feature world experts in computational medicine as well as laboratories at JHU’s institute for Computational Medicine (ICM). Spring semester only.

Instructor(s): F. Macgabhann; S. Sarma.

We live in a new era in the understanding, diagnosis and treatment of human disease. Over the past ten years, extraordinary advances in modeling and computing technologies have opened the door to an array of possibilities that were previously beyond the reach of biomedical researchers. Today’s powerful computational platforms are allowing us to begin to identify, analyze, and compare the fundamental biological components and processes that regulate human diseases and their impact on the body. The next step, then, is to harness the potential of these theoretical and computational tools and theory in a meaningful way -that is, to apply this “new medicine” to the exploration and treatment of many of our current diseases. This lecture series will feature world experts in computational medicine as well as laboratories at JHU’s institute for Computational Medicine (ICM). Spring semester only. **This course will meet on Feb 4, March 4, April 1 and 29.

Instructor(s): F. Macgabhann; S. Sarma.

EN.580.738. Advanced Seminars in Cardiac Electrophysiology and Mechanics.
This course uses the current literature to teach advanced topics in cardiac electrophysiology and mechanics. Students will be required to read current articles and then conduct interactive teaching sessions with faculty and other students. Potential topics will include: ion channels, cardiac excitation-contraction coupling, myofilament regulation, cardiac arrhythmias, heart failure, therapies for arrhythmias and pump dysfunction. Evaluation will be both by faculty and fellow students. Graduate Level. Seniors by permission. Fall semester only.

Instructor(s): N. Trayanova.
EN.580.739. Advanced Seminars in Cardiac Electrophysiology and Mechanics.
This course uses the current literature to teach advanced topics in cardiac electrophysiology and mechanics. Students will be required to read current papers and selected textbook chapters and online content to prepare for interactive teaching sessions with faculty and other students. Potential topics will include: ion channels, cardiac excitation-contraction coupling, myofilament regulation, cardiac arrhythmias, heart failure, therapies for arrhythmias and pump dysfunction. Evaluation will be both by faculty and fellow students. Graduate Level. Seniors by permission only (signed add/drop form). Spring semester only.
Instructor(s): E. McVeigh.

EN.580.746. Imaging Science Seminar.
Fall semester only.
Instructor(s): M. Miller; R. Vidal.

Spring semester only.
Instructor(s): M. Miller; R. Vidal.

EN.580.748. Advanced Seminars in Magnetic Resonance Imaging.
This course uses the current literature to teach advanced topics in magnetic resonance imaging. Students will be required to read current papers, selected textbook chapters and online content to prepare for interactive teaching sessions with faculty and other students. Potential topics will include: image artifacts, effect of motion, resolution and SNR, realtime imaging, clinical applications. Evaluation will be both by faculty and fellow students. Graduate Level. Seniors by permission. Fall semester only.
Instructor(s): E. McVeigh.

This course uses the current literature to teach advanced topics in magnetic resonance imaging. Students will be required to read current papers, selected textbook chapters and online content to prepare for interactive teaching sessions with faculty and other students. Potential topics will include: image artifacts, effect of motion, resolution and SNR, realtime imaging, clinical applications. Evaluation will be both by faculty and fellow students. Spring semester only.
Instructor(s): E. McVeigh.

This course is designed for graduate students interested in learning basic biomedical instrumentation design concepts and translating these into advanced projects based on their research on current state-of-the-art. They will first gain the basic knowledge of instrumentation design, explore various applications, and critically gain hands-on experience through laboratory and projects. At the end of the course, students would get an excellent awareness of biological or clinical measurement techniques, design of sensors and electronics (or electromechanical/chemical, microprocessor system and their use). They will systematically learn to design instrumentation with a focus on the use of sensors, electronics to design a core instrumentation system such as an ECG amplifier. Armed with that knowledge and lab skills, students will be encouraged to discuss various advanced instrumentation applications, such as brain monitor, pacemaker/defibrillator, or prosthetics. Further, they will be “challenged” to come up with some novel design ideas and implement them in a semester-long design project. Students will take part in reading the literature, learning about the state-of-the-art through journal papers and patents, and discussing, critiquing, and improving on these ideas. Finally, they will be implementing a selected idea into a semester-long advanced group project. Meets with 580.471 Graduate students only
Instructor(s): N. Thakor.

EN.580.781. Biomedical Engineering Seminar.
Instructor(s): J. Bader.

EN.580.801. Research in Biomedical Engineering.
Graduate Students only
Instructor(s): K. Yarema.

EN.580.802. Research in Biomedical Engineering.
Directed research for MSE and PhD students
Instructor(s): K. Yarema.

Cross Listed Courses
General Engineering
EN.500.745. Seminar in Computational Sensing and Robotics.
Seminar series in robotics. Topics include: Medical robotics, including computer-integrated surgical systems and image-guided intervention. Sensor based robotics, including computer vision and biomedical image analysis. Algorithmic robotics, robot control and machine learning. Autonomous robotics for monitoring, exploration and manipulation with applications in home, environmental (land, sea, space), and defense areas. Biorobotics and neuromechanics, including devices, algorithms and approaches to robotics inspired by principles in biomechanics and neuroscience. Human-machine systems, including haptic and visual feedback, human perception and cognition and decision making, and human-machine collaborative systems. Cross-listed Mechanical Engineering, Computer Science, Electrical and Computer Engineering, and Biomedical Engineering.
Instructor(s): L. Whitcomb; P. Kazanzides.

Electrical Computer Engineering
EN.520.315. Introduction to Information Processing of Sensory Signals. 3 Credits.
An introductory course to basic concepts of information processing of human communication signals (sounds, images) in living organisms and by machine. Recommended Course Background: EN.520.214 (or EN.580.222) or consent of the instructor.
Instructor(s): H. Hermansky
Area: Engineering.
EN.520.434. Modern Biomedical Imaging Instrumentation and Techniques. 3 Credits.
An intermediate biomedical imaging course covering modern biomedical imaging instrumentation and techniques as applied to diagnostic radiology and other biomedical applications. It includes recent advances in various biomedical imaging modalities, multi-modality imaging and molecular imaging. The course is team taught by experts in the respective fields and provides a broad based knowledge of modern biomedical imaging to prepare students for graduate studies and research in biomedical imaging. Also, the course will offer tours and practical experience with modern biomedical imaging equipments in clinical and research settings. Co-listed with EN.580.473
Prerequisites: EN.520.432 OR EN.580.472
Instructor(s): B. Tsui.

EN.520.445. Audio Signal Processing. 3 Credits.
This course gives a foundation in current audio and speech technologies, and covers techniques for sound processing by processing and pattern recognition, acoustics, auditory perception, speech production and synthesis, speech estimation. The course will explore applications of speech and audio processing in human computer interfaces such as speech recognition, speaker identification, coding schemes (e.g. MP3), music analysis, noise reduction. Students should have knowledge of Fourier analysis and signal processing.
Instructor(s): B. Tsui
Area: Engineering.

EN.520.478. Biomedical Photonics. 3 Credits.
This course will cover the basic optics principles including geometric, beam and wave description of light. The course will also cover the basic generation and detection techniques of light and the principles of optical imaging and spectroscopy. After the basis is established, we will focus on some commonly employed optical techniques and tools for biomedical research including various optical microscopy technologies, fiber optics, Raman spectroscopy, Fluorescence (lifetime), FRAT, FRET and FCS. The recent development in tissue optics, biomedical optical imaging/spectroscopy techniques (such as OCT, multiphoton fluorescence and harmonics microscopy, Structured Illumination, light scattering, diffuse light imaging and spectroscopy, optical molecular imaging, photo-acoustic imaging) will also be discussed. Representative biomedical applications of translational biomedical photonics technologies will be integrated into the corresponding chapters. Co-listed with EN.580.478.
Area: Engineering.

EN.520.601. Introduction to Linear Systems Theory.
A beginning graduate course in multi-input multi-output, linear, time-invariant systems. Topics include state-space and input-output representations; solutions and their properties; multivariable poles and zeros; reachability, observability and minimal realizations; stability; system norms and their computation; linearization techniques. Recommended Course Background: Undergraduate courses in control systems and linear algebra.
Instructor(s): P. Iglesias.

By employing fundamental concepts from diverse areas of research, such as statistics, signal processing, biophysics, biochemistry, cell biology, and epidemiology, this course introduces a multidisciplinary and rigorous approach to the modeling and computational analysis of complex interaction networks. Topics to be covered include: overview of complex nonlinear interaction networks and their applications, graph-theoretic representations of network topology and stoichiometry, stochastic modeling of dynamic processes on complex networks and master equations, Langevin, Poisson, Fokker-Plank, and moment closure approximations, exact and approximate Monte Carlo simulation techniques, time-scale separation approaches, deterministic and stochastic sensitivity analysis techniques, network thermodynamics, and reverse engineering approaches for inferring network models from data.
Instructor(s): J. Goutsias.

Mechanical Engineering

EN.530.426. Biofluid Mechanics. 3 Credits.
Course will cover selected topics from physiological fluid dynamics, including respiratory flow patterns, blood flow and pulse propagation, aerodynamics of phonation and speech, rheology of blood flow in the microcirculation, aquatic animal propulsion, and animal flight.
Instructor(s): R. Mittal
Area: Engineering.

EN.530.448. Biosolid Mechanics. 3 Credits.
This class will introduce fundamental concepts of statics and solid mechanics and apply them to study the mechanical behavior bones, blood vessels, and connective tissues such as tendon and skin. Topics to be covered include concepts of small and large deformation, stress, constitutive relationships that relate the two, including elasticity, anisotropy, and viscoelasticity, and experimental methods. Recommended Course Background: AS.110.201 and AS.110.302, as well as a class in statics and mechanics
Instructor(s): T. Nguyen
Area: Engineering.

EN.530.616. Introduction to Linear Systems.
This course examines linear, discrete- and continuous-time, and multi-input-output systems in control and related areas. Least squares and matrix perturbation problems are considered. Topics covered include state-space models, stability, controllability, observability, transfer function matrices, realization theory, feedback compensators, state feedback, optimal regulation, observers, observer-based compensators, measures of control performance, and robustness issues using singular values of transfer functions. ME EN.530.616 can be used to fulfill the requirement of BME EN.580.616 or ECE EN.520.601.
### Applied Mathematics Statistics

**EN.550.450. Computational Molecular Medicine. 4 Credits.**

Biomedical research has been transformed by the development of new technologies for sequencing genomes and measuring RNA and protein expression levels. Due to the massive number of interacting components, the traditional approach, which is experimental and component-by-component, is no longer adequate. In contrast, statistical learning, modeling and inference have emerged as core methodologies for analyzing these data and uncovering the relationships between molecules, networks and disease, where knowledge extraction is formulated as a problem in high-dimensional pattern recognition. We will cover selected aspects of this methodology (e.g., measuring associations, testing multiple hypotheses, learning predictors and network models, and stochastic simulation) and illustrate how it enhances our ability to discover molecular disease networks, detect disease, predict clinical outcomes, and characterize disease progression. Meets with EN.550.650.

**Prerequisites:** EN.550.420 and ( EN.550.310 or EN.550.311 or EN.550.430 )

Instructor(s): D. Geman
Area: Engineering, Quantitative and Mathematical Sciences.

**EN.550.635. Topics in Bioinformatics.**

A "readings" course organized around research articles in the recent bioinformatics and computational biology literatures. In this term, the choice of papers will favor work on inferring phenotype from genotype, and modeling signaling networks, based on gene microarrays bearing the expression levels of thousands of transcripts, and on properties of proteins, such as predicting active sites and detecting harmful mutations. One major objective is to prepare students to comfortably read articles which involve extensive mathematical and statistical modeling as well as techniques from pattern recognition and machine learning. Most papers will be presented by the students. In addition, student expositions will be preceded by "tutorials" by the instructor on various aspects of statistical learning, modeling and prediction, such as properly estimating generalization error in cancer classification and avoiding over-fitting in learning networks of molecular interactions. Recommended Course Background: course in statistics; previous exposure to optimization or machine learning is recommended. Proficiency in at least one programming language is expected. When in doubt, send the instructor a copy of your transcript to see if the class is appropriate for you. Also, sit through the first few sessions and first homework to get a sense of fit. Recommended Course Background: EN.550.310, EN.550.311, EN.550.420, or EN.550.430 and EN.550.291 or AS.110.201

Instructor(s): S. Saria
Area: Engineering, Quantitative and Mathematical Sciences.

### Computer Science

**EN.600.461. Computer Vision. 3 Credits.**

This course gives an overview of fundamental methods in computer vision from a computational perspective. Methods studied include: camera systems and their modelling, computation of 3-D geometry from binocular stereo, motion, and photometric stereo; and object recognition. Edge detection and color perception are covered as well. Elements of machine vision and biological vision are also included. Students may receive credit for at most one of EN.600.361 or EN.600.461 or EN.600.661. [Applications] Prerequisites (soft): intro programming, linear algebra, and prob/stat.

**Prerequisites:** If you have completed EN.600.361 OR EN.600.661 you cannot enroll in EN.600.461.

Instructor(s): R. Vidal
Area: Engineering, Quantitative and Mathematical Sciences.

**EN.600.476. Machine Learning in Complex Domains. 3 Credits.**

How can robots locate themselves in an indoor environment when navigating? How do you infer which patients need attention first in the ICU? How can one identify the start of an epidemic using tweets? How does one predict the way a traffic jam will spread through the local streets during an Orioles game? How can you communicate with your TV using only hand gestures? This class will cover the fundamental concepts of Probabilistic Graphical Models as a framework for addressing questions like the ones above. We will study algorithms for model estimation, exact and approximate inference. The class will have 4 interactive sessions during which students will learn through an open discussion format how to think about open-ended real-world problems with the tools learnt in class. Students are also required to tackle a project of their choice within which they will experiment with the ideas learnt in class. Students in the class will be asked to do assignments in Matlab. Matlab is typically easy to pick up if one is already familiar with a different programming language. Students are expected to be mathematically mature. Though not required, exposure to optimization or machine learning is recommended. Proficiency in at least one programming language is expected. When in doubt, send the instructor a copy of your transcript to see if the class is appropriate for you. Also, sit through the first few sessions and first homework to get a sense of fit. Recommended Course Background: EN.550.310, EN.550.311, EN.550.420, or EN.550.430 and EN.550.291 or AS.110.201

Instructor(s): S. Saria
Area: Engineering, Quantitative and Mathematical Sciences.

### Chemical and Biomolecular Engineering

Chemical and Biomolecular Engineering (ChemBE) is dedicated to the study and exploitation of chemical, biological, and physical processes and phenomena for chemical and biological applications. As a result of the scope and breadth of this rigorous undergraduate program, our students commonly secure employment in industries such as Chemical and Pharmaceutical Production, Biomedicine, Biotechnology, Material Design, and Green Energy. Graduates may embark on a career to produce

<table>
<thead>
<tr>
<th>Novel polymers and materials</th>
<th>Biopharmaceuticals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biofuels</td>
<td>Drugs and Vaccines</td>
</tr>
<tr>
<td>Gene Therapy Products</td>
<td>Drug Delivery Devices</td>
</tr>
<tr>
<td>Cells and Tissues</td>
<td>Semiconductors</td>
</tr>
<tr>
<td>Nanodevices</td>
<td>Food, Beverage, and Health Care Products</td>
</tr>
</tbody>
</table>
The demands on the modern engineer are high, and graduates must possess a wide range of skills in order to be competitive in a global market. The ChemBE program successfully satisfies these demands. Students take advanced courses in chemistry, physics, mathematics, and biology. Additionally, students are trained in transport, kinetics, and thermodynamics, which are essential to solving real-world engineering problems. Students also hone their professional and communication skills (report writing, oral presentations, and teamwork) in courses involving experimental projects, process design and product design.

Depending on their interests and future career goals, students can choose electives from exciting areas including green engineering, nanotechnology, and bioengineering. These courses, along with undergraduate research opportunities offered by our faculty, are designed to prepare graduates for careers in the chemical industry, biotechnology, pharmaceuticals or microelectronics. The curriculum also offers an outstanding foundation for advanced graduate studies in Chemical and Biomolecular Engineering, Biomedical Engineering, Materials Engineering, or for medical, law, or business school.

Students also have the opportunity to develop more in-depth specialty in one or two areas within chemical and biomolecular engineering. Our two focus areas are Interfaces and Nanotechnology (IN) and Molecular and Cellular Bioengineering (MCB).

**Interfaces and Nanotechnology (IN) Focus Area**

Interesting and new physics exist at nanometer length scales, as the surface area of an object begins to approach and exceed its volume. In this focus area, students are trained in the fundamental sciences used to solve problems in nanotechnology and interfacial science. Students take a chemistry course in Materials and Surface Characterization and two electives such as Colloids and Nanoparticles, Supramolecular Materials and Nanomedicine and Micro/Nanotechnology: the Science and Engineering of Small Structures.

**Molecular and Cellular Bioengineering (MCB) Focus Area**

Fields in Biotechnology and Biomedicine often involve processes at biological, cellular and molecular levels. Common areas utilizing skills in the MCB focus area include the genetic manipulation of cells for protein and vaccine production, and the study and treatment of diseases such as arteriosclerosis and cancer. Students in this focus area must take a laboratory course in Biochemistry, and two electives such as Cellular and Molecular Biotechnology, Bioengineering in Regenerative Medicine, and Computational Protein Structure Prediction. In addition, students will take the Biomolecular Engineering Laboratory to learn the hands-on skills required for future careers in biological systems at the molecular and cellular level.

Our mission is to define and educate a new archetype of innovative and fundamentally-grounded engineer at the undergraduate and graduate levels through the fusion of fundamental chemical engineering principles and emerging disciplines. We will nurture our passion for technological innovation, scientific discovery, and leadership in existing and newly created fields that transcend traditional boundaries. We will be known for developing leaders in our increasingly technological society who are unafraid to explore uncharted engineering, scientific, and medical frontiers that will benefit humanity. Recent graduates of the Chemical and Biomolecular Engineering program will attain within a few years of graduation:

- careers in industrial, academic, or government organizations related to chemical, physical, and life sciences and engineering, and/or pursue graduate or professional education.
- positions in which they apply their chemical and biomolecular engineering skills to solve diverse traditional and emerging problems in the workplace.

The department also offers graduate programs leading to the Master of Science and Ph.D. degrees. These programs emphasize research leading to a written thesis.

Undergraduate students strongly involved in research may be interested in our B.S./M.S.E. program in Chemical and Biomolecular Engineering that allows students to obtain a master’s of science in engineering immediately after completion of their bachelors.

**Facilities**

The offices and state-of-the-art laboratories of Chemical and Biomolecular Engineering are located in Croft Hall and Maryland Hall on the Homewood campus. The research laboratories are well-equipped for studies in the areas of biochemical engineering, cell and tissue engineering, phase equilibria, membrane science, polymer science, interfacial phenomena, separation processes, fluid mechanics, and nucleation phenomena. The Milton S. Eisenhower Library on the Homewood campus contains over two million volumes and access to more than 325 electronic journals. The university’s other libraries located at the School of Medicine and at the Applied Physics Laboratory are also available to students. Through close collaborations with scientists at the National Institutes of Health, and the National Institute of Standards and Technology, The Institute for Genomic Research, Human Genome Sciences, Inc., and the Food and Drug Administration, students and faculty also have access to a variety of world-class facilities and other resources for research.

**Financial Aid**

Undergraduate scholarships and financial assistance are described in the catalog (see page 25). Part-time work is available in the Chemical and Biomolecular Engineering research laboratories on research projects supported by grants and contracts. There also is a federally sponsored work-study program for qualified students.

Financial assistance to graduate students is available in the forms of research assistantships, teaching assistantships, fellowships, and partial or full tuition remission. The financial aid package is specified following acceptance into the graduate program.

Graduates receive a Bachelor of Science degree in Chemical and Biomolecular Engineering accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. As permitted under the ABET guidelines, we are continually updating our undergraduate programs to include the latest advances in chemical and biomolecular engineering. Such modifications will enable us to offer the best possible education experience to our undergraduates. For the latest chemical engineering educational programs, potential applicants are referred to our website at http://www.jhu.edu/chembe/
Requirements for the B.S. Degree

(See also General Requirements for Departmental Majors (p. 24))

The Bachelor of Science degree requires a minimum of 128 credits. Additional details are given in the Chemical and Biomolecular Engineering Undergraduate Advising Manual available from the department or online.

The 128 credits must include:

**Chemical and Biomolecular Engineering Core Courses**

- EN.540.101 Chemical Engineering Today 1
- EN.540.202 Introduction to Chemical & Biological Process Analysis 4
- EN.540.203 Engineering Thermodynamics 3
- EN.540.204 Applied Physical Chemistry 3
- EN.540.301 Kinetic Processes 4
- EN.540.303 Transport Phenomena I 3
- EN.540.304 Transport Phenomena II 4
- EN.540.305 Modeling and Statistical Analysis of Data for Chemical and Biomolecular Engineers 3
- EN.540.306 Chemical & Biomolecular Separation 3
- EN.540.311 Chemical Engineering Lab I 6
- or EN.540.313 Chemical and Biomolecular Engineering Lab 6
- EN.540.314 Chemical Engineering Product & Process Design 4
- EN.540.409 Modeling Dynamic/Control 4
- EN.540.490 Chemical Laboratory Safety * 1

**Engineering electives**

6

**Physics Courses and Laboratories**

- AS.171.101 General Physics:Physical Science Major I 4
  or AS.171.107 General Physics for Physical Sciences Majors (AL) 4
- AS.173.111 General Physics Laboratory I 1
- AS.171.102 General Physics: Physical Science Majors II 4
  or AS.171.108 General Physics for Physical Science Majors (AL) 4

**Basic Chemistry Courses and Laboratories**

- AS.030.101 Introductory Chemistry I 3
- AS.030.105 Introductory Chemistry Lab I 1
- AS.030.102 Introductory Chemistry II 3
- AS.030.106 Introductory Chemistry Laboratory II 1

**Advanced Chemistry and Biology Courses**

- AS.020.305 Biochemistry 4
- AS.020.205 Introduction to Biological Molecules 3
- AS.020.306 Cell Biology 4

**Mathematics Requirement**

- AS.110.108 Calculus I 4
- AS.110.109 Calculus II 4
- AS.110.202 Calculus III 4
  or AS.110.211 Honors Multivariable Calculus 4
- AS.110.302 Differential Equations and Applications 4

Total Credits 93

- **Humanities and Social Sciences Courses.** Eighteen credits designated as Humanities or Social and Behavioral Sciences are required. Students are required to take these courses in at least two subject areas other than writing. At least one of these courses must be an advanced course at the 300-level or higher. See the Chemical and Biomolecular Engineering Undergraduate Advising Manual for more details.

  - **Writing Courses.** Two writing intensive courses are required. One of the courses must be EN.661.315 The Culture of the Engineering Profession. The courses that are taken to satisfy the university writing requirement must be passed with a grade of C- or better.
  - **Undesignated Electives.** A minimum of 128 credits is required for the degree. Therefore, in addition to all the credits taken to fulfill the requirements mentioned in the various sections above (e.g., chemical engineering core courses, engineering electives, basic science, advanced chemistry electives, mathematics requirement, and Humanities and Social and Behavioral Sciences courses) additional credits (called undesignated credits) are required.

  * Students also must have a grade point average of at least 2.00 in the chemical and biomolecular engineering core courses to graduate. The core courses for GPA calculation comprise all of the above courses except for EN.540.101 Chemical Engineering Today and EN.540.490 Chemical Laboratory Safety.

  ** Students are required to take one additional course beyond these required courses. Students who are concentrating in Molecular and Cellular Bioengineering or Interfaces and Nanotechnology have additional and/or alternate requirements.

  *** Calculus is so essential to Chemical Engineering that a grade of C- or better in both Calculus I and Calculus II is required.

  × Students are required to take these courses in at least two subject areas other than writing. At least one of these courses must be an advanced course at the 300-level or higher. See the Chemical and Biomolecular Engineering Undergraduate Advising Manual for more details.

### Sample Program for Chemical and Biomolecular Engineering Degree

#### Freshman

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
</tr>
</thead>
</table>
| AS.030.101 Introductory Chemistry I | 3 AS.030.102 Introductory Chemistry II | 3
| AS.030.105 Introductory Chemistry Lab I | 1 AS.030.106 Introductory Chemistry Laboratory II | 1
| AS.110.108 Calculus I | 4 AS.110.109 Calculus II | 4
| AS.171.101 General Physics: Physical Science Major I | 4 AS.171.102 General Physics: Physical Science Majors II | 4
| AS.173.111 General Physics Laboratory I | 1 AS.173.111 General Physics Laboratory I | 1
| EN.540.101 Chemical Engineering Today | 1 EN.661.315 The Culture of the Engineering Profession | 3

#### Spring

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>93</td>
</tr>
</tbody>
</table>
Focus Areas

Students pursuing a degree in Chemical and Biomolecular Engineering have the option of concentrating on specific fields including Interfaces and Nanotechnology and Molecular and Cellular Bioengineering. Students completing a focus area will have this fact designated on their official university checklist. These focus areas have additional and/or alternate requirements, as described.

Molecular and Cellular Bioengineering (MCB) Focus Area

Students must fulfill the following requirements:

• The Advanced Chemistry and Biology laboratory requirement is fulfilled with a AS.020.315 Biochemistry Laboratory.

• Six credits of bioengineering electives are required. See department for a list of approved electives.

• Students take EN.540.313 Chemical and Biomolecular Engineering Lab instead of EN.540.311 Chemical Engineering Lab I.

Interfaces and Nanotechnology (IN) Focus Area

Students must fulfill the following requirements

• AS.030.452 Materials & Surface is required and satisfies three credits of the advanced chemistry electives.

• Six credits of interfaces and nanotechnology electives are required. See department for a list of approved electives.

Sample Program: Molecular and Cellular Bioengineering Focus Area

Freshman

<table>
<thead>
<tr>
<th>Credits</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sophomore Fall</td>
<td></td>
</tr>
<tr>
<td>EN.540.202</td>
<td>Introduction to Chemical &amp; Biological Process Analysis</td>
</tr>
<tr>
<td>EN.540.490</td>
<td>Chemical Laboratory Safety</td>
</tr>
<tr>
<td>AS.110.202</td>
<td>Calculus III</td>
</tr>
<tr>
<td>AS.020.305</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>AS.030.205</td>
<td>Organic Chemistry I</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Credits</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior Fall</td>
<td></td>
</tr>
<tr>
<td>EN.540.204</td>
<td>Applied Physical Chemistry</td>
</tr>
<tr>
<td>EN.540.304</td>
<td>Transport Phenomena II</td>
</tr>
<tr>
<td>AS.030.307 or AS Biology .315</td>
<td>Physical Chemistry Instrumentation Laboratory III</td>
</tr>
<tr>
<td>EN.540.305</td>
<td>Modeling and Statistical Analysis of Data for Chemical and Biomolecular Engineers</td>
</tr>
<tr>
<td>EN.540.311</td>
<td>Chemical Engineering Lab I</td>
</tr>
<tr>
<td>EN.540.409</td>
<td>Modeling Dynamic/Control</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Credits</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Fall</td>
<td></td>
</tr>
<tr>
<td>AS.030.101</td>
<td>Introductory Chemistry I</td>
</tr>
<tr>
<td>AS.030.105</td>
<td>Introductory Chemistry I</td>
</tr>
<tr>
<td>AS.110.108</td>
<td>Calculus I</td>
</tr>
<tr>
<td>AS.171.101</td>
<td>General Physics: Physical Science Major I</td>
</tr>
</tbody>
</table>
### Departments, Program Requirements, and Courses

<table>
<thead>
<tr>
<th>AS.173.111</th>
<th>General Physics Laboratory I</th>
<th>1</th>
<th>Humanities/ Social and Behavioral Sciences Elective</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.540.101</td>
<td>Chemical Engineering Today</td>
<td>1</td>
<td>Humanities/ Social and Behavioral Sciences Elective</td>
<td>3</td>
</tr>
<tr>
<td>EN.540.202</td>
<td>Introduction to Chemical &amp; Biological Process Analysis</td>
<td>4</td>
<td>EN.540.203</td>
<td>Engineering Thermodynamics</td>
</tr>
<tr>
<td>EN.540.490</td>
<td>Chemical Laboratory Safety</td>
<td>1</td>
<td>EN.540.303</td>
<td>Transport Phenomena I</td>
</tr>
<tr>
<td>AS.110.202</td>
<td>Calculus III</td>
<td>4</td>
<td>AS.110.302</td>
<td>Differential Equations and Applications</td>
</tr>
<tr>
<td>AS.020.305</td>
<td>Biochemistry</td>
<td>4</td>
<td>AS.020.306</td>
<td>Cell Biology</td>
</tr>
<tr>
<td>AS.030.205</td>
<td>Organic Chemistry I</td>
<td>4</td>
<td></td>
<td>Undesignated Elective</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td><strong>Fall</strong></td>
<td><strong>Credit(s)</strong></td>
<td><strong>Spring</strong></td>
<td><strong>Credit(s)</strong></td>
</tr>
<tr>
<td><strong>EN.540.313</strong></td>
<td><strong>Chemical and Biomolecular Engineering Lab</strong></td>
<td><strong>6</strong></td>
<td><strong>EN.540.314</strong></td>
<td><strong>Chemical Engineering Product &amp; Process Design</strong></td>
</tr>
<tr>
<td><strong>EN.540.409</strong></td>
<td><strong>Modeling Dynamic/ Control</strong></td>
<td><strong>4</strong></td>
<td></td>
<td><strong>Bioengineering Elective</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Humanities/ Social and Behavioral Sciences Elective</strong></td>
<td><strong>3</strong></td>
<td></td>
<td><strong>Humanities/ Social and Behavioral Sciences Elective</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Bioengineering Elective</strong></td>
<td><strong>3</strong></td>
<td></td>
<td><strong>Undesignated Electives</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Bioengineering Elective</strong></td>
<td><strong>3</strong></td>
<td></td>
<td><strong>Undesignated Electives</strong></td>
</tr>
<tr>
<td><strong>Total Credits:</strong></td>
<td><strong>129</strong></td>
<td><strong>15</strong></td>
<td><strong>16</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

### Senior

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit(s)</th>
<th>credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.540.313</td>
<td>Chemical and Biomolecular Engineering Lab</td>
<td>6</td>
</tr>
<tr>
<td>EN.540.314</td>
<td>Chemical Engineering Product &amp; Process Design</td>
<td>4</td>
</tr>
<tr>
<td>EN.540.409</td>
<td>Modeling Dynamic/ Control</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Bioengineering Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Humanities/ Social and Behavioral Sciences Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Bioengineering Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Undesignated Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

### B.S./M.S.E. Program in Chemical and Biomolecular Engineering

The B.S./M.S.E. program in Chemical and Biomolecular Engineering allows students to obtain a master of science in engineering immediately after the bachelor of science degree by adding at least a year of study. For students who qualify academically, the Whiting School of Engineering allows a 50 percent waiver after the completion of eight semesters or having received the Bachelor of Science degree.

### Master of Science in Engineering

Students have two options in pursuing an M.S.E. in Chemical and Biomolecular Engineering.

1. **Master of Science in Engineering (requiring an essay)**
   - The student must complete six graduate (600-799) level courses approved by the student’s research advisor. The student and advisor select these courses to design a curriculum appropriate for the student’s research interest and educational goals.
   - These six courses cannot include seminars, independent study, graduate research, or special studies.
   - At least four of the six courses must be in the Department of Chemical and Biomolecular Engineering.
   - Students are allowed to count 400-level courses toward their M.S.E. degree if (1) the course is not offered at the 600-level, and (2) if the department offering the course considers it to be a graduate-level course in their program. Courses offered at both the 400- and 600-level must be taken at the 600-level to fulfill M.S.E. course requirements.
   - The student must also enroll in at least two semesters of graduate seminars EN.540.600 Chemical and Biomolecular Engineering Seminar and EN.540.601 Chemical and Biomolecular Engineering Seminar throughout his or her tenure in the Department of Chemical and Biomolecular Engineering at Johns Hopkins University.
   - The student must write an essay based on original research and literature review and present his or her results at an open seminar attended by the faculty and students. The essay must
be approved by the departmental graduate committee which consists of the graduate research advisor and at least one more faculty member from the Department of Chemical and Biomolecular Engineering.

2. Master of Science in Engineering (course work only)
   - The student must complete ten graduate (600-799) level courses approved by the Director of Graduate Studies. The student and Director of Graduate Studies select these courses to design a curriculum appropriate for the student’s interest and educational goals.
   - These ten courses cannot include seminars, independent study, graduate research or special studies.
   - At least six of the ten courses must be in the Department of Chemical and Biomolecular Engineering.
   - Students are allowed to count 400-level courses toward their M.S.E. degree if
     1. the course is not offered at the 600-level and
     2. if the department offering the course considers it to be a graduate-level course in their program. Courses offered at both the 400- and 600-level must be taken at the 600-level to fulfill M.S.E. course requirements.
   - The student must also enroll in at least two semesters of graduate seminars (EN.540.601 Chemical and Biomolecular Engineering Seminar) throughout his or her tenure in the Department of Chemical and Biomolecular Engineering at Johns Hopkins University.

**Recommended courses for all M.S.E. students**

Completion of two of the four core courses of the Ph.D. program is recommended (but not required) for M.S.E. students. The four core Ph.D. courses are:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.540.630</td>
<td>Thermodynamics, Statistical Mechanics, and Kinetics</td>
</tr>
<tr>
<td>EN.540.652</td>
<td>Advanced Transport Phenomena</td>
</tr>
<tr>
<td>EN.540.602</td>
<td>Metabolic Systems Biotechnology</td>
</tr>
<tr>
<td>EN.540.615</td>
<td>Interfacial Science with Applications to Nanoscale Systems</td>
</tr>
</tbody>
</table>

Additional information and requirements can be found in the department Graduate Handbook.

**Doctor of Philosophy**

The Ph.D. degree is awarded for original research performed under the guidance of a thesis advisor. The formal requirements for this degree are:

1. Successful completion of six graduate-level courses including the four required core courses.
2. Successful completion of the Preliminary Research Exam during the student’s first year.
3. Successfully serve as a teaching assistant for at least two required undergraduate courses.
4. Completion of an original research project, documented in a dissertation that is defended by the candidate in a public presentation.

5. Successful completion of the Graduate Board Oral Exam.

**Course Work**

Student must successfully complete six graduate-level courses including the four required core courses listed below:

<table>
<thead>
<tr>
<th>Course Code</th>
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</tr>
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<tbody>
<tr>
<td>EN.540.630</td>
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<td>Interfacial Science with Applications to Nanoscale Systems</td>
</tr>
</tbody>
</table>

Students are strongly encouraged to take the four required courses in the first fall semester. However, students who do not have an undergraduate degree in Chemical Engineering or a closely related field may need additional courses and should discuss an appropriate course plan with the director of the graduate program.

The remaining two engineering or science courses are chosen with the help of the student’s advisor to design a curriculum appropriate for the student’s research interest. These two courses cannot include seminars, independent study, graduate research or special studies.

Each of the six courses must be passed with a letter grade of B- or higher. In addition, the student must maintain an overall grade point average (GPA) of 3.0 or better. If the student’s GPA falls below 3.0, the student must re-take one or more of the courses and earn a higher grade, upon which the prior grade in those courses are not counted toward the GPA. If a student receives a grade of C+ or lower in a required core course, the student will be allowed to re-take the course once to achieve a grade of B- or higher. Failure to receive a B- or better the second time will be cause for dismissal from the program. Receipt of grades of C+ or lower in two or more required courses will ordinarily be cause for dismissal from the program without the opportunity to re-take those courses.

**In addition:**

- all first year students must enroll in EN.500.401 Research Laboratory Safety during their first semester.
- students must enroll in graduate seminars (EN.540.601 Chemical and Biomolecular Engineering Seminar) every semester. Students are expected to attend department seminars throughout their tenure in the department.

**Ph.D. Thesis Criteria and Graduate Board Oral Exam**

Candidates must write a dissertation conforming to university requirements that describes the students work and results in detail. A public defense of the dissertation is required, and will be followed by a closed examination session. Because the closed examination session fulfills the university Graduate Board Oral (GBO) examination requirement, all procedures pertaining to GBOs as established by the University Graduate Board must be followed.

Additional information can be found in the department Graduate Handbook.

For current faculty and contact information go to http://www.jhu.edu/chembe/faculty-staff/
Faculty
Chair
Konstantinos Konstantopoulos
Professor: cell and molecular engineering; cell signaling, adhesion and migration; microfluidics; nanobioengineering; cancer metastasis.

Professors
Michael J. Betenbaugh
Professor: genomics, recombinant DNA biotechnology, biopharmaceuticals, metabolic engineering, insect and mammalian cell culture, glycosylation engineering, and cell death processes.

Marc D. Donohue
Professor: phase equilibria, statistical thermodynamics, kinetics of diffusion and phase transitions, adsorption.

David Gracias
Professor: micro and nanotechnology, surface science, metamaterials, complex systems, nanoelectronics, nanomedicine, regenerative medicine, drug delivery and microfluidics.

Justin Hanes
Joint, Part-Time, and Visiting Appointments: Professor (INBT, Oncology).

Marc A. Ostermeier
Professor: biomolecular engineering, molecular evolution, protein engineering, combinatorial methods, biosensors, protein therapeutics.

Peter C. Searson
Joint, Part-Time, and Visiting Appointments: Professor (Material Science).

Denis Wirtz
Professor: cell adhesion and migration, cell mechanics, cytoskeleton, receptor-ligand interactions, cancer, particle tracking, new proteomics tools.

Associate Professors
Michael A. Bevan
Associate Professor (Director of Graduate Program): measuring and manipulating nanoparticle and biomolecular interactions, dynamics, and structures in interfacial and confined systems.

Sharon Gerecht
Associate Professor: embryonic and adult stem cells, vascular regeneration, micro/nano fabrication, biomaterials, tissue engineering.

Jeffrey Gray
Associate Professor: biomolecular modeling, protein-protein docking, therapeutic antibodies, allostery, protein-surface interactions and design.

Honggang Cui
Assistant Professor: nanoscience and nanotechnology, biomolecular engineering, peptide synthesis and assembly, drug delivery, supramolecular polymers, nanoparticle imaging, diagnosis, and cancer therapeutics.

Joelle Frechette
Assistant Professor: properties of surfaces, thin films; fluid interfaces and confined fluids; measurements of surface forces and adhesion; micro and nanotechnology; microfluidics; nanoparticles.

Chao Wang
Assistant Professor: heterogenous catalysis, renewable energy technologies e.g., photoelectrochemical solar cells and lithium batteries, and green chemical engineering.

Professor Emeritus
Joseph L. Katz
Professor Emeritus: nucleation processes (e.g., condensation of supersaturated vapors, boiling of superheated liquids and its applications, e.g., the Ouzo effect, parts per quad-rillion detection) formation of nanosized ceramic oxide powders in flames, new proteomics tools.

Research Professor
Gregory Aranovich
Research Professor: molecular thermodynamics, phase equilibria, adsorption phenomena, separation processes, and diffusion.

Assistant Research Professor
Eva Lai
Assistant Research Professor: biomedical sciences, biomonitoring technologies, regenerative medicine, tissue engineering.

Adjunct Assistant Professor
Jerry S. H. Lee
Joint, Part-Time, and Visiting Appointments: Adjunct Assistant Professor (Program Director, NCI).

Senior Lecturer
Lise Dahuron
Sr. Lecturer (Director of Undergraduate Studies): separations, distillation, membrane technology, new product development, process design.

Lecturer
An Goffin
Lecturer: fluid and bioactive interfaces, kinetic processes, principles in chemical engineering, product design.

Assistant Professor: electrokinetic phenomena in micro/nanofluidic environments, cell signaling, cell migration, micro/nano fabrication, dielectrophoresis, biological separation, manipulation and characterization in microdevices.

Rebecca Schulman
Assistant Professor: nanotechnology, self-assembly, theory and experiment, nucleation, bionanotechnology, DNA, nanoelectronics, biomolecular engineering, single-molecular analysis.

For current course information and registration go to https://isis.jhu.edu/classes/
Courses

EN.540.101. Chemical Engineering Today. 1 Credit.
A series of weekly lectures to introduce students to chemical and biomolecular engineering and its role as a profession in addressing contemporary technological, social, ethical, and economic issues in today’s world. The lectures will include examples of how chemical and biomolecular engineers apply the principles of physics and chemistry to develop new products, improve process efficiencies, and alleviate the strain on the ecosystem through the design of novel environmentally conscious processes. In addition, the lectures will highlight exciting new areas now being advanced by chemical and biomolecular engineers, such as biochemical engineering, tissue engineering, nanoparticle fabrication, and processing smart polymers for applications in computer technology and as sensors. Freshmen Only.
Instructor(s): L. Dahuron
Area: Engineering.

EN.540.202. Introduction to Chemical & Biological Process Analysis. 4 Credits.
Introduction to chemical and biomolecular engineering and the fundamental principles of chemical process analysis. Formulation and solution of material and energy balances on chemical processes. Reductionist approaches to the solution of complex, multi-unit processes will be emphasized. Introduction to the basic concepts of thermodynamics as well as chemical and biochemical reactions.
Prerequisites: AS.171.101 OR AS.171.107
Instructor(s): L. Dahuron
Area: Engineering.

EN.540.203. Engineering Thermodynamics. 3 Credits.
Formulation and solution of material, energy, and entropy balances with an emphasis on open systems. A systematic problem-solving approach is developed for chemical and biomolecular process-related systems. Extensive use is made of classical thermodynamic relationships and constitutive equations for one and two component systems. Applications include the analysis and design of engines, refrigerators, heat pumps, compressors, and turbines.
Prerequisites: EN.540.202
Instructor(s): M. Bevan
Area: Engineering.

EN.540.204. Applied Physical Chemistry. 3 Credits.
The topics in this course include thermodynamic models for multicomponent phase equilibrium including vapor liquid equilibrium, phase diagrams, activity models and colligative properties in both non-electrolyte and electrolyte solutions. A link between average thermodynamic properties and microstates and molecular interactions is made via a discussion of intermolecular forces and the partition function. Also covered are thermodynamic relationships to describe chemical equilibria, and basic concepts in quantum mechanics and statistical mechanics.
Prerequisites: EN.540.203.
Instructor(s): D. Gracias
Area: Engineering.

EN.540.290. Chemical Engineering Modeling and Design for Sophomores. 3 Credits.
The courses EN.540.290, 291, 390, and 391 guide the students through the open-ended problems in product and process design. Product design concerns the recognition of customer needs, the creation of suitable specifications, and the creation of new products to fulfill a societal need. Process design concerns the quantitative description of processes which serve to produce chemically-derived materials and the estimation of process profitability. Students work in small teams to complete a major project demonstrating their understanding of and proficiency in the principles of unit operations and design. Students report weekly both orally and in writing on their accomplishments. Some projects are single semester, but others can be multi-semester. Students can start in any semester and can work on projects for as many semesters as they want.
Instructor(s): M. Donohue
Area: Engineering.

EN.540.291. Chemical Engineering Modeling and Design for Sophomores. 3 Credits.
The courses 540.290, 291, 390, and 391 guide the students through the open-ended problems in product and process design. Product design concerns the recognition of customer needs, the creation of suitable specifications, and the creation of new products to fulfill a societal need. Process design concerns the quantitative description of processes which serve to produce chemically-derived materials and the estimation of process profitability. Students work in small teams to complete a major project demonstrating their understanding of and proficiency in the principles of unit operations and design. Students report weekly both orally and in writing on their accomplishments. Some projects are single semester, but others can be multi-semester. Students can start in any semester and can work on projects for as many semesters as they want.
Instructor(s): M. Donohue
Area: Engineering.

EN.540.301. Kinetic Processes. 4 Credits.
Review of numerical methods applied to kinetic phenomena and reactor design in chemical and biological processes. Homogeneous kinetics and interpretation of reaction rate data. Batch, plug flow, and stirred tank reactor analyses, including reactors in parallel and in series. Selectivity and optimization considerations in multiple reaction systems. Non isothermal reactors. Elements of heterogeneous kinetics, including adsorption isotherms and heterogeneous catalysis. Coupled transport and chemical/biological reaction rates.
Prerequisites: EN.540.203 AND EN.540.303
Instructor(s): A. Goffin; H. Cui
Area: Engineering.

EN.540.303. Transport Phenomena I. 3 Credits.
Molecular mechanisms of momentum transport (viscous flow), energy transport (heat conduction), and mass transport (diffusion). Isothermal equations of change (continuity, motion, and energy). The development of the Navier Stokes equation. The development of non isothermal and multi component equations of change for heat and mass transfer. Exact solutions to steady state, isothermal unidirectional flow problems, to steady state heat and mass transfer problems. The analogies between heat, mass, and momentum transfer are emphasized throughout the course. Recommended Corequisite: AS.110.302, Introduction to the field of transport phenomena.
Instructor(s): J. Frechette
Area: Engineering, Natural Sciences.
EN.540.304. Transport Phenomena II. 4 Credits.
Prerequisites: EN.540.303.
Instructor(s): Z. Gagnon
Area: Engineering.

EN.540.305. Modeling and Statistical Analysis of Data for Chemical and Biomolecular Engineers. 3 Credits.
This course seeks to build the student’s strength in Chemical Engineering computing and data analysis. To this end, in the first part of the course, we will become familiar with the Matlab/Octave computing environment and solve problems in Chemical Engineering that involve concepts from Process Analysis, Thermodynamics, Transport Phenomena, and Kinetics. In the subsequent part, we will build on the skills learnt earlier and tackle problems in Data Analysis and Hypothesis testing. Recommended Corequisites: EN.540.203 and EN.540.303 and EN.540.304.
Prerequisites: EN.540.202 OR AS.110.302
Instructor(s): R. Schulman
Area: Engineering.

EN.540.306. Chemical & Biomolecular Separation. 3 Credits.
This course covers staged and continuous-contacting separations processes critical to the chemical and biochemical industries. Separations technologies studied include distillation, liquid-liquid extraction, gas absorption, membrane ultrafiltration, reverse osmosis, dialysis, adsorption, and chromatography. Particular emphasis is placed on the biochemical uses of these processes and consequently on how the treatment of these processes differs from the more traditional approach.
Prerequisites: EN.540.303 AND EN.540.202
Instructor(s): M. Betenbaugh
Area: Engineering.

EN.540.309. Chemical and Biomolecular Engineering Design Fall. 3 Credits.
This course guides the student through the contrasting aspects of product design and of process design. Product design concerns the recognition of customer needs, the creation of suitable specifications, and the selection of best products to fulfill the needs. Process design concerns the quantitative description of processes which serve to produce many commodity chemicals, the estimation of process profitability, and the potential for profitability improvement through incremental changes in the process. Students work in small teams to complete a major project demonstrating their understanding of and proficiency in the primary objectives of the course. Students report several times both orally and in writing on their accomplishments. This course is the first part two semester sequence that optionally can be taken instead of for EN.540.314 Chemical and Biomolecular Engineering Product and Process Design. The material covered is the same as in EN.540.314, but more time is allowed so that laboratory tests can be performed and/or prototypes can be made. Note that both courses in this sequence must be taken in order to satisfy the requirement that students take EN.540.314 as part of the Chemical and Biomolecular Engineering program. Recommended Course Background: EN.540.301, EN.540.304, EN.540.311 or EN.540.313 or permission of instructor.
Instructor(s): M. Donohue
Area: Engineering.

EN.540.310. Chemical and Biomolecular Engineering Design: Spring. 3 Credits.
This course is one part of a two semester sequence that optionally can be taken instead of for EN.540.314 Chemical and Biomolecular Engineering Product and Process Design. This course guides the student through the contrasting aspects of product design and of process design. Product design concerns the recognition of customer needs, the creation of suitable specifications, and the selection of best products to fulfill the needs. Process design concerns the quantitative description of processes which serve to produce many commodity chemicals, the estimation of process profitability, and the potential for profitability improvement through incremental changes in the process. Students work in small teams to complete a major project demonstrating their understanding of and proficiency in the primary objectives of the course. Students report several times both orally and in writing on their accomplishments. The material covered is the same as in EN.540.314, but more time is allowed so that laboratory tests can be performed and/or prototypes can be made. Note that both courses, 540.309 and 540.310 must be taken to satisfy the Undergraduate degree requirement for EN.540.314 as part of the Chemical and Biomolecular Engineering program. The two courses can be started in any term. Recommended Course Background: EN.540.301, EN.540.304, EN.540.311 or EN.540.313 or permission of instructor.
Instructor(s): L. Dahuron; M. Donohue
Area: Engineering, Natural Sciences.
EN.540.311. Chemical Engineering Lab I. 6 Credits.
Students will have additional meeting times outside of class. Students are challenged with laboratory projects that are not well-defined and learn to develop an effective framework for approaching experimental work by identifying the important operating variables, deciding how best to obtain them, and using measured or calculated values of these operating variables to predict, carryout, analyze and improve upon experiments. Each student analyzes three of the following four projects: distillation, gas absorption, liquid-liquid extraction and chemical kinetics in a tubular flow reactor and also one of the projects in EN.540.313. In addition to technical objectives, this course stresses oral and written communication skills and the ability to work effectively in groups.
Prerequisites: EN.540.301, EN.540.304, EN.540.306, EN.540.490 and EN.661.315
Instructor(s): A. Goffin; L. Dahuron
Area: Engineering
Writing Intensive.

EN.540.312. Chemical and Biomolecular Engineering Lab: Part 2. 3 Credits.
Students who, as a part of an exchange program, participated in a laboratory course at the Technical University of Denmark at Copenhagen during the summer are required to register for this course to complete their equivalency requirement for the Chemical and Biomolecular Engineering Laboratory course offered in fall at JHU. This course comprises of four parts: (1) performance of one experimental project and submission of report along with the current Senior Lab students, (2) a 15-min presentation of experimental work done at Copenhagen, and (3) a 5-min presentation to the current junior class describing the overall experience. Recommended Course Background: EN.540.301, EN.540.304, EN.540.306, EN.540.490, EN.661.315
Instructor(s): L. Dahuron
Area: Engineering
Writing Intensive.

EN.540.313. Chemical and Biomolecular Engineering Lab. 6 Credits.
Students are challenged with laboratory projects that are not well-defined and learn to develop an effective framework for approaching experimental work by identifying the important operating variables, deciding how best to obtain them, and using measured or calculated values of these operating variables to predict, carryout, analyze and improve upon experiments. Each student analyzes three biomolecular engineering projects and one of the projects in EN.540.311. In addition to technical objectives, this course stresses oral and written communication skills and the ability to work effectively in groups. Students will have additional meeting times outside of class. Recommended Course Background: EN.540.301, EN.540.304, EN.540.306, EN.540.490, EN.661.315
Instructor(s): A. Goffin; L. Dahuron; M. Ostermeier; S. Gerecht
Area: Engineering
Writing Intensive.

EN.540.314. Chemical Engineering Product & Process Design. 4 Credits.
This course guides the student through the contrasting aspects of product design and of process design. Product design concerns the recognition of customer needs, the creation of suitable specifications, and the selection of best products to fulfill the needs. Process design concerns the quantitative description of processes, which serve to produce many commodity chemicals, the estimation of process profitability, and the potential for profitability improvement through incremental changes in the process. Students work in small teams to complete a major project demonstrating their understanding of and proficiency in the primary objectives of the course. Students report several times both orally and in writing on their accomplishments.
Prerequisites: ( EN.540.311 OR EN.540.313 ) AND EN.540.301 AND EN.540.306
Instructor(s): A. Goffin; L. Dahuron; M. Donohue
Area: Engineering.

EN.540.390. Chemical Engineering Modeling and Design for Juniors. 3 Credits.
The courses EN.540.290, 291, 390, and 391 guide the students through the open-ended problems in product and process design. Product design concerns the recognition of customer needs, the creation of suitable specifications, and the creation of new products to fulfill a societal need. Process design concerns the quantitative description of processes which serve to produce chemically-derived materials and the estimation of process profitability. Students work in small teams to complete a major project demonstrating their understanding of and proficiency in the principles of unit operations and design. Students report weekly both orally and in writing on their accomplishments. Some projects are single semester, but others can be multi-semester. Students can start in any semester and can work on projects for as many semesters as they want.
Instructor(s): M. Donohue
Area: Engineering.

EN.540.391. Chemical Engineering Modeling and Design for Juniors. 3 Credits.
The courses 540.290, 291, 390, and 391 guide the students through the open-ended problems in product and process design. Product design concerns the recognition of customer needs, the creation of suitable specifications, and the creation of new products to fulfill a societal need. Process design concerns the quantitative description of processes which serve to produce chemically-derived materials and the estimation of process profitability. Students work in small teams to complete a major project demonstrating their understanding of and proficiency in the principles of unit operations and design. Students report weekly both orally and in writing on their accomplishments. Some projects are single semester, but others can be multi-semester. Students can start in any semester and can work on projects for as many semesters as they want.
Instructor(s): M. Donohue
Area: Engineering.
**EN.540.400. Project in Design: Pharmacokinetics. 3 Credits.**
This design project will be to develop a chemical process model of the human body that can be used to understand the temporal distribution, spatial distribution and bioavailability of pharmaceutical drugs. The course (and software to be developed) will cover the spectrum of factors affecting pharmaceutical bioavailability including drug formulation, mode of dosing and dosing rate, metabolism and metabolic cascades, storage in fatty tissues, and diffusional limitations (such as in crossing the blood-brain barrier or diffusional differences between normal and cancerous cells). The goal is to develop a process model of the human body that will predict pharmaceutical bioavailability as a function of time and organ (or cell) type that will work for a wide variety of pharmaceuticals including small molecules, biologics, and chemotherapy agents.
Instructor(s): M. Donohue
Area: Engineering.

**EN.540.401. Projects in Design: Alternative Energy. 3 Credits.**
This course is a group design project (i.e. not a lecture course) to use chemical processing simulation tools (Aspen) to model a real-world process of interest to Chemical and Biomolecular Engineers. The goal of the project will be to develop a process model that is sufficiently complete and robust that it can be used to understand the important factors in the process design and/or operation. This design project is focused on the role alternative energy will play in our country’s future.
About a third of the course will be devoted to understanding the role of energy and alternative energy in the US and world economies. The remainder of the course will be devoted to a technical and economic analysis of the feasibility of making biofuel from algae.
Instructor(s): M. Donohue
Area: Engineering.

**EN.540.402. Metabolic Systems Biotechnology. 3 Credits.**
The aim of this course is to provide a fundamental understanding of the quantitative principles and methodologies of systems biology and biochemical engineering of metabolism. This includes concepts of cellular growth, cellular stoichiometric models, metabolic networks, metabolite fluxes, and genome-scale metabolic models. Quantitative methods and systems biology approaches for metabolic flux analysis and metabolic control theory will be included as well as an analysis of biochemical systems and bioreactors including a consideration of mass transport processes.
Prerequisites: AS.020.306 OR ( EN.580.440 or EN.580.441 )
Instructor(s): M. Betenbaugh
Area: Engineering.

**EN.540.403. Colloids and Nanoparticles. 3 Credits.**
Fundamental principles related to interactions, dynamics, and structure in colloidal, nanoparticle, and interfacial systems. Concepts covered include hydrodynamics, Brownian motion, diffusion, sedimentation, electrophoresis, colloidal and surface forces, polymeric forces, aggregation, deposition, and experimental methods. Modern topics related to colloids in nano-science and technology will be discussed throughout the course with frequent references to recent literature.
Meets with EN.540.603
Instructor(s): M. Bevan
Area: Engineering.

**EN.540.405. The Design of Biomolecular Systems. 3 Credits.**
This course covers new topics in the design of systems of biomolecules, both in vitro and in vivo, for decision making and control. The course will begin with an overview of how logical decision making and control with biomolecules as is achieved in biology and then proceed to consider various strategies of engineering similar systems. The focus of the course will be on systems level principles rather than the biochemistry of molecule design. Topics will include engineering of transcriptional networks and genetic control for logically programming of cells, the design of in vitro mimics of genetic controls, molecular computing and systems aspects of metabolic engineering. The course will also cover quantitative and computational techniques for the simulation and analysis of biomolecular systems. Co-listed with EN.540.605
Instructor(s): R. Schulman.

**EN.540.407. Current Topics in Functional Molecular Assembly. 3 Credits.**
This course describes the most recent progress in molecular self-assembly, with a focus on the application aspects of self-assembling materials in medical and energy-related areas. Specifically, the course consists of about twelve lectures covering a broad range of topics, including: principles of static and dynamic molecular assembly, nanomaterials and phase/morphology diagrams of small molecular and macromolecular amphiphiles, self-assembly in biological systems, supramolecular polymers for energy and medicine, key challenges in the fabrication of organic solar cells, and self-healing materials.
The class will be taught in a seminar format, with discussions led by graduate students or postsdocs. Instructor permission required. Juniors and Seniors only.
Instructor(s): H. Cui.

**EN.540.409. Modeling Dynamic/Control. 4 Credits.**
Introduction to modeling, dynamics, and control. Unsteady state analysis of biomolecular and chemical process control systems. State space and Laplace transform techniques, block diagram algebra, and transfer functions. Feedback and feedforward control. Frequency response and stability analysis. Model construction for biomolecular and cellular systems including pharmacokinetic modeling, biomolecular modeling using the central dogma of biology/control of gene expression, large scale biosimulation. Introduction to nonlinear dynamics. Recommended Corequisites: AS.110.302, EN.540.203, EN.540.301, EN.540.303, AS.020.305 and AS.020.306 or equivalent.
Instructor(s): A. Goffin
Area: Engineering, Quantitative and Mathematical Sciences.

**EN.540.414. Computational Protein Structure Prediction and Design. 3 Credits.**
This class will introduce the fundamental concepts in protein structure, biophysics, optimization and informatics that have enabled the breakthroughs in computational structure prediction and design. Problems covered will include protein folding and docking, design of ligand-binding sites, design of turns and folds, design of protein interfaces. Class will consist of lectures and hands-on computer workshops. Students will learn to use molecular visualization tools and write programs with the PyRosetta protein structure software suite, including a computational project. Programming experience is recommended.
Instructor(s): J. Gray
Area: Engineering.
EN.540.415. Interfacial Science with Applications to Nanoscale Systems. 3 Credits.
Nanosstructured materials intrinsically possess large surface area (interface area) to volume ratios. It is this large interfacial area that gives rise to many of the amazing properties and technologies associated with nanotechnology. In this class we will examine how the properties of surfaces, interfaces, and nanoscale features differ from their macroscopic behavior. We will compare and contrast fluid-fluid interfaces with solid-fluid and solid-solid interfaces, discussing fundamental interfacial physics and chemistry, as well as touching on state-of-the-art technologies.
Instructor(s): J. Frechette.

EN.540.416. Current Topics in Protein Structure Prediction. 3 Credits.
This course will consist of student-led discussions of current literature in protein structure prediction, protein-protein docking, and computational protein design. Related advanced computational approaches of the Rosetta3 protein structural modeling platform will be discussed and object-oriented software design concepts dissected. Students will present and critique C++ and Python code and scripts corresponding to related research projects. Permission of Instructor Required
Instructor(s): J. Gray.

EN.540.418. Projects in the Design of a Chemical Car. 2 Credits.
Ready to put those concepts from class into practice? Members work over the course of the semester to design and build a chemically powered vehicle that will compete with other college teams at the American Institute of Chemical Engineers (AIChE) Regional Conference. In this course, the students work in small groups to design and construct the chassis along with chemically powered propulsion and break mechanisms within the constraints of the competition. In addition, students will give oral presentation, write reports, and do thorough safety analysis of their prototypes. Both semesters must be completed with passing grades to receive credit.
Instructor(s): L. Dahuron
Area: Engineering.

EN.540.419. Projects in the Design of a Chemical Car. 2 Credits.
Ready to put those concepts from class into practice? Members work over the course of the semester to design and build a chemically powered vehicle that will compete with other college teams at the American Institute of Chemical Engineers (AIChE) Regional Conference. In this course, the students work in small groups to design and construct the chassis along with chemically powered propulsion and break mechanisms within the constraints of the competition. In addition, students will give oral presentation, write reports, and do thorough safety analysis of their prototypes.
Instructor(s): J. Frechette; L. Dahuron.

EN.540.420. Build-a-Genome. 4 Credits.
In this combination lecture/laboratory “Synthetic Biology” course students will learn how to make DNA building blocks used in an international project to build the world’s first synthetic eukaryotic genome, Saccharomyces cerevisiae v. 2.0. Please study the wiki www.syntheticyeast.org for more details about the project. Following a biotechnology boot-camp, students will have 24/7 access to computational and wet-lab resources and will be expected to spend 15-20 hours per week on this course. Advanced students will be expected to contribute to the computational and biotech infrastructure. Co-listed with 020.420 and 580.420. Students must understand fundamentals of DNA structure, DNA electrophoresis and analysis, Polymerase Chain Reaction (PCR) and must be either a) Experienced with molecular biology lab work or b) Adept at programming with a biological twist.
Area: Engineering, Natural Sciences.

EN.540.421. Project in Design: Pharmacodynamics. 3 Credits.
This course covers pharmacodynamics, i.e. how pharmaceuticals affect biological processes. The course will use MatLab to aid in the design of new drug formulations.
Instructor(s): M. Donohue
Area: Engineering.

EN.540.422. Introduction to Polymeric Materials. 3 Credits.
Polymeric materials are ubiquitous in our society from Nature-made proteins and polysaccharides to synthetic plastics and fibers. Their applications range from day-to-day consumables to high performance materials used in critically demanding areas, such as aviation, aerospace and medical devices. The objective of this course is to provide an introductory overview on the field of polymer science and engineering. Students will learn some basic concepts in polymer synthesis, characterization, and processing. With the basic concepts established, industrial applications of polymeric materials will be discussed in two categories: structural polymers and functional polymers. Structural polymers, including plastics, fibers, rubbers, coatings, adhesives, and composites, will be discussed in terms of their structure, processing, and property relationship with a flavor of industrial relevant products and applications. Future trends in developing environmentally friendly polymers from renewable resources (“green polymer chemistry”) will also be covered. Lectures on functional polymers will be focused on their unique properties that are enabled by rational molecular design, controlled synthesis and processing (e.g. supramolecular assembly, and microfabrication). This class of specialty materials can find their use in high performance photovoltaics, batteries, membranes, and composites, and can also serve as “smart” materials for use in coatings, sensors, medical devices, and biomimicry.
Prerequisites: AS.030.205 or by instructor permission.
Instructor(s): H. Cul
Area: Engineering.

EN.540.426. Biomacromolecules at the Nanoscale. 3 Credits.
This course introduces modern concepts of polymer physics at the nanoscale to describe the conformation and dynamics of biological macromolecules such as filamentous actin, microtubule, and nucleic acids. We will introduce scattering techniques, nano-manipulation techniques, as well as nano-rheology applied to the study of polymers for tissue engineering, nanoparticles, and drug delivery applications.
Instructor(s): D. Wirtz
Area: Engineering.
EN.540.428. Supramolecular Materials and Nanomedicine. 3 Credits.
Nanomedicine is a quickly growing area that exploits the novel chemical, physical, and biological properties of nanostructured materials for medical treatments. This course presents basic design principles of constructing nanomaterials for use in drug delivery, disease diagnosis and imaging, and tissue engineering. Three major topics will be discussed, including 1) nanocarriers for drug delivery that are formed through soft matter assembly (e.g., surfactants, lipids, block copolymers, DNA, polyelectrolytes, peptides), 2) inorganic nanostructures for disease diagnosis and imaging (e.g., nanoparticles of gold and silver, quantum dots and carbon nanotubes), and 3) supramolecular scaffolds for tissue engineering and regenerative medicine. Students are expected to learn the physical, chemical and biological properties of each nanomaterial, the underlying physics and chemistry of fabricating such material, as well as their advantages and potential issues when used for biomedical applications. This course will also provide students opportunities for case studies on commercialized nanomedicine products. After this class, students should gain a deeper understanding of current challenges in translating nanoscience and nanotechnology.
Prerequisites: EN.540.204 AND AS.020.305 or instructor's permission.
Instructor(s): H. Cui
Area: Engineering, Natural Sciences.

EN.540.436. Design: Pharmacokinetics/Dynamics. 3 Credits.
One semester overview of year long course, students that want a comprehensive understanding of pharmacokinetics and pharmacodynamics should take the 2 courses EN.540.400 and EN.540.421. This course covers the principles of pharmacokinetics and pharmacodynamics. Computer models ofpharmacokinetic and pharmacodynamics behavior will be developed and then used to design better drug delivery regimens and to analyze drug chemistry modifications.
Instructor(s): M. Donohue
Area: Engineering, Natural Sciences.

EN.540.437. Application of Molecular Evolution to Biotechnology. 3 Credits.
One of the most promising strategies for successfully designing complex biomolecular functions is to exploit nature's principles of evolution. This course provides an overview of the basics of molecular evolution as well as its experimental implementation. Current research problems in evolution-based biomolecular engineering will be used to illustrate principles in the design of biomolecules (i.e. protein engineering, RNA/DNA engineering), genetic circuits and complex biological systems including cells. Meets with EN.540.637
Prerequisites: AS.020.305 OR EN.580.221
Instructor(s): M. Ostermeier
Area: Engineering, Natural Sciences.

EN.540.440. Micro/Nanotechnology: The Science and Engineering of Small Structures. 3 Credits.
The field of micro / nanotechnology has been gaining tremendous momentum as evidenced by an explosive rise in the number of publications, patents and commercial activities. This is an introductory course intended to expose students to the field as well as real world applications. Lectures will include an overview of scaling of material properties at the nanoscale, micro and nanofabrication methods and essential analytical tools of relevance to the field. All through the course, we will go over electronic, optical and biological applications of emerging micro and nanoscale devices and materials. Co-listed with EN.540.640.
Instructor(s): D. Gracias
Area: Engineering.

EN.540.441. Cellular Engineering. 3 Credits.
Area: Engineering.

EN.540.443. Topics in Vascular Engineering. 3 Credits.
In-depth discussion and hands-on course focused on engineering approaches for vascular regeneration. The course will focus on engineering principles of the vasculature including induction of differentiation and administration of cell therapies. Seminal papers and approaches to analyze vascular tissues and cultures will be examined and discussed. Students will perform hands on experiments focused on vascular differentiation and regeneration. In addition, the course will be integrated with students' presentations throughout the semester on selected topics in vascular engineering.
Instructor(s): S. Gerecht
Area: Engineering.

EN.540.444. Current Topics in Stem Cell Engineering. 3 Credits.
A selection of problems in fluid mechanics at low and moderate Reynolds numbers. This is a highly interactive class in which students are expected to choose topics and prepare a presentation at least twice a semester. Therefore, the list of problems will vary depending on student selection. Typically, on Tuesdays will be an introductory class and Thursdays will be seminars on a specific topic or paper.
Area: Engineering, Natural Sciences.

EN.540.447. Advanced Problems in Fluid Mechanics. 3 Credits.
A selection of problems in fluid mechanics at low and moderate Reynolds numbers. This is a highly interactive class in which students are expected to choose topics and prepare a presentation at least twice a semester. Therefore, the list of problems will vary depending on student selection. Typically Tuesdays will be an introductory class and Thursdays will be seminars on a specific topic or paper. Meets with 540.647
Instructor(s): G. Drazer
Area: Engineering, Natural Sciences.

EN.540.448. Current Topics in Colloid Science. 3 Credits.
Area: Engineering.
EN.540.449. Logic and Decision-making in Biomolecular Systems. 3 Credits.
From the smallest change in gene expression to life and death and reproduction, biomolecular decision-making processes govern cellular fate. In this course we explore the design principles by which biomolecules make decisions and orchestrate complex processes such as signal transduction, homeostasis or apoptosis. We will also explore how we can in turn design complex biomolecular networks that can control biological systems and biomolecular materials. Topics will include the design and analysis of molecular logic circuits, transcriptional and translational control, signal transduction cascades, biomolecular oscillators and cycles, DNA nanotechnology and nanobiotechnology, and molecular computing. The course will introduce principles from electrical circuit theory, computing and control theory and show how these tools can be applied to these systems. Students should be familiar with programming and chemical engineering principles.
Instructor(s): R. Schulman
Area: Engineering, Natural Sciences.

EN.540.450. Current Topics in Transport and Interfacial Phenomena. 3 Credits.
Area: Engineering.

EN.540.459. Bioengineering in Regenerative Medicine. 3 Credits.
Introduction and in-depth discussion course focused on tissue and stem cell engineering. The course will focus on principles in tissue engineering, mechanisms of regeneration, and stem cell therapies. Topics will include introduction to regenerative medicine, bioreactors and scaffolds in tissue engineering, adult and pluripotent stem cells, engineering the niche, and two sessions will focus on legal and ethical issues. Selected approaches to analyze tissues and stem cell culture will also be discussed. In addition, the course will be integrated with graduate students' presentations on selected topics in stem cell engineering. Recommended Course Background: AS.020.306 or EN.580.221. Co-listed with EN.540.659
Prerequisites: AS.020.306 OR EN.580.221
Instructor(s): S. Gerecht
Area: Engineering.

EN.540.460. Computational and Experimental Design of Biomolecules. 3 Credits.
This course reviews current research problems in biomolecular design both from computational and experimental approaches. Current methods in structure prediction (folding, docking and design) will illustrate fundamental concepts in protein structure, biophysics, and optimization. Current research problems in evolution-based biomolecular engineering will illustrate principles in the design of biomolecules (i.e. protein engineering, RNA/DNA engineering), metabolic pathways, signaling pathways, genetic circuits and complex biological systems including cells. Recommended Course Background: AS.020.305
Area: Engineering.

EN.540.463. Current Topics: Biochemistry and Biophysics of Cancer. 3 Credits.
*Attendance to this course is limited to ChemBE students who are working in the instructors lab. This course focuses on the application of engineering fundamentals to cancer metastasis. Class lectures will include an overview of molecular biology fundamentals, an extensive review on extracellular matrix and basics of receptors, followed by topics on tumor cell-host cell and tumor cell-matrix interactions at both theoretical and experimental levels. Lectures will also cover the effects of physical (e.g. shear stress, strain) and chemical (e.g. cytokines, growth factors) stimuli on tumor cell function.
Instructor(s): K. Konstantopulos
Area: Engineering.

EN.540.464. Current Topics: The Statistical Mechanics of Malignant Neoplasm. 3 Credits.
This course will introduce students involved in cancer engineering research the fundamental elements of statistical mechanics relevant to tumor growth and progression to metastatic disease. Topics include: Fokker-Planck equation for collective cancer migration, tumor growth as a phase transition, and cancer cell motility in nth-dimension space.
Instructor(s): D. Wirtz.

EN.540.472. Topics in Vascular Engineering. 3 Credits.
In-depth discussion and hands-on course focused on engineering approaches for vascular regeneration. The course will focus on engineering principles of the vasculature including induction of differentiation and administration of cell therapies. Seminal papers and approaches for vascular regeneration will be examined and discussed. Students will perform hands on experiments focused on vascular differentiation and regeneration. In addition, the course will be integrated with students’ presentations throughout the semester on selected topics in vascular engineering.
Area: Engineering.

EN.540.475. Macromolecules at Interface. 3 Credits.
By instructor’s permission. This course involves integrated lecture/discussion and laboratory components to review and participate in current and emerging topics involving macromolecules at interfaces. Lectures and discussions review how fundamentals of macromolecular and interfacial science are connected to emerging problems in nano and bio-technologies. Authentic inquiry activities in the laboratory are connected to diverse scientific and technological fundamental topics. Research and journal article presentations provide a context for laboratory activities with respect to current topics in a number of emerging research applications involving colloidal particles. Research design and strategy is discussed as a process distinct from existing elective course activities and guided inquiry activities in standard undergraduate laboratory courses. Applications include (but are not limited to) photonic crystals, reconfigurable antennas, drug delivery, biomolecular interactions, nanoparticles in the environment, and tissue engineering.
Instructor(s): M. Bevan
Area: Engineering.
EN.540.477. Current Topics in Transport and Interfacial Phenomena: Electrokinetics. 3 Credits.
This course involves integrated lecture/discussion and laboratory components to review and participate in current and emerging topics involving fluid mechanics and interfacial science. The lectures and discussions review how fundamentals of transport and interfacial science are connected to emerging problems in micro- and nanotechnologies. The focus area of the class is Electrokinetic Phenomena. The mandatory laboratory component is aimed at connecting the topics covered in the class to scientific problems. Student participation will involve presentation of laboratory results and research papers.
Instructor(s): G. Drazer; J. Frechette; Z. Gagnon.

EN.540.478. Current Aspects of Transport and Interfacial Phenomena Part 2. 3 Credits.
By instructor’s permission. This course involves integrated lecture/discussion and laboratory components to review and participate in current and emerging topics involving fluid mechanics and interfacial science. The lectures and discussions review how fundamentals of transport and interfacial science are connected to emerging problems in micro- and nanotechnologies. The mandatory laboratory component is aimed at connecting the topics covered in the class to scientific problems. Student participation will involve presentation of laboratory results and research papers.
Instructor(s): G. Drazer; J. Frechette
Area: Engineering.

EN.540.479. Current Topics in Eukaryotic Cell Biotechnology. 3 Credits.
This course involves integrated lecture/discussion and laboratory components to review and participate in current and emerging topics involving eukaryotic biotechnology. Lectures and discussions review how fundamentals of biochemical kinetics and biomolecular engineering are connected to emerging problems in mammalian, algal, and stem cell biotechnology. Laboratory activities are connected to diverse scientific and technological fundamental topics on these same themes. Journal article and research presentations provide a context for laboratory activities with respect to emerging industrial applications for eukaryotic cell types. Research design and strategy is discussed in terms of its ultimate implementation in laboratory, pilot plant, and eventually manufacturing facilities. Methodologies implemented include genomics, metabolic flux analysis, and cell and metabolic engineering for improving yields and production rates of proteins, cells, and tissues. Example topics include expansion of mammalian cells and algae for the production of membrane proteins, biologics, biofuels, and complex metabolites.
Instructor(s): M. Betenbaugh
Area: Engineering.

EN.540.480. Current Topics in Eukaryotic Cell Biotechnology Part II. 3 Credits.
This course involves integrated lecture/discussion and laboratory components to review and participate in current and emerging topics involving eukaryotic biotechnology. Lectures and discussions review how fundamentals of biochemical kinetics and biomolecular engineering are connected to emerging problems in mammalian, algal, and stem cell biotechnology. Laboratory activities are connected to diverse scientific and technological fundamental topics on these same themes. Journal article and research presentations provide a context for laboratory activities with respect to emerging industrial applications for eukaryotic cell types. Research design and strategy is discussed in terms of its ultimate implementation in laboratory, pilot plant, and eventually manufacturing facilities. Methodologies implemented include genomics, metabolic flux analysis, and cell and metabolic engineering for improving yields and production rates of proteins, cells, and tissues. Example topics include expansion of mammalian cells and algae for the production of membrane proteins, biologics, biofuels, and complex metabolites.
Instructor(s): M. Betenbaugh.

EN.540.490. Chemical Laboratory Safety. 1 Credit.
This course is meant to provide the student with a basic knowledge of laboratory safety; hazards, regulations, personal protective equipment, good laboratory practice, elementary toxicology, and engineering controls. It has been developed by the Department of Chemical and Biomolecular Engineering to assist with regulatory compliance, minimize hazards, and reduce the severity of any incidents that may occur in the department’s laboratories. The course is a prerequisite of EN.540.311/EN.540.313. It is required of all Chemical and Biomolecular Engineering undergraduates. In addition once per year a three-hour refresher seminar must be taken by all students involved in laboratory research.
Instructor(s): D. Kuespert; L. Dahuron.

EN.540.501. Independent Study. 3 Credits.
Instructor(s): J. Hanes.

EN.540.502. Independent Study. NULL Credits.
Instructor(s): J. Frechette; K. Konstantopoulos; M. Donohue; S. Gerecht.

EN.540.509. Undergraduate Internship. 1 Credit.
Internship unpaid and approved by ChemBE faculty.
Area: Engineering.

EN.540.521. Independent Research. 3 Credits.
Instructor(s): Staff.

EN.540.522. Independent Research. 0 - 3 Credit.
Instructor(s): Staff.

EN.540.596. Summer Internship.
Summer internship paid and approved by ChemBE faculty.
Instructor(s): M. Betenbaugh.

EN.540.597. Research. 3 Credits.
Instructor(s): Staff.

EN.540.598. Summer Internship. 1 Credit.
Summer internship unpaid and approved by ChemBE faculty.
Instructor(s): G. Drazer; H. Cui; Staff
Area: Engineering, Natural Sciences.

EN.540.599. Independent Study - Summer. 0 - 3 Credit.
Instructor(s): J. Frechette; J. Hanes; M. Betenbaugh; M. Donohue.
EN.540.600. Chemical and Biomolecular Engineering Seminar.
Lectures are presented on current subjects relevant to chemical engineering.
Instructor(s): C. Wang.

EN.540.601. Chemical and Biomolecular Engineering Seminar.
Instructor(s): R. Schulman.

The aim of this course is to provide a fundamental understanding of the quantitative principles and methodologies of systems biology and biochemical engineering of metabolism. This includes concepts of cellular growth, cellular stoichiometric models, metabolic networks, metabolite fluxes, and genome-scale metabolic models. Quantitative methods and systems biology approaches for metabolic flux analysis and metabolic control theory will be included as well as an analysis of biochemical systems and bioreactors including a consideration of mass transport processes.
Instructor(s): M. Betenbaugh.

EN.540.603. Colloids and Nanoparticles.
Fundamental principles related to interactions, dynamics, and structure in colloidal, nanoparticle, and interfacial systems. Concepts covered include hydrodynamics, Brownian motion, diffusion, sedimentation, electrophoresis, colloidal and surface forces, polymeric forces, aggregation, deposition, and experimental methods. Modern topics related to colloids in nano-science and technology will be discussed throughout the course with frequent references to recent literature.
Meets with EN.540.403
Instructor(s): M. Bevan
Area: Engineering.

EN.540.605. The Design of Biomolecular Systems.
This course covers new topics in the design of systems of biomolecules, both in vitro and in vivo, for decision making and control. The course will begin with an overview of how logical decision making and control with biomolecules as is achieved in biology and then proceed to consider various strategies of engineering similar systems. The focus of the course will be on systems level principles rather than the biochemistry of molecule design. Topics will include engineering of transcriptional networks and genetic control for logically programming of cells, the design of in vitro mimics of genetic controls, molecular computing and systems aspects of metabolic engineering. The course will also cover quantitative and computational techniques for the simulation and analysis of biomolecular systems. Co-listed with EN.540.405
Instructor(s): R. Schulman.

Supervised Graduate Study
Instructor(s): M. Donohue
Area: Engineering.

EN.540.609. Chemical and Biomedical Engineering Design.
This course is one part of a two semester sequence in Chemical and Biomolecular Engineering Product Design. It is intended for students in the ChemBE master’s program. This course guides the student through the complex process of new product design. Product design concerns the recognition of customer needs, the creation of suitable specifications, and the selection of best products to fulfill needs. Students work in small teams to develop a new product idea, design the product and then iterate on prototype development. Students report several times both orally and in writing on their accomplishments. Time is allowed so that laboratory tests can be performed and/or prototypes can be built. Note that generally both courses, 540.609 and 540.610 must be taken to complete the prototype development. The two courses can be started in any term.
Instructor(s): M. Donohue
Area: Engineering, Natural Sciences.

EN.540.610. Chemical and Biomolecular Engineering Design: Spring.
This course is one part of a two semester sequence. This course guides the student through the contrasting aspects of product design and process design. Product design concerns the recognition of customer needs, the creation of suitable specifications, and the selection of best products to fulfill the needs. Process design concerns the quantitative description of processes which serve to produce many commodity chemicals, the estimation of process profitability, and the potential for profitability improvement through incremental changes in the process. Students work in small teams to complete a major project demonstrating their understanding of and proficiency in the primary objectives of the course. Students report several times both orally and in writing on their accomplishments. Laboratory tests can be performed and/or prototypes can be made. Note that both courses, 540.609 and 540.610 must be taken, the two courses can be started in any term.
Instructor(s): M. Donohue.

EN.540.614. Computational Protein Structure Prediction and Design.
This class will introduce the fundamental concepts in protein structure, biophysics, optimization and informatics that have enabled the breakthroughs in computational structure prediction and design. Problems covered will include protein folding and docking, design of ligand-binding sites, design of turns and folds, design of protein interfaces. Class will consist of lectures and hands-on computer workshops. Students will learn to use molecular visualization tools and write programs with the PyRosetta protein structure software suite, including a computational project. Programming experience is recommended.
Instructor(s): J. Gray
Area: Engineering.

EN.540.615. Interfacial Science with Applications to Nanoscale Systems.
Nanostructured materials intrinsically possess large surface area (interface area) to volume ratios. It is this large interfacial area that gives rise to many of the amazing properties and technologies associated with nanotechnology. In this class we will examine how the properties of surfaces, interfaces, and nanoscale features differ from their macroscopic behavior. We will compare and contrast fluid-fluid interfaces with solid-fluid and solid-solid interfaces, discussing fundamental interfacial physics and chemistry, as well as touching on state-of-the-art technologies.
Instructor(s): J. Frechette.
EN.540.616. Current Topics in Protein Structure Prediction. 
Permission of instructor required.
Instructor(s): J. Gray.

This design project is focused on the role alternative energy will play in our country’s future. About a third of the course will be devoted to understanding the role of energy and alternative energy in the US and world economies. The remainder of the course will be devoted to a technical and economic analysis of the feasibility of making biofuel from algae. Graduate level. Meets with EN.540.401
Instructor(s): M. Donohue.

EN.540.621. Project in Design: Pharmacodynamics.
This course covers pharmacodynamics, i.e. how pharmaceuticals affect biological processes. The course will use MatLab to aid in the design of new drug formulations.
Instructor(s): M. Donohue.

EN.540.622. Introduction to Polymeric Materials.
Polymeric materials are ubiquitous in our society from Nature-made proteins and polysaccharides to synthetic plastics and fibers. Their applications range from day-to-day consumables to high performance materials used in critically demanding areas, such as aviation, aerospace and medical devices. The objective of this course is to provide an introductory overview on the field of polymer science and engineering. Students will learn some basic concepts in polymer synthesis, characterization, and processing. With the basic concepts established, industrial applications of polymeric materials will be discussed in two categories: structural polymers and functional polymers. Structural polymers, including plastics, fibers, rubbers, coatings, adhesives, and composites, will be discussed in terms of their structure, processing, and property relationship with a flavor of industrial relevant products and applications. Future trends in developing environmentally friendly polymers from renewable resources (“green polymer chemistry”) will also be covered. Lectures on functional polymers will be focused on their unique properties that are enabled by rational molecular design, controlled synthesis and processing (e.g. supramolecular assembly, and microfabrication). This class of specialty materials can find their use in high performance photovoltaics, batteries, membranes, and composites, and can also serve as “smart” materials for use in coatings, sensors, medical devices, and biomimicry.
Instructor(s): H. Cui
Area: Engineering.

EN.540.626. Biomacromolecules at the Nanoscale.
This course introduces modern concepts of polymer physics at the nanoscale to describe the conformation and dynamics of biological macromolecules such as filamentous actin, microtubule, and nucleic acids. We will introduce scattering techniques, nano-manipulation techniques, as well as nano-rheology applied to the study of polymers for tissue engineering, nanoparticles, and drug delivery applications.
Instructor(s): D. Wirtz.

EN.540.628. Supramolecular Materials and Nanomedicine.
Nanomedicine is a quickly growing area that exploits the novel chemical, physical, and biological properties of nanostructures and nanostructured materials for medical treatments. This course presents basic design principles of constructing nanomaterials for use in drug delivery, disease diagnosis and imaging, and tissue engineering. Three major topics will be discussed, including 1) nanocarriers for drug delivery that are formed through soft matter assembly (e.g., surfactants, lipids, block copolymers, DNA, polyelectrolytes, peptides), 2) inorganic nanostructures for disease diagnosis and imaging (e.g., nanoparticles of gold and silver, quantum dots and carbon nanotubes), and 3) supramolecular scaffolds for tissue engineering and regenerative medicine. Students are expected to learn the physical, chemical and biological properties of each nanomaterial, the underlying physics and chemistry of fabricating such material, as well as their advantages and potential issues when used for biomedical applications. This course will also provide students opportunities for case studies on commercialized nanomedicine products. After this class, students should gain a deeper understanding of current challenges in translating nanoscience and nanotechnology into medical therapies.
Instructor(s): H. Cui
Area: Engineering, Natural Sciences.

In this course we will aim for understanding the thermodynamics of chemical and bio-molecular systems. We will first review classical, macroscopic thermodynamics covering concepts such as equilibrium, stability and the role of thermodynamic potentials. Our goal will be to gain a feel for the generality of thermodynamics. Statistical mechanics provides a link between the mechanics of atoms and macroscopic thermodynamics. We will introduce this branch in two distinct ways: 1) following standard methods of developing concepts such as ensembles and partition functions, and 2) where we will treat the basis of statistical mechanics as a problem in inference. With this foundation, we will consider concepts relevant to understanding the liquid state. Chemical transformations in a liquid are of importance in much of chemistry and biology; quasi-chemical generalizations of the potential distribution theorem will be introduced to present these ideas. We hope to give an overview of modern developments relating equilibrium work to non-equilibrium work, as these are of increasing importance in studies on single molecule systems. Registration by instructor permission only.
Instructor(s): C. Wang
Area: Engineering.

EN.540.632. Project in Design: Pharmacokinetics.
This course covers pharmacodynamics, i.e. how pharmaceuticals affect biological processes. The course will use MatLab to aid in the design of new drug formulations.
Instructor(s): M. Donohue
Area: Engineering.

One semester overview of year long course, students that want a comprehensive understanding of pharmacokinetics and pharmacodynamics should take the 2 all 540.632 Projects in Design: Pharmacokinetics Spring 540.621 Projects in Design: Pharmacodynamics. This course covers the principles of pharmacokinetics and pharmacodynamics. Computer models ofpharmacokinetic and pharmacodynamics behavior will be developed and then used to design better drug delivery regimens and to analyze drug chemistry modifications.
Instructor(s): M. Donohue.
EN.540.637. Application of Molecular Evolution to Biotechnology.

One of the most promising strategies for successfully designing complex biomolecular functions is to exploit nature’s principles of evolution. This course provides an overview of the basics of molecular evolution as well as its experimental implementation. Current research problems in evolution-based biomolecular engineering will be used to illustrate principles in the design of biomolecules (i.e. protein engineering, RNA/DNA engineering), genetic circuits and complex biological systems including cells. Will meet with EN.540.437. Recommended Course Background: AS.020.306
Instructor(s): M. Ostermeier
Area: Engineering, Natural Sciences.


The field of micro / nanotechnology has been gaining tremendous momentum as evidenced by an explosive rise in the number of publications, patents and commercial activities. This is an introductory course intended to expose students to the field as well as real world applications. Lectures will include an overview of scaling of material properties at the nanoscale, micro and nanofabrication methods and essential analytical tools of relevance to the field. All through the course, we will go over electronic, optical and biological applications of emerging micro and nanoscale devices and materials. Co-listed with EN.540.440.
Instructor(s): D. Gracias.


This course will (1) focus on transport processes that are different or more prominent in microfabricated systems, (2) present practical aspects of experimental and theoretical work in microscale and nanoscale transport processes and (3) develop a working knowledge of the relevant literature. Some topics include Maxwell and Navier-Stokes equations, Couette/Poiseuille flow, Stokes flow, fluid circuits, microfluidic mixing, mass and charge transport, electrodynamics, electrophoresis, electro-osmosis, dielectrophoresis, induced-charge electrokinetics, DNA transport, and zeta potential.
Prerequisites: Prereq: EN.540.304 Transport II OR the equivalent. Instructor permission required.
Instructor(s): Z. Gagnon
Area: Engineering, Natural Sciences.


A selection of problems in fluid mechanics at low and moderate Reynolds numbers. This is a highly interactive class in which students are expected to choose topics and prepare a presentation at least twice a semester. Therefore, the list of problems will vary depending on student selection. Typically Tuesdays will be an introductory class and Thursdays will be seminars on a specific topic or paper. Meets with 540.447
Instructor(s): G. Drazer
Area: Engineering, Natural Sciences.

EN.540.649. Logic and Decision-making in Biomolecular Systems.

From the smallest change in gene expression to life and death and reproduction, biomolecular decision-making processes govern cellular fate. In this course we explore the design principles by which biomolecules make decisions and orchestrate complex processes such as signal transduction, homeostasis or apoptosis. We will also explore how we can in turn design complex biomolecular networks that can control biological systems and biomolecular materials.
Topics will include the design and analysis of molecular logic circuits, transcriptional and translational control, signal transduction cascades, biomolecular oscillators and cycles, DNA nanotechnology and nanobiotechnology, and molecular computing. The course will introduce principles from electrical circuit theory, computing and control theory and show how these tools can be applied to these systems. Students should be familiar with programming and chemical engineering principles.
Instructor(s): R. Schulman.


It is the goal of this course to move the graduate student (and advanced undergraduate student) from the introductory level of transport phenomena (undergraduate) to a level that will allow them to be effective in researching transport-related topics in a variety of biomedical, chemical and biochemical engineering areas. The basic equations that govern mass, momentum, and energy transport will be derived and used to solve problems that demonstrate the physical insight necessary to apply these equations to original situations. Some topics include solution techniques utilizing expansions of harmonic functions, singularity solutions, lubrication theory for flow in confined geometries, boundary layer theory, Stokes flow, forced convection, buoyancy-driven flow, Taylor-Aris dispersion, and reaction-diffusion.
Instructor(s): Z. Gagnon
Area: Engineering.

EN.540.659. Bioengineering in Regenerative Medicine.

Introduction and in-depth discussion course focused on tissue and stem cell engineering. The course will focus on principles in tissue engineering, mechanisms of regeneration, and stem cell therapies. Topics will include introduction to regenerative medicine, bioreactors and scaffolds in tissue engineering, adult and pluripotent stem cells, engineering the niche, and two sessions will focus on legal and ethical issues. Selected approaches to analyze tissues and stem cell culture will also be discussed. In addition, the course will be integrated with graduate students’ presentations on selected topics in stem cell engineering. Meets with EN.540.459. Recommended Course Background: AS.020.306 or EN.580.221 or EN.580.440
Instructor(s): S. Gerecht
Area: Engineering.

EN.540.801. Graduate Research.
Instructor(s): Staff.
Instructor(s): M. Donohue.

EN.540.811. Graduate Independent Study.
Instructor(s): M. Donohue.

Cross Listed Courses

Institute for NanoBio Technology

This course will cover the physics and chemistry relevant to the design, synthesis, and characterization of nanoparticles. Topics include nanoparticle synthesis, functionalization, surface engineering, and applications in diagnostics and therapeutics. The properties of semiconductor quantum dots and magnetic nanoparticles will be reviewed along with techniques for nanoparticle manipulation, particle tracking, and bio-microrheology. Patterning tools including soft lithography, optical lithography, e-beam lithography, and template lithography will be discussed. Electron and scanning probe microscopy will be reviewed. Cross-listed with Materials Science & Engineering and Chemical & Biomolecular Engineering.
Instructor(s): C. Chien; J. McCaffery; M. Bevan; N. Markovic; P. Searson.

Civil Engineering

Civil engineers apply sophisticated analysis and design techniques to advance the needs of society for shelter, infrastructure, and a safe environment. Graduates are employed in the fields of structural analysis and design, soil mechanics and foundation design, environmental engineering and policy, materials engineering, and coastal and ocean engineering, and increasingly are taking on far-reaching management roles in infrastructure, hazard mitigation, sustainability, and technical roles in the planning, design, and construction of large-scale engineered systems. In addition, a civil engineering degree provides exposure to broad societal challenges and the logical thinking necessary for pursuing careers in other professional fields, such as law, business, and medicine.

The Department of Civil Engineering offers programs at the undergraduate, graduate, and postdoctoral levels. Civil Engineering at Hopkins offers a unique balance centered in mechanics fundamentals, and enriched by state-of-the-art tools in modeling, simulation, and physical experimentation. The small size of the CE Department fosters a collegial, close-knit relationship between the students, staff, and faculty, while our partnerships with other Johns Hopkins departments provide a wide range of collaborative opportunities that span the larger disciplines of fluids, systems, structures, and materials. A wide range of research opportunities distinguishes the program. Students have participated in projects on structural reliability, earthquake resistance of structures, testing and analysis of historic bridges, computational design of materials, failure of brittle materials, cold-formed steel members and their connections, and coastal and ocean engineering to name a few. A five-year bachelor's/master's degree program is also offered. Graduates of Johns Hopkins University have traditionally risen to leadership roles in education, research, industry, and government.

Facilities

The Department's teaching and research labs are located in Latrobe Hall and the Stieff Building. Teaching laboratories, all located in Latrobe Hall, include a modern multi-use facility for exploring experiments in statics, mechanics of materials, dynamics and other courses, a dedicated soil mechanics laboratory, and a dedicated computing facility. Research laboratories include the Thin-walled Structures Laboratory, and the Sensor Technology and Infrastructure Risk Mitigation (STIRM) Laboratory in Latrobe Hall, and the Coastal Engineering Laboratory in the Stieff Building. The department also provides space for undergraduate research, the student chapter of the American Society of Civil Engineers, a graduate student lounge, and office space for doctoral students.

The department sponsors an undergraduate and graduate seminar series, as well as the Richard J. Carroll endowed lectureship; all of which are designed to bring prominent civil engineers to campus to speak with students and faculty.

Financial Aid

Scholarships and other forms of financial assistance for undergraduates are described under Admissions and Finances (p. 13). In addition, some undergraduate students are employed by departmental faculty to provide assistance on research projects.

Financial assistance to graduate students is available on a competitive basis in the form of partial or complete tuition fellowships, fellowships with stipends, teaching assistantships, and research assistantships.

In addition to university-wide fellowships, graduate students in civil engineering are also eligible for fellowships from the Joseph Meyerhoff Scholarship Fund, the Richard D. Hickman Endowment, and the Hoomes Rich Graduate Fellowship.

The mission of the undergraduate program is to educate intellectual leaders of the profession by instilling in them a fundamental understanding of the mathematical principles of physics and nature that underlie engineering science, a practical appreciation of the challenges of creative engineering design, and a sense of responsibility for professional service. The undergraduate program has been designed to provide a firm foundation in a wide breadth of modern civil engineering so that within a few years our graduates attain:

1. a. an advanced degree in engineering or
   b. required experience toward professional licensure as an engineer, or
   c. an advanced degree in a field other than engineering, or
   d. a position within an organization that broadly supports the goals of civil engineering; and

2. a position or degree that values adaptability and innovation in their work.

Building on the strengths of the faculty and supporting our vision for the field of civil engineering, the department emphasizes four technical areas: environmental engineering, geotechnical engineering, structural engineering, and systems engineering. Some flexibility is built into the curriculum so that students may pursue advanced topics in one or more of these areas. Upon completion of the B.S. in civil engineering, students will demonstrate:

• an ability to apply knowledge of mathematics, science, and engineering
• an ability to design and conduct experiments, as well as to analyze and interpret data
• an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental,
social, political, ethical, health and safety, manufacturability, and sustainability
• an ability to function on multidisciplinary teams
• an ability to identify, formulate, and solve engineering problems
• an understanding of professional and ethical responsibility
• an ability to communicate effectively
• the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
• a recognition of the need for, and an ability to engage in lifelong learning
• a knowledge of contemporary issues
• an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

The program has been accredited by ABET, the Accreditation Board for Engineering and Technology, since 1936.

Requirements for the B.S. Degree
The B.S. degree in civil engineering requires 128 credits. A brief summary of the requirements, given below, is intended only as a guide; these requirements were in effect for students matriculating during the 2013–2014 Academic Year. Students matriculating afterwards or looking for more detailed information should look at the department website at http://engineering.jhu.edu/civil/undergraduate-studies/. Each student is assigned an advisor who will provide guidance to ensure all requirements are met.

No course listed as a requirement may be taken satisfactory/unsatisfactory. Any other course used to fulfill a requirement under humanities and social sciences or under unspecified electives can be taken S/U. Technical electives may be taken satisfactory/unsatisfactory only with the approval of the advisor. No more than two grades of D in the required engineering and technical electives may be counted.

Basic Science (20 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>EN.530.103</td>
<td>Introduction to Mechanics I</td>
<td>4</td>
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<tr>
<td>&amp; EN.530.104</td>
<td>and Introduction to Mechanics II</td>
<td>4</td>
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<tr>
<td>or AS.171.101</td>
<td>General Physics: Physical Science Major I</td>
<td>4</td>
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<tr>
<td>or AS.171.107</td>
<td>General Physics for Physical Sciences Majors (AL)</td>
<td>4</td>
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<tr>
<td>AS.171.102</td>
<td>General Physics: Physical Science Majors II</td>
<td>4</td>
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<tr>
<td>or AS.171.108</td>
<td>General Physics for Physical Science Majors (AL)</td>
<td>4</td>
</tr>
<tr>
<td>AS.173.111</td>
<td>General Physics Laboratory I</td>
<td>2</td>
</tr>
<tr>
<td>&amp; AS.173.112</td>
<td>and General Physics Laboratory II</td>
<td>2</td>
</tr>
<tr>
<td>AS.030.101</td>
<td>Introductory Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>AS.030.105</td>
<td>Introductory Chemistry Lab I</td>
<td>1</td>
</tr>
<tr>
<td>EN.510.201</td>
<td>Introductory Materials Science for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>One additional (N) elective *</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

Mathematics (16 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.108</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>AS.110.109</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>AS.110.202</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.211</td>
<td>Honors Multivariable Calculus</td>
<td>4</td>
</tr>
<tr>
<td>or EN.550.251</td>
<td>Math Models/Decision Mkg</td>
<td>4</td>
</tr>
<tr>
<td>or EN.550.252</td>
<td>Math Models-Decision Making: Stochastic Models</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.291</td>
<td>Linear Algebra and Differential Equations</td>
<td>4</td>
</tr>
</tbody>
</table>

Humanities and Social Sciences (18 credits)

Students are encouraged to create a program of study that is supplemented by meaningful classes outside of engineering. **

Free Electives
Select 7 credits of free electives

Civil Engineering Fundamentals (21 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.560.141</td>
<td>Perspectives on the Evolution of Structures</td>
<td>3</td>
</tr>
<tr>
<td>EN.560.201</td>
<td>Statics &amp; Mechanics of Materials</td>
<td>4</td>
</tr>
<tr>
<td>EN.560.202</td>
<td>Dynamics</td>
<td>4</td>
</tr>
<tr>
<td>EN.560.206</td>
<td>Solid Mechanics &amp; Theory of Structures</td>
<td>4</td>
</tr>
<tr>
<td>EN.560.220</td>
<td>Civil Engineering Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.351</td>
<td>Introduction to Fluid Mechanics</td>
<td>3</td>
</tr>
</tbody>
</table>

Professional Practice (12 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.660.105</td>
<td>Introduction to Business (or EN.660.300+ CLE Management/Leadership Track)</td>
<td>4</td>
</tr>
<tr>
<td>EN.661.110</td>
<td>Professional Communication for Science, Business &amp; Industry (or EN.661.300+ CLE Professional Communication)</td>
<td>3</td>
</tr>
<tr>
<td>EN.560.451</td>
<td>Civil Engineering Design I</td>
<td>2</td>
</tr>
<tr>
<td>EN.560.452</td>
<td>Civil Engineering Design II</td>
<td>3</td>
</tr>
<tr>
<td>EN.560.491</td>
<td>Civil Engineering Seminar I</td>
<td>2</td>
</tr>
<tr>
<td>EN.560.492</td>
<td>Civil Engineering Seminar II</td>
<td>2</td>
</tr>
</tbody>
</table>

Technical Areas (25 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.301</td>
<td>Environmental Engineering Fundamentals I</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.302</td>
<td>Water &amp; Wastewater Treatment</td>
<td>3</td>
</tr>
<tr>
<td>EN.560.305</td>
<td>Soil Mechanics</td>
<td>4</td>
</tr>
<tr>
<td>EN.560.320</td>
<td>Structural Design I</td>
<td>3</td>
</tr>
<tr>
<td>EN.560.325</td>
<td>Structural Design II</td>
<td>3</td>
</tr>
<tr>
<td>EN.560.330</td>
<td>Foundation Design</td>
<td>3</td>
</tr>
<tr>
<td>EN.560.348</td>
<td>Probability &amp; Statistics in Civil Engineering</td>
<td>3</td>
</tr>
<tr>
<td>EN.560.498</td>
<td>Survey of Systems Engineering Tools</td>
<td>3</td>
</tr>
</tbody>
</table>

Technical Electives (9 credits)

Students may explore one or more of the civil technical areas (environmental engineering, geotechnical engineering, structural engineering, and systems engineering) in greater depth through technical electives. ***

Total Credits 129

* (AS.270.205 Introduction to Geographic Information Systems and Geospatial Analysis and AS.270.220 The Dynamic Earth: An Introduction to Geology are encouraged)
** Classes in the Humanities and Social and Behavioral Sciences provide students with an appreciation for societal concerns and humanistic issues, tools that are essential for a professional who serves the public good. Requirements are as follows: Students must take a minimum of 6 credits in Humanities electives and 6 credits in Social and Behavioral Studies electives. An additional 6 credits can be taken in either area. A minimum of one Humanities and one Social and Behavioral Sciences elective must be at or above the 300-level. One writing intensive requirement must be fulfilled by the Humanities/Social and Behavioral Sciences electives. This can either be done through AS.060.113 Expository Writing or a 300-level, writing intensive, Humanities, or Social and Behavioral Sciences elective. Given the increasingly global nature of the civil engineering field, students are required to take one Humanities or Social and Behavioral Sciences course from the KSAS International Studies major (see http://www.krieger.jhu.edu/internationallstudies/courses).

*** All technical electives must be at or above the 300-level, at least 6 credits must be designated as (E) and at least 3 credits must be directly aligned with one of the civil engineering technical areas. For a list of preapproved technical electives, see http://engineering.jhu.edu/civil/academic-advising/general-information/. Scroll down the page to open the list.

Sample B.S. Program

A sample civil engineering program may be viewed at http://engineering.jhu.edu/civil/wp-content/uploads/sites/10/2014/01/2013_Sample_Program.pdf. This sample illustrates the general sequence of courses; individual programs may vary as a result of AP credits, study abroad, or pursuit of a minor in another department.

Minor in Principles of Civil Engineering

This program is available to nondepartmental majors only who would like an overview of the principles of civil engineering. In addition to the prerequisite courses of AS.171.101 General Physics: Physical Science Major I for Physical Science Majors, AS.110.108 Calculus I, and AS.110.109 Calculus II, 18 credits are required for the minor, including 12 credits from fundamental civil engineering courses and 6 credits from a two-course sequence in one of three civil technical areas (geotechnical engineering, structural engineering, or systems engineering). No D grades can be counted toward the minor.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.560.141</td>
<td>Perspectives on the Evolution of Structures</td>
<td>3</td>
</tr>
<tr>
<td>EN.560.201</td>
<td>Statics &amp; Mechanics of Materials</td>
<td>4</td>
</tr>
<tr>
<td>EN.560.206</td>
<td>Solid Mechanics &amp; Theory of Structures</td>
<td>4</td>
</tr>
<tr>
<td>EN.560.491</td>
<td>Civil Engineering Seminar I</td>
<td></td>
</tr>
<tr>
<td>EN.560.492</td>
<td>Civil Engineering Seminar II</td>
<td></td>
</tr>
</tbody>
</table>

Students must choose to focus in one of the following three technical areas, completing two courses in one area of their choice.

** Structural Engineering **
- EN.560.320 Structural Design I
- EN.560.325 Structural Design II
- EN.560.440 Applied Finite Element Methods
- EN.560.445 Advanced Structural Analysis

** Geotechnical Engineering **
- EN.560.305 Soil Mechanics & Foundation Design

** Systems Engineering **

Combined Bachelor’s/Master’s Programs

The Department of Civil Engineering offers combined bachelor’s/master’s degrees. One program combines a B.S. in Civil Engineering with a Master of Science in Engineering (M.S.E.) in Civil Engineering. The other option combines a B.S. in Civil Engineering with a Master of Science in Engineering Management (M.S.E.M.). Formal application through the Department is required. Students may be admitted as early as the junior year. For students who are admitted to this program, the two degrees typically require five years total to complete. For these students, there is an automatic tuition waiver of 50 percent after the first eight semesters of undergraduate work. More information about these programs can be found at http://engineering.jhu.edu/civil/undergraduate-studies/combined-bsms/.

Civil engineering today is a dynamic, complex, and technologically sophisticated field. Powerful computational methods and high-strength materials offer new opportunities and new challenges. The Department of Civil Engineering offers a graduate program that is based primarily in mechanics of materials, systems, and structures. Fundamental to these areas is research in solid, structural, and stochastic mechanics. The graduate program is designed to instill in the student the fundamental theoretical concepts of mechanics as well as practical knowledge of modern materials, systems, and structural engineering. To be admitted to the program, students are expected to have graduated with an outstanding record in an appropriate undergraduate program.

Requirements for the M.S.E. Degree

After admission to the M.S.E. program, students must successfully complete one of two requirements in order to obtain the M.S.E. degree: either the 10 courses (course-only) option, or the 8 courses and a final M.S.E. Essay and Defense option. All courses must be 300-level or above, with a maximum of two (2) courses at the 300-level. With approval from the academic advisor, one of the 10 courses required for the M.S.E. degree may be a course at the 300-level or above from the Center for Leadership Education. Academic advisors, in consultation with the faculty in the Civil Engineering Department, will determine whether the 8 or 10 courses leading to this degree are appropriate and if they have been completed satisfactorily. No more than one course with a grade lower than a B- may be counted toward the course requirement. Typically the M.S.E. degree requires one to two years to complete, if the student is making steady progress. In some cases, the degree may take longer.

The M.S.E. Essay must be approved by the student’s faculty advisor and one reader, who will typically be a full-time Johns Hopkins Civil Engineering faculty member. Any external reader must be approved by the Chair of the Civil Engineering Department. M.S.E. students are expected to give a presentation to the Department regarding their thesis research. This requirement can be waived in extraordinary circumstances with approval of the Department Chair. Click here for the (http://eng.jhu.edu/images/uploads/civil/Masters_Essay_Readers_Letter.doc)Master’s Essay Readers’ Letter.
Typically limited financial support is available for M.S.E. students. Funding decisions will be made on an individual basis by the student’s research advisor.

Requirements for the Ph.D. Degree

There are a number of Whiting School of Engineering policies related to Ph.D. students, which are listed at http://engineering.jhu.edu/graduate-policies. Ph.D. student requirements for the Civil Engineering Department include:

- 10 Courses*
- Department Qualifying Examination (DQE)
- Annual Meetings and Reports to Ph.D. Advisory Committee
- Annual Review
- Graduate Board Oral Examination (GBO)
- Responsible Conduct of Research Course (AS.360.625)
- Final Ph.D. Thesis Defense

*All courses must be completed with a grade of B or better. At least 8 of the 10 courses must be at the 600- or 700-level. Note that students entering with a Masters degree may receive a maximum of 4 transfer courses. The number of transfer courses accepted is determined by the Department. Students transferring courses from a prior Masters degree must fulfill the remainder of the course requirement with courses only at the 600- or 700-level. Typically, in the Spring of the first year a student’s permanent advisor will consult with the Department to determine the appropriate number of transfer courses. These credits may accelerate the timeline given below. These are guidelines, and exceptions may be made under special circumstances.

Typical Timeline for Ph.D. Students

Year 1 Fall:
- Arrival prior to start of classes
- Selection of first semester courses (typically 4) with advisor
- Language/communication testing and placement for International Students
- First semester coursework and teaching assistant/research assistant duties where assigned
- Determination of permanent advisor in first semester

Year 1 Intersession:
- Intersession research
- Oral Department Qualifying Exam (DQE) (completed in early January)
- Annual review must be completed by January 31

Year 1 Spring:
- Second semester coursework and teaching assistant/research assistant duties where assigned
- Advisor and student identify Ph.D. Thesis Committee and student meets with members individually
- Responsible Conduct of Research course (AS.360.625)

Year 1 Summer:
- Research

Year 2 Fall:
- Research
- Coursework (typically fewer than in Year 1)
- Ph.D. Thesis Committee Meeting required prior to end of Fall semester

Year 2 Intersession:
- Research
- Annual review must be completed by January 31

Year 2 Spring:
- Research
- Coursework (typically finishing up this semester)

Year 2 Summer:
- Research

Year 3:
- Research (Year-round)
- Ph.D. Thesis Committee Meeting
- Annual review must be completed by January 31
- GBO: Exact timing determined by advisor in consultation with the student

Year 4 and Beyond:
- Research (Year-round)
- Ph.D. Thesis Committee Meeting every Fall prior to the end of the semester
- Annual review must be completed by January 31

Final semester:
- Thesis Defense

Language/Communication Testing and Placement:
All Ph.D. students who do not have a prior degree from an English speaking university must take an English Language Assessment. If it is determined at the assessment that the student needs further English language instruction, he/she will be required to take 370.600 or equivalent.

Determination of Permanent Advisor
In some cases students are admitted to work with a specific advisor, in which case the permanent advisor is the faculty member listed in the offer letter. In other cases students are not assigned a specific advisor at the time of the admission letter. During September and October of the first semester, these students should meet with the faculty, discuss their research interests, and learn more about the research being conducted by the faculty. By the beginning of November the student must state his/her preference(s) for a permanent advisor. The faculty will meet and determine the final advisor placements prior to the end of the semester. Every effort will be made to match students with their requested advisors, but financial constraints may not always make this possible.

Intersession
Intersession (the period between Fall and Spring terms) is an important time for research. Intersession is not a vacation. Any leave taken during intersession is subject to the policies outlined in http://engineering.jhu.edu/include/content/pdf/RA_T\text{\%20}A\text{\%20}leave\text{\%20}guidelines
Department Qualifying Examination (DQE)
The DQE is a comprehensive oral exam designed to determine whether or not the student is properly prepared to continue in the Ph.D. program. All first-year students studying for a Ph.D. take the DQE after their first semester of enrollment, typically in early January of the first year. This exam tests whether the student is prepared to continue in their Ph.D. studies based on their grasp of basic undergraduate-level and beginning graduate-level Civil Engineering knowledge. Possible outcomes of the exam are Pass, Retake, or Fail. Only an outcome of Pass is considered passing the exam. If the student receives a Retake, they are provided a single retake of the exam, typically in the Fall or early January of their second year. Possible outcomes of this exam retake are Pass or Fail. If the outcome of the exam is Fail, the student may pursue, with approval from the chair, a M.S.E. degree. Financial support for such a student during this period is not typical.

Annual Reviews
Reviews of all Ph.D. students in Civil Engineering must be performed annually prior to January 31 (consistent with the WSE policy found at http://engineering.jhu.edu/graduate-studies/academic-policies-procedures-graduate/). The review process follows the format given in the annual review form. The completed form must be submitted to the Academic Program Coordinator by January 31. If this annual review is not completed by this date, the student’s funding may be jeopardized.

Ph.D. Thesis Committee
Every Ph.D. student must have a Thesis Committee of at least 3 faculty members. The Advisor, in consultation with his/her Student, selects the makeup of the committee, and this information is recorded in the student’s file. The student is expected to meet with this committee a minimum of once per year. The thesis committee also typically serves as a subset of the actual GBO examination committee and forms the final Ph.D. defense committee. This committee must consist of a minimum of 2 full-time faculty of the Civil Engineering Department.

Ph.D. Thesis Committee Meeting
Thesis Committee meetings are expected to occur annually in the fall from Year 2 until the Ph.D. final defense. The student is required to submit a report to the committee members at least one week prior to the meeting. A typical report would include a literature review of the field relevant to the student’s research, a progress report of research performed to date, goals for research in the coming year, and a basic timeline of expected activities in the remaining years of the Ph.D. degree. The committee meeting should consist of a presentation of key aspects of the report, along with discussion and feedback from the Thesis Committee. In certain cases, particularly in later years of the Ph.D. degree, it may be deemed acceptable for the student to meet individually with members of the committee in lieu of the group meeting; however, such an exception can only be granted with permission of the Advisor and all committee members. Once the Thesis Committee meeting is completed, the Ph.D. Thesis Committee Meeting Form must be signed by the members of the committee and submitted to the Department.

Responsible Conduct of Research
Every Ph.D. student of the Whiting School of Engineering is required to take a Responsible Conduct of Research course (details on the requirement can be found at http://engineering.jhu.edu/wse-research/resources-policies-forms/responsible-conduct-of-research/). For Civil Engineering students, this should be completed in Spring or Summer of the first year of studies. Students who do not complete this requirement prior to Fall of their third year of studies may put their funding in jeopardy.

GBO Examination
The University maintains complete guidelines for the Graduate Board Orals here. (http://homewoodgrad.jhu.edu/academics/graduate-board/degree-candidacy) The GBO committee consists of 5 members, (3 in Department, 2 outside) with 2 alternates (1 in Department, 1 outside) and is selected by the Chair of the Department and the Director of Graduate Studies, who will consult with the student’s advisor. When a PhD student and advisor feel that the student is ready to take the GBO, the advisor should consult with the Director of Graduate Studies and the Civil Engineering Academic Coordinator to initiate the process of scheduling the exam. Both students and advisors should be aware that 4-6 weeks advance notice is needed in order to allow for scheduling the exam with the faculty and with the Graduate Board.

The exact format of each GBO examination is specified by the individual Chair of the GBO committee. The student may be requested to provide to the GBO committee prior to the examination some written document describing his or her research. In such cases, the latest annual Thesis Committee report and/or a recent conference or journal publication may suffice. It is typical that the student would be asked to provide a brief presentation of research at the beginning of the examination (no more than 10 slides, no longer than 10 minutes). The examination questions may be on any topic of the committee members’ choosing, but many of the questions relate to the student’s coursework and research. At the conclusion of the examination, the GBO committee may recommend, pass, conditional, pass, fail with re-examination, fail (final) as detailed here (http://homewoodgrad.jhu.edu/academics/graduate-board/degree-candidacy).

M.S.E. Degree for PhD Students
PhD students may petition for a M.S.E. degree following their GBO Examination. If the student passes the GBO, he/she may file for a non-terminal M.S.E. degree. If the student fails (final) the GBO, he/she may petition for a terminal M.S.E. degree. In all instances the students must have satisfied the M.S.E. degree course requirements as detailed here (http://engineering.jhu.edu/civil/graduate-studies/mse-requirements).

In instances where the research is highly interdepartmental, the student, with permission of the advisor, may request that the M.S.E. degree be awarded by another department in the Whiting School of Engineering. In such cases, the student must have satisfied M.S.E. degree requirements and receive the approval of, and an accepted application to, the awarding Department, as well as satisfied M.S.E. degree requirements of the Civil Engineering Department and receive approval from the Civil Engineering Chair. In all cases, the awarding of any jHU M.S.E. degree to a Civil Engineering PhD student may only occur after the student has completed the GBO exam.

Thesis Defense
The Thesis Defense is the final examination before conferral of the Ph.D. degree. The student defends his/her thesis in a seminar setting that is open to the public. The seminar is followed by a comprehensive examination of the student, focused on the thesis research.

Ethics: The Department of Civil Engineering is dedicated to upholding the highest standards of academic and research integrity. Plagiarism, and other forms of unethical conduct, are not tolerated. Students are referred to the Resources, Policies and Forms website of the Whiting School of Engineering for these and other policies related to academic and research integrity. 

%20(FINAL).pdf. Release time (if any) granted in that period must be approved by the advisor.
students at http://engineering.jhu.edu/graduate-studies/academic-policies-procedures-graduate/.

Defense Committee: A committee of at least 3 members administers the exam (typically the Ph.D. Thesis Committee). The Advisor, in consultation with the Department, selects the committee members, at least 2 of whom must be full-time faculty of the Civil Engineering Department. This should be done at the beginning of the semester in which the student plans to graduate. It is the student’s responsibility to keep the committee members apprised of all deadline dates.

Scheduling and Pre-Defense: The defense should be scheduled at least 3 weeks in advance through the Department’s Academic Coordinator. A complete written dissertation should be given to the committee at least 14 days in advance of the defense. Failure to meet this 2 week deadline will result in rescheduling the Ph.D. defense. The date and place of the defense, along with the thesis abstract, should be circulated 5-7 days prior to the defense.

Post-Defense: Completion of the Ph.D. requirements typically takes 4-8 weeks after a successful defense examination. All data and source codes related to the thesis should be properly archived according to requirements set forth by the Advisor. Any changes or additions specifically requested by the reviewers before or during the defense seminar should be incorporated into the thesis in consultation with the Advisor. A final copy of the thesis must then be made available to the reviewers for inspection no less than 48 hours before the deadline date for filing set by the Graduate Board. Upon approval, the student should submit a copy of the thesis and the Department’s “Certification for Advanced Degrees” form to the Department Administrative Assistant. In return, the Department will send to the Graduate Board Office or the Whiting School of Engineering Graduate Committee the “Certification of Completion of Department Requirements for an Advanced Degree,” signed by the Department Chairman.

Additional Information: It is the responsibility of the student to be aware of requirements and deadlines. It is suggested that this information be obtained before the start of the semester of intended graduation. All students should plan the timing of the final defense accordingly (making sure to account for the 4-8 week period following the defense) to satisfy any deadlines related to upcoming graduation or exhaustion of funding.

University requirements for the thesis can be obtained from the Graduate Board (http://homewoodgrad.jhu.edu/academics/graduate-board/degree-candidacy) web site. Information sheets entitled “Dissertation Requirements” are available to student and contain details on the form, cost and timing for submitting the thesis. Doctoral Theses must be submitted to both the ETD (Library) and the Department of Civil Engineering. The deadline date for filing is set by the Graduate Board Office. This date also applies to filing with the Whiting School Graduate Committee and with the Department. A receipt of ETD approval must be sent to the department, Graduate Board/WSE Office of Academic Affairs (for M.S.E. students).

For current faculty and contact information go to http://engineering.jhu.edu/civil/faculty/

Faculty
Chair
Benjamin Schafer

Professor, Swirnow Family Faculty Scholar: structural stability, computational mechanics, experimental methods, thin-walled structures.

Professors
Robert A. Dalrymple
Professor and Willard and Lilian Hackerman Chair in Civil Engineering: coastal engineering, water wave mechanics, fluid mechanics.

Somnath Ghosh
Professor and Michael G. Callas Chair in Civil Engineering: multiscale mechanics, finite elements, material fatigue modeling.

Lori Graham-Brady
Professor: probabilistic mechanics, finite elements, stochastic modeling of materials.

Takeru Igusa
Professor: structural dynamics, earthquake engineering, analysis of uncertainties.

Benjamin Schafer
Professor, Swirnow Family Faculty Scholar and Department Chair: structural stability, computational mechanics, experimental methods, thin-walled structures.

Associate Professor
James K. Guest
Associate Professor: topology optimization, structural and material design optimization, computational mechanics.

Assistant Professors
Judith Mitrani-Reiser
Assistant Professor: performance-based engineering, structural dynamics, earthquake engineering, multi-hazard loss estimation.

Michael D. Shields
Assistant Professor: stochastic simulation, uncertainty quantification, computational stochastic mechanics

Sauleh Siddiqui
Assistant Professor: optimization, equilibrium problems, systems in energy and environmental markets, transportation, and public health.

Lecturer
Rachel H. Sangree
Lecturer, Chair EP: structural engineering, historic structures.

Adjunct Professors
Xin Chen
Adjunct Professor: geotechnical engineering, infrastructure asset management.

John A. Matteo
Adjunct Professor, Director of Design: structural engineering and architecture, historic structures.

Lucas de Melo
Adjunct Professor: geotechnical engineering.

Joint, Part-Time and Visiting Appointments
J. Hugh Ellis
Joint, Part-Time, and Visiting Appointment: Professor (DoGEE): structural health engineering, environmental systems.

Joshua M. Epstein
Joint Appointment: Professor: Department of Emergency Medicine: integrated computational modeling of social, behavioral, and biomedical dynamics, agent-based modeling.

Seth Guikema
Joint Appointment: Assistant Professor (DoGEE): probabilistic risk analysis, environmental life-cycle assessment.

Ayse Gurses

Thomas Dean Kirsch
Joint Appointment, Associate Professor: Department of Emergency Medicine, Department of International Health: disaster planning and response, wilderness medicine, health care management.

Research Scientists
Shahabeddin Torabian
Assistant Research Scientist: thin-walled structures

Lian Shen
Assistant Research Professor: fluid mechanics, ocean-wind interaction, numerical modeling.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses
EN.560.101. Freshman Experiences in Civil Engineering. 1 Credit.
An introduction to civil engineering for first-year students. This course welcomes freshmen to the major by exploring civil engineering design and the range of design projects in which professional civil engineers engage. Students will have the opportunity to practice the design process using hands-on team-based projects, with emphasis on creative design, graphical communication, and teamwork.
Instructor(s): R. Sangree
Area: Engineering.

EN.560.141. Perspectives on the Evolution of Structures. 3 Credits.
Why do buildings and bridges look the way they do today? Students will be provided the tools to answer this question for themselves through a study of the history of the design of buildings and bridges throughout the world from both engineering and architectural/aesthetic perspectives. Only simple mathematics is required (no calculus). Students will participate in individual and group critique of structures from engineering, architectural, and social points of view.
Instructor(s): B. Schafer
Area: Engineering, Quantitative and Mathematical Sciences Writing Intensive.

EN.560.201. Statics & Mechanics of Materials. 4 Credits.
Basic principles of classical mechanics applied to the equilibrium of particles and rigid bodies at rest, under the influence of various force systems. In addition, the following topics are studied: free body concept, analysis of simple structures, friction, centroids and centers of gravity, and moments of inertia. Includes laboratory experience. Co-listed with EN.530.201. Recommended Course Background: AS.171.101, or EN.530.103/EN.530.104 or instructor permission.
Instructor(s): R. Sangree
Area: Engineering.

EN.560.202. Dynamics. 4 Credits.
Basic principles of classical mechanics applied to the motion of particles, system of particles and rigid bodies. Kinematics: analytical description of motion; rectilinear and curvilinear motions of particles; rigid body motion. Kinetics: force, mass, and acceleration; energy and momentum principles. Introduction to vibration. Includes laboratory experience.
Prerequisites: (EN.560.201 OR EN.530.201 ) AND AS.110.109 AND (AS.171.101 or (EN.530.103 AND EN.530.104))
Instructor(s): N. Nakata
Area: Engineering.

EN.560.206. Solid Mechanics & Theory of Structures. 4 Credits.
Application of the principles of structural analysis for statically determinant and indeterminate structures (trusses, cables, beams, arches, and frames). Calculation of internal forces and stresses in members and structures. Determination of deflections by equilibrium and energy methods. Analysis of indeterminate structures by flexibility and stiffness methods.
Prerequisites: EN.560.201 OR EN.530.201
Instructor(s): L. Graham-Brady
Area: Engineering.

EN.560.220. Civil Engineering Analysis. 3 Credits.
Civil engineering problems are formulated and then solved by numerical methods. Matrix inversion, data fitting and interpolation, root-finding, and solutions of ordinary and partial differential equations are presented. Matlab programming will be introduced to facilitate the solutions. Recommended Course Background: AS.110.106, AS.110.107/AS.110.109
Instructor(s): J. Mitrani-Reiser
Area: Engineering.

EN.560.305. Soil Mechanics. 4 Credits.
Prerequisites: EN.560.351 OR EN.570.351
Corequisites: EN.570.351 or EN.560.351
Instructor(s): L. De Melo
Area: Engineering.

EN.560.320. Structural Design I. 3 Credits.
Introduction to structural design using common building materials (structural steel, reinforced concrete, and wood). Emphasis will be placed on the application of solid mechanics principles to the design of structural components (beams, columns, and tension members).
Instructor(s): R. Sangree
Area: Engineering.
EN.560.325. Structural Design II. 3 Credits.
A continuation of Structural Design I, this course explores the behavior and conceptual design of structures. Emphasis is placed on identifying load paths through typical gravity and lateral load systems, modeling loads on real structures, and designing structural systems. Designing connections capable of transferring loads through a structural system will also be covered. Recommended Course Background: EN.560.320
Prerequisites: EN.560.206
Instructor(s): R. Sangree
Area: Engineering.

EN.560.330. Foundation Design. 3 Credits.
Application of soil mechanics theory and soil test results to the analysis and design of foundations for structures; retaining walls; embankments; design of pile and shallow footing foundations; slope stability.
Instructor(s): L. De Melo
Area: Engineering.

EN.560.348. Probability & Statistics in Civil Engineering. 3 Credits.
Development and applications of the analysis of uncertainty, including basic probability, statistics and decision theory, in civil engineering systems. Recommended Course Background: AS.110.109
Instructor(s): S. Siddiqui
Area: Engineering.

EN.560.351. Introduction to Fluid Mechanics. 3 Credits.
Introduction to the use of the principles of continuity, momentum, and energy to fluid motion. Topics include hydrostatics, ideal-fluid flow, laminar flow, turbulent flow, form and surface resistance with application to fluid measurement, flow in conduits, and channels, pumps, or turbines. Co-listed with EN.570.351.
Area: Engineering.

EN.560.380. Introduction to Ocean Wind Engineering. 3 Credits.
Fundamentals of hydrodynamics, aerodynamics and flow-structure interactions with applications in coastal/ocean engineering and wind engineering. Topics include wind and current past blunt bodies, flow-induced structure vibrations, ocean waves and wave/flood loads, wind field and wind loads, sustainable energy from wind and wave and model testing.
Instructor(s): W. Marr
Area: Engineering.

EN.560.429. Preservation Engineering: Theory and Practice. 3 Credits.
The renovation of existing buildings often holds many advantages over new construction, including greater economy, improved sustainability, and the maintenance of engineering heritage and architectural character in our built environment. Yet, the renovation of existing structures presents many challenges to structural engineers. These challenges include structural materials that are no longer in widespread use (e.g., unreinforced masonry arches and vaults, cast iron, and wrought iron) as well as structural materials for which analysis and design practices have changed significantly over the last half-century (e.g., wood, steel, and reinforced concrete). This course will examine structures made of a wide variety of materials and instruct the student how to evaluate their condition, determine their existing capacity, and design repairs and/or reinforcement. The investigation and analysis procedures learned from this course may then be applied to create economical and durable structural alterations that allow for the reuse of older buildings. Site visits near Homewood campus will supplement lectures.
Prerequisites: (EN.560.201 OR EN.530.201) AND EN.560.206 AND EN.560.320 or equivalent for graduate students.
Instructor(s): J. Matteo; R. Sangree
Area: Engineering.

EN.560.440. Applied Finite Element Methods. 3 Credits.
Finite Element Methods (FEM) are one of the most powerful engineering tools that are widely used in various disciplines. This course introduces concepts, capabilities, and limitations of FEM and is intended to facilitate applications of FEM in student’s research. The course covers fundamental theories with a focus on stiffness formulation techniques, element types, and computational procedures. The course also offers finite element programming with MATLAB.
Instructor(s): N. Nakata
Area: Engineering.

EN.560.442. Equilibrium Models in Systems Engineering. 3 Credits.
Provide an introduction to equilibrium problems involving systems. The course will start with an introduction to optimization theory followed by various equilibrium problems including market, spatial, and network models. Solution techniques to these types of problems will be discussed, along with applications to systems engineering. Recommended Course Background: AS.110.201 and AS.110.109 or equivalent.
Area: Engineering.

EN.560.445. Advanced Structural Analysis. 3 Credits.
Matrix methods for the analysis of statistically indeterminate structures such as beams, plane and space trusses, and plane and space frames. Stiffness and flexibility methods. Linear elastic analysis and introduction to nonlinear analysis.
Prerequisites: EN.560.206
Instructor(s): J. Guest
Area: Engineering.

EN.560.451. Civil Engineering Design I. 2 Credits.
A study of the engineering design process from problem definition to the final design. There are team projects which include written and oral presentations. Senior only or Permission Required
Instructor(s): J. Matteo
Area: Engineering.
EN.560.452. Civil Engineering Design II. 3 Credits.
A study of the engineering design process from problem definition to the final design. There are team projects which include written and oral presentations. Requirements: Student must be a senior in Civil Engineering.
Instructor(s): J. Matteo
Area: Engineering.

EN.560.481. Engineering Design of Underwater Life Support. 3 Credits.
The physiological and psychological aspects of man in the sea are presented with the related engineering requirements. Topics include hyperbaric physiology, decompression theory, carbon dioxide absorption, thermal protection, psychrometrics, saturation diving, life support equipment, deep dive systems, diving operations and hazards.
Instructor(s): W. Marr
Area: Engineering.

EN.560.491. Civil Engineering Seminar I.
Seminar series of speakers on various aspects of civil engineering. Juniors and Seniors in Civil Engineering are expected to enroll in this sequence; juniors and seniors receive one-half credit. Different speakers are invited each semester. Satisfactory/ Unsatisfactory only
Prerequisites: EN.560.491
Instructor(s): R. Sangree
Area: Engineering.

EN.560.492. Civil Engineering Seminar II.
Seminar series of speakers on various aspects of civil engineering. Juniors and Seniors in Civil Engineering are expected to enroll in this sequence; juniors and seniors receive one-half credit. Different speakers are invited each semester. Satisfactory/ Unsatisfactory only
Prerequisites: EN.560.492
Instructor(s): R. Sangree
Area: Engineering.

EN.560.493. Civil Engineering Seminar III.
Seminar series of speakers on various aspects of civil engineering. Juniors and Seniors in Civil Engineering are expected to enroll in this sequence; juniors and seniors receive one-half credit. Different speakers are invited each semester. Satisfactory/ Unsatisfactory only
Prerequisites: EN.560.493
Instructor(s): R. Sangree
Area: Engineering.

EN.560.494. Civil Engineering Seminar IV.
Seminar series of speakers on various aspects of civil engineering. Juniors and Seniors in Civil Engineering are expected to enroll in this sequence; juniors and seniors receive one-half credit. Different speakers are invited each semester. Satisfactory/ Unsatisfactory only
Prerequisites: EN.560.494
Instructor(s): R. Sangree
Area: Engineering.

EN.560.498. Survey of Systems Engineering Tools. 3 Credits.
Introduction to analytical tools in the three major functional areas of systems engineering: design, analysis and control. Recommended Corequisite: EN.560.348 or equivalent course in probability theory. Restricted to Civil Engineering majors or by permission of instructor.
Instructor(s): T. Igusa
Area: Engineering.

EN.560.525. Independent Study. 3 Credits.
Instructor(s): R. Dalrymple; T. Igusa.

EN.560.526. Independent Study Civil Engineering. 0 - 3 Credit.
Instructor(s): B. Schafer; J. Mitrani-Reiser; R. Dalrymple; R. Sangree; T. Igusa.

EN.560.535. Research in Civil Engineering. 3 Credits.
Perm. Req’d.
Instructor(s): Staff.

EN.560.536. Research in Civil Engineering. 0 - 3 Credit.
Instructor(s): Staff.

EN.560.590. Civil Engineering Internship. 1 Credit.
Instructor(s): B. Schafer; J. Guest.

EN.560.597. Summer Research - Civil Engineering. 3 Credits.
Instructor(s): Staff.

Theory and applications with an emphasis on statistical learning techniques for large experimental or computer-generated data sets. Applications will include problems in solid and fluid mechanics. Recommended Course Background: EN.560.435 or introductory course in probability and statistics.

EN.560.602. GPU Programming for Engineers.
Video graphics cards can be repurposed to perform massively parallel computations rapidly. This course will provide students the ability to program these graphics cards to speed up numerical computations. The course will begin with an introduction to C++ programming followed by concepts in parallel computing. Finally, the CUDA extensions to C++ that is used on Nvidia graphics cards. Students will be programming GPUs during the course. Recommended course background: Some programming experience.
Instructor(s): R. Dalrymple
Area: Engineering.

Basic solid mechanics for structural engineers. Stress, strain and constitutive laws. Linear elasticity and viscoelasticity. Introduction to nonlinear mechanics. Static, dynamic and thermal stresses. Specialization of theory to one- and two-dimensional cases: plane stress and plane strain, rods, and beams. Work and energy principles; variational formulations.
Instructor(s): L. Graham-Brady.

Covers probabilistic computational modeling in civil engineering and mechanics: Monte Carlo simulation, sampling methods and variance reduction techniques, simulation of stochastic processes and fields, and expansion methods. Applications to stochastic finite element, uncertainty quantification, reliability analysis, and model verification and validation.
Instructor(s): M. Shields.

EN.560.620. Advanced Steel Design.
Steel Structures or comparable introductory steel design course. This course examines advanced design of structural steel buildings using the load and resistance factor design approach. Topics include plastic analysis of indeterminate structures, design of plate girders, and design of composite beams. Co-listed with EN.565.620. Recommended Course Background: EN.560.320.

EN.560.627. Structural Optimization.  
Introduction to optimization theory and algorithms and their application to the design of structures, including structural systems, mechanisms, devices, and materials. Strong emphasis on topology optimization using finite element methods and design problems governed by solid and structural mechanics. Extensions to other physics and multiple physics are also introduced (e.g., fluids, heat transfer, optics, etc.). Course assumes familiarity with finite element methods and assumes no prior coursework in optimization. 
Area: Engineering.

EN.560.630. Structural Dynamics.  
Functional and computational examination of elastic and inelastic single degree of freedom systems with classical and non-classical damping subject to various input excitations including earthquakes with emphasis on the study of system response. Extension to multi-degree of freedom systems with emphasis on modal analysis and numerical methods. Use of the principles of structural dynamics in earthquake response. 
Instructor(s): J. Mitrani-Reiser.

Fundamentals of functional and computational examination of elastic and inelastic single and multi-degree of freedom systems. Theories of structural mechanics including strength, stability, wave propagation, and vibration. Topics include linear elastic, inelastic, plastic, and viscoelastic behavior of materials. 
Area: Engineering.

This course provides advanced theories and experimental techniques in structural engineering. Topics include dynamic scaling, instrumentation, data acquisition, signal processing, system identification, and experimental methods for structures. The class consists of lecture and laboratory sessions. Recommended Course Background: EN.560.752 or equivalent.

Introduction to sensors and actuators. Topics include classification of sensors and actuators, basic principles of operation, design considerations, and applications in structural and mechanical systems. 
Instructor(s): L. Graham-Brady.

This course covers advanced topics in structural dynamics, including non-linear dynamics, chaos, bifurcations, and advanced numerical methods for solving dynamic systems. Students will learn to use computer software for dynamic analysis and will apply these techniques to real-world engineering problems. 
Area: Engineering.

This is a course in the concept, design, development and integration of systems from individual systems to system-of-systems. Lessons are reinforced by case studies and assignments, taking a holistic systems view and integrating aspects of product development and system architecture within systems engineering. This course will teach UML and SysML as model based system engineering languages for systems design, analysis, and documentation in a concurrent engineering, team-oriented design setting. The system language IDEFx will be covered to the degree that students can read and interpret legacy systems documented using IDEFx. In addition to lectures, a case study approach will be employed to develop analytical, technical, management, and teamwork skills through exercises in planning, documentation, presentation, and the creative process of systems engineering design. 
Instructor(s): T. Speller

EN.560.642. Systems Modeling and Simulation.  
Students will learn to develop agent-based and systems dynamics models to simulate complex systems. Models with hierarchical and other structures will be examined, and applications will be chosen based on student interest. 
Instructor(s): T. Igusa.

EN.560.644. Uncertainty Analysis and Downscaling.  
This course will describe several approaches used to infer small-scale information from large-scale observations (downscaling). Downscaling is especially useful for multi-scale phenomena characterized with power-law spectra or fractal geometry. Topics: Self-consistency conditions across length-scales to determine model parameters in coarse-grained simulations. Tools for characterizing scale-invariant (fractal) processes. Sample applications of downscaling as practiced today: (i) multi-scale transport phenomena in fluids, (ii) rainfall modeling in hydrology. The process of inferring small-scale information from large-scale observations is most often inherently uncertain. The second part of this course will explore uncertainty models in the analytical context of downscaling. Topics: assimilation of data and models (Kalman filtering and related methods for nonlinear models and vary large data sets), statistical analysis of spatial-temporal data (independent components analysis, kernel methods). Applications to downscaling in atmospheric data. 
Area: Engineering, Social and Behavioral Sciences.

EN.560.648. Infrastructure Asset Management.  
Introduction to concept of infrastructure asset management. Topics include performance & condition data collection and modeling, geographical information system (GIS), life-cycle economic analysis, maintenance, rehabilitation, and renovation (MR&R) strategies, innovative contracting using PPP and performance based design, construction, maintenance, and operation. Undergraduates must be seniors or obtain permission of instructor.

Course will address various themes related to modeling complex systems through critical evaluation of technical articles, open discussion, faculty presentations, and computational workshops. Teams of 3-5 faculty will develop monthly units based on different themes, examples of which may include: optimization and uncertainty modeling in science and engineering, particle-based modeling, experimental and field measurements in multi-scale models, linking atomistic- to continuum-scale models, challenges in climate and ocean modeling, homogenization and upscaling of small-scale data. This course is a requirement for MCS IGERT trainees, but it is open to all graduate students. 
Instructor(s): L. Graham-Brady.

EN.560.664. Stochastic Micromechanics.  
The course builds on the knowledge gained in classes on structural mechanics and solid mechanics, extending the concepts of those classes in two directions, (1) the inclusion of uncertainty in problems in mechanics and (2) consideration of mechanics phenomena which occur at small scales.

Coastal processes and their influence on engineering at the shoreline. Waves and currents, equilibrium beach profiles, littoral transport, shoreline modeling and the behavior of tidal inlets. The impact of structures on the shoreline.

EN.560.682. Introduction to Water Wave Mechanics.  
The theories governing water wave motion, from linear to nonlinear waves, is presented. Wave propagation and transformation, including shoaling, refraction, and diffraction, is shown. Wave breaking and the basic interaction of waves with structures and the ocean bottom are covered. 
Instructor(s): R. Dalrymple.
EN.560.691. Graduate Seminar.
Graduate students are expected to register for this course each semester. Both internal and outside speakers are included.
Instructor(s): B. Schafer.

EN.560.692. Civil Engineering Graduate Seminar.
Seminar series of speakers on various aspects of civil engineering. Different speakers are invited each semester. Full time civil engineering graduate students must enroll in the seminar course every semester unless excused by the Department.
Instructor(s): B. Schafer.

EN.560.700. Applications of Science-Based Coupling of Models.
Area: Engineering, Social and Behavioral Sciences.

This 1.5 hour course will address various themes related to modeling complex systems through critical evaluation of technical articles, open discussion, faculty presentations, and computational workshops. Teams of 3-5 faculty will develop monthly units based on different themes, examples of which may include: optimization and uncertainty modeling in science and engineering, particle-based modeling, experimental and field measurements in multi-scale models, linking atomicist- to continuum-scale models, challenges in climate and ocean modeling, homogenization and upscaling of small-scale data. This course is a requirement for MCS IGERT trainees, but it is open to all graduate students.

EN.560.705. Random Fields.

EN.560.710. Finite Element Methods.
Introduction to the finite element methods for approximate numerical solutions to engineering problems. The basic theories are presented. Topics will include the principle of virtual work, variational method, and weighted residual method to obtain finite element formulations.

EN.560.724. Cold-Formed Steel Structures.
Practical introduction to the analysis, design, and experimentation of cold-formed steel members and structures. Followed by an in-depth treatment of the theories which underpin modern analytical and computational tools used in exploring cold-formed steel behavior, and an introduction to topics under current research.
Instructor(s): B. Schafer.

EN.560.725. Structural Design.
This course provides an open platform for delving into advanced issues in the structural design of civil structures including buildings and bridges. The course will cover a wide variety of topics, influenced in part by interests of the students. Topics potentially include conceptual design, loadings, U.S. codes and specifications, structural systems, lateral force resisting systems, role of advanced analysis and optimization in design, parametric modeling, building information modeling, sustainability, resilience, reliability, structural art, and critique of structures. Students will be expected to do significant work/independent study outside of the regular course meetings. Recommended Course Background: EN.560.445, EN.560.320, and EN.560.729, or equivalent courses.

Variational methods and mathematical foundations, Direct and Iterative solvers, 1-D Problems formulation and boundary conditions, Trusses, 2-D/ 3D Problems, Triangular elements, QUAD4 elements, Higher Order Elements, Element Pathology, Improving Element Convergence, Dynamic Problems.
Instructor(s): S. Ghosh.

Instructor(s): B. Schafer.

EN.560.738. Applied Knowledge Discovery.
The applied knowledge discovery process involves a close interaction between domain experts and machine learning techniques to explore and learn from complex data sets. Most research on this subject is centered on machine learning. The emphasis in this course is on effective use of domain expertise. Applications will be chosen based on student interests.
Instructor(s): T. Igusa.

An examination of performance quantification methods for assessing structures under multiple hazards including seismic, wind, and other extreme loads. An introduction on the integration of these performance metrics into the design process, and an overview on how to effectively design risk mitigation strategies.
Prerequisites: EN.560.630
Area: Engineering.

EN.560.756. Earthquake Engineering.
EN.560.764. Infrastructure Asset Management.
Introduction to concept of infrastructure asset management. Topics include performance & condition data collection and modeling, geographical information system (GIS), life-cycle economic analysis, maintenance, rehabilitation, and renovation (MR&R) strategies, innovative contracting using PPP and performance based design, construction, maintenance, and operation. Undergraduates must be seniors or obtain permission of instructor.
Instructor(s): X. Chen.

Methods and state-of-the-art algorithms for engineering design with topology optimization. Applications to optimal design of materials, devices, components, and systems for a variety of objectives including mechanical/structural, fluid flow, thermal, and electrical properties. Knowledge of finite element methods, optimization theory, and optimization algorithms is assumed.
Area: Engineering.

EN.560.770. Advanced Finite Element Methods and Multi-Scale Methods.
Addresses advanced topics in various areas of the finite element methodology. Covers a range of topics, viz. element stability and hourglass control, adaptive methods for linear and nonlinear problems, mixed and hybrid element technology, eigen-value problems, multi-scale modeling for composites and polycrystalline materials. Recommended Course Background: EN.530.730 or EN.560.730
Instructor(s): S. Ghosh.

This course will discuss state of the art theoretical developments and modeling techniques in nonlinear computational mechanics, for problems with geometric and material nonlinearites. Large deformation of elastic-plastic and visco-plastic materials, contact-friction and other heterogeneous materials like composites and porous materials will be considered. A wide variety of applications in different disciplines, e.g. metal forming, composite materials, polycrystalline materials will be considered. Co-listed with EN.530.772
Instructor(s): S. Ghosh.
EN.560.782. Hydrodynamics.
Fundamentals of fluid mechanics in the context of ocean science and engineering, naval architecture, and coastal processes, at engineering scales.
Area: Engineering.

Hydrodynamics with applications in ocean vehicles and structures. Waves, winds and currents in sea environment. Interactions between waves and floating bodies. Sea loads on offshore structures.
Prerequisites: EN.560.781
Instructor(s): L. Shen.

EN.560.785. Coastal & Ocean Modeling.
Course discusses the numerical and physical modeling techniques used in coastal and ocean engineering, including finite difference, finite and boundary element methods, and particle methods. Some aspects of parallel computing will be included.
Area: Engineering, Natural Sciences.

Course introduces contemporary ocean science and engineering research, and discusses select topics in the areas of air-sea exchange, nonlinear waves, hydrodynamics, wave-turbulence interaction, and flow-structure interaction.
Prerequisites: EN.560.782 AND EN.560.783 OR INSTRUCTOR PERMISSION
Instructor(s): L. Shen.

EN.560.826. Graduate Independent Study.
Instructor(s): T. Igusa.

EN.560.835. Graduate Research.
Instructor(s): Staff.

EN.560.836. Graduate Research.
Instructor(s): Staff.

Cross Listed Courses
Earth Planetary Sciences
AS.270.205. Introduction to Geographic Information Systems and Geospatial Analysis. 3 Credits.
The course provides a broad introduction to the principles and practice of Geographic Information Systems (GIS) and related tools of Geospatial Analysis. Topics will include history of GIS, GIS data structures, data acquisition and merging, database management, spatial analysis, and GIS applications. In addition, students will get hands-on experience working with GIS software.
Instructor(s): X. Chen
Area: Engineering, Natural Sciences.

Geography Environmental Engineering
EN.570.351. Introduction to Fluid Mechanics. 3 Credits.
Introduction to the use of the principles of continuity, momentum, and energy to fluid motion. Topics include hydrostatics, ideal-fluid flow, laminar flow, turbulent flow. Recommended Course Background: Statics, Dynamics, and AS.110.302
Instructor(s): W. Marr
Area: Engineering.

Computer Science
Computing has grown to be a pervasive element of society, business, science, and entertainment. The availability of relatively inexpensive high performance computing capabilities, ubiquitous high speed and wireless networking, and mobile computing have powered a technology-driven restructuring of the way society and most professions now operate. Information, and its associated processing and transport, is the commodity upon which corporations are built and lives are improved. At the center of this revolution, making it happen, are those who study computer science.

There are two dimensions to the field of computer science that establish it as a unique area. CS can be viewed as a stand-alone discipline worthy of study unto itself, and/or as an empowering discipline to be studied in conjunction with other areas. Core CS careers include (but are not limited to) software design and development, computer systems engineering or administration, and information security. Application areas span a wide range of fields and disciplines such as robotics, medical or health informatics, gaming/entertainment, business computing, and scientific research to name a few.

Because computer science is a highly diverse and broadly applied field, studies can proceed in many different directions. Accordingly, the undergraduate and graduate programs in the Department of Computer Science at Johns Hopkins are flexible curricula designed to accommodate a wide range of goals. A student at Johns Hopkins can pursue appropriately customized versions of the following computer science programs: minor, bachelor of science, bachelor of arts, masters of science in engineering, and doctor of philosophy. Most of this catalog section is devoted to details regarding these programs.

Computer science research laboratories are currently active in the following areas at Hopkins: algorithm design and analysis, human-computer interaction, machine learning, health informatics, computational medicine, computer vision and image processing, computer graphics, geometric modeling, programming languages, natural language and speech processing, information retrieval, cryptography and information security, secure and robust systems, storage systems, high-performance and scientific computing, computational genomics, networks and distributed systems, stream processing, parallel and distributed databases, robotics, computer-integrated surgical systems, and wireless and sensor systems.

Additionally, interdisciplinary research centers in the university have heavy involvement by Computer Science faculty: the Information Security Institute (ISI), the Center for Computer-Integrated Surgical Systems and Technology (CISST), the Laboratory for Computational Sensing and Robotics (LCSR), the Center for Language and Speech Processing (CLSP), and the Institute for Data Intensive Engineering and Science (IDIES). An important component of the educational process in the department is the opportunity for undergraduate and graduate student participation in the research programs of the faculty. In particular, original research in close association with individual faculty members is emphasized at the graduate level.

There are several closely related programs at the undergraduate and graduate levels which involve significant coursework and faculty involvement from the Department of Computer Science. The Laboratory for Computational Sensing and Robotics (LCSR) offers a minor in robotics and also a minor in computer integrated surgery through the Engineering Research Center for Computer Integrated Surgical Systems and Technology. Details of these programs may be found elsewhere in this catalog in the section pertaining to the Laboratory for Computational Sensing and Robotics (p. 890). Undergraduates with a strong interest in system design and performance may elect to pursue a bachelor degree in computer engineering (p. 763). This field of study includes course work in computer science, as well as
electrical and computer engineering. Although jointly administered by both departments, specific goals and requirements of the computer engineering degree may be found in the catalog section pertaining to the Department of Electrical and Computer Engineering only.

At the graduate level, the LCSR (p. 890) offers a Master of Science in Engineering (M.S.E.) in Robotics, designed for students from a wide variety of engineering, scientific, and mathematical backgrounds to advance their interdisciplinary knowledge in robotics. Details of this program may be found in the LCSR section of this catalog, or on the web at www.lcsr.jhu.edu/MSE. Lastly, the Master of Science in Security Informatics (M.S.S.I.) is a specialized graduate program offered through the Information Security Institute (p. 819) (ISI) in the WSE. The field of security informatics is fundamentally based on information security and assurance technologies (hardware, software, and networks) as related to issues such as policy, management, privacy/trust, health care, and law, from both national and international perspectives. Interested students can obtain detailed information regarding the M.S.S.I. online at www.jhuisi.jhu.edu or in the ISI section of this catalog.

For additional information regarding the academic programs available in Computer Science, and the facilities provided, please consult the sections which follow, or the departmental website www.cs.jhu.edu.

Facilities

The general department computing facilities include numerous workstations and servers. Several undergraduate laboratories combine to provide approximately 24 Linux workstations, and at least two Windows stations; one of these labs is a collaboration room allowing students to work in a team-based environment. At the graduate level there is a Master’s Students Office consisting of a collaboration area and workstation area, both consisting of several Linux workstations, and assigned office spaces and computers for Ph.D. students. Additionally, multiple high-speed networked laser printers, as well as a networked color copier and remotely accessible Linux and Unix compute servers are available to both graduate and undergraduate students.

Focused research laboratories have significant resources that provide greater specialization, including isolated networks of PCs for security studies, sensor and wireless computing testbeds, robots and computer vision systems, a mock operating room equipped with medical robots and imaging equipment, and more.

The general department computing facilities are tied together by our own LAN, and access to specialized hardware in other departments, labs, and institutions is available via the university intranet and the Internet. In addition, the university provides wireless access to the JHU intranet and the Internet, as well as server systems that provide e-mail accounts for all students.

(See also General Requirements for Departmental Majors (p. 24))

The objectives of our bachelor degree programs are to train computer scientists who will be able to:

• Successfully engage in professional practice in the computing sciences or apply computer science tools and techniques to another field of interest.
• Pursue advanced study in the computing sciences.
• Behave in a professional and ethical manner.

• Work successfully in both independent and team environments.

A successful major program of study leads to either the Bachelor of Science in Computer Science (B.S.) or the Bachelor of Arts in Computer Science (B.A.). Students should decide which degree program to complete by about their junior year. Both degree programs require specific courses and/or credits in several key areas: computer science, math, basic science, humanities and social sciences. However, there is much flexibility in how these requirements are fulfilled. Undergraduate majors may choose to pursue a broad selection of computer science and distributional courses, or to pursue a specific track within the field. Current tracks reflect departmental and school strengths: information security, natural language processing, robotics, software engineering, and video game design. Further information on these tracks may be found in the computer science undergraduate advising manual.

All undergraduate students majoring or minoring in computer science must have a faculty advisor in the department. They will be assigned an advisor as entering freshmen or upon deciding on the major/minor. Every major must follow a program approved by his/her faculty advisor.

The department also offers a minor in computer science, and tangentially, a minor in computer integrated surgery and a minor in robotics. Some students majoring in computer science may be eligible for a concurrent bachelor’s/master’s degree program. Requirements for these programs are included here as well. Additional details regarding undergraduate programs can be found in the department’s undergraduate advising manual or on the website at www.cs.jhu.edu.

Requirements for the B.S. Degree

The Bachelor of Science in Computer Science degree program is accredited by the Computing Accreditation Commission of ABET, www.abet.org (http://www.abet.org). It provides for the acquisition of the following knowledge base and skill set:

• An ability to apply knowledge of computing and mathematics appropriate to the discipline.
• An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
• An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
• An ability to function effectively on teams to accomplish a common goal.
• An understanding of professional, ethical, legal, security, and social issues and responsibilities.
• An ability to communicate effectively with a range of audiences.
• An ability to analyze the local and global impact of computing on individuals, organizations, and society.
• Recognition of the need for and an ability to engage in continuing professional development.
• An ability to use current techniques, skills, and tools necessary for computing practice.
• An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choices.
• An ability to apply design and development principles in the construction of software systems of varying complexity.
To meet the course credit requirements for the B.S. in computer science, the student must complete a minimum of 126 credits. The basic requirements for the B.S. degree are as follows:

**Computer Science (42 credits)**
The following foundational courses in computer science must be included in a student’s program:

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<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>EN.600.104</td>
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<td>EN.600.107</td>
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<td>EN.600.120</td>
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<tr>
<td>EN.600.363</td>
<td>3</td>
</tr>
<tr>
<td>EN.661.110</td>
<td>3</td>
</tr>
</tbody>
</table>

At least 16 credit hours must be at the 300-level or above, including EN.600.363/463. At least one course in each classification area of Analysis, Applications and Systems must be chosen. An exhaustive list of the area classifications for each of our courses may be found on the department’s website.

Students must take at least one of the following courses which contain oral communication components. The course satisfying this requirement may overlap other requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.600.255</td>
<td>1</td>
</tr>
<tr>
<td>EN.600.321/.421</td>
<td>1</td>
</tr>
<tr>
<td>EN.600.355</td>
<td>1</td>
</tr>
<tr>
<td>EN.600.392</td>
<td>1</td>
</tr>
<tr>
<td>EN.600.446</td>
<td>1</td>
</tr>
<tr>
<td>EN.600.520</td>
<td>1</td>
</tr>
</tbody>
</table>

Eight additional credits of Computer Science are required. 8

**Mathematics (22 credits)**
The following courses must be included:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.108</td>
<td>4</td>
</tr>
<tr>
<td>AS.110.109</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.171</td>
<td>4</td>
</tr>
</tbody>
</table>

The remaining courses must be 200-level or above. Chosen from Mathematics (110.xxx) or Applied Math and Statistics (550.xxx), and must include coverage of both probability and statistics. Some highly recommended math electives are Probability & Statistics, Calculus III, Linear Algebra, and Differential Equations. Note that students will need at least six courses to fulfill the credit requirement. **

**Basic Sciences (16 credits)**
At least two semesters of physics or two semesters of chemistry, with the associated laboratories, must be included. The remaining courses must be chosen in accordance with the list posted on the department’s website, which includes most courses in Physics, Chemistry, Biology, Biophysics, Earth & Planetary Sciences, Natural Sciences designated engineering courses, and some Natural Sciences designated courses in Neuroscience & Cognitive Science, but not all. At most 2 credits from satisfactory/unsatisfactory intersession courses may be used to fulfill this requirement.

**Humanities/Social Sciences (18 credits)**
Six courses in the Humanities and Social and Behavioral Sciences must be taken, with each course at least 3 credits. These courses must have either an Humanities or Social and Behavioral Sciences area designator on them; however, foreign language courses (without an Humanities or Social and Behavioral Sciences) may also be used to satisfy this requirement.

**Broadening Electives (12 credits)**
At least 12 additional credits must be taken in areas such as Humanities, Social and Behavioral Science, Natural Science, arts, business, engineering, or other disciplines that serve to broaden the student’s background. Courses used to fulfill this requirement must not be from computer science, computer and electrical engineering, or math departments.

**Writing Requirement**
Students are required to fulfill the university’s requirement of two writing intensive courses, each at least 3 credits. Students must receive at least a C- grade or better in these writing courses. These courses may overlap other requirements. At least one of the following options should be chosen:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.060.113</td>
<td>1</td>
</tr>
<tr>
<td>EN.661.110</td>
<td>1</td>
</tr>
<tr>
<td>AS.220.105</td>
<td>1</td>
</tr>
<tr>
<td>AS.220.106</td>
<td>1</td>
</tr>
</tbody>
</table>

**Electives**
Electives to be chosen by the student with guidance and approval of his/her advisor.

Total Credits 126
* With the advisor’s explicit permission regarding course selections, up to 6 of the 42 required credits may be taken in the Department of Electrical and Computer Engineering or the Information Security Institute.

No more than 6 credits of independent study (including EN.600.491-EN.600.492) and no more than 3 credits of short courses can be counted toward this requirement. However, B.S. students doing the Senior Honors Thesis (EN.600.519-EN.600.520) may use an additional three credits of independent work toward their CS requirements, for a total of 9 credits.

No courses with grades below C- or with satisfactory/unsatisfactory grades can be used to fulfill this requirement unless they are not offered for a grade.

** AP Statistics credits may not be used to satisfy these credit requirements; however, they do meet the need for coverage of statistics (not probability).

Requirements for the B.A. Degree

To meet the course credit requirements for the B.A. in computer science, the student must complete a minimum of 120 credits. The basic requirements for the B.A. degree are:

| Computer Science | 32 |
| Mathematics | 18 |
| Basic Sciences | 12 |
| Humanities/Social Sciences | 18 |
| Foreign Language | 6 |
| 4 Writing Intensive Courses | |
| Electives * | 34 |
| Total Credits | 120 |

* To be chosen by the student with the guidance and approval of his/her advisor. Freshman majors are also expected to take EN.600.105 M & Ms: Freshman Experience (optional for transfers into the major). This is a one credit Satisfactory/Unsatisfactory course that may only be counted as an elective.

Details and course recommendations of these distributional requirements are below. These requirements add up to 84 credits and fulfill general university distribution requirements.

Except for electives, courses should not be taken on a satisfactory/unsatisfactory basis. By university policy, no more than 18 D or D+ credits can be counted toward the total credit requirements for a degree.

Computer Science (32 credits) *

The following foundational courses in computer science must be included in a student’s program:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.600.107</td>
<td>Introductory Programming in Java (or equivalent)</td>
</tr>
<tr>
<td>EN.600.120</td>
<td>Intermediate Programming</td>
</tr>
<tr>
<td>EN.600.226</td>
<td>Data Structures</td>
</tr>
<tr>
<td>EN.600.233</td>
<td>Computer System Fundamentals</td>
</tr>
<tr>
<td>EN.600.271</td>
<td>Automata &amp; Computation Theory</td>
</tr>
<tr>
<td>EN.600.363</td>
<td>Introduction to Algorithms</td>
</tr>
<tr>
<td>EN.600.463</td>
<td>Algorithms I</td>
</tr>
</tbody>
</table>

At least 15 credit hours must be at the 300-level or above, including EN.600.363/463.

Mathematics (18 credits)

The following courses must be included:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.108</td>
<td>Calculus I</td>
</tr>
<tr>
<td>AS.110.109</td>
<td>Calculus II</td>
</tr>
<tr>
<td>EN.550.171</td>
<td>Discrete Mathematics</td>
</tr>
</tbody>
</table>

The remaining courses may be chosen from Mathematics (110.xxx) or Applied Math and Statistics (550.xxx). At least one course must be 200-level or above.

Basic Sciences (12 credits)

At least two semesters of physics or chemistry or a combination of both, with the associated laboratories, must be included. The remaining courses must be chosen in accordance with the list posted on the department website, which includes most courses in Physics, Chemistry, Biology, Biophysics, Earth & Planetary Sciences, ’N’ designated engineering courses, and some ’N’ designated courses in Neuroscience and Cognitive Science, but not all. At most 2 credits from (S/U) intersession courses may be used to fulfill this requirement.

Humanities/Social Sciences (18 credits)

Six courses in the Humanities/Social Sciences must be taken, with each course at least 3 credits. At least two 3-credit courses at the 300-level or above are required. As befits a B.A. degree, students have ample flexibility to choose courses that broaden the scope of their study, in consultation with their advisors. A subset of the courses selected to satisfy this requirement should demonstrate coherence within an area. Any course with Humanities or Social Sciences area designators may fulfill these distributional requirements.

Foreign Language (6 credits)

Two courses in a foreign language, with a total of at least 6 credits are required. These foreign language credits are in addition to the 18 required Humanities/Social Sciences credits.

Writing Requirement

All primary computer science majors pursuing a B.A. degree are required to fulfill the university’s requirement of four writing intensive courses, each at least 3 credits. Students must receive at least a C- grade in these courses. These courses may overlap other requirement areas. Highly recommended, at least one of:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.060.113</td>
<td>Expository Writing</td>
</tr>
<tr>
<td>AS.220.105</td>
<td>Fiction/ Poetry Writing I &amp; AS.220.106 and Fiction/Poetry Writing II</td>
</tr>
<tr>
<td>EN.661.110</td>
<td>Professional Communication for Science, Business &amp; Industry</td>
</tr>
</tbody>
</table>

Electives

Electives to be chosen by the student with guidance and approval of his/her advisor.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Credits</td>
<td>120</td>
</tr>
</tbody>
</table>
With the advisor’s permission, up to 3 of the 32 required credits may be taken in the Department of Electrical and Computer Engineering or the Information Security Institute.

No more than 3 credits of short courses or 3 credits of independent study (including EN.600.491–EN.600.492) may be applied toward this requirement. However, B.A. students doing the Senior Honors Thesis (EN.600.519–EN.600.520) may use an additional 3 credits of independent work toward their CS requirements, for a total of 6 credits.

No courses with grades below C- or with satisfactory/unsatisfactory grades may be used to fulfill this requirement unless they are not offered for a grade.

** Highly recommended: Calculus III, Linear Algebra, Differential Equations, Probability/Statistics. Note that students will need at least five courses to fulfill the credit requirement.

### Minor in Computer Science

To satisfy the course credit requirements for a minor in computer science, a student must take a minimum of seven courses, with a total of at least 23 credits, earning at least a C- in each course. These must include four core courses, to provide the student with a foundation, and three upper-level courses (300-level and above), to allow the student to pursue an advanced topic in depth.

While not explicitly required, we also strongly recommend taking EN.550.171 Discrete Mathematics as preparation for several computer science courses, including EN.600.271 Automata & Computation Theory.

#### Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.600.107</td>
<td>Introductory Programming in Java (or AP credit)</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.120</td>
<td>Intermediate Programming</td>
<td>4</td>
</tr>
<tr>
<td>EN.600.226</td>
<td>Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>Choose one of the following:</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>EN.600.233</td>
<td>Computer System Fundamentals</td>
<td></td>
</tr>
<tr>
<td>EN.600.271</td>
<td>Automata &amp; Computation Theory</td>
<td></td>
</tr>
</tbody>
</table>

#### Upper-Level Courses

These courses should be chosen to form a cohesive minor and must be accepted by the computer science minor advisor. **

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

** Total Credits: 23

### Short Courses

The Department of Computer Science offers 1-credit short courses covering a variety of topics in computer science and engineering. The purpose of the short courses is to expose students to topics of current interest in the field of computer science and engineering. Short courses are taught not only by faculty and graduate students in the Department of Computer Science and visiting faculty from other universities, but by individuals from local government or industry who have demonstrable expertise in a given area and are practicing the application of computer science theory and concepts.

Students should be aware that short course offerings are likely to change from year to year, depending on instructor commitments: there is no guarantee that the same course will be available at a later time. Students interested in getting details about a particular short course can contact the instructor through the departmental office.

### Double Majors with Computer Science

It is possible for students to pursue a double major program in which one of the majors is computer science. The computer science requirements are flexible enough to allow for combination with most majors in the Whiting School of Engineering and the Krieger School of Arts and Sciences. Whether computer science is your primary or secondary major, you will be assigned a faculty advisor in the department. In order to declare a first or second major in computer science, students should see the Director of Undergraduate Studies before the start of senior year. Those students must also inform the Office of Academic Affairs of the Whiting School of Engineering and the Registrar of their double major status. Subject to restrictions set by the department offering a second major, students whose primary major is in the Whiting School may use courses to satisfy both the requirements of the student’s primary major and those of a double major.

### Combined Bachelor's/Master's Program

As early as the end of their sophomore year, qualified students may apply for admission to a combined bachelor's/master's program which combines a B.S. or B.A. degree (in any department) with a master of science in engineering degree in Computer Science. This program allows students to simultaneously pursue both an undergraduate and a graduate degree program of study. Generally, the combined B.S./M.S.E. or B.A./M.S.E. program is accomplished in five years, although some students take more or less time.

Applicants are judged on the basis of their performance in courses and their letters of recommendation. Double counting of at most two courses is subject to current WSE and departmental policies. Students may not take a 600.3xx course as an undergraduate and the corresponding 600.4xx course for the M.S.E.; likewise for 600.4xx/6xx course offerings. Upon admission to the program students will be assigned a graduate faculty advisor in the Computer Science Department who must approve the courses to be applied toward the master’s degree. For information on the requirements of the M.S.E. degree, see the Graduate Programs tab on this page, or ask in the departmental office for the document that lists those requirements.
Every graduate student in the Department of Computer Science must follow a program approved by a faculty advisor in the department. The advisor assigned to a student may change, subject to the acceptance of the new advisor.

Requirements for the M.S.E. Degree

The Master of Science in Engineering (M.S.E.) is a full- or part-time day program offered by the Department of Computer Science. Most students complete the program in three full-time semesters. Two consecutive semesters of residence as a full-time graduate student are required. Those interested in part-time evening study should refer to Engineering for Professionals at ep.jhu.edu.

Entering students are expected to have completed a program of study equivalent to that required by the B.S. in computer science. Applicants from other disciplines are required to have course work (or equivalent experience) in intermediate programming (C++ and java), data structures, and automata theory. Upon admission to the Master of Science in Engineering program, a student is assigned a graduate advisor from the Department of Computer Science who must approve the courses to be applied to the M.S.E. degree.

The Department of Computer Science classifies its courses into three sub-areas: Analysis, Applications, and Systems. All M.S.E. candidates must complete at least two graduate courses (6 credit hours, 400-level and above) from each of these three areas. Each upper-level course description in this catalog includes its area for reference. A course in multiple areas may only be counted toward one requirement.

A current listing of courses with area designators is provided on the departmental website. While this listing includes a few highly relevant courses outside the Department of Computer Science, only one course may be applied toward the area requirements. M.S.E. students must also complete an additional two elective graduate courses (chosen from any CS area or from closely related departments such as Electrical and Computer Engineering, Cognitive Science, Mathematics, or Applied Mathematics and Statistics) for a total of eight graduate courses. The course work program must be approved by the student’s faculty advisor and the department.

In addition to the eight courses, a student must elect one of the following options in order to fulfill the degree requirements:

- Two additional graduate courses in Computer Science, approved as above.
- A supervised research project including an approved project report that will be made publicly available.
- An original, faculty-approved master’s essay, submitted to the Milton S. Eisenhower Library.

By satisfying the Ph.D. qualifying course requirements and the first qualifying project, a student will also satisfy the M.S.E. degree requirements (unless more than two course requirements have been satisfied using courses transferred from other institutions). Please refer to the Ph.D. program information for details.

All M.S.E. degree candidates are encouraged to regularly attend the department seminars. You may enroll in EN.600.601 Computer Science Seminar-EN.600.602 Computer Science Seminar; however, these courses may not be counted toward the degree course requirements.

Course Requirement Details

- All courses counted toward the M.S.E. degree requirement must be 400-level or above. At most, two courses with grades less than B- may be counted toward the course work requirements. No courses with grades less than C- may be counted.
- The overall grade point average of the courses counted toward the course work requirements must be a 3.0 or higher (B average).
- At most, two independent study courses (including EN.600.491 Computer Science Workshop I-EN.600.492 Comp Science Workshop II) can be counted toward the course requirements.
- Other than independent study courses and EN.600.464 Randomized Algorithms/EN.600.664 Randomized Algorithms, no courses with grades of P can be counted toward the course work requirement. Courses with grades of P will not be included in the grade point average calculation.
- One of the courses required for the M.S.E. degree, but only one, can be replaced by 3 credits from comparable short courses.
- A majority of the courses counted toward the degree must be taught in the Department of Computer Science.
- At most, two courses can be transferred from graduate programs of other institutions to be counted toward the degree requirements. Such transfer courses must be approved by the student’s faculty advisor and the department. It is the obligation of the student to provide all necessary data to the Department of Computer Science regarding the course(s) for which transfer credit is being requested.
- A grade of D or F results in probation; a second D or F is cause for being dropped from the program.
- Any master’s student engaged in research for payment or to help meet degree requirements is required to complete Responsible Conduct of Research training. Students receiving payment from NIH training grants or fellowships must take the in person course—AS.360.625 Responsible Conduct of Research. All other students can take the course online—AS.360.624 Responsible Conduct of Research (Online). Instructions for accessing and signing up for the course can be found here: http://engineering.jhu.edu/wse-research/resources-policies-forms/responsible-conduct-of-research/online-training-course-for-the-responsible-conduct-of-research/ Additional information regarding this training can be found here: http://eng.jhu.edu/wse/page/conduct-of-research-training. Students who are required to complete this training will not receive a diploma until the course has been completed.

Tuition Support

M.S.E. students are not eligible for tuition waivers, but will be able to work on campus up to 19.99 hours per week for hourly rates. There are also course assistant positions available for qualified students who are seeking financial support. Those interested must apply at the start of each semester for specific courses in need.

Requirements for the Ph.D. Degree

The goal of the Doctor of Philosophy (Ph.D.) program in the Department of Computer Science is to prepare first-rate scholars in the analysis, systems, and applications areas of computer science. Successful graduates may assume significant positions in academia, research institutes, industry, or government laboratories.

Applications for admission to the Ph.D. program in Computer Science are reviewed by a faculty committee. Although the specific criteria are not rigid, all students admitted will exhibit exceptional intellectual
achievements and promise. Applicants must submit letters of recommendation, GRE scores, and (for foreign applicants) TOEFL scores.

In keeping with Hopkins' traditions, program requirements are flexible, as described below. For a more detailed view of the PhD program, please visit the Advising Manual (http://www.cs.jhu.edu/graduate-studies/phd-requirements) on our departmental website.

University Residency

Two consecutive semesters of residence as a full-time graduate student are required.

Seminar Attendance

All Ph.D. degree candidates are required to enroll and maintain satisfactory attendance in Computer Science Seminar 600.601-602 each semester for the duration of their enrollment in the program. Although seminar attendance is required, the seminar may not be counted toward the qualifying course requirement.

Responsible Conduct of Research

All doctoral students are required to take AS.360.625 Responsible Conduct of Research. Students are expected to complete the course by the end of the first year but have until the start of the fourth semester to meet this requirement. Failure to do so may result in a loss of funding. Additional information regarding this requirement can be found here: http://eng.jhu.edu/wse/page/conduct-of-research-training.

Qualifying Course Requirements

The Department of Computer Science classifies its courses into three research areas: analysis, applications, and systems. All Ph.D. candidates must complete at least two graduate courses (400-level and above) from each of these three areas. Each upper-level course description in this catalog includes its area for reference. A course in multiple areas may only be counted toward one requirement. A current listing of courses with area designators is provided on the departmental website. While this listing includes a few highly relevant courses outside the Department of Computer Science, only one such course may be applied toward the area requirements. Ph.D. students must also complete an additional two elective graduate courses (chosen from any CS area or from closely related departments such as Electrical and Computer Engineering, Cognitive Science, Mathematics, or Applied Mathematics and Statistics) for a total of eight graduate courses. The course work program must be approved by the student’s faculty advisor and the department. The overall grade point average for these eight courses must be at least equivalent to a B+. No course with a grade of less than C- may be counted toward this Ph.D. qualifying course requirement. Other than independent study courses and EN.600.464/EN.600.664, no courses with grades of P can be counted toward the course work requirement. Courses with grades of P will not be included in the grade point average calculation. One of the courses required for the degree, but only one, may be replaced by 3 credits from comparable short courses. With approval of the student’s faculty advisor, up to two courses can be transferred from graduate programs of other institutions; more than two such courses can be transferred with approval of the department. It is the obligation of the student to provide all necessary data to the Department of Computer Science regarding the course(s) for which transfer credit is being requested. Students are expected to complete the course requirements by the end of their second year as a Ph.D. candidate.

Qualifying Project Requirements

A Ph.D. student must complete two projects, each under the supervision and with the written agreement of a different faculty member in the Department of Computer Science. Upon conclusion of each project, the student must write a “Project Report” describing the project in detail. This report will be a public document and will be kept on file in the department office. The supervising faculty member must approve the project report. Departmental approval of a given project will be determined collectively by the faculty of the Department of Computer Science following the spring semester of each academic year. A factor taken into account in the departmental review of a project is the stated willingness of each supervising faculty member to enter the initial stages of a Ph.D. research advisor/advisee relationship with the student. Students are expected to complete the qualifying projects by the end of their second year as a Ph.D. candidate.

Upon completion of the Ph.D. qualifying course requirements and the first qualifying project, students are ordinarily eligible to receive a master of science in engineering degree. The degree will be awarded upon student request.

Graduate Board Oral Examination (GBO)

This examination is a university requirement, ideally taken in the student’s third year. The oral exam is administered by a panel consisting of the research sponsor, two faculty members from the Department of Computer Science, and two from outside the department. The exam seeks to establish the student’s readiness to conduct original research in the area of his or her “Preliminary Research Proposal,” which should be distributed to the examiners in advance and presented by the student at the start of the exam.

Part-Time Ph.D.

Two consecutive semesters of residence as a full-time graduate student are required by the university. Part-time students must pass both the Ph.D. qualifying requirements and the Graduate Board oral exam within four years of being admitted to the program. Attempting to obtain a Ph.D. is a major commitment and involves close coordination with a faculty advisor in the department. Part-time students must be able to establish and maintain these close links.

Departmental Seminar

Ph.D. students must give an official departmental seminar on their research area. This is to be done after the GBO and prior to the dissertation defense, or as part of the dissertation defense.

Dissertation and Defense

Ph.D. students must write a dissertation consisting of original research in their chosen area. They must deliver a public presentation of the dissertation before a dissertation committee consisting of the faculty advisor, a second faculty member in the Department of Computer Science (who must have a primary tenure-track appointment in the Department if the advisor does not), and one or more other members with Ph.D. degrees. In conformity with University requirements, the members of the dissertation committee must submit a referee’s letter to the Graduate Board recommending that the dissertation be accepted. Completed dissertations will be formatted and submitted to the Milton S. Eisenhower Library for electronic publication (http://guides.library.jhu.edu/etd).
Student Progress Review

Ph.D. students will be reviewed annually by the department faculty and notified by their advisors as to their standing in the program. Beginning in the third year of graduate study, this annual review is conducted primarily by the dissertation committee. The committee may establish milestones such as a written thesis proposal. While the membership of the committee may change, in general it should be chosen by the student, in consultation with the advisor and subject to the consent of the committee members.

Financial Aid

Financial aid is available for candidates of high promise. Fellowships provide a student with a stipend plus tuition. Teaching assistantships normally consist of tuition plus a stipend commensurate with the teaching or grading duties assigned. Research assistantships are available on sponsored research projects directed by members of the faculty. Students determined to have significant deficiency in spoken English may be required to take one or more semesters of English as a Second Language in order to qualify for employment as a teaching or research assistant.

For current faculty and contact information go to http://cs.jhu.edu/faculty/

Faculty

Chair
Gregory D. Hager
Professor: vision, robotics, human-machine systems, computer-integrated medicine.

Professor Emeritus
Gerald M. Masson
Fault tolerant computing, systems diagnosis theory, distributed computing, real-time error monitoring of hardware/software, software design for testability, interconnection networks.

Professors
Yair Amir
Distributed systems, resilient clouds and critical infrastructure, overlay networks, distributed algorithms.

Philipp Koehn
Statistical machine translation.

S. Rao Kosaraju
Edward J. Schaefer Professor in Engineering: design of algorithms, pattern matching, and derandomization.

Nassir Navab
Augmented reality, vision, medical image computing and computer assisted interventions.

Aviel Rubin
Technical Director, Information Security Institute: system and networking security, computer privacy, applied cryptography.

Scott F. Smith
Programming languages, type systems, security in language design, component programming languages.

Russell H. Taylor
John C. Malone Professor; Director, LCSR & CISST ERC: medical robotics, computer-integrated interventional medicine, medical image analysis, human-machine robotic systems.

David Yarowsky
Natural language and speech processing, information retrieval, machine translation, and machine learning.

Associate Professors
Randal Burns
Storage systems, high performance and scientific computing, and database federations.

Jason M. Eisner
Computational linguistics (syntax and phonology), natural language processing, statistical machine learning, programming language design.

Michael Kazhdan
Computer graphics, surface reconstruction, image and geometry processing.

Assitant Professors
Yanif Ahmad
Data management, stream processing, declarative languages, parallel and distributed databases.

Raman Arora
Machine learning, statistical signal processing, stochastic approximation algorithms, applications to speech and language processing.

Alexis Battle
Genetics of complex traits, graphical models, transfer learning, structured regularization methods.

Vladimir Braverman
Algorithms, massive data sets, data streams, and database systems.

Michael Dinitz
Theoretical computer science, approximation algorithms, applications to networks and distributed computing.

Benjamin Langmead
Computational genomics, sequence alignment, text indexing, parallel and high performance computing.

Xin Li
Theory of computation, randomness, complexity theory, distributed computing, cryptography.

Suchi Saria
Machine learning, computational medicine, health informatics, and applications of machine learning in natural language processing, activity recognition and human-machine systems.

Research Professor
Amihood Amir
Algorithms design and analysis, multidimensional pattern matching, knowledge discovery algorithms, real time systems algorithms, computational molecular biology.

Bharat Doshi
Optical and wireless networking technologies, internet protocols and architectures, speech technologies and signal processing, and network design and analysis algorithms and tools.

**Associate Research Professor**
Giuseppe Ateniese
Applied cryptography, network security, and secure e-commerce.

Philippe Burlina
Computer vision, visual analysis and communications, multi-modality image exploitation, enterprise software systems for content and e-process management.

Chris Callison-Burch
Statistical natural language processing, machine translation, paraphrasing, evaluation of human language technologies.

Susan Hohenberger-Waters
Cryptography, computer security, algorithms, and complexity theory.

Peter Kazanzides
Medical robots, computer-assisted surgery, real-time systems.

James Mayfield
Information retrieval, cross-language retrieval, information extraction, natural language processing.

Andreas Terzis
P2P, overlay and sensor networks, resilient internet infrastructure, NP-based architectures.

**Assistant Research Professor**
Stephen Checkoway
Systems security, voting security, post-election auditing.

Mark Dredze
Machine learning, natural language processing, health informatics.

Matthew Green
Applied cryptography, cryptographic protocol design, analysis of practical security systems, privacy-preserving storage and identification technologies.

Christine Piatko
Computational geometry, information visualization, information retrieval.

Ben Van Durme
Artificial intelligence, natural language processing (computational semantics), and streaming algorithms.

I-Jeng Wang
Wireless networking, Bayesian networks, probabilistic models.

Qinqing Zhang
Wireless communications and networking, Mobile Ad-hoc networks, cellular system and network technologies, multimedia applications and QoS, Internet protocol and algorithm design, performance analysis.

**Associate Teaching Professor**
Sara Miner More
Foundations of computing, computer science education, cryptography, information flow.

Joanne Selinski
Director of Undergraduate Studies: CS education, software engineering.

**Senior Lecturer**
Peter Fröhlich
Programming languages, software engineering, systems software, video game design, web applications.

Sara Miner More

**Part-Time Lecturer**
Antonio DeSimone
Networks.

Sheela Kosaraju
Computer ethics.

Harold Lehmann
Medical informatics.

Seth Nielson
Network security.

Christopher Pappacena
Cryptography.

**Visiting Professor**
Mitra Basu
Computational biology, pattern recognition, neural networks, artificial intelligence.

**Associate Research Scientist**
Anton Dahbura
Interim Executive Director, Information Security Institute: Information security, fault-tolerant computing, distributed systems, testing.

Simon Leonard
Visual servoing, hand-eye coordination.

**Assistant Research Scientist**
Matt Post
Machine translation, syntax, parsing and language modeling.

**Adjunct Professors**
Gabor Fichtinger
Applied surgical robotics, surgical CAD/CAM systems, percutaneous therapies, stereotactic radiosurgery.

John W. Sheppard
Artificial intelligence, machine learning, data mining.

**Adjunct Assistant professors**
Han Liu
Statistical machine learning, high dimensional nonparametric learning and massive-data analysis, multiple hypotheses testing, time series analysis, genomics, proteomics, cognitive neuroscience.

**Adjunct Associate Research Scientist**
Joshua Vogelstein
Scalable statistical inference methodologies, computational statistical methods.

Lanier Watkins
Critical infrastructure security, network security.

Lawrence B. Wolff
Computer vision, multi-sensor image fusion, augmented reality, biometrics.

**Joint Appointments**

Joel Bader
Associate Professor (Biomedical Engineering): bioinformatics and computational biology.

Emad Boctor
Assistant Professor (Radiology-Medical Imaging Physics): image-guided intervention, ultrasound imaging, elasticity, and thermal imaging.

Gregory Chirikjian
Professor (Mechanical Engineering): robotics, kinematics, dynamics, control, motion planning.

Noah Cowan
Associate Professor (Mechanical Engineering): sensor-based control of locomotion and manipulation, and biologically inspired robotics.

Ralph Etienne-Cummings
Professor (Electrical and Computer Engineering): mixed-signal VLSI, computational sensors, robotics, neuromorphic engineering.

James Fill
Professor (Applied Mathematics and Statistics): probability, stochastic processes, random structures, and algorithms.

Rachel Karchin
Associate Professor (Biomedical Engineering): computational molecular biology, bioinformatics, genetic variation.

Sanjeev Khudanpur
Associate Professor (Electrical and Computer Engineering): information theory, statistical language modeling for speech recognition and machine translation

Elliot McVeigh
Professor (Biomedical Engineering): cardiovascular MRI, image guided therapy, novel MRI methods.

Michael I. Miller
Professor (Biomedical Engineering): image understanding, computer vision, medical imaging, computational anatomy.

Carey Priebe
Professor (Applied Mathematics and Statistics): computational statistics, kernel and mixture estimates, statistical pattern recognition, and statistical image analysis.

Jerry L. Prince
William B. Kouwenhoven Professor (Electrical and Computer Engineering) (Associate Director for Research, CISST ERC): image processing, computer vision, medical imaging.

Steven Salzberg
Professor (Medicine and Biostatistics): genomics, bioinformatics, gene finding, sequence assembly, genome evolution.

Rebecca Schulman
Assistant Professor (Chemical and Biomolecular Engineering): molecular programming, DNA nanotechnology, self-assembly (theory and experiment), theoretical and systems biology, smart materials, nanoscale robotics.

Ralph Semmel
Professor (Director, APL): artificial intelligence, database systems, software engineering.

Jeff Siewerdsen
Professor (Biomedical Engineering): imaging physics, diagnostic radiology, image-guided interventions.

Alexander Szalay
Professor (Physics and Astronomy): theoretical astrophysics, galaxy formation.

James Taylor
Associate Professor (Biology): genome informatics.

Rene Vidal
Associate Professor (Biomedical Engineering): computer vision, machine learning, robotics, and control.

Louis Whitcomb
Professor (Mechanical Engineering): dynamics and control of mechanical systems.

Raimond L. Winslow
Professor (Biomedical Engineering): modeling of biological systems, nonlinear systems theory, grid computing and data management, biomedical ontologies.

Thomas B. Woolf
Professor (Physiology): bioinformatics, computational biophysics.

For current course information and registration go to https://isis.jhu.edu/classes/

**Courses**

**EN.600.103. Fundamentals of Practical Computing. 3 Credits.**

Intended audience: students majoring in science, engineering or medicine. This course will provide a sampling of the theory behind and practical use of a broad spectrum of computational tools and technologies. We will start with Scratch (a programming language for kids) and show how many of the same concepts show up in Web Programming (HTML & Javascript). There will be a taste of algorithms, databases (SQL), Unix, statistics packages (R), data mining and visualization tools (graphviz), natural language processing, web search, interpreted languages (Python & LISP), compiled languages (C), and more. Students should come away with a few tools and concepts that will prove useful in their major, as well as the confidence that they can search the web to find what they need, when they need it, just-in-time.

Instructor(s): A. Irvine
Area: Engineering.
EN.600.104. Computer Ethics. 1 Credit.
Students will examine a variety of topics regarding policy, legal, and moral issues related to the computer science profession itself and to the proliferation of computers in all aspects of society, especially in the era of the Internet. The course will cover various general issues related to ethical frameworks and apply those frameworks more specifically to the use of computers and the Internet. The topics will include privacy issues, computer crime, intellectual property law -- specifically copyright and patent issues, globalization, and ethical responsibilities for computer science professionals. Work in the course will consist of weekly assignments on one or more of the readings and a final paper on a topic chosen by the student and approved by the instructor. CS Majors Only - Alternate Weeks
Instructor(s): S. Kosaraju
Area: Humanities.

EN.600.105. M & Ms: Freshman Experience. 1 Credit.
This course is required for all freshmen Computer Science majors. Transfers into the major and minors may enroll by permission only. Students will attend four 3-week blocks of meetings with different computer science professors, focused on a central theme. Active participation is required. Satisfactory/Unsatisfactory only.
Instructor(s): J. Selinski.

EN.600.107. Introductory Programming in Java. 3 Credits.
This course introduces the fundamental programming concepts and techniques in Java and is intended for all who plan to use computer programming in their studies and careers. Topics covered include control structures, arrays, functions, recursion, dynamic memory allocation, simple data structures, files, and structured program design. Elements of object-oriented design and programming are also introduced. Students without prior exposure are strongly advised to also take EN.600.108. Students should be familiar with computers
Prerequisites: Students who have taken EN.600.111 may not register for EN.600.107.
Instructor(s): S. More
Area: Engineering.

EN.600.108. Introduction to Programming Lab. 1 Credit.
The purpose of this course is to give novice programmers extra hands-on practice with guided supervision. Students will work in pairs each week to develop working programs, with checkpoints for each development phase. Sections 1-3 are for 107 students, sections 4-6 are for 112 students. Satisfactory/Unsatisfactory only
Corequisites: Co-req: EN.600.107 or EN.600.112
Instructor(s): P. Froehlich; S. More
Area: Engineering.

EN.600.111. Python Scripting. 3 Credits.
For non-majors, this is an introductory "learning by doing" course focused on the quick prototyping of computational solutions to problems from a variety of disciplines. After an introduction to the UNIX and IDLE environments we briefly cover the basics of programming in Python. We then spend the rest of the semester surveying a variety of powerful Python libraries, frameworks, and tools. We use these building blocks to create, for example, systems for image and sound processing, data analysis and visualization, event-based simulation, or database-driven web applications. There will be several sizeable team-based programming projects. [Note: This course may not be used for the CS major or minor requirements, except perhaps as a substitute for 600.107.]
Instructor(s): P. Froehlich
Area: Engineering.

EN.600.112. Introductory Programming for Scientists and Engineers. 3 Credits.
An introductory "learning by doing" programming course for scientists, engineers, and everybody else who will need basic programming skills in their studies and careers. We cover the fundamentals of structured, modular, and (to some extent) object-oriented programming as well as important design principles and software development techniques such as unit testing and revision control. We will apply our shiny new programming skills by developing computational solutions to a number of real-world problems from a variety of disciplines. Students new to computer programming are encouraged to enroll into EN.600.108 Intro Programming Lab concurrently with this course. Students may receive credit for no more than one of the following: EN.600.107 or EN.600.111 or EN.600.112. [Note: This course may not be used for the CS major or minor requirements, except as a substitute for EN.600.107]
Prerequisites: Students who have taken EN.600.107 may not register for EN.600.112.
Instructor(s): P. Froehlich
Area: Engineering.

EN.600.120. Intermediate Programming. 4 Credits.
This course teaches intermediate to advanced programming, using C and C++. (Prior knowledge of these languages is not expected.) We will cover low-level programming techniques, as well as object-oriented class design, and the use of class libraries. Specific topics include pointers, dynamic memory allocation, polymorphism, overloading, inheritance, templates, collections, exceptions, and others as time permits. Students are expected to learn syntax and some language specific features independently. Course work involves significant programming projects in both languages. Recommended Course Background: EN.600.107 or EN.600.226, EN.600.111/EN.600.112 or equivalent.
Instructor(s): A. Teichert; J. Selinski; S. Smith
Area: Engineering.

EN.600.145. Mini Term: Introduction to Computer-Integrated Surgery. 1 Credit.
This course will give an introduction to the concepts and major elements of computer-integrated surgery (CIS) through clinical applications. Students will learn to ask questions and look for answers the way clinical engineers build and analyze CIS systems. Major topics will include medical imaging, image processing, surgical planning, surgical robotics, robot navigation, systems integration, and clinical validation. No computer programming will be necessary to complete the assignments.
Instructor(s): S. Leonard
Area: Engineering.

EN.600.161. Exploring Vision Real World. 1 Credit.
This course is designed to introduce computer vision to students with or without a computer science background. The course will focus on real world applications of computer vision and image processing, in the areas of medicine, object recognition and automatic surveillance. The goal is to introduce students to basic concepts in computer vision and explain how these are used in practical applications. The class will consist of lectures, MATLAB tutorials and assignments.
Area: Engineering, Quantitative and Mathematical Sciences.

EN.600.202. Intro. to Public Health & Biomedical Informatics. 3 Credits.
Area: Engineering.
EN.600.211. Unix System Programming. 3 Credits.
This course covers a variety of topics in UNIX programming, including process control, signal handling, daemon processes, and interprocess communication. Participants must be familiar with using the UNIX environment and be fluent in the C programming language.
Prerequisites: Prereq: EN.600.120
Instructor(s): P. Froehlich
Area: Engineering.

EN.600.226. Data Structures. 4 Credits.
This course covers the design and implementation of data structures including collections, sequences, trees, and graphs. Other topics include sorting, searching, and hashing. Course work involves both written homework and Java programming assignments. Recommended Course Background: EN.600.107 or EN.600.120 or equivalent.
Instructor(s): S. More
Area: Engineering, Quantitative and Mathematical Sciences.

EN.600.233. Computer System Fundamentals. 3 Credits.
CSF addresses the design and performance of the principal operational components of a reduced-instruction-set computing system (RISC) which supports the efficient execution of widely used instruction sets. Arithmetic and logic units, memory hierarchy designs, state-machine controllers, and other related hardware and firmware components are studied, and the qualities of their combined processing capabilities are assessed by means of execution times associated with a range of benchmark programs. Assembly language programming projects, homework problems, and exams are employed to assess a student’s fundamental understanding of the tradeoffs resulting from an assortment of variations in digital system design decisions that ultimately characterize the performance of the computing system architecture that is developed. Students may receive credit for only one of EN.600.233, EN.600.333 or EN.600.433.
Instructor(s): P. Froehlich
Area: Engineering.

EN.600.245. Foundations of Computer Integrated Surgery. 3 Credits.
This course will give an introduction to the concepts and major elements of computer-integrated surgery (CIS) and its clinical applications. Major topics will include image processing, surgical planning, surgical robotics, surgical navigation, systems integration, and clinical validation. The class may include a clinical lab module. Grades will be calculated based on participation in class and three homework assignments. No computer programming will be necessary or required to complete the assignments. Recommended Course Background: Pre-calculus, Linear Algebra and Vector Calculus.
Instructor(s): R. Kumar
Area: Engineering.

EN.600.250. User Interfaces and Mobile Applications. 3 Credits.
This course will provide students with a rich development experience, focussed on the design and implementation of user interfaces and mobile applications. A brief overview of human computer interaction will provide context for designing, prototyping and evaluating user interfaces. Students will invent their own mobile applications and implement them using the Android SDK, which is JAVA based. An overview of the Android platform and available technologies will be provided, as well as XML for layouts, and general concepts for effective mobile development. Students will be expected to explore and experiment with outside resources in order to learn technical details independently. There will also be an emphasis on building teamwork skills, and on using modern development techniques and tools.
Prerequisites: EN.600.120 AND EN.600.226
Instructor(s): J. Selinski
Area: Engineering.

EN.600.255. Introduction to Video Game Design. 3 Credits.
A broad survey course in video game design (as opposed to mathematical game theory), covering artistic, technical, as well as sociological aspects of video games. Students will learn about the history of video games, archetypal game styles, computer graphics and programming, user interface and interaction design, graphical design, spatial and object design, character animation, basic game physics, plot and character development, as well as psychological and sociological impact of games. Students will design and implement an experimental video game in interdisciplinary teams of 3-4 students as part of a semester-long project. Section 1 requires technical skills, including at least one programming course (preferably 2 or more). Section 2 requires artistic skills, including at least one multimedia course (preferably 2 or more). Open to sophomores and above.
Corequisites: Co-req: 600.256
Instructor(s): P. Froehlich
Area: Engineering.

EN.600.256. User Interfaces and Mobile Applications Lab. 1 Credit.
A lab course in support of 600.255: Introduction to Video Game Design covering a variety of multi-media techniques and applications from image processing, through sound design, to 3D modeling and animation. See 600.255: Introduction to Video Game Design for details about enrolling.
Corequisites: Co-req: 600.255
Instructor(s): P. Froehlich
Area: Engineering.

EN.600.271. Automata & Computation Theory. 3 Credits.
This course is an introduction to the theory of computing. Topics include design of finite state automata, pushdown automata, linear bounded automata, Turing machines and phrase structure grammars; correspondence between automata and grammars; computable functions, decidable and undecidable problems, P and NP problems, NP-completeness, and randomization.
Prerequisites: EN.550.171
Instructor(s): S. Checkoway
Area: Engineering, Quantitative and Mathematical Sciences.
**EN.600.306. Introduction to Speech. 1 Credit.**

This course will introduce students to speech from an interdisciplinary perspective including Computer Science, Electrical Engineering, Linguistics and Psychology. Topics such as pitch will be discussed from a variety of perspectives including signal processing (estimating fundamental frequency), perception, linguistics and computational linguistics. Vowels will be described from multiple perspectives ranging from distinctive features in linguistics to formants in signal processing. Students will become familiar with a variety of topics ranging from spectrogram reading to using XML to program phones and Python (NLTK) to find interesting patterns in text corpora. To reach a diverse interdisciplinary audience, no background experience is required. Short course.

**Instructor(s):** K. Church  
**Area:** Engineering.

**EN.600.315. Databases. 3 Credits.**

Introduction to database management systems and database design, focusing on the relational and object-oriented data models, query languages and query optimization, transaction processing, parallel and distributed databases, recovery and security issues, commercial systems and case studies, heterogeneous and multimedia databases, and data mining. [Systems] (www.cs.jhu.edu/~yarowsky/cs415.html) Students may receive credit for EN.600.315 or EN.600.415, but not both.

**Prerequisites:** EN.600.226.  
**Instructor(s):** D. Yarowsky  
**Area:** Engineering.

**EN.600.316. Database Systems. 3 Credits.**

This course serves as an introduction to the architecture and design of modern database management systems. Topics include query processing algorithms and data structures, data organization and storage, query optimization and cost modeling, transaction management and concurrency control, high-availability mechanisms, parallel and distributed databases, and a survey of modern architectures including NoSQL, column-oriented and streaming databases. Course work includes programming assignments and experimentation in a simple database framework written in Java.  
[Systems] Students may receive credit for EN.600.316 or EN.600.416, but not both.

**Prerequisites:** EN.600.120 AND EN.600.226  
**Instructor(s):** Y. Ahmad  
**Area:** Engineering.

**EN.600.318. Operating Systems. 4 Credits.**

This course covers fundamental topics related to operating systems theory and practice. Topics include processor management, storage management, concurrency control, multi-programming and processing, device drivers, operating system components (e.g., file system, kernel), modeling and performance measurement, protection and security, and recent innovations in operating system structure. Course work includes the implementation of operating systems techniques and routines, and critical parts of a small but functional operating system. Students may receive credit for EN.600.318 or EN.600.418 but not both. Recommended Course Background: EN.600.211.

**Prerequisites:** Prereqs: EN.600.120 AND EN.600.226 AND ( EN.600.233 OR EN.600.333)  
**Instructor(s):** P. Froehlich  
**Area:** Engineering.

**EN.600.320. Parallel Programming. 3 Credits.**

This course prepares the programmer to tackle the massive data sets and huge problem size of modern scientific and enterprise computing. Google and IBM have commented that undergraduate CS majors are unable to "break the single server mindset" (http://www.google.com/intl/en/press/pressrel/20071008.ibm_univ.html). Students taking this course will abandon the comfort of serial algorithmic thinking and learn to harness the power of cutting-edge software and hardware technologies. The issue of parallelism spans many architectural levels. Even "single server" systems must parallelize computation in order to exploit the inherent parallelism of recent multi-core processors. The course will examine different forms of parallelism in four sections. These are: (1) massive data-parallel computations with Hadoop; (2) programming compute clusters with MPI; (3) thread-level parallelism in Java and, (4) GPGPU parallel programming with NVIDIA's Cuda. Each section will be approximately 3 weeks and each section will involve a programming project. The course is also suitable for undergraduate and graduate students from other science and engineering disciplines that have prior programming experience. [Systems] EN.600.333 recommended. Students may receive credit for EN.600.320 or EN.600.420, but not both.

**Prerequisites:** Prereq: EN.600.120 and EN.600.226; recommended 600.333/433  
**Instructor(s):** R. Burns  
**Area:** Engineering.

**EN.600.321. Object Oriented Software Engineering. 3 Credits.**

This course covers object-oriented software construction methodologies and their application. The main component of the course is a large team project on a topic of your choosing. Course topics covered include object-oriented analysis and design, UML, design patterns, refactoring, program testing, code repositories, team programming, and code reviews. [Systems or Applications] (http://pl.cs.jhu.edu/oose/index.shtml) Students may receive credit for EN.600.321 or EN.600.421, but not both.

**Prerequisites:** EN.600.120 AND EN.600.226  
**Instructor(s):** Z. Palmer  
**Area:** Engineering.

**EN.600.323. Data-Intensive Computing. 3 Credits.**

Data-Intensive Computing is an experiential education course in computing with massive data sets that covers the software, algorithms, and systems used to ingest, store, and analyze. Specific topics include: NoSQL software systems including key/value stores and graph databases, scientific python, array databases, (semi)-external memory array and graph algorithms, extract-transform-load (ETL) processing, spatial indexing, OpenCL GPU code acceleration, and performance management of clusters. The course will utilize the unique computing resources at JHU, including the DataScope (5PB of storage), the GPU cluster (110 TFlops), and the Homewood High Performance Computing Cluster (1600 cores). The entire course will take place in several lengthy lab sessions each week. Course time will be divided roughly into team projects (30%), ad-hoc tasks (50%), presentation (10%) and using collaboration tools for concurrent reading and authoring and interactive self-assessment. [Systems]  
**Prerequisites:** EN.600.320 OR EN.600.420  
**Instructor(s):** R. Burns  
**Area:** Engineering.
EN.600.325. Declarative Methods. 3 Credits.
Suppose you could simply write down a description of your problem, and let the computer figure out how to solve it. What notation could you use? What strategy should the computer then use? In this survey class, you'll learn to recognize when your problem is an instance of satisfiability, constraint programming, logic programming, dynamic programming, or mathematical programming (e.g., linear programming). For each of these related paradigms, you'll learn to reformulate hard problems in the required notation and apply off-the-shelf software that can solve any problem in that notation -- including NP-complete problems and many of the problems you'll see in other courses and in the real world. You'll also gain some understanding of the general-purpose algorithms that power the software. [Analysis] Students can only receive credit for EN.600.325 or EN.600.425, not both.
Prerequisites: EN.600.226
Instructor(s): J. Eisner
Area: Engineering.

EN.600.328. Compilers and Interpreters. 3 Credits.
Introduction to compiler design, including lexical analysis, parsing, syntax-directed translation, symbol tables, run-time environments, and code generation and optimization. Students are required to write a compiler as a course project.[Systems] Co-listed with EN.600.428
Prerequisites: Prereqs: EN.600.120 AND EN.600.226
Instructor(s): P. Froehlich
Area: Engineering.

EN.600.334. Laboratory for Computer System Fundamentals. 1 Credit.
This course is a hands-on laboratory supplement to Computer System Fundamentals (EN.600.333).
Corequisites: Students must be co-registered for EN.600.333
Instructor(s): G. Masson; Staff
Area: Engineering.

EN.600.335. Artificial Intelligence. 3 Credits.
Artificial intelligence (AI) is introduced by studying automated reasoning, automatic problem solvers and planners, knowledge representation mechanisms, game playing, machine learning, and statistical pattern recognition. The class is a recommended for all scientists and engineers with a genuine curiosity about the fundamental obstacles to getting machines to perform tasks such as deduction, learning, and planning and navigation. Strong programming skills and a good grasp of the English language are expected; students will be asked to complete both programming assignments and writing assignments. The course will include a brief introduction to scientific writing and experimental design, including assignments to apply these concepts. [Applications] Recommended: linear algebra, prob/stat. Students can only receive credit for EN.600.335 or EN.600.435, not both.
Prerequisites: Prereq for EN.600.335: EN.600.226 AND EN.550.171 Recommended Linear Algebra, Prb/Stat
Instructor(s): B. Mitchell
Area: Engineering.

EN.600.336. Algorithms for Sensor-Based Robotics. 3 Credits.
This is an introductory course presenting a series of algorithms related to the representation and use of geometric models acquired from sensor data. Course topics include: basic sensing and estimation techniques, geometric model representations, and motion planning algorithms. The course will also discuss applications in diverse areas such as mobile systems, robot manipulation, and medicine. Students may receive credit for EN.600.336 or EN.600.436, but not both.
Recommended Course Background: AS.110.106, probability/statistics.
Prerequisites: EN.600.226(C)
Instructor(s): G. Hager
Area: Engineering.

EN.600.337. Distributed Systems. 3 Credits.
This course teaches how to design and implement protocols that enable processes to exchange information, cooperate, and coordinate efficiently in a consistent manner over a computer network. Topics include communication protocols, group communication, distributed databases, distributed operating systems, and security. [Systems]. Students may receive credit for EN.600.337 or EN.600.437 but not both.
Instructor(s): Y. Amir
Area: Engineering.

EN.600.344. Computer Network Fundamentals. 3 Credits.
This course considers intersystem communications issues. Topics covered include layered network architectures; the OSI model; bandwidth, data rates, modems, multiplexing, error detection/correction; switching; queuing models, circuit switching, packet switching, performance analysis of protocols, local area networks; and congestion control. [Systems] Students can only receive credit for EN.600.344 or EN.600.444, not both.
Prerequisites: Prereqs For EN.600.344: EN.600.233/333/433 or permission. Students can only receive credit for EN.600.344 or EN.600.444, not both.
Instructor(s): A. DeSimone
Area: Engineering.

EN.600.355. Video Game Design Project. 3 Credits.
An intensive capstone design project experience in video game development. Students will work in groups of 4-8 on developing a complete video game of publishable quality. Teams will (hopefully) include programmers, visual artists, composers, and writers. Students will be mentored by experts from industry and academia. Aside from the project itself, project management and communication skills will be emphasized. Enrollment limited to ensure parity between the various disciplines. Junior or senior standing recommended.
Prerequisites: EN.600.255 or permission of instructor
Instructor(s): P. Froehlich
Area: Engineering.

EN.600.357. Computer Graphics. 3 Credits.
This course introduces computer graphics techniques and applications, including image processing, rendering, modeling and animation. [Applications] Students may receive credit for EN.600.357 or EN.600.457, but not both. No Audits.
Prerequisites: Prereqs: EN.600.120 AND EN.600.226 and linear algebra
Instructor(s): M. Kazhdan
Area: Engineering, Quantitative and Mathematical Sciences.
EN.600.363. Introduction to Algorithms. 3 Credits.
This course concentrates on the design of algorithms and the rigorous analysis of their efficiency. Topics include the basic definitions of algorithmic complexity (worst case, average case); basic tools such as dynamic programming, sorting, searching, and selection; advanced data structures and their applications (such as union-find); graph algorithms and searching techniques such as minimum spanning trees, depth-first search, shortest paths, design of online algorithms and competitive analysis. [Analysis] Students may receive credit for EN.600.363 or EN.600.463, but not both.
Prerequisites: EN.600.226 AND EN.550.171 or Perm. Req’d.
Instructor(s): M. Dinitz
Area: Engineering, Quantitative and Mathematical Sciences.

EN.600.392. CS Design Project. 3 Credits.
This course will give junior and senior CS majors an intensive design project experience. Students will work in groups with real world customers to develop a working system. Project design, management and communication skills will be emphasized. Software development methodologies may also be presented. Recommended Course Background: EN.600.321
Prerequisites: EN.600.120 AND EN.600.226; Recommended 600.321
Instructor(s): P. Froehlich
Area: Engineering.

EN.600.402. Medical Informatics. 1 Credit.
Advances in technology are driving a change in medicine, from personalized medicine to population health. Computers and information technology will be critical to this transition. We shall discuss some of the coming changes in terms of computer technology, including computer-based patient records, clinical practice guidelines, and region-wide health information exchanges. We will discuss the underlying technologies driving these developments - databases and warehouses, controlled vocabularies, and decision support.
Instructor(s): H. Lehmann
Area: Engineering.

EN.600.405. Applications of Probabilistic Models to Language and Speech Processing. 1 Credit.
Applications of Probabilistic Graphical Models in Language and Speech Processing Probabilistic graphical models (PGMs) combine ideas from statistics and computer science into a unifying framework for modeling complex real-world phenomena. PGMs are now widespread in language and speech processing. PGMs are well suited to handle the inherent challenges of linguistic problems: complex and structured relationships, a large number of relevant attributes, and large volumes of data. This short course will provide students with advanced training in several specific applications of graphical models that are important in natural language processing. After reviewing the essentials of directed and undirected graphical models, we will discuss complex CRFs, approximate inference including variational and MCMC methods, Bayesian models and non-parametric Bayesian models including Chinese Restaurant Processes. Students will also gain practical experience by solving problems using existing PGM software. Recommended Course Background: EN.600.465
Instructor(s): A. Klementiev; S. Bergsma; V. Stoyanov
Area: Engineering, Quantitative and Mathematical Sciences.

EN.600.411. Computer Science Innovation & Entrepreneurship II. 3 Credits.
This course is the second half of a two-course sequence and is a continuation of course EN.600.410, CS Innovation and Entrepreneurship, offered by the Center for Leadership Education (CLE). In this sequel course the student groups, directed by CS faculty, will implement the business idea which was developed in the first course and will present the implementations and business plans to an outside panel made up of practitioners, industry representatives, and venture capitalists. [General]
Prerequisites: EN.600.410 AND ( EN.600.321 OR EN.600.421)
Instructor(s): A. Dahbura; L. Aronhime
Area: Engineering.

EN.600.412. Security and Privacy in Cloud Computing. 1 Credit.
This course focuses on the security and privacy issues in Cloud Computing systems. While the cloud computing paradigm gains more popularity, there are many issues related to confidentiality, integrity, and availability of data and computations involving a cloud. In this course, we examine cloud computing models, look into the threat model and security issues related to data and computation outsourcing, and explore practical applications of secure cloud computing. Students should have some background in network and/or data security.
Instructor(s): R. Hasan
Area: Engineering.

EN.600.415. Databases. 3 Credits.
Graduate level version of EN.600.315 [Systems]. Students may receive credit for EN.600.315 or EN.600.415, but not both. Recommended Course Background: EN.600.226
Instructor(s): D. Yarowsky
Area: Engineering.

EN.600.416. Database Systems. 3 Credits.
Similar material as EN.600.316, covered in more depth. Intended for upper-level undergraduates and graduate students. Students may receive credit for EN.600.316 or EN.600.416, but not both. Recommended Course Background: EN.600.120 and EN.600.226
Prerequisites: Students may receive credit for EN.600.316 or EN.600.416, but not both.
Instructor(s): Y. Ahmad
Area: Engineering.
EN.600.417. Data Stream Processing. 3 Credits.
Data stream processing has emerged as a model for building computing applications that face tremendous volumes of dynamically changing data, and are required to process such data in a timely fashion. Examples include a variety of web-driven applications, such as web advertising based on Facebook and Twitter status streams, and more generally, monitoring and analysis applications including algorithmic trading on stock ticks and order books, network monitoring for denial of service attacks, and location-based applications working with GPS data streams. This course will study data stream processing from a data management and algorithms perspective. Students will be introduced to the fundamentals of data stream processing systems and architectures, incremental (windowed) stream processing languages, and stream algorithms that embody the principle of “you only get one look” when having to continually deal with data arriving at high rates. This course will provide students with significant implementation experience, in the spirit of a practicum. Students will proceed through a series of homework projects to build a data stream processor from scratch, and will use the resulting stream engine along with stream mining algorithms to analyze Twitter feeds. This course is aimed at upper-level undergraduates with prior programming experience. Graduate students should consider taking EN.600.617 instead. Students may receive credit for EN.600.417 or EN.600.617, but not both.
Prerequisites: EN.600.120 AND EN.600.226 AND (EN.600.315 OR EN.600.415)
Instructor(s): Y. Ahmad
Area: Engineering.

EN.600.418. Operating Systems. 3 Credits.
Similar material as EN.600.318, covered in more depth. Intended for upper-level undergraduates and graduate students. Students may receive credit for EN.600.318 or EN.600.418, but not both. [Systems] Prerequisites: Students may receive credit for EN.600.318 or EN.600.418, but not both.
Instructor(s): P. Froehlich
Area: Engineering.

EN.600.420. Parallel Programming. 3 Credits.
Graduate level version of EN.600.320. Students may receive credit for EN.600.320 or EN.600.420, but not both. Recommended Course Background: EN.600.120 or equivalent.
Instructor(s): R. Burns
Area: Engineering.

EN.600.421. Object Oriented Software Engineering. 3 Credits.
Graduate level version of EN.600.321 [Systems or Applications]. Students may receive credit for EN.600.321 or EN.600.421, but not both. Recommended Course Background: EN.600.226 and EN.600.120
Instructor(s): Z. Palmer
Area: Engineering.

EN.600.423. Data-Intensive Computing. 3 Credits.
Graduate student version of EN.600.323. [Systems] Students may receive credit for EN.600.323 or EN.600.423, but not both.
Prerequisites: EN.600.320 OR EN.600.420
Instructor(s): R. Burns
Area: Engineering.

EN.600.424. Network Security. 3 Credits.
This course focuses on communication security in computer systems and networks. The course is intended to provide students with an introduction to the field of network security. The course covers network security services such as authentication and access control, integrity and confidentiality of data, firewalls and related technologies, Web security and privacy. Course work involves implementing various security techniques. A course project is required. [Systems] EN.600.120 (or equivalent) recommended.
Prerequisites: 600.226 and (600.344 or 600.444) or permission; 600.120 (or equivalent) recommended.
Instructor(s): S. Nielson
Area: Engineering.

EN.600.425. Declarative Methods. 3 Credits.
Students can only receive credit for EN.600.325 or EN.600.425, not both. Graduate level version of EN.600.325. Recommended Course Background: EN.600.226, EN.600.271, AS.110.110/AS.110.109
Instructor(s): J. Eisner
Area: Engineering.

EN.600.426. Principles of Programming Languages. 3 Credits.
Functional, object-oriented, and other language features are studied independent of a particular programming language. Students become familiar with these features by implementing them. Most of the implementations are in the form of small language interpreters. Some type checkers and a small compiler will also be written. The total amount of code written will not be overly large, as the emphasis is on concepts. The ML programming language is the implementation language used. [Analysis] No Freshmen or Sophomores. Recommended Course Background: EN.600.226
Instructor(s): S. Smith
Area: Engineering, Quantitative and Mathematical Sciences.

EN.600.427. Data Organization: Storage and External Memory Systems. 3 Credits.
This course will examine the complex relationship between computer architectures and software systems that store, organize, and access data. Storage systems have always co-evolved with technology. But, today’s computing landscape places unique demands on next generation storage systems. Technology drivers include: new storage devices, such as solid-state drives and phase-change memory, cloud computing, virtualization, and modern multicore and manycore processors with steep hierarchies of shared caches. The course will provide an overview of modern storage systems, including parallel file systems, key/value stores, scan engines, in-memory databases, archival storage, and content-based storage. It will cover the techniques used to organize storage in these systems, such as indexes, replication and coding, spatial trees, and space-filling curves. The course will also explore external memory data structures and algorithms that provide a framework for analyzing storage designs. Recommended Course Background: EN.600.226, EN.600.315/EN.600.415, and EN.600.333/EN.600.433 or permission of instructor.
Instructor(s): R. Burns
Area: Engineering.
EN.600.428. Compilers & Interpreters. 3 Credits.
Introduction to compiler design, including lexical analysis, parsing, syntax-directed translation, symbol tables, run-time environments, and code generation and optimization. Students are required to write a compiler as a course project. Co-listed with EN.600.328. Students should have knowledge of C/C++ programming and data structures. Graduate version of EN.600.328. Students may receive credit for EN.600.328 or EN.600.428, but not both.
Instructor(s): P. Froehlich
Area: Engineering.

EN.600.429. Functional Programming at Work - Haskell and Domain-Specific Languages. 3 Credits.
This course studies pure functional programming in the Haskell language and the use of functional programming to build domain specific languages (DSLs): customized, application specific programming languages. This course starts with an introduction to Haskell and its essential ideas of lazy evaluation and type inference. Advanced functional programming topics will include type classes, monads and monad transformers, arrows, templates, dependent types, parser combinators, and multiple parameter type classes. The class will study existing DSLs and DSL implementation techniques, including languages for reactive programming, computer vision, hardware design, computer music, and parallel processing. Students will implement a DSL of their choice in Haskell.
Instructor(s): J. Peterson
Area: Engineering.

EN.600.430. Ontologies and Knowledge Representation. 3 Credits.
Knowledge representation (KR) deals with the possible structures by which the content of what is known can be formally represented in such a way that queries can be posed and inferences drawn. Ontology concerns the hierarchi-cal classification of entities from given domains of knowledge together with the relations between various classes or subclasses. We begin with KR, examining the standard variety of frameworks developed or implemented over the last twenty years, including 1st-order logic and automated theorem proving, networks, frames, and description logics. Then we move on to a study of the problems inherent in ontology development and examine the some of the currently prevalent environments, including Universal Modeling Language, OWL and Protege'. RDFS and semantic web applications. [Analysis] Recommended Course Background: EN.600.107 and EN.600.271.
Instructor(s): R. Rynasiewicz
Area: Humanities, Quantitative and Mathematical Sciences.

EN.600.433. Computer Systems. 3 Credits.
Graduate version of 600.333. Students may receive credit for 600.333 or 600.433, but not both. [Systems]
Instructor(s): P. Froehlich
Area: Engineering.

EN.600.435. Artificial Intelligence. 3 Credits.
Students may receive credit for EN.600.335 or EN.600.435, not both. Graduate level version of EN.600.335 [Applications]. Prerequisite: EN.600.226, EN.550.171; Recommended: linear algebra, prob/stat.
Instructor(s): B. Mitchell
Area: Engineering.

EN.600.436. Algorithms for Sensor-Based Robotics. 3 Credits.
This course surveys the development of robotic systems for navigating in an environment from an algorithmic perspective. It will cover basic kinematics, configuration space concepts, motion planning, and localization and mapping. It will describe these concepts in the context of the ROS software system, and will present examples relevant to mobile platforms, manipulation, robotics surgery, and human-machine systems. [Analysis] Formerly EN.600.336. Students may receive credit for only one of EN.600.336, EN.600.436 and EN.600.636.
Prerequisites: EN.600.226 and Linear Algebra and Probability
Instructor(s): G. Hager
Area: Engineering.

EN.600.437. Distributed Systems. 3 Credits.
Graduate version of 600.337 Systems. Students may receive credit for 600.337 or 600.437 but not both. Recommended Course Background: EN.600.120, EN.600.226
Instructor(s): Y. Amir
Area: Engineering.

EN.600.439. Computational Genomics. 3 Credits.
Your genome is the blueprint for the molecules in your body. It’s also a string of letters $(A, C, G$ and $T)$ about 3 billion letters long. How does this string give rise to you? Your heart, your brain, your health? This, broadly speaking, is what genomics research is about. This course will familiarize you with a breadth of topics from the field of computational genomics. The emphasis is on current research problems, real-world genomics data, and efficient software implementations for analyzing data. Topics will include: string matching, sequence alignment and indexing, assembly, and sequence models. Course will involve significant programming projects. [Applications]
Instructor(s): B. Langmead
Area: Engineering.

EN.600.442. Modern Cryptography. 3 Credits.
This course focuses on cryptographic algorithms, formal definitions, hardness assumptions, and proofs of security. Topics include number-theoretic problems, pseudo-randomness, block and stream ciphers, public-key cryptography, message authentication codes, and digital signatures. Recommended Course Background: EN.600.226 and a 300-level or above systems course; EN.600.271/EN.600.471 and EN.550.171 or equivalent.
Instructor(s): C. Pappacena
Area: Engineering, Quantitative and Mathematical Sciences.

EN.600.443. Security & Privacy in Computing. 3 Credits.
Lecture topics will include computer security, network security, basic cryptography, system design methodology, and privacy. There will be a heavy work load, including written homework, programming assignments, exams and a comprehensive final. The class will also include a semester-long project that will be done in teams and will include a presentation by each group to the class. [Applications] Prerequisite: A basic course in operating systems and networking, or permission of instructor.
Instructor(s): A. Rubin
Area: Engineering.
**EN.600.444. Computer Networks. 3 Credits.**
This course considers intersystem communications issues. Topics covered include layered network architectures; the OSI model; bandwidth, data rates, modems, multiplexing, error detection/correction; switching; queuing models, circuit switching, packet switching; performance analysis of protocols, local area networks; and congestion control. Recommended Course Background: EN.600.333 or EN.600.433 or permission. Students can only receive credit for EN.600.344 or EN.600.444, not both.
Instructor(s): A. DeSimone
Area: Engineering.

**EN.600.445. Computer Integrated Surgery I. 4 Credits.**
This course focuses on computer-based techniques, systems, and applications exploiting quantitative information from medical images and sensors to assist clinicians in all phases of treatment from diagnosis to preoperative planning, execution, and follow-up. It emphasizes the relationship between problem definition, computer-based technology, and clinical application and includes a number of guest lectures given by surgeons and other experts on requirements and opportunities in particular clinical areas. Required Course Background: AS.110.201 or permission of instructor. Recommended Course Background: EN.600.120, EN.600.457, EN.600.461, image processing.
Prerequisites: EN.600.226
Instructor(s): R. Taylor
Area: Engineering.

**EN.600.446. Computer Integrated Surgery II. 3 Credits.**
This weekly lecture/seminar course addresses similar material to EN.600.445, but covers selected topics in greater depth. In addition to material covered in lectures/seminars by the instructor and other faculty, students are expected to read and provide critical analysis/presentations of selected papers in recitation sessions. Students taking this course are required to undertake and report on a significant term project under the supervision of the instructor and clinical end users. Typically, this project is an extension of the term project from EN.600.445, although it does not have to be. Grades are based both on the project and on classroom recitations. Students wishing to attend the weekly lectures as a 1-credit seminar should sign up for EN.600.452. Students may also take this course as EN.600.646. The only difference between EN.600.446 and EN.600.646 is the level of project undertaken. Typically, EN.600.646 projects require a greater degree of mathematical, image processing, or modeling background. Prospective students should consult with the instructor as to which course number is appropriate. [Applications] Students may receive credit for EN.600.446 or EN.600.646, but not both.
Prerequisites: Prereq for EN.600.446: EN.600.445 or permission
Instructor(s): R. Taylor
Area: Engineering.

**EN.600.450. Network Embedded Systems & Sensor Networks. 3 Credits.**
This course is an introduction to fundamental concepts of networked embedded systems and wireless sensor networks. It is intended for juniors, seniors and first year graduate students in Computer Science and other engineering majors with the prerequisite background. Covered topics include: embedded systems programming concepts, low power and power aware design, radio technologies, communication protocols for ubiquitous computing systems, and some of the mathematical foundation of sensor behavior. Laboratory work consists of a set of programming assignments that consider a set of the issues described in class. Recommended Course Background: EN.600.226, EN.600.120, and EN.600.344/EN.600.444
Instructor(s): M. Chang
Area: Engineering.

**EN.600.452. Seminar: Computer Integrated Surgery II. 1 Credit.**
Students may receive credit for EN.600.446 or EN.600.452, but not both. Lecture only version of EN.600.446 (no project). Recommended Course Background: EN.600.445 or instructor permission required.
Instructor(s): R. Taylor
Area: Engineering.

**EN.600.454. Practical Cryptographic Systems. 3 Credits.**
This semester-long course will teach systems and cryptographic design principles by example: by studying and identifying flaws in widely-deployed cryptographic products and protocols. Our focus will be on the techniques used in practical security systems, the mistakes that lead to failure, and the approaches that might have avoided the problem. We will place a particular emphasis on the techniques of provable security and the feasibility of reverse-engineering undocumented cryptographic systems. [Systems]
Instructor(s): M. Green
Area: Engineering.

**EN.600.457. Computer Graphics. 3 Credits.**
Graduate level version of EN.600.357. Students may receive credit for EN.600.357 or EN.600.457, but not both. Recommended Course Background: EN.600.120, EN.600.226, AS.110.201 or instructor permission.
Instructor(s): M. Kazhdan
Area: Engineering, Quantitative and Mathematical Sciences.

**EN.600.460. Software Vulnerability Analysis. 3 Credits.**
This course will examine vulnerabilities in C source, stack overflows, writing shell code, etc. Also, vulnerabilities in web applications: SQL Injection, cookies, as well as vulnerabilities in C binary fuzzing, and exploit development without source among other topics. Co-listed with EN.650.460
Instructor(s): S. Checkoway
Area: Engineering.
EN.600.461. Computer Vision. 3 Credits.
This course gives an overview of fundamental methods in computer vision from a computational perspective. Methods studied include: camera systems and their modelling, computation of 3-D geometry from binocular stereo, motion, and photometric stereo; and object recognition. Edge detection and color perception are covered as well. Elements of machine vision and biological vision are also included. Students may receive credit for at most one of EN.600.361 or EN.600.461 or EN.600.661. [Applications] Prerequisites (soft): intro programming, linear algebra, and prob/stat.
Prerequisites: If you have completed EN.600.361 OR EN.600.661 you cannot enroll in EN.600.461.
Instructor(s): R. Vidal
Area: Engineering, Quantitative and Mathematical Sciences.

EN.600.463. Algorithms I. 3 Credits.
Graduate version of EN.600.363 [Analysis] Students may receive credit for EN.600.363 or EN.600.463, but not both. Recommended Course Background: EN.600.226 and EN.550.171 or instructor permission required.
Instructor(s): M. Dinitz
Area: Engineering, Quantitative and Mathematical Sciences.

EN.600.464. Randomized Algorithms. 3 Credits.
The course emphasizes algorithmic design aspects, and how randomization can be a helpful tool. The topics covered include: tail inequalities, linear programming relaxation & randomized rounding, de-randomization, existence proofs, universal hashing, markov chains, metropolis and metropolis-hastings methods, mixing by coupling and by eigenvalues, counting problems, semi-definite programming and rounding, lower bound arguments, and applications of expanders. [Analysis] (www.cs.jhu.edu/~cs464) Recommended Course Background: EN.600.363 or EN.600.463.
Instructor(s): V. Braverman
Area: Engineering, Quantitative and Mathematical Sciences.

EN.600.465. Natural Language Processing. 3 Credits.
This course is an in-depth overview of techniques for processing human language. How should linguistic structure and meaning be represented? What algorithms can recover them from text? And crucially, how can we build statistical models to choose among the many legal answers? The course covers methods for trees (parsing and semantic interpretation), sequences (finite-state transduction such as morphology), and words (sense and phrase induction), with applications to practical engineering tasks such as information retrieval and extraction, text filtering, part-of-speech tagging, speech recognition and machine translation. There are a number of structured but challenging programming assignments. [Applications] Recommended Course Background: EN.600.226
Instructor(s): J. Eisner
Area: Engineering.

EN.600.466. Information Retrieval and Web Agents. 3 Credits.
An in-depth, hands-on study of current information retrieval techniques and their application to developing intelligent WWW agents. Topics include a comprehensive study of current document retrieval models, mail/news routing and filtering, document clustering, automatic indexing, query expansion, relevance feedback, user modeling, information visualization and usage pattern analysis. In addition, the course explores the range of additional language processing steps useful for template filling and information extraction from retrieved documents, focusing on recent, primarily statistical methods. The course concludes with a study of current issues in information retrieval and data mining on the World Wide Web. Topics include web robots, spiders, agents and search engines, exploring both their practical implementation and the economic and legal issues surrounding their use. Recommended Course Background: EN.600.226
Instructor(s): D. Yarowsky
Area: Engineering.

EN.600.467. Wireless Networks. 3 Credits.
This course covers the basics of mobile communication and wireless networking for computer science majors by keeping a balance between communication and networking topics. In this course the students will be exposed to wireless transmission fundamentals (path loss, shadowing, modulation, coding and channel models), wireless cellular networks (cellular concept, channel reuse, capacity limits, and cellular systems such as GSM, GPRS and UMTS), and learn about mobile network and transport layers, medium access control protocols, wireless local area networks (IEEE 802.11) , wireless mesh networks (IEEE 802.16), and emerging dynamic spectrum access networks based on cognitive radios. Recommended Course Background: EN.600.344/EN.600.444 or equivalent.
Prerequisites: EN.600.344 OR EN.600.444 or equivalent
Instructor(s): A. Mishra
Area: Engineering.

EN.600.468. Machine Translation. 3 Credits.
Google translate can instantly translate between any pair of over fifty human languages (for instance, from French to English). How does it do that? Why does it make the errors that it does? And how can you build something better? Modern translation systems learn to translate by reading millions of words of already translated text, and this course will show you how they work. The course covers a diverse set of fundamental building blocks from linguistics, machine learning, algorithms, data structures, and formal language theory, along with their application to a real and difficult problem in artificial intelligence. Recommended Course Background: prob/stat, EN.600.226; EN.600.465
Instructor(s): A. Lopez; M. Post
Area: Engineering.

EN.600.469. Approximation Algorithms. 3 Credits.
This course provides an introduction to approximation algorithms. Topics include vertex cover, TSP, Steiner trees, cuts, greedy approach, linear and semi-definite programming, primal-dual method, and randomization. Additional topics will be covered as time permits. There will be a final project. Students may receive credit for EN.600.469 or EN.600.669, but not both. [Analysis]
Prerequisites: EN.600.363 OR EN.600.463 OR permission of instructor.
Instructor(s): V. Braverman
Area: Engineering, Quantitative and Mathematical Sciences.
**EN.600.471. Theory of Computation. 3 Credits.**
This is a graduate-level course studying the theoretical foundations of computer science. Topics covered will be models of computation from automata to Turing machines, computability, complexity theory, randomized algorithms, inapproximability, interactive proof systems and probabilistically checkable proofs. Students may not take both EN.600.271 and EN.600.471, unless one is for an undergrad degree and the other for grad. [Analysis]Recommended Course Background: EN.550.171 or instructor permission.
Instructor(s): X. Li
Area: Engineering, Quantitative and Mathematical Sciences.

**EN.600.475. Introduction to Machine Learning. 3 Credits.**
This course takes an application driven approach to current topics in machine learning. The course covers supervised learning (classification/structured prediction/regression/ranking), unsupervised learning (dimensionality reduction, bayesian modeling, clustering) and semi-supervised learning. Additional topics may include reinforcement learning and learning theory. The course will also consider challenges resulting from learning applications, such as transfer learning, multi-task learning and large datasets. We will cover popular algorithms (naive Bayes, SVM, perceptron, HMM, winnow, LDA, k-means, maximum entropy) and will focus on how statistical learning algorithms are applied to real world applications. Students in the course will implement several learning algorithms and develop a learning system for a final project. [Applications] Recommended Course Background: multivariate calculus.
Instructor(s): M. Dredze
Area: Engineering.

**EN.600.476. Machine Learning in Complex Domains. 3 Credits.**
How can robots locate themselves in an indoor environment when navigating? How do you infer which patients need attention first in the ICU? How can one identify the start of an epidemic using tweets? How does one predict the way a traffic jam will spread through the local streets during an Orioles game? How can you communicate with your TV using only hand gestures? These are just a few of the questions and challenges that we will cover in this course. We will study the fundamental concepts of Probabilistic Graphical Models as a framework for addressing questions like the ones above. We will study algorithms for model estimation, exact and approximate inference. The course will have 4 interactive sessions during which students will learn through an open discussion forum how to think about open-ended real-world problems with the tools learnt in class. Students are also required to tackle a project of their choice within which they will experiment with the ideas learnt in class. Students in the class will be asked to do assignments in Matlab. Matlab is typically easy to pick up if one is already familiar with a different programming language. Students are expected to be mathematically mature. Though not required, exposure to optimization or machine learning is recommended. Proficiency in at least one programming language is expected. When in doubt, send the instructor a copy of your transcript to see if the class is appropriate for you. Also, sit through the first few sessions and first homework to get a sense of fit. Recommended Course Background: EN.550.310, EN.550.311, EN.550.420, or EN.550.430 and EN.550.291 or AS.110.201
Instructor(s): S. Saria
Area: Engineering, Quantitative and Mathematical Sciences.

**EN.600.478. Visual Imaging in Surgery and Medicine. 3 Credits.**
Prerequisites: Pre-req: 600.226 and 600.361/461; linear algebra 600.445 recommended
Area: Engineering.

**EN.600.479. Representation Learning. 3 Credits.**
Often the success of a machine learning project depends on the choice of features used. Machine learning has made great progress in training classification, regression and recognition systems when "good" representations, or features, of input data are available. However, much human effort is spent on designing good features which are usually knowledge-based and engineered by domain experts over years of trial and error. A natural question to ask then is "Can we automate the learning of useful features from raw data?" Representation learning algorithms such as principal component analysis aim at discovering better representations of inputs by learning transformations of data that disentangle factors of variation in data while retaining most of the information. The success of such data-driven approaches to feature learning depends not only on how much data we can process but also on how well the features that we learn correlate with the underlying unknown labels (semantic content in the data). This course will focus on scalable machine learning approaches for learning representations from large amounts of unlabeled, multi-modal, and heterogeneous data. We will cover topics including deep learning, multi-view learning, dimensionality reduction, similarity-based learning, and spectral learning. Students may receive credit for 600.479 or 600.679 but not both. [Analysis or Applications] Required course background: machine learning or basic probability and linear algebra.
Prerequisites: If you have completed EN.600.679 you may not enroll in EN.600.479.
Instructor(s): R. Arora
Area: Engineering.

**EN.600.488. Foundations of Computational Biology & Bioinformatics II. 3 Credits.**
This course will introduce probabilistic modeling and information theory applied to biological sequence analysis, focusing on statistical models of protein families, alignment algorithms, and models of evolution. Topics will include probability theory, score matrices, hidden Markov models, maximum likelihood, expectation maximization and dynamic programming algorithms. Homework assignments will require programming in Python. Foundations of Computational Biology I is not a prereq. [Analysis] Co-listed with EN.580.488. Recommended Course Background: math through linear algebra and differential equations, at least one prob/stat course, EN.580.221 or equivalent, EN.600.226 or equivalent.
Instructor(s): R. Karchin
Area: Engineering, Natural Sciences.

**EN.600.491. Computer Science Workshop I.**
An applications-oriented, computer science project done under the supervision and with the sponsorship of a faculty member in the Department of Computer Science. Computer Science Workshop provides a student with an opportunity to apply theory and concepts of computer science to a significant project of mutual interest to the student and a Computer Science faculty member. Permission to enroll in CSW is granted by the faculty sponsor after his/her approval of a project proposal from the student. Interested students are advised to consult with Computer Science faculty members before preparing a Computer Science Workshop project proposal.
Instructor(s): D. Yarowsky; J. Selinski; P. Froehlich; S. Smith; Staff
Area: Engineering.

**EN.600.492. Comp Science Workshop II.**
Permission of faculty sponsor is required.
Instructor(s): D. Yarowsky; J. Selinski; P. Froehlich; S. Smith
Area: Engineering.
EN.600.501. Independent Study Fr/So.
Individual, guided study under the direction of a faculty member in the department. The program of study, including the credit to be assigned, must be worked out in advance between the student and the faculty member involved. Permission required.

EN.600.503. Independent Study.
Individual guided study for undergraduate students under the direction of a faculty member in the department. The program of study, including the credit to be assigned, must be worked out in advance between the student and the faculty member involved. Permission required.

EN.600.504. Undergraduate Independent Study. 3 Credits.
For undergraduate students. Permission of faculty sponsor is required.

EN.600.507. Independent Research.
Individual research for undergraduates under the direction of a faculty member in the department. The program of research, including the credit to be assigned, must be worked out in advance between the student and the faculty member involved. Permission required.

EN.600.508. Undergraduate Research. 3 Credits.
Permission of faculty sponsor is required.

EN.600.509. Computer Science Internship. 1 Credit.
Individual work in the field with a learning component, supervised by a faculty member in the department. The program of study and credit assigned must be worked out in advance between the student and the faculty member involved. Students may not receive credit for work that they are paid to do. As a rule of thumb, 40 hours of work is equivalent to one credit. Permission required.

EN.600.510. Computer Science Internship. 1 Credit.
Individual work in the field with a learning component, supervised by a faculty member in the department. The program of study must be worked out in advance between the student and the faculty member involved. Students may not receive credit for work that they are paid to do. As a rule of thumb, 40 hours of work is equivalent to one credit, which is the limit per semester. Permission of faculty sponsor is required.

EN.600.519. Senior Honors Thesis. 3 Credits.
The student will undertake a substantial independent research project under the supervision of a faculty member, potentially leading to the notation "Departmental Honors with Thesis" on the final transcript. Students are expected to enroll in both semesters of this course during their senior year. Project proposals must be submitted and accepted in the preceding spring semester (junior year) before registration. Students will present their work publicly before April 1st of senior year. They will also submit a first draft of their project report (thesis document) at that time. Faculty will meet to decide if the thesis will be accepted for honors. Computer science majors only. Students should have a 3.5 GPA in computer science courses at the end of their junior year and permission of faculty sponsor. See EN.600.491 for faculty section numbers.

EN.600.520. Senior Honors Thesis. 3 Credits.
For computer science majors only, a continuation of EN.600.519. Recommended Course Background: EN.600.519
Instructor(s): Staff.

EN.600.546. Senior Thesis in CIS. 3 Credits.
Instructor(s): R. Taylor
Area: Engineering.

EN.600.595. Independent Study-Summer. 3 Credits.
Instructor(s): Staff.

EN.600.597. Research-Summer. 3 Credits.
Instructor(s): Staff.

EN.600.599. Internship. 1 Credit.
Instructor(s): Staff.

Required for all full-time CS PhD students. Recommended for MSE students.
Instructor(s): C. Thornton; S. Smith.

Required for all CS PhD students. Strongly recommended for MSE students.
Instructor(s): C. Thornton; S. Smith.

EN.600.603. Current Topics in Language and Speech Processing.
Instructor(s): S. Khudanpur
Area: Engineering.

CLSP seminar series, for any students interested in current topics in language and speech processing.

EN.600.615. Big Data, Small Languages, Scalable Systems.
This class will study domain-specific data management tools, focusing on extremely scalable system design based on the domain's semantic and structural properties. We will study a variety of data models including stream, graph, array and probabilistic data, and their processing on modern architectures such as column- and key-value stores, stream and XQuery engines. Further topics include the use of novel hardware such as solid state disks, phase change memory, GPUs, and FPGAs. The class includes a semester long group project to develop a query processor for an application of the group's choice (e.g. on system log, finance, web, sensor, speech data). Recommended Course Background: EN.600.315/EN.600.415 or equivalent.
Instructor(s): Y. Ahmad.

EN.600.617. Data Stream Processing.
Advanced (graduate) version of EN.600.417. Students may receive credit for EN.600.417 or EN.600.617, but not both. Recommended Course Background: EN.600.315/EN.600.415.
Instructor(s): Y. Ahmad.

EN.600.620. External Memory Data Structures and Algorithms.
Prerequisites: ( EN.600.363 OR EN.600.463 ) AND ONE OF: ( EN.600.315 OR EN.600.415 ), ( EN.600.318 OR EN.600.418 ), ( EN.600.316 OR EN.600.416 ), ( EN.600.319 OR EN.600.419 ) OR PERMISSION OF INSTRUCTOR
Area: Engineering.
The advent of cloud computing has lead to an explosion of storage system and data analysis software, including NoSQL databases, bulk-synchronous processing, graph computing engines, and stream processing. This course will explore scale-out software architectures for data-processing tasks. It will examine the algorithms and datastructures that underlie scalable systems and look at how hardware and networking trends influence the design and deployment of cloud computing. Recommended Course Background: EN.600.320/420 or permission of instructor. [Systems]
Instructor(s): R. Burns.

EN.600.625. Events Semantics in Theory and Practice.
This course explores selected topics in the nature of event representations from the perspective of cognitive science, computer science, linguistics, and philosophy. These fields have developed a rich array of scientific theories about the representation of events, and how humans make inferences about them -- we investigate how (and if) such theories could be applied to current research topics and tasks in computational semantics such as inference from text, automated summarization, veridicality assessment, and so on. In addition to classic articles dealing with formal semantic theories, the course considers available machine-readable corpora, ontologies, and related resources that bear on event structure, such as WordNet, PropBank, FrameNet, etc.. The course is aimed to marry theory with practice: students with either a computational or linguistic background are encouraged to participate. [Applications]
Instructor(s): B. Van Durme; K. Rawlins.

Graduate level version of EN.600.436 (see description above). Formerly EN.600.436. Students may receive credit for only one of EN.600.336, EN.600.436 or EN.600.636. Recommended Course Background: EN.600.226, AS.110.106, and Prob/Stat.
Prerequisites: Students may receive credit for only one of EN.600.336, EN.600.436 and EN.600.636.
Instructor(s): G. Hager.

EN.600.639. Computational Genomics.
Graduate version of EN.600.439 [Applications] Students may earn credit for EN.600.439 or EN.600.639, but not both. Recommended Course Background: EN.600.120 and EN.600.226
Instructor(s): B. Langmead
Area: Engineering.

EN.600.640. Frontiers of Sequencing Data Analysis.
Public archives now contain petabytes of valuable but hard-to-analyze DNA sequencing data. Analyzing even small datasets is complicated by sequencing errors, differences between individuals, and the fragmentary nature of the sequencing reads. In this course, we study recent algorithms and methods that seek to make sense of DNA sequencing datasets from small to very large. Topics covered will vary from year to year, but could include DNA sequencing data analysis, other functional genomics data analysis, metagenomics analysis, data compression, indexing, applications of streaming algorithms and sketch data structures, assembly, etc. There will be homework assignments and a course project. [Applications]
Prerequisites: EN.600.439 OR EN.600.639
Instructor(s): B. Langmead.

EN.600.642. Advanced Topics in Cryptography.
This course will focus on advanced cryptographic topics with an emphasis on open research problems and student presentations.
Instructor(s): G. Ateniese.

Topics will vary from year to year, but will focus mainly on network perimeter protection, host-level protection, authentication technologies, intellectual property protection, formal analysis techniques, intrusion detection and similarly advanced subjects. Emphasis in this course is on understanding how security issues impact real systems, while maintaining an appreciation for grounding the work in fundamental science. Students will study and present various advanced research papers to the class. There will be homework assignments and a course project.
Prerequisites: EN.600.443 OR EN.600.424 or permission of instructor.
Instructor(s): A. Rubin.

This is a graduate level course on computer networking. The course involves both a reading/lecture/discussion component and a project component. We will read about 50 research papers on various aspects of computer networking: software defined networks, congestion/flow control, network measurements, routing, content distribution networks, wireless, and data center networks. Students are expected to read papers before the class, submit a one page summary for each paper, and participate in the discussion during the class. The class projects can be either of the following types: design/implementation, measurement, and simulation. The lecture will be conducted in an interactive fashion. The instructor will lead the discussion, but we expect everyone to participate. You will be graded for both the paper summaries and class discussion. [Systems].

Graduate version of 600.445 (see description). Students may earn credit for 600.445 or 600.645, but not both. Prerequisites: data structures, and linear algebra, or permission; Recommended Course Background: intermediate programming in C/C++, 600.457, 600.461, image processing. [Applications]
Instructor(s): R. Taylor
Area: Engineering.

EN.600.646. Computer Integrated Surgery II.
Students may receive credit for EN.600.446 or EN.600.646, but not both. Advanced version of EN.600.446. [Applications]
Prerequisites: EN.600.445 OR PERMISSION OF INSTRUCTOR
Instructor(s): R. Taylor.

EN.600.647. Advanced Topics Wireless Networks.
A survey of current research in wireless communication networks. These types of networks have been growing exponentially in the past several years and include a host of different network types: ad hoc, cell phone, access point, sensor, etc. The class will build understanding of all layers of wireless networking and the interactions between them (including: physical, data link, medium access control, routing, transport, and application). Topics discussed: security, energy efficiency, mobility, scalability, and their unique characteristics in wireless networks.

Topics vary but mainly focus on recent advances in exploitation techniques and defenses for software including software running on embedded systems software, browsers, and nontraditional devices such as microcontrollers in PCs. Co-listed as 650.662. Recommended Course Background: EN.600.460 or EN.650.442 or permission of instructor.
This course presents advanced methodologies and their applications to computer graphics. Recommended Course Background: any computer science courses above the 400-level in computer graphics & linear algebra; or permission of instructor.

This course will survey individual topics in computer graphics. Throughout most of the semester, students will present one to two papers in the area each week. Then, towards the end, the course will focus on the evaluation and comparison of the covered methods. Students will collaboratively design tools for analyzing the techniques and the class will jointly write up their findings in a survey paper. In addition to providing a deep study of a particular area in computer graphics, the goal of this course is to expose students to important aspects of research, including reviewing related work, designing metrics for evaluation, and writing scientific papers.
Instructor(s): M. Kazhdan.

EN.600.659. Introduction to Computational Geometry.
This course will provide an introduction to computational geometry. It will cover a number of topics in two- and three-dimensions, including polygon triangulations and partitions, convex hulls, Delaunay and Voronoi diagrams, arrangements, and spatial queries. [Analysis] Recommended Course Background: EN.600.363/463
Instructor(s): M. Kazhdan.

EN.600.660. FFT in Graphics & Vision.
In this course, we will study the Fourier Transform from the perspective of representation theory. We will begin by considering the standard transform defined by the commutative group of rotations in 2D and translations in two- and three-dimensions, and will proceed to the Fourier Transform of the non-commutative group of 3D rotations. Subjects covered will include correlation of images, shape matching, computation of invariances, and symmetry detection. Recommended Course Background: AS.110.201 and comfort with mathematical derivations.
Instructor(s): M. Kazhdan.

EN.600.661. Computer Vision.
Graduate version of EN.600.461. Students may receive credit for at most one of EN.600.361 or EN.600.461 or EN.600.661. [Applications] Prerequisites (soft): intro programming, linear algebra, and prob/stat. Prerequisites: If you have completed EN.600.361 OR EN.600.461 you cannot enroll for EN.600.661.
Instructor(s): R. Vidal.

EN.600.662. Topics in Illumination and Reflectance Modeling for Computer Vision and Medical Imaging Applications.
The vast majority of all imagery on which computer vision is performed starts with a source of illumination in conjunction with a material reflectance property. Having a rigorous understanding of these phenomena is important for most students who want to be involved with further research in computer vision and computer integrated surgery, particularly for experimentation and development of new systems. This short course is for individuals who have already taken Computer Vision, and want to delve deeper into underlying physical modeling of light illumination, reflection, colorimetry, polarization and even sensor fusion of images taken at different Wavelengths.
Prerequisites: EN.600.361 OR EN.600.461 or Instructor permission required.
Instructor(s): L. Wolff.

EN.600.663. Pattern Matching Algorithms.
Pattern matching problems are among the oldest in computer science. Yet, the area is still a fertile ground for very active current research. Part of its appeal is in its many application domains, such as text editing, computer vision, or molecular biology. Another aspect is that pattern matching has produced or incorporated some novel and powerful algorithmic techniques. We will investigate various pattern matching problems with particular emphasis on the techniques employed for their solutions. Recommended Course Background: EN.600.363/EN.600.463 or equivalent.
Instructor(s): A. Amir.

EN.600.664. Randomized Algorithms.
Graduate level version of EN.600.464. Recommended Course Background: EN.600.363 or EN.600.463. Students may receive credit for EN.600.464 or EN.600.664, but not both.
Instructor(s): V. Braverman
Area: Engineering.

EN.600.666. Information Extraction.
Introduction to statistical methods of speech recognition (automatic transcription of speech) and understanding. The course is a natural continuation of EN.600.465 but is independent of it. Topics include elementary information theory, hidden Markov models, the Baum and Viterbi algorithms, efficient hypothesis search methods, statistical decision trees, the estimation-maximization (EM) algorithm, maximum entropy estimation and estimation of discrete probabilities from sparse data for acoustic and language modeling. Weekly assignments and several programming projects. Co-listed as EN.520.666. Recommended Course Background: EN.600.120 and EN.550.310 or equivalent, expertise in C or C++ programming.
Instructor(s): S. Khudanpur.

The course explores the state of the art in distributed systems, networks and Internet research and practice, trying to see what it would take to push the envelop a step further. The course is conducted as a discussion group, where the professor and students brainstorm and pick interesting semester-long projects with high potential future impact. Example areas include robust scalable infrastructure (distributed datacenters, cloud networking, scada systems), real-time performance (remote surgery, trading systems), hybrid networks (mesh networks, 3G/Wifi/Bluetooth). Students should feel free to bring their own topics of interest and ideas. Recommended Course Background: a systems course (distributed systems, operating systems, computer networks, parallel programming) or permission of instructor.
Instructor(s): Y. Amir.

Topics vary but mainly focus on recent advances in exploitation techniques and defenses for software including software running on embedded systems software, browsers, and nontraditional devices such as microcontrollers in PCs. Recommended Course Background: EN.600.460 or EN.650.442 or permission of instructor
Instructor(s): S. Checkoway.

EN.600.669. Approximation Algorithms.
Graduate version of EN.600.469. Students may receive credit for EN.600.469 or EN.600.669, but not both.
Prerequisites: EN.600.363 OR EN.600.463 OR permission
Instructor(s): V. Braverman.
EN.600.670. Pseudorandomness and Combinatorial Constructions.
Randomness is very useful in almost all areas of computer science, such as algorithms, distributed computing and cryptography. However, computers generally do not have access to truly uniform random bits. To deal with this, we rely on various pseudorandom objects to reduce either the quantity or the quality of the random bits needed. In this course, we will develop provably good pseudorandom objects for a variety of tasks. We will frequently require explicit combinatorial constructions. That is, we will want to efficiently and deterministically construct such objects. Along the way, we will also explore the close connections of such objects to many other areas in computer science and mathematics, such as graph theory, coding theory, complexity theory and arithmetic combinatorics. [Analysis] Recommended Course Background: EN.600.310, EN.600.363/463 and probability. Instructor(s): X. Li.

EN.600.672. Advances in Computational Complexity.
Computational complexity theory focuses on understanding capabilities of resource bounded computation. In recent years there have been many important break-through results in this area: lower bounds for Boolean circuits, design of space efficient algorithm for undirected graph reachability problem, hardness based derandomization of randomized algorithms, probabilistic proof characterization of non-deterministic polynomial-time, to name a few. This course aims to get in detail some of the very exciting recent developments in computational complexity theory. It will be useful for any student who is mathematically mature and has a keen interest in understanding the fundamental nature of computation. Recommended Course Background: EN.600.471 or equivalent. Instructor(s): V. Variyam.

Students in the class will be asked to do assignments in Matlab. Matlab is typically easy to pick up if one is already familiar with a different programming language. Students are expected to be mathematically mature. One should have taken at least an introductory course in probability theory and linear algebra. Though not required, exposure to optimization or machine learning is recommended. Proficiency in at least one programming language is expected. When in doubt, send the instructor a copy of your transcript to see if the class is appropriate for you. Also, sit through the first few sessions and first homework to get a sense of fit. Recommended Course Background: EN.550.310, EN.550.311, EN.550.420, or EN.550.430 and EN.550.291 or AS.110.201 Instructor(s): S. Saria.

EN.600.679. Representation Learning.
Graduate level version of 600.479. Students may receive credit for 600.479 or 600.679 but not both. [Analysis or Applications] Required course background: machine learning or basic probability and linear algebra. Co-listed with EN.600.479
Prerequisites: If you have completed EN.600.479 you may not enroll in EN.600.679.
Instructor(s): R. Arora.

EN.600.688. Foundations of Computational Biology & Bioinformatics II.
This course will introduce probabilistic modeling and information theory applied to biological sequence analysis, focusing on statistical models of protein families, alignment algorithms, and models of evolution. Topics will include probability theory, score matrices, hidden Markov models, maximum likelihood, expectation maximization and dynamic programming algorithms. Homework assignments will require programming in Python. Co-listed with EN.580.688. Recommended Course Background: math through linear algebra and differential equations, at least one prob/stat course, EN.580.221 or equivalent, EN.600.226 or equivalent.
Instructor(s): R. Karchin.

In the era of data deluge, the development of methods for discovering structure in high-dimensional data is becoming increasingly important. This course will cover state-of-the-art methods from algebraic geometry, sparse and low-rank representations, and statistical learning for modeling and clustering high-dimensional data. The first part of the course will cover methods for modeling data with a single low-dimensional subspace, such as PCA, Robust PCA, Kernel PCA, and manifold learning techniques. The second part of the course will cover methods for modeling data with multiple subspaces, such as algebraic, statistical, sparse and low-rank subspace clustering techniques. The third part of the course will cover applications of these methods in image processing, computer vision, and biomedical imaging. Recommended course background: EN.600.475 or EN.600.476 or permission.
Instructor(s): R. Vidal.

EN.600.707. Selected Topics in CS Education.
This course will explore current issues and research in computer science education. Topics will be drawn from literature, news items, and participant experience. Current faculty and students with interests in academic careers are encouraged to attend.
Instructor(s): J. Selinski.

EN.600.716. Selected Topics on Innovative Data Systems.
This weekly reading group will survey and dissect the cutting-edge on innovative data systems research. Topics will encompass methods and abstraction in core systems and data management areas (eg, cloud computing, scalable programming and storage), as well as use-cases and “war” stories from industry, and science and engineering applications. View on web: Our semester schedule is posted at damsel.cs.jhu.edu/blockparty
Instructor(s): Y. Ahmad.

EN.600.726. Selected Topics in Programming Languages.
This seminar course covers recent developments in the foundations of programming language design and implementation. Topics covered include type theory, process algebra, higher-order program analysis, and constraint systems. Students will be expected to present papers orally.
Instructor(s): S. Smith.

EN.600.728. Selected Topics in Category Theory.
Students in this course will read a sampling of standard texts in Category Theory (e.g. the books by Awodey, Mac Lane, Pierce, or others) and papers relevant to the research of participants.
Instructor(s): N. Filardo.
EN.600.735. Seminar in Machine Learning.
This seminar course will look at research in machine learning. Topics will be selected from those of mutual interest between students and the instructor. Sample topics include reinforcement learning, kernel methods, experimental methods in machine learning, computational learning theory, lazy learning, evolutionary computation, and neural networks. Students are expected to select papers and lead discussion. Instructor(s): V. Braverman.

EN.600.745. Seminar in Computational Sensing and Robotics.
This weekly seminar will focus on research issues in computer integrated surgery, including subjects such as medical image analysis, statistical modeling, visualization, vision/sensing, surgical planning, medical robotics, and clinical applications. The purpose of the course is to widen the knowledge and awareness of the participants in current research in these areas, as well as to promote greater awareness and interaction between multiple research groups within the University and beyond. The format of the course is informal presentation by a pre-eminent invited speaker, followed by free discussion. Formerly Seminar in Computer Integrated Surgery (CISST)
Instructor(s): J. Sheppard.

EN.600.746. Selected Topics in Medical Image Analysis Seminar.
This weekly seminar will focus on research issues in computer integrated surgery, including subjects such as medical image analysis, statistical modeling, visualization, vision/sensing, surgical planning, medical robotics, and clinical applications. The purpose of the course is to widen the knowledge and awareness of the participants in current research in these areas, as well as to promote greater awareness and interaction between multiple research groups within the University and beyond. The format of the course is informal presentation by a pre-eminent invited speaker, followed by free discussion.
Instructor(s): P. Kazanzides.

EN.600.754. Seminar on Statistical Anatomic Models, Registration, and Reconstruction.
This weekly research seminar will focus generally on statistical modeling of anatomic structures, image and model registration, 3D image reconstruction methods, and their interrelationships. We will concentrate primarily, though not exclusively, on x-ray based imaging modalities (x-ray fluoroscopy, CT, cone-beam tomography, "hybrid" reconstruction methods, etc.).
Instructor(s): R. Taylor.

EN.600.757. Selected Topics in Computer Graphics.
In this course we will review current research in computer graphics. We will meet for an hour once a week and one of the participants will lead the discussion for the week.
Instructor(s): M. Kazhdan.

EN.600.763. Selected Topics in Streaming Algorithms.
This course will focus on theoretical streaming algorithms and related methods. Examples of topics that we will address include sketching, sampling, frequency moments, heavy elements, k-wise independence, and the Johnson-Lindenstrauss lemma. Students will be required to select a paper and lead a discussion. This course is a good opportunity for motivated students to learn modern algorithmic methods. Recommended Course Background: EN.600.463 or equivalent.
Instructor(s): V. Braverman.

This course will explore algorithms and theoretical computer science with a focus on algorithms for massive data. Examples of topics include streaming algorithms, approximation algorithms, online algorithms. Students will be encouraged to select a paper and lead a discussion. External speakers will be invited to present current work as well. This course is a good opportunity for motivated students to learn modern algorithmic methods.
Prerequisites: EN.600.463 or equivalent
Instructor(s): V. Braverman
Area: Engineering.

EN.600.765. Selected Topics in Natural Language Processing.
A reading group exploring important current research in the field and potentially relevant material from related fields. Enrolled students are expected to present papers and lead discussion.
Instructor(s): J. Eisner.

EN.600.766. Selected Topics in Meaning, Translation and Generation of Text.
This weekly reading group will review current research and survey articles on the topics of computational semantics, statistical machine translation, and natural language generation. Enrolled students will present papers and lead discussions.
Instructor(s): B. Van Durme.

EN.600.770. Selected Topics in Algorithms for Metric Spaces.
This course will focus on algorithms that use, simplify, or exploit metric spaces. Examples of topics we will address include metric embeddings and their applications, algorithms to exploit low dimensionality, graph spanners and sparsifiers, and data structures such as distance oracles and compact routing schemes that allow us to efficiently find distances and paths. This course will mostly be in the form of a reading group, and students will present a paper and lead a discussion.
Recommended Course Background: EN.600.363 or EN.600.463 or permission of the instructor.
Instructor(s): M. Dinitz.

EN.600.771. Probability on Strings, Trees, and Sequences.
Many areas of practical computer science focus on discrete data that is sequential or tree-shaped: natural language processing (sentences and their analyses), computational biology (DNA and protein structures), programming languages (computer programs and their interpretations), and compression (sequences of bits). When the data is noisy or ambiguous, decision-making requires probabilistic methods. We will survey formal tools for manipulating sets of strings, trees, sequences, and defining probabilistic models over these sets. Much of the material covers advanced topics at the intersection of formal language and automata theory, probability, and algorithms. Respectively, these three areas will enable us to represent sets, represent uncertainty, and process everything efficiently.
EN.600.772. Selected Topics in Linear Programming and Semi-definite Programming.
Linear programming and semi-definite programming are powerful techniques in convex optimization. They have been used to achieve the best known approximation results for many important combinatorial optimization problems, such as vertex cover, max cut, sparsest cut and MAX-2-SAT. In this course we will together explore the applications of these techniques in computer science, as well as some recent results about their limitations. Time permitting, we may also discuss their connections to the well-known unique games conjecture. This course will be in the form of a reading group, and students are encouraged to select a paper and lead a discussion. Recommended course background: EN.600.463 and EN.600.464.
Instructor(s): X. Li.

EN.600.775. Selected Topics in Machine Learning.
This seminar is recommended for all students interested in data intensive computing research areas (e.g., machine learning, computer vision, natural language processing, speech, computational social science). The meeting format is participatory. Papers that discuss best practices and the state-of-the-art across application areas of machine learning and data intensive computing will be read. Student volunteers lead individual meetings. Faculty and external speakers present from time-to-time. Recommended Course Background: machine learning or permission of the instructor.
Instructor(s): Staff.

EN.600.780. Special Topics in Computational Genomics.
This course will survey current areas where computer science approaches have been applied to genomics research. Chiefly, the course focuses on DNA sequencing data analysis, including sequence alignment, de novo assembly, error correction, and DNA data compression. Subject matter will be partially guided by student interests. Students will present papers orally.
Instructor(s): B. Langmead.

EN.600.801. Dissertation Research.
Instructor(s): Staff.

EN.600.802. Dissertation Research.
Instructor(s): Staff.

EN.600.803. Graduate Research.
Permission required. Independent research for masters or pre-dissertation PhD students.
Instructor(s): Staff.

EN.600.804. Graduate Research.
Independent research for masters or pre-dissertation PhD students. Permission required.
Instructor(s): Staff.

EN.600.809. Independent Study.
Permission required. Individual study in an area of mutual interest to a graduate student and a faculty member in the department.
Instructor(s): Staff.

EN.600.810. Graduate Independent Study.
Permission required.
Instructor(s): Staff.

EN.600.891. Independent Study-Summer.
Instructor(s): Staff.

EN.600.895. Research-Summer.
Instructor(s): Staff.

Cross Listed Courses

General Engineering
EN.500.745. Seminar in Computational Sensing and Robotics.
Seminar series in robotics. Topics include: Medical robotics, including computer-integrated surgical systems and image-guided intervention. Sensor based robotics, including computer vision and biomedical image analysis. Algorithmic robotics, robot control and machine learning. Autonomous robotics for monitoring, exploration and manipulation with applications in home, environmental (land, sea, space), and defense areas. Birobotics and neuromechanics, including devices, algorithms and approaches to robotics inspired by principles in biomechanics and neuroscience. Human-machine systems, including haptic and visual feedback, human perception, cognition and decision making, and human-machine collaborative systems. Cross-listed Mechanical Engineering, Computer Science, Electrical and Computer Engineering, and Biomedical Engineering.
Instructor(s): L. Whitcomb; P. Kazanzides.

Electrical Computer Engineering
EN.520.434. Modern Biomedical Imaging Instrumentation and Techniques. 3 Credits.
An intermediate biomedical imaging course covering modern biomedical imaging instrumentation and techniques as applied to diagnostic radiology and other biomedical applications. It includes recent advances in various biomedical imaging modalities, multi-modality imaging and molecular imaging. The course is team taught by experts in the respective fields and provides a broad based knowledge of modern biomedical imaging to prepare students for graduate studies and research in biomedical imaging. Also, the course will offer tours and practical experience with modern biomedical imaging equipments in clinical and research settings. Co-listed with EN.580.473
Prerequisites: EN.520.432 OR EN.580.472
Instructor(s): B. Tsui.

EN.520.447. Information Theory. 3 Credits.
This course will address some basic scientific questions about systems that store or communicate information. Mathematical models will be developed for (1) the process of error-free data compression leading to the notion of entropy, (2) data (e.g. image) compression with slightly degraded reproduction leading to rate-distortion theory and (3) error-free communication of information over noisy channels leading to the notion of channel capacity. It will be shown how these quantitative measures of information have fundamental connections with statistical physics (thermodynamics), computer science (string complexity), economics (optimal portfolios), probability theory (large deviations), and statistics (Fisher information, hypothesis testing).
Instructor(s): S. Khudanpur
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.701. Current Topics in Language and Speech Processing.
This biweekly seminar will cover a broad range of current research topics in human language technology, including automatic speech recognition, natural language processing and machine translation. The Tuesday seminars will feature distinguished invited speakers, while the Friday seminars will be given by participating students. A minimum of 75% attendance and active participation will be required to earn a passing grade. Grading will be S/U.
Instructor(s): S. Khudanpur.
EN.520.702. Current Topics in Language and Speech Processing. This biweekly seminar will cover a broad range of current research topics in human language technology, including automatic speech recognition, natural language processing and machine translation. The Tuesday seminars will feature distinguished invited speakers, while the Friday seminars will be given by participating students. A minimum of 75% attendance and active participation will be required to earn a passing grade. Cross-listed with Computer Science. Grading will be S/U.
Instructor(s): S. Khudanpur
Area: Engineering.

Biomedical Engineering
EN.580.473. Modern Biomedical Imaging Instrumentation and Techniques. 3 Credits.
An intermediate biomedical imaging course covering modern biomedical imaging instrumentation and techniques as applied to diagnostic radiology and other biomedical applications. It includes recent advances in various biomedical imaging modalities, multi-modality imaging and molecular imaging. The course is team taught by experts in the respective fields and provides a broad based knowledge of modern biomedical imaging to prepare students for graduate studies and research in biomedical imaging. Also, the course will offer tours and practical experience with modern biomedical imaging equipment in clinical and research settings. Co-listed with EN.520.434 Recommended course background: EN.520.432 or EN.580.472
Prerequisites: EN.520.432 OR EN.580.472
Instructor(s): B. Tsui
Area: Engineering, Natural Sciences.

Electrical and Computer Engineering
The Department of Electrical and Computer Engineering at Johns Hopkins is committed to providing a rigorous educational experience that prepares students for further study and successful careers, and is dedicated to research that contributes to fundamental knowledge in both analytical and experimental aspects of the field. The mission of our undergraduate programs is to provide a stimulating and flexible curriculum in fundamental and advanced topics in electrical and computer engineering, basic sciences, mathematics, and humanities, in an environment that fosters development of analytical, computational, and experimental skills and that involves students in design projects and research experiences. At the graduate level, our mission is to provide advanced training that prepares master's graduates to work at the forefront of knowledge in their chosen specialty, and prepares doctoral students for original research that will advance the frontiers of knowledge in their chosen areas.

The department focuses its teaching and research programs in four major areas:

1. systems, communications, and signal processing;
2. photonics and optoelectronics;
3. integrated electronics and computer engineering; and
4. information extraction from acoustic and visual signals.

The faculty offers undergraduate courses at both the introductory and intermediate levels in these areas, and graduate courses leading to research topics at the forefront of current knowledge. Guided individual study projects available for undergraduates provide opportunities for student participation in activities in the department and in the research programs of the faculty. In the graduate program, original research in close association with individual faculty members is emphasized.

Current Research Activities
Systems, Communications, and Signal Processing
Current research in systems and control includes the development of analysis, design and state estimation techniques for hybrid and nonlinear systems; optimization methods in filtering, estimation, and control; efficient implementation and analysis of iterative algorithms on specialized computing structures; design and analysis of robust linear and hybrid control algorithms. There is also a significant effort in systems biology, particularly the analysis of signaling pathways in biological systems. Research in speech processing involves work in all aspects of language or speech science and technology, with fundamental studies under way in areas such as language modeling, pronunciation modeling, natural language processing, neural auditory processing, acoustic processing, optimality theory, and language acquisition. Image analysis efforts currently concern statistical analysis of restoration and reconstruction algorithms, development of statistical image models for image restoration and segmentation, geometric modeling for object detection and estimation, morphological image analysis, and magnetic resonance imaging. There is opportunity for joint work in image analysis with faculty in the Department of Radiology, School of Medicine.

Photonics and Optoelectronics
Current research activities include work in fiber optic sensors and endoscopic 3-D imaging devices for medical applications, theory of nonlinear waves, optical communications, and quantum well devices. Other areas of interest involve the study of the nonlinear interactions of light with matter and single elementary particles, X-ray sources and lasers, optical bi-stability, radiation protection, laser beam control and steering, the nonlinear optics of semiconductors, nonlinear optics of biological objects as well as research on sub-femtosecond pulses and devices based on single atoms. Semiconductor device studies include optical detectors, VLSI circuit design and modeling and microwave devices and circuits. Study of a laser radar and RF photonics is also being pursued. Theoretical and experimental studies involving linear optical properties of various materials and passive remote sensing of the atmosphere are being investigated.

Integrated Electronics and Computer Engineering
Computer engineering research activities include work on computer structures (with emphasis on microprocessors), parallel and distributed processing, fault-tolerant computing, analysis of algorithms, and VLSI analog architectures for machine vision, associative processing, and micropower computing.

Facilities
The department maintains extensive facilities for teaching and research in Barton Hall and Hackerman Hall. The two main teaching labs (Electrical Engineering Lab and Computer Engineering Lab) make extensive use of state-of-the-art design environments such as CADENCE, Xilinx Tools, TI DSP systems, VHDL, and Verilog. In addition, the department includes the computational sensory motor system lab, the cellular signaling control lab, the parallel computing and imaging lab, the photonics and optoelectronics lab, the semiconductor...
microstructures lab, and the sensory communication and microsystem lab, adaptive and the sensory communication microsystem lab.

Financial Aid

Financial aid is available for candidates of high promise. Research assistantships are available on sponsored research projects directed by members of the faculty.

The Department of Electrical and Computer Engineering offers two bachelor’s degree programs: one in Electrical Engineering and one in Computer Engineering (with the close collaboration of the Computer Science Department (p. 737)). Each program is described below. Both degree programs are accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

Bachelor of Science in Electrical Engineering

Mission

The faculty of the Electrical Engineering Program at Johns Hopkins is committed to providing a rigorous educational experience that prepares students for further study and to professionally and ethically practice engineering in a competitive global environment. The mission of the program is to provide a stimulating and flexible curriculum in fundamental and advanced topics in electrical engineering, basic sciences, mathematics, and humanities, in an environment that fosters development of analytical, computational, and experimental skills and that involves students in design projects and research experiences; and to provide our electrical engineering graduates with the tools, skills and competencies necessary to understand and apply today’s technologies and become leaders in developing and deploying tomorrow’s technologies.

Educational Objectives

From this mission statement, the Electrical Engineering faculty has determined the program educational objectives for the B.S. in Electrical Engineering. Consistent with Johns Hopkins’ long-standing emphasis on the individual, the Electrical Engineering program will provide a high-quality educational experience that is tailored to the needs and interests of each student. In addition, each student’s program of study is planned in consultation with a faculty advisor to educate students to the interests of each student. In addition, each student’s program of study is planned in consultation with a faculty advisor to educate students to

Outcomes

Students graduating with a B.S. in electrical engineering will have demonstrated the ability to:

• Understand calculus-based mathematics, probability and statistics, basic science, and computer science, and apply this knowledge to electrical engineering disciplines.
• Design, conduct, evaluate and report experiments, including analysis and statistical interpretation of data.
• Identify, formulate and solve electrical engineering problems.
• Use basic concepts and modern engineering tools (laboratory instrumentation and computer hardware and software) to design electrical engineering systems, components and processes to meet specifications.
• Communicate effectively and work on multidisciplinary teams.
• Be aware of professional and ethical responsibilities and contemporary issues, and appreciate the societal, economic, and environmental impacts of engineering.
• Enter professional practice or graduate school with a set of skills to be successful.

Each student and faculty advisor must consider these objectives in planning a set of courses and projects that will satisfy degree requirements. The sample programs and the program checklist are provided in a separate advising manual and illustrate course selections that will help students meet the program objectives.

Faculty and others will assess student performance to ensure that our educational objectives are met. Students will have opportunities to assess their own educational progress and achievements in several ways, including exit interviews and alumni surveys. Through regular review processes, including Academic Council departmental reviews, visits by the departmental external advisory board, course evaluations, and ABET visits, students will have opportunities to discuss their educational experiences and expectations. The outcomes of these assessment processes will be used by the faculty to improve the content and delivery of the educational program.

The success of each student’s program will depend on effective faculty advising. Every undergraduate student in the Electrical Engineering Program must follow a program approved by the faculty advisor. The faculty advisor must be a member of the Electrical and Computer Engineering faculty.

Requirements for the Bachelor of Science in Electrical Engineering

The Bachelor of Science degree in electrical engineering requires a minimum of one hundred and twenty-six (126) credits that must include:

Forty-five (45) credits of ECE courses including the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.520.213</td>
<td>Circuits</td>
<td>4</td>
</tr>
<tr>
<td>EN.520.214</td>
<td>Signals &amp; Systems I</td>
<td>4</td>
</tr>
<tr>
<td>EN.520.219</td>
<td>Fields, Matter &amp; Waves</td>
<td>3</td>
</tr>
<tr>
<td>Choose one of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN.520.345</td>
<td>Electrical &amp; Computer Engineering Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.349</td>
<td>Microprocessor Lab I</td>
<td></td>
</tr>
<tr>
<td>EN.520.372</td>
<td>Programmable Device Lab</td>
<td></td>
</tr>
<tr>
<td>Advanced laboratory, design intensive, or senior design project courses</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Total Credits</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>
Six (6) credits of advanced laboratory, design intensive, or senior design project courses from those given in the degree planning checklist. Up to six (6) credits of computer science courses may be used to satisfy the 45-credit requirement. A GPA of at least 2.0 must be maintained in ECE courses. Courses in this group may not be taken Satisfactory/Unsatisfactory.

Six (6) credits of engineering courses from School of Engineering departments other than ECE or Applied Mathematics and Statistics or General Engineering (note: Entrepreneurship and Management courses in the Center for Leadership Education CANNOT be counted as “other engineering courses”). Students must complete enough of the approved non-ECE advanced design labs so that they have at least twelve (12) credits of combined ECE and non-ECE advanced laboratory, design intensive, or senior design project courses. Courses in this group may not be taken Satisfactory/Unsatisfactory.

Mathematics Department or the Applied Mathematics and Statistics Department (20 credits)*

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.109 Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>AS.110.202 Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.211 Honors Multivariable Calculus</td>
<td></td>
</tr>
<tr>
<td>AS.110.201 Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.212 Honors Linear Algebra</td>
<td></td>
</tr>
<tr>
<td>AS.110.302 Differential Equations and Applications</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.310/311 Probability &amp; Statistics for the Physical Sciences &amp; Engineering</td>
<td>4</td>
</tr>
<tr>
<td>or EN.550.420 Introduction to Probability</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits 20

* Courses in this group may not be taken Pass/Fail. Elementary or precalculus courses such as AS.110.105 Introduction to Calculus or EN.550.111 Statistical Analysis I are not acceptable. (Calculus I may be waived through an examination taken during freshman orientation. If not waived, it must be taken as a prerequisite to Calculus II.)

Basic Sciences (16)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.171.101 General Physics:Physical Science Major I</td>
<td>4</td>
</tr>
<tr>
<td>or AS.171.107 General Physics for Physical Sciences Majors (AL)</td>
<td></td>
</tr>
<tr>
<td>AS.171.102 General Physics: Physical Science Majors II</td>
<td>4</td>
</tr>
<tr>
<td>or AS.171.108 General Physics for Physical Sciences Majors (AL)</td>
<td></td>
</tr>
<tr>
<td>AS.173.111 General Physics Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>AS.173.112 General Physics Laboratory II</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Credits 10

• Sixteen (16) credits of basic sciences (physics, chemistry, biology, earth and planetary sciences), which must include AS.171.101 General Physics:Physical Science Major I-AS.171.102 General Physics: Physical Science Majors II, AS.173.111 General Physics Laboratory I and AS.173.112 General Physics Laboratory II. Courses in this group may not be taken Satisfactory/Unsatisfactory.

• At least six (6), three-credit courses in humanities and social sciences. The humanities and social sciences courses are one of the strengths of the academic programs at Johns Hopkins. They represent opportunities for students to appreciate some of the global and societal impacts of engineering, to understand contemporary issues, and to exchange ideas with scholars in other fields. Some of the courses will help students to communicate more effectively, to understand economic issues, or to analyze problems in an increasingly international world. The selection of courses should not consist solely of introductory courses, but should have both depth and breadth. Typically, this means that students should take at least three (3) courses in a specific area with at least one of them at an advanced level.

• A programming language requirement must be met by taking or EN.600.120 Intermediate Programming.

• Two (2) writing intensive courses (at least 3 credits each) are required. The writing intensive courses may not be taken Satisfactory/Unsatisfactory and require a C- or better grade. Students may wish to consider a course in Technical Communications to fulfill one of the writing intensive requirements. The course EN.661.315 The Culture of the Engineering Profession, is recommended by the ECE Faculty as a writing intensive course.

Additional details concerning advising and degree requirements are in the Electrical Engineering Advising Manual. The B.S. in Electrical Engineering degree program is accredited by the Engineering Accreditation Commission of ABET, [http://www.abet.org](http://www.abet.org).

The sample program shown has an emphasis on systems and communications aspects of electrical engineering. Other sample programs can be found in the advising manual.

### Freshman

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>AS.110.108 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>AS.110.109 Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>AS.171.101 or .107 General Physics:Physical Science Major I</td>
<td>4</td>
</tr>
<tr>
<td>AS.171.102 or .108 General Physics: Physical Science Majors II</td>
<td>4</td>
</tr>
<tr>
<td>AS.173.111 General Physics Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>AS.173.112 General Physics Laboratory II</td>
<td>1</td>
</tr>
<tr>
<td>EN.520.137 Introduction To Electrical &amp; Computer Engineering</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.142 Digital Systems Fundamentals</td>
<td>3</td>
</tr>
</tbody>
</table>

### Sophomore

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.202 or .211 Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>AS.110.201 or .212 Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>AS.030.101 Introductory Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.213 Circuits</td>
<td>4</td>
</tr>
<tr>
<td>EN.520.214 Signals &amp; Systems</td>
<td>4</td>
</tr>
<tr>
<td>EN.520.219 Fields, Matter &amp; Waves</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.107 Introductory Programming in Java</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.216 Introduction To VLSI</td>
<td>3</td>
</tr>
<tr>
<td>H/S Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

### Junior

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.302 Differential Equations and Applications</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.310 Probability &amp; Statistics for the Physical Sciences &amp; Engineering</td>
<td>4</td>
</tr>
</tbody>
</table>

*Additional details concerning advising and degree requirements are in the Electrical Engineering Advising Manual. The B.S. in Electrical Engineering degree program is accredited by the Engineering Accreditation Commission of ABET, [http://www.abet.org](http://www.abet.org).*

The sample program shown has an emphasis on systems and communications aspects of electrical engineering. Other sample programs can be found in the advising manual.
The educational objectives of the CE program are:

- Prepare them for what graduates are expected to attain within a few years of graduation.
- The high-quality educational experience that is tailored to the needs and interests of each student. In addition, each student's program of study on the individual, the Computer Engineering program will provide a consistent with Johns Hopkins' long-standing emphasis on providing a rigorous educational experience that prepares students for further study and to professionally and ethically practice engineering in a competitive global environment. The mission of the program is to provide students with a broad, integrated education in the fundamentals and advanced topics in computer engineering, basic sciences, mathematics, and humanities in an environment that fosters the development of analytical, computational, and experimental skills, and that involves students in design projects and research experiences; and to provide our computer engineering graduates with the tools, skills and competencies necessary to understand and apply today's technologies and become leaders in developing and deploying tomorrow's technologies.

Educational Objectives

From this mission statement, the Computer Engineering faculty has determined the program educational objectives for the B.S. in Computer Engineering. Consistent with Johns Hopkins' long-standing emphasis on the individual, the Computer Engineering program will provide a high-quality educational experience that is tailored to the needs and interests of each student. In addition, each student's program of study is planned in consultation with a faculty advisor to educate students to prepare them for what graduates are expected to attain within a few years of graduation. The educational objectives of the CE program are:

- Our graduates will become successful practitioners in engineering and other diverse careers.
- Some graduates will pursue advanced degree programs in engineering and other disciplines.

Outcomes

Students graduating with a B.S. in computer engineering will have demonstrated the ability to:

- Understand calculus and discrete mathematics, probability and statistics, basic science, and computer science, and apply this knowledge to computer engineering disciplines.
- Design, conduct, evaluate, and report experiments, including analysis and statistical interpretation of data.
- Identify, evaluate, and solve computer engineering problems.
- Use basic concepts and modern engineering tools (laboratory instrumentation and computer hardware and software) to design computer engineering systems, components, and processes to meet specifications.
- Communicate effectively and work on multidisciplinary teams.
- Be aware of professional and ethical responsibilities, and contemporary issues, and appreciate the societal, economic, and environmental impacts of engineering.
- Enter professional practice or graduate school with a set of skills to be successful.

Each student and faculty advisor must consider these objectives in planning a set of courses and projects that will satisfy degree requirements. The sample programs and the program checklist included in this advising manual illustrate course selections that will help students meet the program objectives.

Faculty and others will assess student performance to ensure that our educational objectives are met. Students will have opportunities to assess their own educational progress and achievements in several ways, including exit interviews and alumni surveys. Through regular review processes, including Academic Council departmental reviews, visits by the departmental external advisory board, course evaluations, and ABET visits; students will have opportunities to discuss their educational experiences and expectations. The outcomes of these assessment processes will be used by the faculty to improve the content and delivery of the educational program.

The success of each student's program will depend on effective faculty advising. Every undergraduate student in the Computer Engineering Program must follow a program approved by a faculty advisor.

Requirements for the Bachelor of Science in Computer Engineering

The Bachelor of Science degree in Computer Engineering requires a minimum of 126 credits, which must include the following:

- Forty-two (42) credits in Computer Engineering, which must include:
  - Electrical and Computer Engineering courses (15 credits)
    - EN.520.142 Digital Systems Fundamentals 3
    - EN.520.213 Circuits 4
  - Digital Signal Processing 3
  - Electives 6
  - Senior Design Project 3
- Some graduates will pursue advanced degree programs in engineering and other disciplines.

Bachelor of Science in Computer Engineering

Mission

The Computer Engineering Program at Johns Hopkins is supported by faculty in the Department of Electrical and Computer Engineering and the Department of Computer Science, who are committed to providing a rigorous educational experience that prepares students for further study and to professionally and ethically practice engineering in a competitive global environment. The mission of the program is to provide students with a broad, integrated education in the fundamentals and advanced topics in computer engineering, basic sciences, mathematics, and humanities in an environment that fosters the development of analytical, computational, and experimental skills, and that involves students in design projects and research experiences; and to provide our computer engineering graduates with the tools, skills and competencies necessary to understand and apply today's technologies and become leaders in developing and deploying tomorrow's technologies.

Educational Objectives

From this mission statement, the Computer Engineering faculty has determined the program educational objectives for the B.S. in Computer Engineering. Consistent with Johns Hopkins' long-standing emphasis on the individual, the Computer Engineering program will provide a high-quality educational experience that is tailored to the needs and interests of each student. In addition, each student's program of study is planned in consultation with a faculty advisor to educate students to prepare them for what graduates are expected to attain within a few years of graduation. The educational objectives of the CE program are:

- Our graduates will become successful practitioners in engineering and other diverse careers.

Outcomes

Students graduating with a B.S. in computer engineering will have demonstrated the ability to:

- Understand calculus and discrete mathematics, probability and statistics, basic science, and computer science, and apply this knowledge to computer engineering disciplines.
- Design, conduct, evaluate, and report experiments, including analysis and statistical interpretation of data.
- Identify, evaluate, and solve computer engineering problems.
- Use basic concepts and modern engineering tools (laboratory instrumentation and computer hardware and software) to design computer engineering systems, components, and processes to meet specifications.
- Communicate effectively and work on multidisciplinary teams.
- Be aware of professional and ethical responsibilities, and contemporary issues, and appreciate the societal, economic, and environmental impacts of engineering.
- Enter professional practice or graduate school with a set of skills to be successful.

Each student and faculty advisor must consider these objectives in planning a set of courses and projects that will satisfy degree requirements. The sample programs and the program checklist included in this advising manual illustrate course selections that will help students meet the program objectives.

Faculty and others will assess student performance to ensure that our educational objectives are met. Students will have opportunities to assess their own educational progress and achievements in several ways, including exit interviews and alumni surveys. Through regular review processes, including Academic Council departmental reviews, visits by the departmental external advisory board, course evaluations, and ABET visits; students will have opportunities to discuss their educational experiences and expectations. The outcomes of these assessment processes will be used by the faculty to improve the content and delivery of the educational program.

The success of each student’s program will depend on effective faculty advising. Every undergraduate student in the Computer Engineering Program must follow a program approved by a faculty advisor.

Requirements for the Bachelor of Science in Computer Engineering

The Bachelor of Science degree in Computer Engineering requires a minimum of 126 credits, which must include the following:

- Forty-two (42) credits in Computer Engineering, which must include:
  - Electrical and Computer Engineering courses (15 credits)
    - EN.520.142 Digital Systems Fundamentals 3
    - EN.520.213 Circuits 4
  - Digital Signal Processing 3
  - Electives 6
  - Senior Design Project 3
- Some graduates will pursue advanced degree programs in engineering and other disciplines.

c. The program must also contain a substantial advanced laboratory and design experience component, appropriate for the student’s interests. This requirement can be met by taking twelve (12) credits of advanced laboratory, design intensive, or senior design project courses from those given in the degree planning checklist in Section I.C. At least six (6) of these 12 credits must be from ECE or CS courses. A GPA of at least 2.0 must be maintained in Computer Engineering courses. Courses in this category may not be taken Satisfactory/Unsatisfactory.

- Six (6) credits of engineering courses from School of Engineering departments other than Computer Science, ECE, Applied Mathematics and Statistics, or General Engineering (note: Entrepreneurship and Management courses in the Center for Leadership Education CANNOT be counted as “other engineering courses”). Students must complete enough of the approved non-CS/ECE advanced design labs so that they have at least twelve (12) credits of advanced laboratory, design intensive, or senior design project courses. Courses in this group may not be taken Satisfactory/Unsatisfactory.

- Twenty-four (24) credits in mathematics courses taken from the Mathematics Department or the Applied Mathematics and Statistics Department. AS.110.109 Calculus II, AS.110.202 Calculus III, AS.110.201 Linear Algebra or EN.550.291 Linear Algebra and Differential Equations, EN.550.171 Discrete Mathematics, EN.550.310 Probability & Statistics for the Physical Sciences & Engineering/EN.550.311 Probability and Statistics for the Biological Sciences and Engineering or EN.550.420 Introduction to Probability must be taken. Elementary or precalculus courses such as AS.110.105 or EN.550.111-EN.550.112 are not acceptable. (Calculus I may be waived through an examination taken during freshman orientation. If not waived, it must be taken as a prerequisite to Calculus II.) Courses in this category may not be taken Satisfactory/Unsatisfactory.

- Sixteen (16) credits of basic sciences (physics, chemistry, biology, earth and planetary sciences), which must include AS.171.101 General Physics:Physical Science Major I-AS.171.102 General Physics: Physical Science Majors II, AS.173.111 General Physics Laboratory I-AS.173.112 General Physics Laboratory II, and AS.030.101 Introductory Chemistry I. Courses in this category may not be taken Satisfactory/Unsatisfactory.

- At least six (6) three-credit courses in humanities and social sciences. The humanities and social sciences courses are one of the strengths of the academic programs at Johns Hopkins. They represent opportunities for students to appreciate some of the global and societal impacts of engineering, to understand contemporary issues, and to exchange ideas with scholars in other fields. Some of the courses will help students to communicate more effectively, to understand economic issues, or to analyze problems in an increasingly international world. The selection of courses should not consist solely of introductory courses but should have both depth and breadth. Typically, this means that students should take at least three (3) courses in a specific area with at least one of them at an advanced level.

- At least two (2) writing intensive courses are required (at least 3 credits each). These courses may not be taken Pass/Fail and require a grade of C- or better. Students may wish to consider a course in Technical Communications to fulfill one of the writing intensive requirements.

Additional details concerning advising and degree requirements are in the Computer Engineering Advising Manual. The B.S. in Computer Engineering degree program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

The sample program shown has an emphasis on hardware/device aspects of computer engineering. Other sample programs can be found in the advising manual.

**Freshman**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.108</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>AS.110.109</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>AS.171.101</td>
<td>General Physics:Physical Science Major I</td>
<td>4</td>
</tr>
<tr>
<td>AS.171.102</td>
<td>General Physics: Physical Science Majors II</td>
<td>4</td>
</tr>
<tr>
<td>AS.173.111</td>
<td>General Physics Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>AS.173.112</td>
<td>General Physics Laboratory II</td>
<td>1</td>
</tr>
<tr>
<td>EN.520.137</td>
<td>Introduction To Electrical &amp; Computer Engineering</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.142</td>
<td>Digital Systems Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.107</td>
<td>Introductory Programming in Java</td>
<td>3</td>
</tr>
<tr>
<td>H/S Elective</td>
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<td>3</td>
</tr>
</tbody>
</table>

**Sophomore**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.202</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.291</td>
<td>Linear Algebra and Differential Equations</td>
<td>4</td>
</tr>
<tr>
<td>AS.030.101</td>
<td>Introductory Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.226</td>
<td>Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>EN.520.213</td>
<td>Circuits</td>
<td>4</td>
</tr>
<tr>
<td>EN.520.214</td>
<td>Signals &amp; Systems I</td>
<td>4</td>
</tr>
<tr>
<td>EN.520.216</td>
<td>Introduction To VLSI</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.271</td>
<td>Automata &amp; Computation Theory</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.120</td>
<td>Intermediate Programming</td>
<td>4</td>
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<tr>
<td>H/S Elective</td>
<td></td>
<td>3</td>
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</table>

**Junior**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.550.171</td>
<td>Discrete Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>EN.600.318</td>
<td>Operating Systems</td>
<td>4</td>
</tr>
<tr>
<td>EN.600.233</td>
<td>Computer System Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.372</td>
<td>Programmable Device Lab</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.345</td>
<td>Electrical &amp; Computer Engineering Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.349</td>
<td>Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.448</td>
<td>Microprocessor Lab I</td>
<td>3</td>
</tr>
<tr>
<td>H/S Elective</td>
<td></td>
<td>6</td>
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**Senior**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.550.310</td>
<td>Probability &amp; Statistics for the Physical Sciences &amp; Engineering</td>
<td>4</td>
</tr>
<tr>
<td>EN.520.448</td>
<td>Electronics Design Lab</td>
<td>3</td>
</tr>
</tbody>
</table>
The advisor assigned to the student upon admission engineering must follow a program approved by a faculty advisor in every graduate student in the Department of Electrical and Computer Engineering must take at least two courses per semester that satisfy the combined bachelor's/master's program which combines a B.S. in electrical engineering with a master of science in engineering. If accepted, they must take at least two courses per semester that satisfy the requirements of the M.S.E. program.

Every student must earn the M.S.E. degree within five consecutive academic years (ten semesters). Only semesters during which a student has a university-approved leave of absence are exempt from the ten semester limit; otherwise, all semesters from the beginning may be changed, subject to the approval of the new advisor. Additional details are in the department's Graduate Student Advising Manual.

**Master of Science in Engineering (M.S.E.) Degree**

The department offers a comprehensive and flexible Master of Science in Engineering (M.S.E.) degree program that includes courses from several areas of Electrical and Computer Engineering. In addition, the following specialized M.S.E. concentrations are offered: 1) Communications, 2) Control Systems, and 3) Photonics and Optoelectronics.

**Requirements for the M.S.E. Degree**

A student who has completed a program of study similar to that required for the B.S. in electrical engineering degree must complete the following requirements for the M.S.E. degree:

- Eight one-semester graduate (400-799) courses approved by the advisor must be satisfactorily completed. These courses cannot include Independent Study, Dissertation Research, ECE Seminar or Special Studies.

- Further depth of understanding must be demonstrated by either satisfactorily completing two additional one-semester courses approved by the advisor, or by writing an M.S.E. thesis acceptable to a member of our faculty, or by completing a special project acceptable to a member of our faculty and writing the corresponding report.

- A course (including independent study) is satisfactorily completed if a grade of A, B, C, or P is obtained. No more than one C grade can be counted toward the requirements and a D or F or second C grade results in probation. A second D or F or a third C grade results in termination from our program.

- At least six one-semester courses in the M.S.E. program must be offered by our department, excluding independent study and JHU Engineering for Professionals (EP) courses.

- Students may transfer in up to two courses from outside the JHU full-time programs. These courses must have been completed after the undergraduate degree was conferred and not applied to a degree elsewhere.

- Every graduate course designated Independent Study, Dissertation Research, or Special Studies counted toward the M.S.E. degree must include a written report. A copy of the report will become part of the student's permanent file.

- Every student must register for a minimum of two semesters as a full-time resident graduate student (this rule does not apply to students in the concurrent B.S./M.S.E. program). Full-time resident M.S.E. students must satisfactorily complete at least three graduate courses per semester for credit.

- Every student must be registered in the semester that degree requirements are met; this includes students who have no courses remaining in which to enroll but must resolve coursework for which an "Incomplete" grade was assigned and those who must complete other academic requirements, such as a language or computing requirement (these students may apply for Nonresident Status).

- Every student must earn the M.S.E. degree within five consecutive academic years (ten semesters). Only semesters during which a student has a university-approved leave of absence are exempt from the ten semester limit; otherwise, all semesters from the beginning include:

- Eighteen (18) credits of humanities and social sciences courses.
- Four writing intensive courses.
- Twenty (20) credits of mathematics or mathematical statistics courses. Typically these include AS.110.108 Calculus I, AS.110.109 Calculus II, and AS.110.202 Calculus III or equivalent, and AS.110.201 Linear Algebra. Elementary or pre-calculus courses such as AS.110.105 or EN.550.111-EN.550.112 are not acceptable.
- Thirty (30) credits of ECE courses. Three credits of computer science courses may be counted toward this 30-credit requirement.
- Additional credits giving a total of at least 120 credits.
- Additional information on academic policies and degree requirements, including academic ethics, may be found in the Undergraduate Academic Manual of The Johns Hopkins University. Students are urged to read the credit requirements, under the credit requirements section, in the academic manual section of the Compendium.

Bachelor of Arts Degree

To meet the requirements for the B.A. degree, the program must include:

- Eighteen (18) credits of humanities and social sciences courses.
- Four writing intensive courses.
- Twenty (20) credits of mathematics or mathematical statistics courses. Typically these include AS.110.108 Calculus I, AS.110.109 Calculus II, and AS.110.202 Calculus III or equivalent, and AS.110.201 Linear Algebra. Elementary or pre-calculus courses such as AS.110.105 or EN.550.111-EN.550.112 are not acceptable.
- Thirty (30) credits of ECE courses. Three credits of computer science courses may be counted toward this 30-credit requirement.
- Additional credits giving a total of at least 120 credits.
- Additional information on academic policies and degree requirements, including academic ethics, may be found in the Undergraduate Academic Manual of The Johns Hopkins University. Students are urged to read the credit requirements, under the credit requirements section, in the academic manual section of the Compendium.

The student should be aware that the B.A. degree program is not accredited by the Accreditation Board for Engineering and Technology (ABET).

Minor in Robotics

A minor in Robotics is offered by the Laboratory for Computational Sensing and Robotics. Detailed information regarding this program can be found at: https://lcsr.jhu.edu/Robotics_Minor.

Minor in Computer-Integrated Surgery

A minor in Computer-Integrated Surgery is offered by the Department of Computer Science. Detailed information regarding this program can be found at: https://lcsr.jhu.edu/Education/Undergraduate/ClSminor.

Bachelor’s/Master’s Program

At the end of their sophomore year, students who are majors in electrical and computer engineering may apply for admission to the combined bachelor’s/master’s program which combines a B.S. in electrical engineering with a master of science in engineering. If accepted, they must take at least two courses per semester that satisfy the requirements of the M.S.E. program.

Every graduate student in the Department of Electrical and Computer Engineering must follow a program approved by a faculty advisor in the department. The advisor assigned to the student upon admission may be changed, subject to the approval of the new advisor. Additional details are in the department’s Graduate Student Advising Manual.

### Master of Science in Engineering (M.S.E.) Degree

The department offers a comprehensive and flexible Master of Science in Engineering (M.S.E.) degree program that includes courses from several areas of Electrical and Computer Engineering. In addition, the following specialized M.S.E. concentrations are offered: 1) Communications, 2) Control Systems, and 3) Photonics and Optoelectronics.

### Requirements for the M.S.E. Degree

A student who has completed a program of study similar to that required for the B.S. in electrical engineering degree must complete the following requirements for the M.S.E. degree:

- Eight one-semester graduate (400-799) courses approved by the advisor must be satisfactorily completed. These courses cannot include Independent Study, Dissertation Research, ECE Seminar or Special Studies.
- Further depth of understanding must be demonstrated by either satisfactorily completing two additional one-semester courses approved by the advisor, or by writing an M.S.E. thesis acceptable to a member of our faculty, or by completing a special project acceptable to a member of our faculty and writing the corresponding report.
- A course (including independent study) is satisfactorily completed if a grade of A, B, C, or P is obtained. No more than one C grade can be counted toward the requirements and a D or F or second C grade results in probation. A second D or F or a third C grade results in termination from our program.
- At least six one-semester courses in the M.S.E. program must be offered by our department, excluding independent study and JHU Engineering for Professionals (EP) courses.
- Students may transfer in up to two courses from outside the JHU full-time programs. These courses must have been completed after the undergraduate degree was conferred and not applied to a degree elsewhere.
- Every graduate course designated Independent Study, Dissertation Research, or Special Studies counted toward the M.S.E. degree must include a written report. A copy of the report will become part of the student's permanent file.
- Every student must register for a minimum of two semesters as a full-time resident graduate student (this rule does not apply to students in the concurrent B.S./M.S.E. program). Full-time resident M.S.E. students must satisfactorily complete at least three graduate courses per semester for credit.
- Every student must be registered in the semester that degree requirements are met; this includes students who have no courses remaining in which to enroll but must resolve coursework for which an "Incomplete" grade was assigned and those who must complete other academic requirements, such as a language or computing requirement (these students may apply for Nonresident Status).
- Every student must earn the M.S.E. degree within five consecutive academic years (ten semesters). Only semesters during which a student has a university-approved leave of absence are exempt from the ten semester limit; otherwise, all semesters from the beginning include:

- Eighteen (18) credits of humanities and social sciences courses.
- Four writing intensive courses.
- Twenty (20) credits of mathematics or mathematical statistics courses. Typically these include AS.110.108 Calculus I, AS.110.109 Calculus II, and AS.110.202 Calculus III or equivalent, and AS.110.201 Linear Algebra. Elementary or pre-calculus courses such as AS.110.105 or EN.550.111-EN.550.112 are not acceptable.
- Thirty (30) credits of ECE courses. Three credits of computer science courses may be counted toward this 30-credit requirement.
- Additional credits giving a total of at least 120 credits.
- Additional information on academic policies and degree requirements, including academic ethics, may be found in the Undergraduate Academic Manual of The Johns Hopkins University. Students are urged to read the credit requirements, under the credit requirements section, in the academic manual section of the Compendium.

The student should be aware that the B.A. degree program is not accredited by the Accreditation Board for Engineering and Technology (ABET).

### Minor in Robotics

A minor in Robotics is offered by the Laboratory for Computational Sensing and Robotics. Detailed information regarding this program can be found at: https://lcsr.jhu.edu/Robotics_Minor.

### Minor in Computer-Integrated Surgery

A minor in Computer-Integrated Surgery is offered by the Department of Computer Science. Detailed information regarding this program can be found at: https://lcsr.jhu.edu/Education/Undergraduate/ClSminor.

### Bachelor’s/Master’s Program

At the end of their sophomore year, students who are majors in electrical and computer engineering may apply for admission to the combined bachelor’s/master’s program which combines a B.S. in electrical engineering with a master of science in engineering. If accepted, they must take at least two courses per semester that satisfy the requirements of the M.S.E. program.

Every graduate student in the Department of Electrical and Computer Engineering must follow a program approved by a faculty advisor in the department. The advisor assigned to the student upon admission may be changed, subject to the approval of the new advisor. Additional details are in the department’s Graduate Student Advising Manual.
of the student’s graduate studies – whether the student is resident or
not – count toward the ten semester limit.
• Every student must complete training on academic ethics.
• Every student must complete training on the responsible and ethical
conduct of research, if applicable (Please see the WSE Policy on the
Responsible Conduct of Research).

Doctor of Philosophy (Ph.D.) Degree

Graduate study in Electrical and Computer Engineering is oriented
toward the Ph.D. degree, with emphasis on scholarship and research
rather than formal course work. Our Ph.D. program is designed to be
easily tailored to the needs and interests of individual students. There
are no lists of required courses. The program is directed at independent,
highly motivated individuals who desire to work closely with faculty
members at the forefront of research in a variety of scientific areas,
such as:

• Computational and Biomorphic Systems
• Computational Systems Biology and Bioinformatics
• Computer Engineering
• Control Systems
• Image Processing and Analysis
• Integrated Circuits and Microsystems
• Language and Speech Processing
• Photonics and Optoelectronics
• Signal Processing

Requirements for the Ph.D. Degree

University requirements for the Ph.D. degree are listed under Academic
Information for Graduate Students (p. 66). In addition, the department
requires satisfactory completion of the Ph.D. departmental examination
and the university Graduate Board oral examination, preparation of a
preliminary research proposal, a departmental seminar presentation,
and an oral dissertation defense.

The departmental examination is offered twice yearly. Each faculty
member prepares a set of questions, and the student must select
and complete the sets of questions of three faculty members. This
examination must be passed before the beginning of the fifth semester
of full-time graduate study. After passing the examination, the student
can be accepted by a faculty member who will oversee the student’s
research. This research advisor then guides the remainder of the
student’s program leading to the Ph.D. degree.

The university Graduate Board oral examination is administered by a
panel consisting of the research advisor, another faculty member in
Electrical and Computer Engineering, and three faculty members from
other departments. This examination must be taken before the end of
the sixth semester.

In the course of research leading to the Ph.D. degree, the student
must submit a preliminary research proposal to the department, and
present a departmental seminar. Finally, a public dissertation defense
will be conducted before a panel of readers consisting of at least three
Electrical and Computer Engineering faculty members. Further details
concerning M.S.E. and Ph.D. degree requirements are published in a
manual for graduate students in Electrical and Computer Engineering.

For current faculty and contact information go to http://www.ece-
jhu.org/index.php/people

Faculty
Chair
Ralph R. Etienne-Cummings
Mixed-signal VLSI, computational sensors, robotics, neuromorphic
engineering.

Director of Undergraduate Programs
Trac D. Tran
Filter banks, wavelets, multirate systems and applications.

Director of Graduate Programs
Pablo A. Iglesias
Edward J. Schaefer Professor: systems biology, mathematical modeling
of biological systems, control theory.

Professors
Andreas G. Andreou
CMOS devices and integrated circuits, bioelectronics, nanoelectronics,
life science microsystems, natural and synthetic sensory systems,
nearl computation.

John Goutsias
Signal and image processing, computational systems biology,
bioinformatics, modeling and analysis of complex networked systems.

Hynek Hermansky
Julian S. Smith Professor: emulating and integrating human-like
processing strategies into speech engineering systems; neural
information processing; human sensory perception; speech and speaker
recognition; speech coding and enhancement; and machine learning.

Jin U. Kang
Jacob Suter Jammer Professor: fiber optic devices and lasers,
biophotonics, optical imaging and sensing.

Alexander E. Kaplan
“Extreme” nonlinear optics: super-powerful laser interactions with
matter.

Jacob B. Khurgin
Quantum electronics, nonlinear optics.

Gerard G. L. Meyer
Parallel computing, computational methods, fault tolerant computing.

Jerry L. Prince
William B. Kouwenhoven Professor: image processing and computer
vision with application to medical imaging.

T.E. (Ed) Schlesinger
Professor and Benjamin T. Tome Dean: solid state electronic and optical
devices, nanotechnology, and information storage systems.

Howard L. Weinert
Statistical signal and image processing.

Associate Professors
Mounya Elhilali
Biological basis of sound and speech perception, neural signal
processing, computational neuroscience, cognitive neuromorphic
engineering.

Sanjeev P. Khudanpur
Information theory, statistical language modeling.

**Assistant Professors**

Amy C. Foster  
Silicon photonics, nonlinear optics, nanophotonics, integrated biophotonics.

Mark A. Foster  
Ultrafast and nonlinear optics, all-optical signal processing, ultrafast phenomena and measurement, nonlinear dynamics.

Danielle C. Tarraf  
Systems and control theory, with emphasis on hybrid systems; network analysis and control; automata theory, algebra, and combinatorics as they apply in systems and control.

Susanna M. Thon  
Renewable energy conversion and storage, photovoltaics, optoelectronics, nanoengineering and nanophotonics, and scalable fabrication.

**Joint, Part-Time, Visiting, and Emeritus Appointments**

Emad Boctor  
Assistant Professor (Radiology): image-guided intervention, ultrasound imaging, elasticity, and thermal imaging.

Paul Bottomley  
Russell H. Morgan Professor (Radiology): magnetic resonance imaging, metabolic MRI.

Sang (Peter) Chin  
Assistant Research Professor: compressive sensing, novel signal processing, game theory, extremal graph theory, differential geometry, and quantum computing and verification.

A. Brinton Cooper III  
Associate Research Professor: error control coding, coded wireless, and optical communication.

Glenn A. Coppersmith  
Assistant Research Scientist.

Richard V. Cox  
Research Professor/Director, Human Language Technology Center of Excellence.

Frederic M. Davidson  
Professor Emeritus

Yamac Dikmelik  
Assistant Research Scientist.

Eric Frey  
Professor (Radiology): algorithms for computed tomography, small animal X-ray microcomputed tomography, quantitative PET, SPECT and nuclear medicine imaging, image evaluation, scatter compensation in SPECT, simultaneous dual isotope SPECT and Monte Carlo simulation of radiation transport.

Israel Gannot  
Associate Research Professor.

Dennice Gayme  
Assistant Professor (Mechanical Engineering): dynamics and control of nonlinear, networked and spatially distributed systems. Applications include: the electric power grid, wall turbulence and wind farms.

Donald J. Geman  
Professor (Applied Mathematics and Statistics): computer vision, computational biology, statistical learning.

Robert E. Glaser  
Lecturer: advanced digital logic systems.

Moise H. Goldstein Jr.  
Professor Emeritus.

Willis Gore  
Professor Emeritus.

Gregory D. Hager  
Professor and Chair (Computer Science): vision, robotics, human-machine systems, computer-integrated medicine.

Aren Jansen  
Assistant Research Professor: automatic speech recognition, sparse representations and models, unsupervised/semi-supervised learning, geometric structure of speech sounds, computational modeling of speech perception, manifold learning algorithms, novel applications of machine learning techniques.

Robert E. Jenkins  
Senior Lecturer: digital systems, spacecraft systems and space technology.

Richard I. Joseph  
Jacob Suter Jammer Professor Emeritus.

Xingde Li  
Professor (Biomedical Engineering): Endomicroscopy technologies, nanobiophotonics and molecular imaging, early detection.

Elliot R. McVeigh  
Massey Professor and Director (Biomedical Engineering): imaging.

Michael I. Miller  
Hershel and Ruth Seder Professor (Biomedical Engineering and Director, Center for Imaging Science): computational anatomy, medical imaging, image understanding.

C. Harvey Palmer Jr.  
Professor Emeritus.

Dzung L. Pham  
Associate Professor (Radiology): homeomorphic brain image segmentation, neuroanatomical atlases in MIPAV, robust tissue classification, statistical characterization of brain tissue in MRI.

Philippe Pouliquen  
Assistant Research Professor: optoelectronic, mixed signal, low power VLSI, CAD tools for VLSI.

Carey E. Priebe  

Arman Rahmim  
Assistant Professor (Radiology).
Courses

EN.520.137. Introduction To Electrical & Computer Engineering. 3 Credits.
An introductory course covering the principles of electrical engineering including sinusoidal wave forms, electrical measurements, digital circuits, and applications of electrical and computer engineering. Laboratory exercises, the use of computers, and a design project are included in the course.
Instructor(s): T. Tran
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.142. Digital Systems Fundamentals. 3 Credits.
Number systems and computer codes, switching functions, minimization of switching functions, Quine - McCluskey method, sequential logic, state tables, memory devices, analysis, and synthesis of synchronous sequential devices.
Instructor(s): G. Meyer
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.211. ECE Engineering Team Project. 1 Credit.
This course introduces the student to the basics of engineering team projects. The student will become a member of and participate in the different aspects of an ECE team project over several semesters.
(Freshmen and Sophomores)
Instructor(s): R. Etienne Cummings
Area: Engineering.

EN.520.212. ECE Engineering Team Project (Freshmen and Sophomores). 1 Credit.
This course introduces the student to the basics of engineering team projects. The student will participate in an ECE engineering team project as a member. The student is expected to participate in the different aspects of the project over several semesters.
(Freshmen and Sophomores) Permission of instructor required.
Instructor(s): J. Kang
Area: Engineering.

EN.520.213. Circuits. 4 Credits.
An introductory course on electric circuit analysis. Topics include time domain and frequency domain analysis techniques, transient and steady-state response, and operational amplifiers.
Prerequisites: AS.110.108 and AS.110.109
Instructor(s): H. Weinert
Area: Engineering.

EN.520.214. Signals & Systems I. 4 Credits.
An introduction to discrete-time and continuous-time signals and systems covers representation of signals and linear time-invariant systems and Fourier analysis.
Prerequisites: AS.110.108 AND AS.110.109 AND EN.520.213
Instructor(s): H. Weinert
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.216. Introduction To VLSI. 3 Credits.
This course teaches the basics of switch-level digital CMOS VLSI design. This includes creating digital gates using MOS transistors as switches, laying out a design using CAD tools, and checking the design for conformance to the Scalable CMOS design rules.
Recommended: EN.520.213.
Prerequisites: EN.520.142 and recommended: 520.213
Instructor(s): A. Andreou
Area: Engineering.

EN.520.219. Fields, Matter & Waves. 3 Credits.
Vector analysis, electrostatic fields in vacuum and material media, stationary currents in conducting media, magnetostatic fields in vacuum and material media. Maxwell's equations and time-dependent electric and magnetic fields, electromagnetic waves and radiation, transmission lines, wave guides, applications.
Prerequisites: Co-req: AS.110.202
Instructor(s): M. Foster
Area: Engineering, Natural Sciences.

EN.520.220. Fields, Matter & Waves. 3 Credits.
Magnetostatic fields in vacuum and material media. Maxwell's equations and time-dependent electric and magnetic fields, electromagnetic waves and radiation, transmission lines, wave guides, applications.
Prerequisites: EN.520.219 or equivalent
Instructor(s): M. Foster
Area: Engineering, Natural Sciences.
EN.520.222. Computer Architecture. 3 Credits.
A study of the structure and organization of classical von Neuman uniprocessor computers. Topics include a brief history of modern machines starting from the Turing computer model, instruction sets, addressing, RISC versus CISC, traps and interrupt handling, two's complement arithmetic, adders and ALUs, CSA's Booth's algorithm, multiplication and division, control unit design, microprogramming, dynamic versus static linking, memory systems and memory hierarchy, paging segmentation, cache hardware, cache organizations, and replacement policies.
Prerequisites: EN.520.142
Instructor(s): R. Jenkins
Area: Engineering.

EN.520.270. Introduction to Renewable Energy Engineering. 3 Credits.
This course provides an introduction to the science and engineering of renewable energy technologies. The class will begin with an overview of today's energy landscape and proceed with an introduction to thermodynamics and basic heat engines. Specific technologies to be discussed include photovoltaics, fuel cells and hydrogen, biomass, wind power and energy storage. The class should be accessible to those from a variety of science and engineering disciplines. Recommended Course Background: Introductory Physics and Calculus.
Instructor(s): S. Thon
Area: Engineering.

EN.520.315. Introduction to Information Processing of Sensory Signals. 3 Credits.
An introductory course to basic concepts of information processing of human communication signals (sounds, images) in living organisms and by machine. Recommended Course Background: EN.520.214 (or EN.580.222) or consent of the instructor.
Instructor(s): H. Hermansky
Area: Engineering.

EN.520.326. Introduction to Optical Instruments. 3 Credits.
Area: Engineering.

EN.520.345. Electrical & Computer Engineering Laboratory. 3 Credits.
This course consists of 11 one-week laboratory experiments intended to provide an introduction to analog and digital circuits commonly used in engineering. Topics include phase and frequency response, transistors, operational amplifiers, filters, and other analog circuits. The experiments are done using computer controlled digital oscilloscopes, function generators, and power supplies.
Prerequisites: 171.101-102 and EN.520.213
Instructor(s): A. Foster
Area: Engineering.

EN.520.349. Microprocessor Lab I. 3 Credits.
This course introduces the student to the programming of microprocessors at the machine level. 68HC08, 8051, and eZ8 microcontrollers are programmed in assembly language for embedded control purposes. The architecture, instruction set, and simple input/output operations are covered for each family. Upon completion, students can use these flash-based chips as elements in other project courses. Recommended Course Background: EN.520.142 or equivalent.
Instructor(s): R. Glaser
Area: Engineering.

EN.520.353. Control Systems. 3 Credits.
Modeling, analysis, and an introduction to design for feedback control systems. Topics include state equation and transfer function representations, stability, performance measures, root locus methods, and frequency response methods (Nyquist, Bode).
Instructor(s): D. Tarraf
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.372. Programmable Device Lab. 3 Credits.
The use of programmable memories (ROMs, EPROMs, and EEPROMs) as circuit elements (as opposed to storage of computer instructions) is covered, along with programmable logic devices (PALs and GALs). These parts permit condensing dozens of standard logic packages (TTL logic) into one or more off-the-shelf components. Students design and build circuits using these devices with the assistance of CAD software. Topics include programming EEPROMs; using PLDs as address decoders; synchronous sequential logic synthesis for PLDs; and PLD-based state machines. Recommended Course Background: EN.520.142 and EN.520.345
Instructor(s): R. Glaser
Area: Engineering.

EN.520.391. CAD Design of Digital VLSI Systems I (Juniors). 3 Credits.
An introductory course in which students, manually and through computer simulations, design digital CMOS integrated circuits and systems. The design flow covers transistor, physical, and behavioral level descriptions, using SPICE, Layout, and Verilog. After design verification, students can fabricate and test their semester-long class projects. Juniors Only. Recommended Course Background: EN.520.142, EN.520.216 or equivalent; Corequisite: EN.600.333, EN.600.334, EN.520.349 or EN.520.372
Instructor(s): R. Etienne Cummings
Area: Engineering.

EN.520.401. Basic Communication. 3 Credits.
This course covers the principles of modern analog and digital communication systems. Topics include: amplitude modulation formats (DSB, SSB VSB), exponential modulation formats (PM, FM), superheterodyne receivers, digital representation of analog signals, sampling theorem, pulse code modulation formats (PCM, DPCM, DM, spread-spectrum), signals with additive Gaussian noise, maximum likelihood receiver design, matched filtering, and bit error rate analyses of digital communication systems.
Area: Engineering.

EN.520.403. Introduction to Optical Instruments. 3 Credits.
This course is intended to serve as an introduction to optics and optical instruments that are used in engineering, physical, and life sciences. The course covers first basics of ray optics with the laws of refraction and reflection and goes on to description of lenses, microscopes, telescopes, and imaging devices. Following that basics of wave optics are covered, including Maxwell equations, diffraction and interference. Operational principles and performance of various spectrometric and interferometric devices are covered including both basics (monochromatic, Fabry-Perot and Michelson interferometers), and advanced techniques of near field imaging, laser spectroscopy, Fourier domain spectroscopy, laser Radars and others.
Instructor(s): J. Khurgin
Area: Engineering.
EN.520.407. Introduction to the Physics of Electronic Devices. 3 Credits.
This course is designed to develop and enhance the understanding of the basic physical processes taking place in the electronic and optical devices and to prepare students for taking classes in semiconductor devices and circuits, optics, lasers, and microwave devices, as well as graduate courses. Both classical and quantum approaches are used. Specific topics include theory of molecular bonding; basics of solid state theory; mechanical, transport, magnetic, and optical properties of the metals; semiconductors; and dielectrics.
Prerequisites: AS.171.101 AND AS.171.102 AND EN.520.219
Instructor(s): J. Khurgin
Area: Engineering.

EN.520.410. Fiber Optics & Devices. 3 Credits.
This course covers light propagation in fiber optic light guides, integrated optic wave guides, photodetectors, and the photon nature of light. Topics include light propagation in step-index and graded-index optical fibers, dielectric slab waveguides, photodetectors, photon shot noise, and photodetector signal-to-noise ratios. Recommended Course Background: EN.520.214, EN.520.219-EN.520.220, or equivalent.
Instructor(s): F. Davidson
Area: Engineering.

EN.520.414. Image Processing & Analysis. 3 Credits.
The course covers fundamental methods for the processing and analysis of images and describes standard and modern techniques for the understanding of images by humans and computers. Topics include elements of visual perception, sampling and quantization, image transforms, image enhancement, color image processing, image restoration, image segmentation, and multisresolution image representation. Laboratory exercises demonstrate key aspects of the course.
Prerequisites: EN.520.214.
Instructor(s): J. Goutsias
Area: Engineering.

EN.520.415. Image Process & Analysis II. 3 Credits.
This course covers fundamental methods for the processing and analysis of images and describes standard and modern techniques for the understanding of images by morphological image processing and analysis, image representation and description, image recognition and interpretation.
Prerequisites: EN.520.414
Instructor(s): J. Goutsias
Area: Engineering.

EN.520.419. Iterative Algorithms. 3 Credits.
An introduction to the study of the structure, behavior and design of iterative algorithms. Topics include problem formulations, algorithm description and classification, the deterministic iterative (DI) schema, doubling schema, cluster point sets, periodic points, DI schemas without stop rule, the monotonic DI schema, contractive and affine maps, bounded and Cauchy sequences, asymptotically regular sequences, monotonic sequences.
Prerequisites: AS.110.201-202.
Instructor(s): G. Meyer
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.420. Theory & Design of Iterative Algorithms II. 3 Credits.
This course is a continuation of EN.520.419. It covers information on the non-deterministic schema and cyclic iterative schemas, Jacobians, Hessians and Mean Value Theorems, spectral norm, convex sets and positive definite majs. Prerequisite: EN.520.419
Prerequisites: Prequisite: EN.520.419
Instructor(s): G. Meyer
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.424. FPGA Synthesis Lab. 3 Credits.
An advanced laboratory course in the application of FPGA technology to information processing, using VHDL synthesis methods for hardware development. The student will use commercial CAD software for VHDL simulation and synthesis, and implement their systems in programmable XILINX 20,000 gate FPGA devices. The lab will consist of a series of digital projects demonstrating VHDL design and synthesis methodology, building up to final projects at least the size of an 8-bit RISC computer. Projects will encompass such things as system clocking, flip-flop registers, state-machine control, and arithmetic. The students will learn VHDL methods as they proceed through the lab projects, and prior experience with VHDL is not a prerequisite.
Prerequisites: 520.142 and 520.345. Recommended Courses: 600.333 (Computer System Fundamentals) or 520.349 (Microprocessor Lab)
Instructor(s): R. Jenkins
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.425. FPGA Senior Projects Laboratory. 3 Credits.
Laboratory course for FPGA based senior projects. Students will work in teams to complete a design project that makes use of embedded FPGAs. The projects will make use of the Spartan2 XSA boards and other resources from the FPGA Synthesis lab course. Possible projects include: A 16 or 32 bit RISC processor with student designed ISA architecture, assembler, and mini operating system; or a Spartan2 emulation of an existing microprocessor such as an 8051, an optical communication system to transmit stereo music using various modulation schemes for comparison (This would include FM or AM and at least one digital scheme such as FSK,); or a digital receiver for commercial AM or FM radio. Students are expected to complete a demonstration and produce a poster session final report. Senior status, no exceptions.
Prerequisites: Prereq: 520.424 and senior status,
Instructor(s): R. Jenkins
Area: Engineering.

EN.520.427. Product Design Lab. 3 Credits.
This project-based course is designed to help students learn how to turn their ideas into commercial products. In the first half of the course, emphasis will be placed on the product development process: student teams will gradually build up a complete “contract book” including a mission statement, competitive analysis, patent review, product specifications, system schematics, economic analysis, development schedule, etc. In the second half of the course, each team will be expected to implement its design and demonstrate a prototype of their product’s core functionality. At the end of the semester, a final written report will be submitted in the form of a utility patent. Students are encouraged to take this course in conjunction with Electronic Design Lab (ECE 520.448) in the Spring semester and leverage the groundwork developed here to enable production of a fully functional and marketable prototype by the end of the academic year.
Instructor(s): P. Pouliquen
Area: Engineering.
EN.520.429. Principles of Parallel Programming. 3 Credits.
Programming models and languages for current computing platforms. Computational models include shared and distributed memory multiprocessors. Essential techniques of message-passing parallel programming will be based upon MPI (Message Passing Interface); shared memory programming will use the OpenMP standard. Other parallel language extensions will be studied, including Split-C and UPC (unified parallel C). Programming projects will be given for the IBM SP parallel computer and other available departmental multicomputers. Students should be proficient in programming in the C language.
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.432. Medical Imaging Systems. 3 Credits.
An introduction to the physics, instrumentation, and signal processing methods used in general radiography, X-ray computed tomography, ultrasound imaging, magnetic resonance imaging, and nuclear medicine. The primary focus is on the methods required to reconstruct images within each modality, with emphasis on the resolution, contrast, and signal-to-noise ratio of the resulting images. Co-listed as EN.580.472
Prerequisites: EN.580.222 OR EN.520.214
Instructor(s): J. Prince
Area: Engineering.

EN.520.433. Medical Image Analysis. 3 Credits.
This course covers the principles and algorithms used in the processing and analysis of medical images. Topics include, interpolation, registration, enhancement, feature extraction, classification, segmentation, quantification, shape analysis, motion estimation, and visualization. Analysis of both anatomical and functional images will be studied and images from the most common medical imaging modalities will be used. Projects and assignments will provide students experience working with actual medical imaging data.
Prerequisites: EN.520.432 OR EN.580.472 OR EN.550.310 OR EN.550.311
Instructor(s): J. Prince
Area: Engineering.

EN.520.434. Modern Biomedical Imaging Instrumentation and Techniques. 3 Credits.
An intermediate biomedical imaging course covering modern biomedical imaging instrumentation and techniques as applied to diagnostic radiology and other biomedical applications. It includes recent advances in various biomedical imaging modalities, multi-modality imaging and molecular imaging. The course is team taught by experts in the respective fields and provides a broad based knowledge of modern biomedical imaging to prepare students for graduate studies and research in biomedical imaging. Also, the course will offer tours and practical experience with modern biomedical imaging equipments in clinical and research settings. Co-listed with EN.580.473
Prerequisites: EN.520.432 OR EN.580.472
Instructor(s): B. Tsui
Area: Engineering.

EN.520.435. Digital Signal Processing. 4 Credits.
Methods for processing discrete-time signals. Topics include signal and system representations, z-transforms, sampling, discrete Fourier transforms, fast Fourier transforms, digital filters.
Prerequisites: EN.520.214.
Instructor(s): H. Weinert
Area: Engineering.

EN.520.443. Digital Multimedia Coding and Processing. 3 Credits.
An introduction to the coding and processing of digital multimedia. The course covers current popular techniques for processing, storage, and delivery of media such as speech, audio, images and video. The emphasis will be on the theoretical basis as well as efficient implementations. Topics include transform and subband coding, motion estimation and compensation, international compression standards (AC3, JPEG, MPEG, H.263, HDTV), and emerging techniques. Recommended Course Background: EN.520.435, experience with Matlab and/or C/C++ programming.
Area: Engineering.

EN.520.445. Audio Signal Processing. 3 Credits.
This course gives a foundation in current audio and speech technologies, and covers techniques for sound processing by processing and pattern recognition, acoustics, auditory perception, speech production and synthesis, speech estimation. The course will explore applications of speech and audio processing in human computer interfaces such as speech recognition, speaker identification, coding schemes (e.g. MP3), music analysis, noise reduction. Students should have knowledge of Fourier analysis and signal processing.
Instructor(s): M. Elhilali
Area: Engineering.

EN.520.447. Information Theory. 3 Credits.
This course will address some basic scientific questions about systems that store or communicate information. Mathematical models will be developed for (1) the process of error-free data compression leading to the notion of entropy, (2) data (e.g. image) compression with slightly degraded reproduction leading to rate-distortion theory and (3) error-free communication of information over noisy channels leading to the notion of channel capacity. It will be shown how these quantitative measures of information have fundamental connections with statistical physics (thermodynamics), computer science (string complexity), economics (optimal portfolios), probability theory (large deviations), and statistics (Fisher information, hypothesis testing).
Instructor(s): S. Khudanpur
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.448. Electronics Design Lab. 3 Credits.
An advanced laboratory course in which teams of students design, build, test and document application specific information processing microsystems. Semester long projects range from sensors/actuators, mixed signal electronics, embedded microcomputers, algorithms and robotics systems design. Demonstration and documentation of projects are important aspects of the evaluation process. Recommended: EN.600.333, EN.600.334, EN.520.349, EN.520.372, EN.520.490 or EN.520.491.
Prerequisites: EN.520.345 or equivalent Recommended: EN.600.333, EN.600.334, EN.600.335, 520.349, 520.372, 520.490 or 520.491.
Instructor(s): P. Pouliken.

EN.520.450. Advanced Micro-Processor Lab. 3 Credits.
This course covers the usage of common microcontroller peripherals. Interrupt handling, timer operations, serial communication, digital to analog and analog to digital conversions, and flash ROM programming are done on the 68HC08, 8051, and eZ8 microcontrollers. Upon completion, students can use these flash-based chips as elements in other project courses. Recommended Course Background: EN.520.349
Instructor(s): R. Glaser.
EN.520.452. Advanced ECE Engineering Team Project. 3 Credits.
This course introduces the student to running an ECE engineering team project. The student will participate in the team project as a leading member and is expected to manage both the team members and the different aspects of the project over several semesters. Permission of the instructor is required for new team members. (Juniors and Seniors) Instructor(s): R. Etienne Cummings
Area: Engineering.

EN.520.453. Advanced ECE Engineering Team Project. 3 Credits.
The course introduces the student to running an engineering team project. The student will participate in the ECE engineering team project as a leading member. The student is expected to participate in the different aspects of the project over several semesters and manage both team members and the project. (Juniors and Seniors) Permission of instructor is required. Instructor(s): J. Kang
Area: Engineering.

EN.520.454. Control Systems Design. 3 Credits.
Classical and modern control systems design methods. Topics include formulation of design specifications, classical design of compensators, state variable and observer based feedback. Computers are used extensively for design, and laboratory experiments are included. Instructor(s): P. Iglesias
Area: Engineering, Natural Sciences.

EN.520.457. Basics of Wave and Quantum Mechanics. 3 Credits.
Basic principles of quantum mechanics for engineers. Topics include the quantum theory of simple systems, in particular atoms and engineered quantum wells, the interaction of radiation and atomic systems, and examples of application of the quantum theory to lasers and solid-state devices. Recommended Course Background: AS.171.101-AS.171.102 and EN.520.219-EN.520.220 Instructor(s): A. Kaplan
Area: Engineering, Natural Sciences.

EN.520.459. Quantum Mechanics for Engineering. 3 Credits.
This course will describe some of the basic ideas in and early development of quantum mechanics. This course is intended for students without any previous background in this subject. A description of some of the fundamental ideas in Quantum Mechanics will be offered from a practical point of view and from a perspective that should be useful to engineers who want to understand how these concepts manifest in materials and devices. Topics include the Schrodinger Wave Equation and the concept of a wave function, quantization in atoms and engineered semiconductor heterostructures, the interaction of radiation and atomic systems, and examples of the application of quantum theory in lasers and electronic solid-state devices. Recommended background for this course includes freshmen-year physics (including fundamentals of electricity and magnetism) and sophomore-year mathematics (including partial derivatives, basic differential equations, and fundamentals of linear algebra). Instructor(s): T. Schlesinger
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.465. Digital Communications I. 3 Credits.
This course introduces the basic tools and topics of modern digital communication beginning with the mathematical representation and spectral properties of random signals and a basic introduction to the detection of real and complex signals in the presence of noise. Memoryless modulation and demodulation schemes are thoroughly studied for the Gaussian channel, and measures of performance are developed. Topics in wireless communication will be introduced. Recommended Course Background: EN.520.401, EN.550.310 or EN.550.420 Instructor(s): F. Davidson
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.466. Digital Communication II. 3 Credits.
Achieving reliable and efficient digital communications over noisy channels is studied. Shannon’s Noisy Channel Coding Theorem provides the basis and the goal. Bounds on code performance in noisy channels are developed. Important block and convolutional codes and codes on graphs are examined jointly with their respective decoders. Prerequisites: EN.520.401 AND AS.110.201 Instructor(s): A. Hammons
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.473. Magnetic Resonance in Medicine. 3 Credits.
This course provides a wide-ranging introduction to the physics and principles of magnetic resonance imaging (MRI). Topics include the resonance phenomenon, relaxation, signal formation, spatial localization, image contrast, hardware, signal processing, and image reconstruction. MATLAB simulation exercises will demonstrate key aspects of MRI and a laboratory component using the clinical MRI systems at the School of Medicine will reinforce concepts learned in class. Textbook “Principles of Magnetic Resonance Imaging” by D. Nishimura (from www.lulu.com) should be obtained before the start of the course. Recommended Course Background: (EN.520.434 or EN.580.473) or (EN.520.432 or EN.580.472). Co-listed with EN.580.476 and EN.580.673. Instructor(s): D. Herzk; P. Bottomley; W. Edelstein
Area: Engineering, Natural Sciences.

EN.520.478. Biomedical Photonics. 3 Credits.
This course will cover the basic optics principles including geometric, beam and wave description of light. The course will also cover the basic generation and detection techniques of light and the principles of optical imaging and spectroscopy. After the basis is established, we will focus on some commonly employed optical techniques and tools for biomedical research including various optical microscopy technologies, fiber optics, Raman spectroscopy, Fluorescence (lifetime), FRAT, FRET and FCS. The recent development in tissue optics, biomedical optical imaging/spectroscopy techniques (such as OCT, multiphoton fluorescence and harmonics microscopy, Structured Illumination, light scattering, diffuse light imaging and spectroscopy, optical molecular imaging, photo-acoustic imaging) will also be discussed. Representative biomedical applications of translational biomedical photonics technologies will be integrated into the corresponding chapters. Co-listed with EN.580.478.
Area: Engineering.

EN.520.481. Microwaves and High Speed Circuits. 3 Credits.
Area: Engineering.
EN.520.482. Introduction to Lasers. 3 Credits.
This course covers the basic principles of laser oscillation. Specific topics include propagation of rays and Gaussian beams in lens-like media, optical resonators, spontaneous and stimulated emission, interaction of optical radiation and atomic systems, conditions for laser oscillation, homogeneous and inhomogeneous broadening, gas lasers, solid state lasers, Q-switching and mode locking of lasers.
Prerequisites: EN.520.219 AND EN.520.220
Instructor(s): J. Khurgin
Area: Engineering, Natural Sciences.

EN.520.483. Bio-Photonics Laboratory. 3 Credits.
This laboratory course involves designing a set of basic optical experiments to characterize and understand the optical properties of biological materials. The course is designed to introduce students to the basic optical techniques used in medicine, biology, chemistry and material sciences.
Instructor(s): J. Kang.

EN.520.485. Advanced Semiconductor Devices. 3 Credits.
This course is designed to develop and enhance the understanding of the operating principles and performance characteristics of the modern semiconductor devices used in high speed optical communications, optical storage and information display. The emphasis is on device physics and fabrication technology. The devices include heterojunction bipolar transistors, high mobility FET's, semiconductor lasers, laser amplifiers, light-emitting diodes, detectors, solar cells and others.
Instructor(s): J. Kang
Area: Engineering, Natural Sciences.

EN.520.491. CAD Design of Digital VLSI Systems I (Seniors/Grads). 3 Credits.
Seniors and Graduate Students Only
Instructor(s): R. Etiene Cummings
Area: Engineering.

EN.520.492. Mixed-Mode VLSI Systems. 3 Credits.
Silicon models of information and signal processing functions, with implementation in mixed analog and digital CMOS integrated circuits. Aspects of structured design, scalability, parallelism, low power consumption, and robustness to process variations. Topics include digital-to-analog and analog-to-digital conversion, delta-sigma modulation, bioinstrumentation, and adaptive neural computation. The course includes a VLSI design project. Recommended Course Background: EN.521.491 or equivalent.
Area: Engineering.

EN.520.495. Microfabrication Laboratory. 4 Credits.
This laboratory course is an introduction to the principles of microfabrication for microelectronics, sensors, MEMS, and other synthetic microsystems that have applications in medicine and biology. Course comprises of laboratory work and accompanying lectures that cover silicon oxidation, aluminum evaporation, photoresist deposition, photolithography, plating, etching, packaging, design and analysis CAD tools, and foundry services. Seniors only or Perm. Req’d. Co-listed as EN.580.495 & EN.530.495
Instructor(s): A. Andreou; J. Wang
Area: Engineering, Natural Sciences.

EN.520.498. Senior Design Project. 3 Credits.
Capstone design project, in which a team of students engineers a system and evaluates its performance in meeting design criteria and specifications. Example application areas are micro-electronic information processing, image processing, speech recognition, control, communications, and biomedical instrumentation. The design needs to demonstrate creative thinking and experimental skills, and needs to draw upon knowledge in basic sciences, mathematics, and engineering sciences. Interdisciplinary participation, such as by biomedical engineering, mechanical engineering, and computer science majors, is strongly encouraged. Instructor permission required.
Instructor(s): Staff
Area: Engineering.

EN.520.499. Senior Design Project. 3 Credits.
Capstone design project, in which a team of students engineer a system and evaluate its performance in meeting design criteria and specifications. Example application areas are micro-electronic information processing, image processing, speech recognition, control, communications, and biomedical instrumentation. The design needs to demonstrate creative thinking and experimental skills, and needs to draw upon knowledge in basic sciences, mathematics, and engineering sciences. Interdisciplinary participation, such as by biomedical engineering, mechanical engineering, and computer science majors, is strongly encouraged.
Instructor(s): A. Andreou; J. Kang; J. Prince; J. West
Area: Engineering.

EN.520.501. Independent Study-Freshmen-Sophomores. 3 Credits.
Individual, guided study under the direction of a faculty member in the department. The program of study or research, including the credit to be assigned, must be worked out in advance between the student and the faculty member involved. May be taken either term by freshmen or sophomores. Instructor permission required.
Instructor(s): A. Andreou; J. Kang; J. Prince.

EN.520.502. Indep Study - Fresh/Soph. 0 - 3 Credit.
Individual, guided study under the direction of a faculty member in the department. The program of study or research, including the credit to be assigned, must be worked out in advance between the student and the faculty member involved.

EN.520.503. Independent Study-Juniors-Seniors. 3 Credits.
Individual, guided study under the direction of a faculty member in the department. The program of study or research, including the credit to be assigned, must be worked out in advance between the student and the faculty member involved. May be taken either term by juniors or seniors. Instructor permission required.
Instructor(s): Staff.

EN.520.504. Independent Study - Juniors/Seniors. 0 - 3 Credit.
Individual study, including participation in research, under the guidance of a faculty member in the department. The program of study or research, time required, and credit assigned must be worked out in advance between the student and the faculty member involved. May be taken either term by juniors or seniors.
Instructor(s): Staff.
EN.520.515. Processing of Audio and Visual Signals. 3 Credits.
This course consists of two parts. The lecture component of this course is covered by attending EN.520.315. Concurrently, on the more advanced graduate level, there is an additional requirement of critical analysis of the material covered, and the hands-on homework complementing the lectures. Recommended Course Background: EN.520.214 (or EN.580.222) or consent of the instructor.
Instructor(s): H. Hermansky
Area: Engineering.
EN.520.545. Research. 1 - 3 Credit.
Instructor Approval Required. Independent study or research over the summer under the direction of a faculty member in the department. The program of research, including the credit to be assigned, must be worked out in advance between the student and the faculty member involved.
Instructor(s): S. Thon.
EN.520.548. Independent Research. 0 - 3 Credit.
Instructor(s): P. Iglesias; S. Thon.
EN.520.550. Electrical Engineering - Internship. 0 - 3 Credit.
Instructor(s): T. Tran.
EN.520.595. Independent Study. 3 Credits.
Instructor(s): A. Andreou; J. Kang; J. West; R. Etienne Cummings.
EN.520.597. Research-Summer. 3 Credits.
Instructor(s): F. Davidson; J. West; P. Iglesias; R. Etienne Cummings; T. Tran.
EN.520.599. Internship-Summer. 1 Credit.
Instructor(s): F. Davidson; J. Kang; M. Miller.
Seminar for Electrical & Computer Engineering; required of all doctoral students who have not passed the qualifying exam. Repeatable course.
Instructor(s): J. Kang; P. Iglesias
Area: Engineering, Natural Sciences.
EN.520.601. Introduction to Linear Systems Theory.
A beginning graduate course in multi-input multi-output, linear, time-invariant systems. Topics include state-space and input-output representations; solutions and their properties; multivariable poles and zeros; reachability, observability and minimal realizations; stability; system norms and their computation; linearization techniques. Recommended Course Background: Undergraduate courses in control systems and linear algebra.
Instructor(s): P. Iglesias.
EN.520.610. Comput Funct Genomics.
This class provides an introduction to mathematical and computational techniques for Functional Genomics, a growing area of research in cell biology and genetics whose objective is to understand the biological function of genes and their interactions. Computational functional genomics focuses on the problems of collecting, processing and analyzing data related to genome-wide patterns of gene expression with the objective to discover mechanisms by which a cell’s gene expression is coordinated. This has become feasible with the development of DNA microarray technology, which allows the simultaneous measurement of gene expression levels of thousand of genes. Topics covered: an introduction to cell biology (cells, genome, DNA, transcription, translation, control of gene expression, DNA and RNA manipulation), DNA microarray technology and experimental design, processing and analysis of microarray data (data reduction and filtering, clustering), and computational models for genetic regulatory networks (Boolean networks, Bayesian networks, ODE-based networks). Co-listed with EN.580.610. Students should have working knowledge of elementary probability and statistics.
EN.520.611. Ultrafast Optical Phenomena.
This course will give and introduction to the field of ultrafast phenomena which studies processes in nature and engineering occurring on the shortest of time scales. Topics will include the complex representation of ultrafast optical signals, nonlinear optics, pulse propagation effects resulting from dispersion and nonlinearities, the fundamentals of ultrafast sources including mode locking and amplification, ultrafast measurement techniques, and the wide range of cutting-edge applications of ultrafast sources.
Area: Engineering, Natural Sciences.
EN.520.612. Advanced Fiber Optics and Devices.
This course covers light propagation in fiber optic light guides, integrated optic wave guides, photodetectors, and the photon nature of light. Topics include light propagation in step-index and graded-index optical fibers, dielectric slab waveguides, photodetectors, photon shot noise, and photodetector signal-to-noise ratios. Recommended Course Background: EN.520.214, EN.520.219-EN.520.220 or equivalent.
EN.520.618. Hybrid Systems.
This graduate level seminar style class focuses on the emerging field of hybrid systems. Topics covered include mathematical models of hybrid systems, analysis and controller synthesis techniques, and model complexity reduction.
Instructor(s): D. Tarraf
Area: Engineering.
EN.520.619. Optical Communications.
Fundamentals of direct and coherent (heterodyne) detection optical communication receivers. Topics include Poisson nature of photon detection; estimation and detection for photon counting receivers; marked, filtered and doubly stochastic Poisson processes; and information theory for the photon communication channel.
This course covers information on the non-deterministic schema and cyclic iterative schemas, Jacobians, Hessians and Mean Value Theorems, spectral norm, convex sets and positive definite majs.
EN.520.621. Introduction To Nonlinear Systems.
Instructor(s): P. Iglesias
Area: Engineering, Natural Sciences.

By employing fundamental concepts from diverse areas of research, such as statistics, signal processing, biophysics, biochemistry, cell biology, and epidemiology, this course introduces a multidisciplinary and rigorous approach to the modeling and computational analysis of complex interaction networks. Topics to be covered include: overview of complex nonlinear interaction networks and their applications, graph-theoretic representations of network topology and stoichiometry, stochastic modeling of dynamic processes on complex networks and master equations, Langevin, Poisson, Fokker-Plank, and moment closure approximations, exact and approximate Monte Carlo simulation techniques, time-scale separation approaches, deterministic and stochastic sensitivity analysis techniques, network thermodynamics, and reverse engineering approaches for inferring network models from data.
Instructor(s): J. Goutsias.

EN.520.624. Integrated Photonics.
This course gives an introduction to integrated photonics. Topics include: material platforms, fabrication approaches, devices and device operation, numerical modeling, nonlinear processes, and applications. Devices discussed include waveguides, resonators, sensors, modulators, detectors, lasers and amplifiers. Recommended Course Background: EN.520.219-EN.520.220, EN.520.495, or equivalent.
Instructor(s): A. Foster
Area: Engineering, Natural Sciences.

EN.520.627. Photovoltaics and Energy Devices.
This course provides an introduction to the science of photovoltaics and related energy devices. Topics covered include basic concepts in semiconductor device operation and carrier statistics; recombination mechanisms; p-n junctions; silicon, thin film, and third generation photovoltaic technologies; light trapping; and detailed balance limits of efficiency. Additionally, thermophotovoltaics and electrical energy storage technologies are introduced. A background in semiconductor device physics (EN.520.485, or similar) is recommended.
Instructor(s): S. Thon

EN.520.633. Intro To Robust Control.
The subject of this course is robust analysis and control of multivariable systems. Topics include system analysis (small gain arguments, integral quadratic constraints); parametrization of stabilizing controllers; \$H_\infty\$ optimization based robust control design; and LTI model order reduction (balanced truncation, Hankel reduction). Recommended Course Background: EN.520.601 or EN.530.616 or EN.580.616
Instructor(s): D. Tarraf
Area: Engineering, Natural Sciences.

EN.520.636. Signaling Pathways.
Instructor(s): P. Iglesias.

EN.520.646. Wavelets & Filter Banks.
This course serves as an introduction to wavelets, filter banks, multirate signal processing, and time-frequency analysis. Topics include wavelet signal decompositions, bases and frames, QMF filter banks, design methods, fast implementations, and applications. Recommended Course Background: EN.520.435, AS.110.201, C/C++ and Matlab programming experience.
Instructor(s): T. Tran.

EN.520.648. Compressed Sensing and Sparse Recovery.
Sparsity has become a very important concept in recent years in applied mathematics, especially in mathematical signal and image processing, as in inverse problems. The key idea is that many classes of natural signals can be described by only a small number of significant degrees of freedom. This course offers a complete coverage of the recently emerged field of compressed sensing, which asserts that, if the true signal is sparse to begin with, accurate, robust, and even perfect signal recovery can be achieved from just a few randomized measurements. The focus is on describing the novel ideas that have emerged in sparse recovery with emphasis on theoretical foundations, practical numerical algorithms, and various related signal processing applications. Recommended Course Background: Undergraduate linear algebra and probability.
Instructor(s): T. Tran.

EN.520.651. Random Signal Analysis.
A course covering second-order properties of random processes with applications in estimation and detection. A foundation course for further work in stochastic systems, signal processing, and communications. Recommended Course Background: elementary courses in probability, signals, and linear systems.
Instructor(s): S. Khudanpur.

EN.520.652. Filtering & Smoothing.
Random Signal Analysis, or equivalent, plus some background in linear algebra and matrix theory. This course is intended to give students an opportunity to do directed research in algorithm development that culminates in a MATLAB program. Students will learn about extracting signals from noise using statistical and non-statistical models. Topics include Kalman filtering, smoothing, interpolation (upsampling), spline fitting, and the numerical linear algebra issues that impact these problems. Emphasis is on fast, compact, stable algorithms. The grade is based on the term project and occasional homework. There are no examinations. Class attendance is mandatory.
Prerequisites: Some background in linear algebra, matrix theory, random signals, and MATLAB.
Instructor(s): H. Weinert.

EN.520.666. Information Extraction.
Introduction to statistical methods of speech recognition (automatic transcription of speech) and understanding. The course is a natural continuation of EN.600.465 but is independent of it. Topics include elementary information theory, hidden Markov models, the Baum and Viterbi algorithms, efficient hypothesis search methods, statistical decision trees, the estimation-maximization (EM) algorithm, maximum entropy estimation and estimation of discrete probabilities from sparse data for acoustic and language modeling. Co-listed as EN.600.666. Recommended Course Background: EN.550.310 and EN.600.120 or equivalent, expertise in C or C++ programming.
Instructor(s): S. Khudanpur.
EN.520.671. Brain Computer Interfaces.
In this course, students will learn state-of-the-art techniques in Brain-Computer Interfaces (BCI) through readings and hands-on work with multi-channel electroencephalographic (EEG) neural recording systems. The class will meet once a week to review a paper or book chapter about BCI technologies, but the bulk of the work will be conducted in the lab, where each student team will be provided with an EEG hardware/software package and design, develop and demonstrate a BCI application. A competition will be held at the end of the semester to judge the best and most innovative projects. There are no formal prerequisites, but students are expected to be proficient in software programming (C and Matlab), signal processing, machine learning and experimental design. Knowledge of neuroscience is not required but may be useful. Grad students only. Graded on a Satisfactory/Unsatisfactory basis.
Instructor(s): F. Tenore; R. Vogelstein
Area: Engineering, Natural Sciences.

EN.520.673. Magnetic Resonance/Medic.
This course provides a wide-ranging introduction to the physics and principles of magnetic resonance imaging (MRI). Topics include the resonance phenomenon, relaxation, signal formation, spatial localization, image contrast, hardware, signal processing, and image reconstruction. MATLAB simulation exercises will demonstrate key aspects of MRI and a laboratory component using the clinical MRI systems at the School of Medicine will reinforce concepts learned in class. Textbook "Principles of Magnetic Resonance Imaging" by D. Nishimura (from www.lulu.com) should be obtained before the start of the course. Recommended Course Background: (EN.520.434 or EN.580.473) or (EN.520.432 or EN.580.472). Co-listed with EN.580.476 and EN.580.673.
Instructor(s): D. Herzka; P. Bottomley; W. Edelstein.

EN.520.678. Biomedical Photonics.
This course will cover the basic optics principles including geometric, beam and wave description of light. The course will also cover the basic generation and detection techniques of light and the principles of optical imaging and spectroscopy. After the basis is established, we will focus on some commonly employed optical techniques and tools for biomedical research including various optical microscopy technologies, fiber optics, Raman spectroscopy, Fluorescence (lifetime), FRAT, FRET and FCS. The recent development in tissue optics, biomedical optical imaging/spectroscopy techniques (such as OCT, multiphoton fluorescence and harmonics microscopy, Structured Illumination, light scattering, diffuse light imaging and spectroscopy, optical molecular imaging, photo-acoustic imaging) will also be discussed. Representative biomedical applications of translational biomedical photonics technologies will be integrated into the corresponding chapters.
Instructor(s): X. Li
Area: Engineering.

EN.520.680. Speech and Auditory Processing by Humans and Machines.
This graduate level seminar focuses on works that are relevant to building advanced systems for information extraction from auditory signals. It loosely compliments and expands on the lecture material from the graduate course EN.520.515. Participants will take turns in presenting and critically discussing selected topics, with an aim of using this knowledge in their research projects. When available, guest speakers may at times contribute or substitute for the presentation of the participants. Recommended Course Background: Completion or concurrent participation in EN.520.515 or consent of the instructor.
Instructor(s): H. Hermansky.

EN.520.682. Computational & Systems Neuroscience.

EN.520.701. Current Topics in Language and Speech Processing.
This biweekly seminar will cover a broad range of current research topics in human language technology, including automatic speech recognition, natural language processing and machine translation. The Tuesday seminars will feature distinguished invited speakers, while the Friday seminars will be given by participating students. A minimum of 75% attendance and active participation will be required to earn a passing grade. Grading will be S/U.
Instructor(s): S. Khudanpur.

EN.520.702. Current Topics in Language and Speech Processing.
This biweekly seminar will cover a broad range of current research topics in human language technology, including automatic speech recognition, natural language processing and machine translation. The Tuesday seminars will feature distinguished invited speakers, while the Friday seminars will be given by participating students. A minimum of 75% attendance and active participation will be required to earn a passing grade. Cross-listed with Computer Science. Grading will be S/U.
Instructor(s): S. Khudanpur
Area: Engineering.

EN.520.735. Sensory Information Processing.
Analysis of information processing in biological sensory organs and in engineered microsystems using the mathematical tools of communication theory. Natural or synthetic structures are modeled as microscale communication networks implemented under physical constraints, such as size and available energy resources and are studied at two levels of abstraction. At the information processing level we examine the functional specification, while at the implementation level we examine the physical specification and realization. Both levels are characterized by Shannon’s channel capacity, as determined by the channel bandwidth, the signal power, and the noise power. The link between the information processing level and the implementation level of abstraction is established through first principles and phenomenological otherwise, models for transformations on the signal, constraints on the system, and noise that degrades the signals.
Instructor(s): A. Andreou.

EN.520.736. Seminar on Control in Systems Biology.
This weekly seminar will focus on research issues in the use of control theory to study biological signal transduction pathways. The purpose of this course is to provide the students with background in research areas in computational, mathematical and systems biology. Each week, the participants will be assigned selected papers in these areas. While one student will lead the discussion, all students will be expected to have read the papers and to contribute to the discussion.
Prerequisites: EN.520.636 OR EN.580.636 or permission of instructor.
EN.520.738. Advanced Electronic Lab Design.
This course is the graduate expansion of the EN.520.448 Electronic Design Lab, which is an advanced laboratory course in which teams of students design, build, test and document application specific information processing microsystems. Semester long projects range from sensors/actuators, mixed signal electronics, embedded microcomputers, algorithms and robotics systems design. Demonstration and documentation of projects are important aspects of the evaluation process. For this graduate expansion, all projects will be based on recently published research from IEEE Transactions. The students will be required to fully research, analyze, implement and demonstrate their chosen topic. The emphasis will be on VLSI microsystems, although other topics will also be considered. Open to graduate students only.
Instructor(s): P. Pouliquen.

EN.520.746. Seminar: Medical Image Analysis.
This weekly seminar will focus on research issues in medical image analysis, including image segmentation, registration, statistical modeling, and applications. It will also include selected topics relating to medical image acquisition, especially where they relate to analysis. The purpose of the course is to provide the participants with a background in current research in these areas, as well as to promote greater awareness and interaction between multiple research groups within the University. The format of the course is informal. It will meet weekly for approximately 1.5 hours. Students will read selected papers and will be assigned on a rotating basis to lead the discussion. Co-listed as EN.600.746.
Instructor(s): J. Prince.

EN.520.761. Large Scale Analog Compt.
Instructor(s): A. Andreou; R. Etienne Cummings.

EN.520.762. Seminar on Large Scale Analog Computation.
Research seminar devoted to current research in the engineering of large scale integrated analog systems. Topics include models for vision and auditory processing as well as implementation constraints and limitations.
Instructor(s): A. Andreou; R. Etienne Cummings
Area: Engineering.

EN.520.763. Seminar on Solid State, Quantum Electronics and Nonlinear Optics.
Research Seminar on current research in the area of interaction of light with matter.
Instructor(s): A. Kaplan
Area: Engineering, Natural Sciences.

Instructor(s): A. Andreou.

EN.520.772. Advanced Integrated Circuits.
EN.520.773. Advanced Topics In Microsystems Fabrication.
Graduate-level course on topics that relate to microsystem integration of complex functional units across different physical scales from nano to micro and macro. Topics will include emerging fabrication technologies, micro-electromechanical systems, nanolithography, nanotechnology, soft lithography, self-assembly, and soft materials. Discussion will also include biological systems as models of microsystem integration and functional complexity. Perm. Req’d.
Instructor(s): A. Andreou.

EN.520.800. Independent Study.
Individual, guided study under the direction of a faculty member in the department. May be taken either term by graduate students.
Instructor(s): Staff.

EN.520.801. Dissertation Research.
Instructor(s): Staff.

EN.520.802. Dissertation Research.
Instructor(s): Staff.

EN.520.809. Special Studies.
Individual study in an area of mutual interest to a student and a faculty member in the department. Permission of Instructor required.

EN.520.810. Special Studies.
Individual study in an area of mutual interest to a student and a faculty member in the department.
Instructor(s): M. Thomas; R. Jenkins; R. Joseph.

EN.520.890. Independent Study-Summer.
Instructor(s): Staff.

Cross Listed Courses

General Engineering

EN.500.745. Seminar in Computational Sensing and Robotics.
Seminar series in robotics. Topics include: Medical robotics, including computer-integrated surgical systems and image-guided intervention. Sensor based robotics, including computer vision and biomedical image analysis. Algorithmic robotics, robot control and machine learning. Autonomous robotics for monitoring, exploration and manipulation with applications in home, environmental (land, sea, space), and defense areas. Biorobotics and neuromechanics, including devices, algorithms and approaches to robotics inspired by principles in biomechanics and neuroscience. Human-machine systems, including haptic and visual feedback, human perception, cognition and decision making, and human-machine collaborative systems. Cross-listed Mechanical Engineering, Computer Science, Electrical and Computer Engineering, and Biomedical Engineering.
Instructor(s): L. Whitcomb; P. Kazanzides.

Materials Science Engineering

EN.510.314. Electronic Properties of Materials. 3 Credits.
Fourth of the Introduction to Materials Science series, this course is devoted to a study of the electronic, optical and magnetic properties of materials. Lecture topics include electrical and thermal conductivity, thermoelectricity, transport phenomena, dielectric effects, piezoelectricity, and magnetic phenomena. Recommended Course Background: EN.510.311 and EN.510.202 or another programming course or permission of instructor.
Instructor(s): T. Poehler
Area: Engineering, Natural Sciences.

EN.510.418. Electronic and Photonic Processes and Devices. 3 Credits.
This course is intended for advanced undergraduates and graduate students and will cover the fundamentals and properties of electronic and optical materials and devices. Subject matter will include a detailed and comprehensive discussion of the physical processes underlying modern electronic and optical devices. Detailed descriptions of modern semiconductor devices such as lasers and detectors used in optical communications and information storage and processing will be presented. Also listed as EN.510.618/EN.510.418.
Instructor(s): T. Poehler
Area: Engineering, Natural Sciences.
An introduction to solid state physics for advanced undergraduates and graduate students in physical science and engineering. Topics include crystal structure of solids; band theory; thermal, optical, and electronic properties; transport and magnetic properties of metals, semiconductors, and insulators. The concepts of solid state principles in modern electronic, optical, and structural materials are discussed. Cross-listed with Electrical and Computer Engineering.
Instructor(s): T. Poehler.

Basic solid state physics principles applied to modern electronic, optical, and structural materials. Topics discussed will include magnetism, superconductivity, polymers, nano-structured materials, electronic effects, and surface physics. For advanced undergraduates and graduate students in physical science and engineering. Recommended Course Background: EN.510.611
Instructor(s): T. Poehler.

EN.510.618. Electronic and Photonic Processes and Devices.
This course is intended for advanced undergraduates and graduate students and will cover the fundamentals and properties of electronic and optical materials and devices. Subject matter will include a detailed and comprehensive discussion of the physical processes underlying modern electronic and optical devices. Detailed descriptions of modern semiconductor devices such as lasers and detectors used in optical communications and information storage and processing will be presented. Also listed as EN.510.618/EN.510.418.
Instructor(s): T. Poehler.

Mechanical Engineering
EN.530.616. Introduction to Linear Systems.
This course examines linear, discrete- and continuous-time, and multi-input-output systems in control and related areas. Least squares and matrix perturbation problems are considered. Topics covered include state-space models, stability, controllability, observability, transfer function matrices, realization theory, feedback compensators, state feedback, optimal regulation, observers, observer-based compensators, measures of control performance, and robustness issues using singular values of transfer functions. ME EN.530.616 can be used to fulfill the requirement of BME EN.580.616 or ECE EN.520.601.
Instructor(s): S. Sarma.

Biomedical Engineering
EN.580.472. Medical Imaging Systems. 3 Credits.
An introduction to the physics, instrumentation, and signal processing methods used in general radiography, X-ray computed tomography, ultrasound imaging, magnetic resonance imaging, and nuclear medicine. The primary focus is on the methods required to reconstruct images within each modality, with emphasis on the resolution, contrast, and signal-to-noise ratio of the resulting images. Cross-listed with Neuroscience and Electrical and Computer Engineering (EN.520.432).
Prerequisites: EN.580.222 OR EN.520.214
Instructor(s): J. Prince
Area: Engineering.

EN.580.483. Nuclear Medicine Imaging. 3 Credits.
This course provides an intermediate-level introduction to the instrumentation, image processing and reconstruction methods used in planar nuclear medicine imaging, single-photon emission computed tomography (SPECT) and positron emission tomography (PET). Topics include radioactive decay, nuclear medicine instrumentation including radiation detectors and associated electronics, analytic and statistical iterative tomographic reconstruction, imaging physics, and image quality in the context of these three modalities. This course will be taught at the School of Medicine Campus. Recommended Course Background: EN.520.432/EN.580.472 and EN.520.434/EN.580.473
Instructor(s): A. Rahimim; B. Tsui; E. Frey; Y. Du
Area: Engineering.

EN.580.616. Introduction to Linear Dynamical Systems.
This course examines linear, discrete- and continuous-time, and multi-input-output systems in control and related areas. Least squares and matrix perturbation problems are considered. Topics covered include state-space models, stability, controllability, observability, transfer function matrices, realization theory, feedback compensators, state feedback, optimal regulation, observers, observer-based compensators, measures of control performance, and robustness issues using singular values of transfer functions. BME EN.580.616 can be used to fulfill the requirement of ME EN.530.616 or ECE EN.520.601.
Instructor(s): S. Sarma.

Computer Science
CLSP seminar series, for any students interested in current topics in language and speech processing.

Master of Science in Engineering Management
The Master of Science in Engineering Management (MSEM) degree program combines advanced course work in highly-specialized technical fields with a professional education in contemporary business, entrepreneurship, and management practices. Graduates of the program will be provided with the educational background to pursue professional management roles in industry.

Facilities
The MSEM program has a dedicated seminar room housed in Whitehead 105. Students are able to study, conduct research and build prototypes within this space.

Graduate Requirements
Students in the MSEM program will take ten courses to fulfill degree requirements, with the following guidelines:

- Five advanced courses in the engineering/technical concentration
- Five advanced courses in the management concentration, in addition to a 2-semester seminar
- Students must graduate with a 3.0 GPA in the management courses and also in the technical courses
- Courses must be at the 400-level or higher
- Departments sponsoring technical concentrations may impose stricter requirements for course work within the concentration
At the discretion of the student's advisors, an MSEM student may be permitted to double-count up to two JHU courses (one for the technical concentration and one for the management concentration) or apply undergraduate or graduate courses taken at JHU or elsewhere but not applied to a degree, in accordance with conditions in the WSE Policy on Double-Counting Courses.

Advising

MSEM students will receive advising on the engineering/technical concentration from a designated faculty member affiliated with that concentration. MSEM students will be advised regarding the management concentration by members of the Center for Leadership Education faculty.

Faculty

Faculty members teaching the technical concentration courses are listed in their respective engineering departments elsewhere in this catalog. Faculty members teaching the management concentration courses are listed in the Center for Leadership Education section of this catalog.

Management Concentration

The Center for Leadership Education has constructed a five-course program tailored to the needs of future engineering managers. MSEM students will participate in a cohort program, which begins each fall, where all students in an entering class will take the following five management courses together:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.662.611</td>
<td>Accounting and Finance (fall)</td>
<td></td>
</tr>
<tr>
<td>EN.662.651</td>
<td>Marketing Communication and Strategy (spring)</td>
<td></td>
</tr>
<tr>
<td>EN.662.632</td>
<td>Business Law and Intellectual Property (spring or Intersession)</td>
<td></td>
</tr>
<tr>
<td>EN.662.642</td>
<td>Management and Leadership (spring)</td>
<td></td>
</tr>
<tr>
<td>EN.662.692</td>
<td>Venture Planning to New Venture Creation (fall)</td>
<td></td>
</tr>
</tbody>
</table>

In addition, all MSEM students are required to attend the MSEM Seminar (EN.662.811 M.S. in Engineering Management Seminar/EN.662.812 M.S. in Engineering Management (MSEM) Seminar) course while enrolled in the program. This will meet weekly and addresses three important content areas: Innovation and design thinking; personal skills and development especially in the communication arena; and talks with practicing engineering managers. The Engineering Management program reserves the right to change the list of eligible courses at its discretion.

Technical Concentrations

In addition to fulfilling the management concentration requirements, MSEM students must complete the requirements for one of fourteen technical concentrations. These are:

- Biomaterials
- Civil Engineering
- Communications Science
- Computer Science
- Fluid Mechanics
- Materials Science and Engineering
- Mechanical Engineering
- Mechanics and Materials
- Nano-Biotechnology
- Nanomaterials and Nanotechnology
- Operations Research
- Probability and Statistics
- Smart Product and Device Design
- Environmental Systems Analysis, Economics and Public Policy

Biomaterials

(Sponsored by the Department of Materials Science & Engineering (p. 841))

Prerequisites

- UG calculus, chemistry, biology, physics and introductory biomaterials course equivalent to EN.510.316 Biomaterials I

Required Courses (3)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.606</td>
<td>Chem Bio Properties/Mat</td>
</tr>
<tr>
<td>EN.510.607</td>
<td>Biomaterials II</td>
</tr>
<tr>
<td>EN.510.621</td>
<td>Biomolecular Materials I - Soluble Proteins and Amphiphiles</td>
</tr>
</tbody>
</table>

Substitutions for required courses can be made at the advisor’s discretion.

Electives (2)

- Electives should be related to Materials Science and Engineering and must be approved by the DMSE graduate committee
- See list of pre-approved elective courses or courses off list by petition

List of Pre-approved Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.400</td>
<td>Introduction to Ceramics</td>
</tr>
<tr>
<td>EN.510.403</td>
<td>Materials Characterization</td>
</tr>
<tr>
<td>EN.510.405</td>
<td>Materials Science of Energy Technologies</td>
</tr>
<tr>
<td>EN.510.422</td>
<td>Micro and Nano Structured Materials &amp; Devices</td>
</tr>
<tr>
<td>EN.510.426</td>
<td>Biomolecular Materials I - Soluble Proteins and Amphiphiles</td>
</tr>
<tr>
<td>EN.510.428</td>
<td>Material Science Laboratory I</td>
</tr>
<tr>
<td>EN.510.429</td>
<td>Materials Science Laboratory II</td>
</tr>
<tr>
<td>EN.510.430</td>
<td>Biomaterials Lab</td>
</tr>
<tr>
<td>EN.510.431</td>
<td>Biocompatibility of Materials</td>
</tr>
<tr>
<td>EN.510.456</td>
<td>Introduction to Surface Science</td>
</tr>
<tr>
<td>EN.510.604</td>
<td>Mechanical Properties of Materials</td>
</tr>
<tr>
<td>EN.510.605</td>
<td>Electrical, Optical and Magnetic Properties of Materials</td>
</tr>
<tr>
<td>EN.510.606</td>
<td>Chem Bio Properties/Mat</td>
</tr>
<tr>
<td>EN.510.607</td>
<td>Biomaterials II</td>
</tr>
<tr>
<td>EN.510.608</td>
<td>Electrochemistry</td>
</tr>
<tr>
<td>EN.510.611</td>
<td>Solid State Physics</td>
</tr>
<tr>
<td>EN.510.612</td>
<td>Solid State Physics</td>
</tr>
<tr>
<td>EN.510.619</td>
<td>Biopolymers Synthesis</td>
</tr>
<tr>
<td>EN.510.624</td>
<td>X-Ray Scattering, Diffraction and Imaging</td>
</tr>
<tr>
<td>EN.510.657</td>
<td>Materials Science of Thin Films</td>
</tr>
<tr>
<td>EN.510.665</td>
<td>Adv Tpcs Thermodymanics</td>
</tr>
</tbody>
</table>

Courses not on this list can be used at the advisor’s discretion.
Civil Engineering  
(Sponsored by the Department of Civil Engineering (p. 726))

The Civil Engineering concentration for the Master of Science in Engineering Management consists of five courses, with the following guidelines:

### Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.560.730</td>
<td>Finite Element Methods</td>
<td></td>
</tr>
</tbody>
</table>

Substitutions for required courses can be made at the advisor’s discretion.

### Elective Courses

- Any two courses from 560.6xx or above, or 565.6xx or above (excluding seminar)

Communications Science  
(Sponsored by the Department of Electrical & Computer Engineering (p. 763))

Students may select any combination of 5 courses in communications and related fields from the list below.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.520.401</td>
<td>Basic Communication</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.410</td>
<td>Fiber Optics &amp; Devices</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.435</td>
<td>Digital Signal Processing</td>
<td>4</td>
</tr>
<tr>
<td>EN.520.447</td>
<td>Information Theory</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.465</td>
<td>Digital Communications I</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.619</td>
<td>Optical Communications</td>
<td></td>
</tr>
<tr>
<td>EN.520.646</td>
<td>Wavelets &amp; Filter Banks</td>
<td></td>
</tr>
<tr>
<td>EN.520.651</td>
<td>Random Signal Analysis</td>
<td></td>
</tr>
<tr>
<td>EN.520.652</td>
<td>Filtering &amp; Smoothing</td>
<td></td>
</tr>
<tr>
<td>EN.520.666</td>
<td>Information Extraction</td>
<td></td>
</tr>
<tr>
<td>EN.520.735</td>
<td>Sensory Information Processing</td>
<td></td>
</tr>
</tbody>
</table>

Substitutions for required courses can be made at the advisor’s discretion.

Computer Science  
(Sponsored by the Department of Computer Science (p. 737))

### Curricular Requirements

- Any five regular graduate courses approved by the advisor, 400-level or higher, from the Department of Computer Science, not including the senior thesis. Three 1-credit graduate courses may be combined to constitute one regular graduate course.

Fluid Mechanics  
(Sponsored by the Department of Mechanical Engineering (p. 860))

Any five courses in Fluid Mechanics or closely related discipline, at the 400-level or higher, as approved by the Faculty advisor. At least two of the required technical courses must be at the 600-level or higher.

Materials Science & Engineering  
(Sponsored by the Department of Materials Science & Engineering (p. 841))

Prerequisites

- UG calculus, chemistry and physics; biology is recommended

### Required Courses (1)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.601</td>
<td>Structure of Materials</td>
<td></td>
</tr>
</tbody>
</table>

Substitutions for required courses can be made at the advisor’s discretion.

Electives (4)

- See list of pre-approved elective courses or courses off list by petition

Recommended Structure

- Electives:

  **List of Pre-approved Electives**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.400</td>
<td>Introduction to Ceramics</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.403</td>
<td>Materials Characterization</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.405</td>
<td>Materials Science of Energy Technologies</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.422</td>
<td>Micro and Nano Structured Materials &amp; Devices</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.426</td>
<td>Biomolecular Materials I - Soluble Proteins and Amphiphiles</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.428</td>
<td>Material Science Laboratory I</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.429</td>
<td>Materials Science Laboratory II</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.430</td>
<td>Biomaterials Lab</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.431</td>
<td>Biocompatibility of Materials</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.456</td>
<td>Introduction to Surface Science</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.604</td>
<td>Mechanical Properties of Materials</td>
<td></td>
</tr>
<tr>
<td>EN.510.605</td>
<td>Electrical, Optical and Magnetic Properties of Materials</td>
<td></td>
</tr>
<tr>
<td>EN.510.606</td>
<td>Chem Bio Properties/Mat</td>
<td></td>
</tr>
<tr>
<td>EN.510.607</td>
<td>Biomaterials II</td>
<td></td>
</tr>
<tr>
<td>EN.510.608</td>
<td>Electrochemistry</td>
<td></td>
</tr>
<tr>
<td>EN.510.611</td>
<td>Solid State Physics</td>
<td></td>
</tr>
<tr>
<td>EN.510.612</td>
<td>Solid State Physics</td>
<td></td>
</tr>
<tr>
<td>EN.510.619</td>
<td>Biopolymers Synthesis</td>
<td></td>
</tr>
<tr>
<td>EN.510.624</td>
<td>X-Ray Scattering, Diffraction and Imaging</td>
<td></td>
</tr>
<tr>
<td>EN.510.657</td>
<td>Materials Science ofThin Films</td>
<td></td>
</tr>
</tbody>
</table>

Alternative selections can be made at the advisor’s discretion.

Mechanical Engineering  
(Sponsored by the Department of Mechanical Engineering (p. 860))

### Required Courses

Any five courses in Mechanical Engineering or closely related discipline at the 400-level or higher, as approved by the Faculty advisor. At least two of the required technical courses must be at the 600-level or higher.

Alternative selections can be made at the advisor’s discretion.

Mechanics and Materials  
(Sponsored jointly by the Department of Mechanical Engineering (p. 860) and the Department of Materials Science & Engineering (p. 841))
Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.601</td>
<td>Structure of Materials</td>
<td></td>
</tr>
<tr>
<td>EN.510.604</td>
<td>Mechanical Properties of Materials</td>
<td></td>
</tr>
</tbody>
</table>

Substitutions for required courses can be made at the advisor's discretion.

Elective Courses

Any two (2) of the following courses, approved by the faculty advisor:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.403</td>
<td>Materials Characterization</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.428</td>
<td>Material Science Laboratory I</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.405</td>
<td>Mechanics of Advanced Engineering Structures</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.414</td>
<td>Computer-Aided Design</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.416</td>
<td>Advanced Mechanical Design</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.418</td>
<td>Aerospace Structures &amp; Materials</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.454</td>
<td>Manufacturing Engineering</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.602</td>
<td>Thermodynamics of Materials</td>
<td></td>
</tr>
<tr>
<td>EN.510.603</td>
<td>Phase Transformations of Materials</td>
<td></td>
</tr>
<tr>
<td>EN.530.612</td>
<td>Computational Solid Mechanics</td>
<td></td>
</tr>
</tbody>
</table>

Alternative selections can be made at the advisor's discretion.

Nano-Biotechnology

(Sponsored by the Department of Materials Science & Engineering (p. 841))

Prerequisites

- UG calculus, chemistry, biology, physics and introductory biomaterials course equivalent to EN.510.316

Required Courses (3)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.422</td>
<td>Micro and Nano Structured Materials &amp; Devices</td>
<td>3</td>
</tr>
<tr>
<td>EN.670.607</td>
<td>Biomaterials II (PR: EN.510.316 or permission)</td>
<td>3</td>
</tr>
<tr>
<td>EN.670.619</td>
<td>Fundamental Physics and Chemistry of Nanomaterials</td>
<td>3</td>
</tr>
</tbody>
</table>

Substitutions for required courses can be made at the advisor's discretion.

Electives (3)

- Electives should be related to Materials Science and Engineering and must be approved by the DMSE graduate committee
- See list of pre-approved elective courses or courses off list by petition

Recommended Structure

<table>
<thead>
<tr>
<th>Fall Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.422</td>
<td></td>
</tr>
<tr>
<td>EN.670.607</td>
<td></td>
</tr>
<tr>
<td>EN.670.619</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits: 3

List of Pre-approved Electives

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>EN.510.400</td>
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<td>EN.510.405</td>
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<td>EN.510.422</td>
<td>Micro and Nano Structured Materials &amp; Devices</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.426</td>
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<td>EN.510.429</td>
<td>Materials Science Laboratory II</td>
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<tr>
<td>EN.510.430</td>
<td>Biomaterials Lab</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.431</td>
<td>Biocompatibility of Materials</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.456</td>
<td>Introduction to Surface Science</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.604</td>
<td>Mechanical Properties of Materials</td>
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</tr>
<tr>
<td>EN.510.605</td>
<td>Electrical, Optical and Magnetic Properties of Materials</td>
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<tr>
<td>EN.510.606</td>
<td>Chem Bio Properties/Mat</td>
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<tr>
<td>EN.510.607</td>
<td>Biomaterials II</td>
<td></td>
</tr>
<tr>
<td>EN.510.608</td>
<td>Electrochemistry</td>
<td></td>
</tr>
<tr>
<td>EN.510.611</td>
<td>Solid State Physics</td>
<td></td>
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<td>X-Ray Scattering, Diffraction and Imaging</td>
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<tr>
<td>EN.510.657</td>
<td>Materials Science of Thin Films</td>
<td></td>
</tr>
<tr>
<td>EN.510.665</td>
<td>Adv Tpcs Thermodymanics</td>
<td></td>
</tr>
</tbody>
</table>

Alternative selections can be made at the advisor's discretion.

Nanomaterials and Nanotechnology

(Sponsored by the Department of Materials Science & Engineering (p. 841))

Prerequisites

- UG calculus, chemistry, and physics

Required Courses (2)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.422</td>
<td>Micro and Nano Structured Materials &amp; Devices</td>
<td>3</td>
</tr>
<tr>
<td>EN.670.619</td>
<td>Fundamental Physics and Chemistry of Nanomaterials</td>
<td>3</td>
</tr>
</tbody>
</table>

Substitutions for required courses can be made at the advisor's discretion.

Electives (3)

- Electives should be related to Materials Science and Engineering and must be approved by the DMSE graduate committee
- See list of pre-approved elective courses or courses off list by petition

Recommended Structure

<table>
<thead>
<tr>
<th>Fall Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.422</td>
<td>Required: none</td>
</tr>
</tbody>
</table>

Total Credits: 3
Fundamental Physics and Chemistry of Nanomaterials

Electives in Spring: suggest two

See list of pre-approved elective courses or courses off list by petition

3

List of Pre-approved Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.400</td>
<td>Introduction to Ceramics</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.403</td>
<td>Materials Characterization</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.405</td>
<td>Materials Science of Energy Technologies</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.422</td>
<td>Micro and Nano Structured Materials &amp; Devices</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.426</td>
<td>Biomolecular Materials I - Soluble Proteins and Amphiphiles</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.428</td>
<td>Material Science Laboratory I</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.429</td>
<td>Materials Science Laboratory II</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.430</td>
<td>Biomaterials Lab</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.431</td>
<td>Biocompatibility of Materials</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.456</td>
<td>Introduction to Surface Science</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.604</td>
<td>Mechanical Properties of Materials</td>
<td></td>
</tr>
<tr>
<td>EN.510.605</td>
<td>Electrical, Optical and Magnetic Properties of Materials</td>
<td></td>
</tr>
<tr>
<td>EN.510.606</td>
<td>Chem Bio Properties/Mat</td>
<td></td>
</tr>
<tr>
<td>EN.510.607</td>
<td>Biomaterials II</td>
<td></td>
</tr>
<tr>
<td>EN.510.608</td>
<td>Electrochemistry</td>
<td></td>
</tr>
<tr>
<td>EN.510.611</td>
<td>Solid State Physics</td>
<td></td>
</tr>
<tr>
<td>EN.510.612</td>
<td>Solid State Physics</td>
<td></td>
</tr>
<tr>
<td>EN.510.619</td>
<td>Biopolymers Synthesis</td>
<td></td>
</tr>
<tr>
<td>EN.510.624</td>
<td>X-Ray Scattering, Diffraction and Imaging</td>
<td></td>
</tr>
<tr>
<td>EN.510.657</td>
<td>Materials Science of Thin Films</td>
<td></td>
</tr>
<tr>
<td>EN.510.665</td>
<td>Adv Tpcs Thermodynamics</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits: 3

Elective Courses (2)

Any two courses from the following list, or a substitution as approved by the student's concentration advisor. As course offerings vary over time, an updated list of acceptable courses will be maintained on the MSEM program website.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.493</td>
<td>Economic Foundations For Public Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.496</td>
<td>Urban and Environmental Systems</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.662</td>
<td>Optimization Algorithms</td>
<td></td>
</tr>
<tr>
<td>EN.511.426</td>
<td>Introduction to Stochastic Processes</td>
<td>4</td>
</tr>
<tr>
<td>EN.511.427</td>
<td>Stochastic Processes and Applications to Finance</td>
<td>4</td>
</tr>
<tr>
<td>EN.511.433</td>
<td>Monte Carlo Methods</td>
<td>3</td>
</tr>
<tr>
<td>EN.511.463</td>
<td>Network Models in Operations Research</td>
<td>4</td>
</tr>
</tbody>
</table>

Alternative selections can be made at the advisor's discretion.

Probability and Statistics

(Sponsored by the Department of Applied Mathematics & Statistics (p. 666))

Admissions Requirements

- One upper-division undergraduate course in probability (equivalent to EN.550.420 Introduction to Probability)
- One upper-division undergraduate course in mathematical statistics (equivalent to EN.550.430 Introduction to Statistics)

Curricular Requirements

Any five (5) of the following courses, approved by the faculty advisor:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.550.413</td>
<td>Applied Statistics and Data Analysis</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.426</td>
<td>Introduction to Stochastic Processes</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.433</td>
<td>Monte Carlo Methods</td>
<td>3</td>
</tr>
<tr>
<td>EN.550.434</td>
<td>Nonparametric Statistics</td>
<td>3</td>
</tr>
<tr>
<td>EN.550.436</td>
<td>Data Mining</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.437</td>
<td>Statistical Learning With Applications</td>
<td>3</td>
</tr>
<tr>
<td>EN.550.439</td>
<td>Time Series Analysis</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.620</td>
<td>Probability Theory I</td>
<td></td>
</tr>
<tr>
<td>EN.550.630</td>
<td>Statistical Theory</td>
<td></td>
</tr>
<tr>
<td>EN.550.631</td>
<td>Statistical Theory II</td>
<td></td>
</tr>
<tr>
<td>EN.550.635</td>
<td>Topics in Bioinformatics</td>
<td></td>
</tr>
<tr>
<td>EN.550.730</td>
<td>Topics In Statistics</td>
<td></td>
</tr>
</tbody>
</table>

Additional Requirements

- An overall GPA of 3.0 must be maintained in courses used to meet the program's technical requirements. At most two course grades of C or C+ are allowed to be used, and the rest of the course grades must be B- or better.
- Students must satisfy the department's graduate student computing requirement.

Prerequisites

Calculus-based background in Probability and Statistics. Students wishing to strengthen their background in this area may enroll in EN.550.420 Introduction to Probability and/or EN.550.430 Introduction to Statistics, but these courses may not be used in fulfillment of this concentration's requirements.

Required Courses (3)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.495</td>
<td>Mathematical Foundations For Public Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>EN.550.661</td>
<td>Foundations of Optimization</td>
<td></td>
</tr>
<tr>
<td>EN.570.497</td>
<td>Risk and Decision Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>
• With advisor’s approval, one non-departmental course containing appropriate mathematical or statistical content can be counted to satisfy the five course requirement.

**Smart Product and Device Design**  
(*Sponsored jointly by the Department of Mechanical Engineering (p. 860) and the Department of Electrical & Computer Engineering (p. 763)*)

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.530.646</td>
<td>Robot Devices, Kinematics, Dynamics, and Control</td>
<td></td>
</tr>
<tr>
<td>EN.530.414</td>
<td>Computer-Aided Design</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.491</td>
<td>CAD Design of Digital VLSI Systems I (Seniors/Grads)</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.421</td>
<td>Mechatronics</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.448</td>
<td>Electronics Design Lab</td>
<td>3</td>
</tr>
</tbody>
</table>

Substitutions for required courses can be made at the advisor’s discretion.

**Elective Courses**

Any two (2) courses approved by the faculty advisor.

**Environmental Systems Analysis, Economics and Public Policy**  
(*Sponsored by the Department of Geography & Environmental Engineering (p. 799)*)

**Required Courses (3)**

At least one course from each of the three following groups:

- **Economics** (with calculus)—acceptable courses include EN.570.493 Economic Foundations For Public Decision Making or equivalent. (This requirement may be waived if the student has already had an intermediate microeconomics course accepted by their advisor)
- **Mathematics of Decision Making**—acceptable courses include EN.570.495 Mathematical Foundations For Public Decision Making and EN.570.497 Risk and Decision Analysis
- **Policy**—acceptable courses include EN.570.659 Environmental Policy Analysis and EN.570.607 Energy Policies & Plan Models

Substitutions for required courses can be made at the advisor’s discretion.

**Elective Courses (2)**

Any of the courses listed in the Mandatory list (see Part A above)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.496</td>
<td>Urban and Environmental Systems</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.618</td>
<td>Multiobjective Programming and Planning</td>
<td></td>
</tr>
<tr>
<td>EN.570.676</td>
<td>Stochastic Programming</td>
<td></td>
</tr>
</tbody>
</table>

Other courses in environmental economics, systems, or policy, as approved by the advisor.

**Additional Notes**

- All courses must be approved by the student’s advisor.
- All course must be at the 400-level or above.
Business Law and Intellectual Property introduces participants to the fundamental aspects of law associated with developing and bringing new products to the marketplace. Arranged in modules and taught largely through the case method, the course features the following topics: creating and forming businesses; contracts; intellectual property; principal-agent relations; and product liability. Not only will participants learn the principles associated with each topic, but also they will master the questions and concerns to use when working with legal counsel on these issues in the future. For M.S. in Engineering Management only; no audits.

EN.662.642. Management and Leadership.
Management and Leadership is a case, experiential and research based course intended to introduce participants to issues and solutions related to growing and managing businesses with an emphasis on entrepreneurial enterprises. The course focuses on managerial decision-making and organization building through topics that include planning and managing strategic change; finding competitive advantage; making informed decisions; dealing with uncertainty; negotiating collaborative settlements; managing/leading projects, teams and professionals; networking and forming strategic alliances; valuing differences; creating and maintaining organizational cultures; and devising performance measures. Additionally, participants master aspects of management communication as they address course content. For M.S. in Engineering Management only; graded (not P/F); no audits.
Instructor(s): E. Rice.

This course is designed to introduce students to key marketing, communications, and strategic issues surrounding the process of bringing new products to the marketplace. Through cases, readings, discussion and hands-on team projects, students develop a flexible approach to thinking about marketing problems, maximizing resources and creating strategic solutions. Written and oral work focuses on communicating effectively with target audiences using integrated media and developing interpersonal skills essential for managers, including presenting to a hostile audience, running meetings, listening, and contributing to group decision-making. For M.S. in Engineering Management only; graded (not P/F); no audits.
Instructor(s): E. Rice.

EN.662.692. Venture Planning to New Venture Creation.
Venture Planning requires participants to work in groups to address, design and plan a business solution for an engineering problem with social implications. More specifically, students will work on cross-disciplinary teams to develop a commercially viable new technology. They must select a problem amenable to an engineering solution, investigate the problem, research the issues and potential, develop a design for the technology, investigate the competitive advantage, and create and present a business plan for the idea. Course content will address many of the issues that will be encountered during the process of bringing an idea to fruition. For M.S. in Engineering Management only; graded (not P/F); no audits.
Instructor(s): P. Sheff.

Professional development seminar for engineering management students featuring outside speakers with engineering management experience. For M.S. in Engineering Management only; P/F only; no audits.
Instructor(s): E. Rice; P. Sheff.

Professional development seminar for engineering management students featuring outside speakers with engineering management experience. For M.S. in Engineering Management only; P/F only; no audits.
Instructor(s): E. Rice.

W.P. Carey Minor in Entrepreneurship and Management

The Entrepreneurship & Management (E&M) program offers Johns Hopkins Arts & Sciences, Engineering, and Peabody students a broad array of courses designed to equip them to lead in business, professional, and academic arenas. Some students simply take a course or two. Many choose to fulfill the seven-course E&M minor, pairing it with their engineering, liberal arts, or public health major. The minor’s three core courses, Introduction to Business, Financial Accounting, and Marketing Principles, provide a strong foundation in the fundamentals of entrepreneurial enterprises. Students can then select any three upper-level courses (plus the required work in statistics) to complete the minor or elect to focus further in Accounting and Finance, Business Law, Marketing, Leadership and Organizational Behavior, or Professional Communication.

The minor in entrepreneurship and management focuses on business and management from a multidisciplinary viewpoint, with a quantitative emphasis. The program, part of the Center for Leadership Education, offers students a diversified learning experience that emphasizes the concepts, practices, and skills necessary for effective leadership as managers and entrepreneurs in the public and private sectors.

The primary goal of the program is to provide Hopkins students with the knowledge and skills to become effective leaders and entrepreneurs. Individuals with excellent technical training and abilities often move into management positions or start new ventures. As their careers progress, they will be better prepared for success if they have the ability to understand financial reports, interpret statistical data, organize and effectively lead a team, design strategy, analyze and correct problems in the firm’s operations, and understand the dynamics of the marketplace.

The minor is purposely designed to serve different types of students. The program will help prepare students for entrance to law school, an MBA program, or other graduate school. After graduation, other students will start working in engineering or technical positions, then later move into management or start their own businesses. A third group of students is primarily interested in gaining knowledge to follow more generalized careers in finance and business.

Facilities

The CLE Full-time Faculty and staff offices are located in Whitehead Hall, suites 102, 104 and 105. Part-time Faculty and ESL Specialists offices are located in Maryland 16. Course assistants’ office hours are held in room 104.
Minor in Entrepreneurship and Management

The requirements of the minor in entrepreneurship and management can be downloaded from the Center for Leadership Education’s website under the “W.P. Carey Program in Entrepreneurship and Management” tab (http://eng.jhu.edu/wse/cle/page/em_minor). Students wishing to complete a minor in entrepreneurship and management may also obtain more information from the CLE Faculty Support Staff office located in Whitehead 105.

Core Requirements

1. Statistics - These courses expose students to the foundations of statistics that are used extensively in business decision-making. These topics include correlation, estimation, hypothesis testing, linear regression, prediction, and forecasting. Students may take either two elementary statistics courses or one intermediate/advanced calc-based statistics course, or Business Analytics (661.380).

2. Entrepreneurship and Management Fundamentals - Students must complete three fundamental courses in entrepreneurship and management. These courses are:

   EN.660.105  Introduction to Business  4
   EN.660.203  Financial Accounting  3
   EN.660.250  Principles of Marketing  3

3. Upper-Level Elective Courses in Entrepreneurship and Management - Students must complete three upper level courses in entrepreneurship and management. Courses may be chosen from a number of areas, including:

   Accounting & Finance - These courses educate students about financial concepts, investments, and financial markets. This information is valuable for the entrepreneur starting a new venture, a manager to be effective with a corporation, and management consultants.

   Business Law - These courses educate students about legal issues in business and how the law is used to protect intellectual property.

   Marketing - These courses educate students about the advertising and marketing of products and about how to communicate a wide range of ideas in a business setting; from conveying technical information to making a sales pitch for a new enterprise.

   Leadership & Organizational Behavior - These courses provide knowledge of both general principles and specific practices needed for working effectively with people in an organization. These courses focus on leadership, team building, ethics, and psychology. Courses that may be used to satisfy requirements for the minor are grouped into four categories: accounting/finance, business law, management/leadership, and marketing/communications. Lists of acceptable courses are regularly updated and may be obtained at the Center for Leadership Education office or on the center’s website (http://eng.jhu.edu/wse/cle/page/em_minor).

For current faculty and contact information go to http://eng.jhu.edu/wse/cle/page/our_people

Faculty

Director

Timothy Weihs

Director of CLE, Professor of Materials Science & Engineering

Program Directors

Lawrence Aronhime
Senior Lecturer & Director of Entrepreneurship & Management Program: accounting, finance, entrepreneurship, technology commercialization.

Julie Reiser
Senior Lecturer & Director of The Professional Communication Program: technical communication, oral presentations, research writing, dissertation writing, American literature and critical theory.

Eric Rice
Senior Lecturer & Director of Graduate Programs: organizational behavior, social entrepreneurship, management, negotiation and conflict management, leadership, public speaking, professional writing.

Pamela Sheff
Senior Lecturer & Director of Master of Science in Engineering Management Program: business and technical communication, marketing, public relations, science and scientific writing, oral presentations, higher education in prisons, community-based learning, entrepreneurship.

Full Time Faculty

Bob Graham
Lecturer: entrepreneurship, professional communication, oral presentations.

Illysa Izenberg
Lecturer: engineering management

Leslie Kendrick
Senior Lecturer: marketing strategy, integrated marketing communications, sports marketing, international marketing, internships.

Annette Leps
Senior Lecturer: accounting, finance, management.

Charlotte O'Donnell
Lecturer: oral presentations, professional communication, visual rhetoric.

Keith Quesenberry
Lecturer: integrated marketing communications, advertising, social media marketing, online blogging and copywriting, creative strategy, digital media, communications law and ethics.

William Smedick
Senior Lecturer: leadership theory, leadership in teams.

Part Time Faculty

Michael Agronin
Lecturer: new product development.

Laura Davis
Lecturer: Professional communication for ESL and Oral presentations for ESL.

Marci DeVries
Lecturer: marketing.

Kevin Dungey
Senior Lecturer: oral presentations.
EN.660.103. The Promise and Peril of Microfinance. 1 Credit.
Microcredit, microlending and microfinance are relatively new tools, potentially useful to help alleviate poverty, contribute to local economies, earn a living and make profit. The promise and publicity has generated practices, experiments and businesses worldwide; microcredit even generated a Nobel Prize for Muhammad Yunus and the Grameen Bank in 2006. So too, the spread of the concept has produced excesses and controversy and more recently, scholarship in the practices and ideas. In this course we will explore the theory, practice and possibilities of the ideas with emphasis on both the developing world and western economies. The course uses lecture, discussion, case study and community investigation to explore the content. No audits. Instructor(s): E. Rice.

EN.660.105. Introduction to Business. 4 Credits.
This course is designed as an introduction to the terms, concepts, and values of business and management. The course comprises three broad categories: the economic, financial, and corporate context of business activities; the organization and management of business enterprises; and, the marketing and production of goods and services. Topic specific readings, short case studies and financial exercises all focus on the bases for managerial decisions as well as the long and short-term implications of those decisions in a global environment. No audits. Instructor(s): L. Aronhime
Area: Social and Behavioral Sciences Writing Intensive.

EN.660.203. Financial Accounting. 3 Credits.
The course in Financial Accounting is designed for anyone who could be called upon to analyze and/or communicate financial results and/or make effective financial decisions in a for-profit business setting. No prior accounting knowledge or skill is required for successful completion of this course. Because accounting is described as the language of business, this course emphasizes the vocabulary, methods, and processes by which all business transactions are communicated. The accounting cycle, basic business transactions, internal controls, and preparation and understanding of financial statements including balance sheets, statements of income and cash flows are covered. No audits. Instructor(s): A. Leps; L. Aronhime; S. Furlong.

EN.660.205. Business Law I. 3 Credits.
This course is designed for the student who is interested in either (a) a broad knowledge of law as it relates to modern business, or (b) a survey of many business related aspects of law with a view to further legal studies. The course will involve reviewing and analyzing statutory and case law covering a variety of substantive subject areas including civil procedure, personal and subject matter jurisdiction, intentional torts, negligence, criminal law, contract law, consumer law and parts of the Uniform Commercial Code. This course, together with Business Law II, will provide a complete, self-contained, well-rounded, study of business law, or will provide a foundation for further legal study. No audits. Instructor(s): A. Leps; L. Aronhime; S. Furlong.

EN.660.206. Business Law II. 3 Credits.
Building on the material from Business Law I, topics examined include entrepreneurship, business entities and business formation, principles of agency, real property, personal property, bailments, bankruptcy, secured transactions, employment discrimination, business financing, investor protection, antitrust and environmental law.
Prerequisites: EN.660.205
Area: Social and Behavioral Sciences.
EN.660.220. Principles of Management. 3 Credits.
This course introduces the student to the management process. It
examines the role of the manager from a traditional and contemporary
perspective while applying decision-making and critical thinking
skills to the challenges facing managers in today’s globally-diverse
environment. Recommended Course Background: EN.660.105.

EN.660.231. Case Studies-Bus Ethics. 3 Credits.
This course is designed as a workshop using case studies to introduce
students to the ethical concepts that are relevant to resolve moral
issues in contemporary business and social settings - both global and
personal in nature.
Area: Humanities.

EN.660.235. Leading Change. 3 Credits.

EN.660.250. Principles of Marketing. 3 Credits.
This course explores the role of marketing in society and within the
organization. It examines the process of developing, pricing, promoting
and distributing products to consumer and business markets and shows
how marketing managers use the elements of the marketing mix to
gain a competitive advantage. Through interactive, application-oriented
exercises, case videotapes, a guest speaker (local marketer), and a
group project, students will have ample opportunity to observe key
marketing concepts in action. The group project requires each team to
research the marketing plan for an existing product of its choice. Teams
will analyze what is currently being done by the organization, choose
one of the strategic growth alternatives studied, and recommend why
this alternative should be adopted. The recommendations will include
how the current marketing plan will need to be modified in order to
implement this strategy and will be presented to the instructor in
written form and presented to the class. No audits.
Instructor(s): K. Manns; K. Quesenberry; L. Kendrick; M. DeVries; T.
Jones.

EN.660.300. Managerial Finance. 3 Credits.
This course is designed to familiarize the student with the basic
concepts and techniques of financial management practice. The course
begins with a review of accounting, securities markets, and the finance
function. The course then moves to discussion of financial planning,
financial statement analysis, time value of money, interest rates and
bond valuation, stock valuation, and concludes with capital budgeting
and project analysis. A combination of classroom discussions, problem
sets, and case studies will be used. Note: not open to students who
have taken EN.660.302 Corporate Finance. No audits.
Prerequisites: EN.660.203 or EN.660.105.

EN.660.303. Managerial Accounting. 3 Credits.
This course introduces management accounting concepts and
objectives including planning, control, and the analysis of sales,
expenditures, and profits. Major topics include cost behavior, cost
allocation, product costing (including activity based costing), standard
costing and variance analysis, relevant costs, operational and capital
budgeting, and performance measurement. Note: not open to students
who have taken EN.660.204 Managerial Accounting. No audits.
Prerequisites: EN.660.203
Instructor(s): A. Leps.

EN.660.304. Financial Statement Analysis. 3 Credits.
This course is designed to increase a student’s ability to read and
interpret financial statements and related information under both GAAP
and IFRS (International Financial Reporting Standards). In addition to a
review of the basic financial statements and accounting principles, the
course will use industry and ratio analysis in addition to benchmarking
and modeling techniques to encourage students to think in a more
creative way when analyzing historic information or when forecasting
financial statements. Students will access firm profitability and risk,
value assets and use spreadsheet models for financial forecasting and
decision making. No audits.
Prerequisites: EN.660.203 Financial Accounting
Instructor(s): A. Leps.

EN.660.305. Intellectual Property Law. 3 Credits.
This course explores the acquisition, protection and commercialization
of intellectual property, such as patents, trademarks, copyrights and
trade secrets, and its impact on businesses and organizations
Prerequisites: PREREQ: EN.660.205 Business Law I
Area: Social and Behavioral Sciences.

EN.660.306. Law and the Internet. 3 Credits.
Sometimes called “Cyber law,” this course uses the case study method
to examine some of the most significant and compelling legal aspects,
issues, and concerns involved with operating a business enterprise
in an Internet environment. Some of the issues likely to be covered
include jurisdiction, resolution of online disputes, trademarks, copyright,
licenses, privacy, defamation, obscenity, the application of traditional
concepts of tort liability to an Internet context, computer crime,
information security, taxation, international considerations, and an
analysis of other recent litigation and/or statutes. No audits.
Prerequisites: Prerequisite: EN.660.205
Area: Social and Behavioral Sciences.

EN.660.307. Business Law II. 3 Credits.
Building on the material from Business Law I, topics examined include
entrepreneurship, business entities and business formation, principles
of agency, real property, personal property, bailments, bankruptcy,
secured transactions, employment discrimination, business financing,
investment protection, antitrust and environmental law. Not open to
students who have taken EN.660.206 Business Law II. No audits.
Prerequisites: EN.660.205 Business Law I
Area: Social and Behavioral Sciences.

EN.660.308. Business Law I. 3 Credits.
This course is designed to provide students an introduction to legal
reasoning and analysis. Content distinguishes forms of business,
civil versus criminal law, and agency principles; intellectual property
concepts, contract Law, the UCC (Uniform Commercial Code) and
consumer protection are explored and discussed in the context of
assigned legal cases which are intended to develop a student’s ability
to analyze and apply law. Note: not open to students who have taken
660.205 Business Law I. No audits.
Prerequisites: EN.660.105
Instructor(s): D. Fisher; W. Rakes
Area: Social and Behavioral Sciences.
EN.660.310. Case Studies in Business Ethics. 3 Credits.
This course is designed as a workshop using case studies to introduce students to the ethical concepts that are relevant to resolve moral issues in contemporary business and social settings—both global and personal in nature. Students will learn the reasoning and analytical skills needed to apply ethical concepts to their own decision-making, to identify moral issues involved in the management of specific problem areas in business and society, and to understand the social and natural environments which give rise to moral issues. The course focus is on performance articulated by clear reasoning and effective verbal and written communication concerning ethical issues in business and society. Not open to students who have taken EN.660.231 Case Studies in Business Ethics. No audits.
Prerequisites: EN.660.105
Instructor(s): M. Franceschini
Area: Humanities.

EN.660.311. Law and the Internet. 3 Credits.
Sometimes called “Cyber law,” this course uses the case study method to examine some of the most significant and compelling legal aspects, issues, and concerns involved with operating a business enterprise in an Internet environment. Some of the issues likely to be covered include jurisdiction, resolution of online disputes, trademarks, copyright, licenses, privacy, defamation, obscenity, the application of traditional concepts of tort liability to an Internet context, computer crime, information security, taxation, international considerations, and an analysis of other recent litigation and/or statutes. Note: not open to students who have taken EN.660.306 Law and the Internet. No audits.
Area: Social and Behavioral Sciences.

EN.660.321. Managing & Marketing Social Enterprises. 3 Credits.
This course focuses on preparing students to engage in and lead social enterprises as we explore the options for creating social value. Using a combination of lecture, case study and project work, we investigate both for-profit and non-profit models for creating social value with special emphasis on the non-profit community. Particular emphasis is placed on the management challenges of social enterprises such as creating and conveying their message, options for dealing with finances, relationships within communities, and methods for building constituencies. Additionally, we address critical issues such as measures of success, scale, replication and failure. The class requires contact with organizations in the community as well as one long weekend away from campus. Recommended Course Background: EN.660.105 or EN.660.333 or EN.660.220/EN.660.340. No audits.
Writing Intensive.

EN.660.331. Leadership in Teams. 3 Credits.
This course will allow students to develop the analytical skills needed to effectively lead and work in teams. Students will learn tools and techniques for problem solving, decision-making, conflict resolution, task management, communications, and goal alignment in team settings. They will also learn how to measure team dynamics and performance, and assess methods for building and sustaining high-performance teams. Students will also explore their own leadership, personality and cognitive styles and learn how these may affect their performance in a team. The course will focus on team-based experiential projects and exercises as well as provide opportunities to individually reflect and write about the concepts explored and skills gained throughout the course. No Audits.
Prerequisites: EN.660.332
Instructor(s): W. Smedick.

EN.660.332. Leadership Theory. 3 Credits.
Students will be introduced to the history of Leadership Theory from the “Great Man” theory of born leaders to Transformational Leadership theory of non-positional learned leadership. Transformational Leadership theory postulates that leadership can be learned and enhanced. The course will explore the knowledge base and skills necessary to be an effective leader in a variety of settings. Students will assess their personal leadership qualities and develop a plan to enhance their leadership potential. Recommended Course Background: EN.660.105 or EN.660.220/EN.660.340. No audits.
Instructor(s): W. Smedick
Area: Social and Behavioral Sciences
Writing Intensive.

EN.660.333. Leading Change. 3 Credits.
In this course, we will use a combination of presentation, discussion, experiential learning, research and self-reflection to investigate issues surrounding leadership and change in communities and the economy. While considering both for-profit and non-profit entities, we will pursue topics including understanding and using theories of change; finding competitive advantage and creating strategic plans; making decisions, even in uncertain times; valuing differences; employing leadership styles; giving and receiving feedback; understanding employee relations; creating performance measures; and developing organizational cultures; and using the dynamics of influence. Not open to students who have taken EN.660.235. No audits. Recommended Course Background: EN.660.105
Writing Intensive.

EN.660.335. Negotiation/Conflict. 3 Credits.
The focus of this class is the nature and practice of conflict resolution and negotiation within and between individuals and organizations. The primary format for learning in this class is structured experimental exercises designed to expose students to different aspects of negotiation and to build tangible skills through interpersonal exchange. While some class time is devoted to presentations on theories and approaches, the class method primarily relies on feedback from fellow classmates on their observations of negotiation situations and on personal reflections by students after each structured experience. Topics include conflict style, negotiation, and group conflict. No audits. Recommended Course Background: EN.660.105, an additional course in the Entrepreneurship and Management Program or in the social sciences.
Instructor(s): E. Rice.

EN.660.336. Community Engineering: Interdisciplinary Problem Solving-Community Based Learning. 3 Credits.
So many big and seemingly intractable problems inhibit progress and diminish quality of life especially in and around urban communities. Surely there are ways to begin to tackle some of these problems, if we approach them from a multi-disciplinary perspective. This course provides that opportunity as students, who work primarily in teams, apply theory and ingenuity to investigate problems, propose solutions or invent devices that address some of these problems. Class time is spent in lecture, discussion, and applied community projects to master content. Time will be spent participating on teams and working in community organizations in addition to class.
Area: Social and Behavioral Sciences
Writing Intensive.
EN.660.337. Dead Leaders Society: Historical Perspectives on Leadership. 3 Credits.

Students will analyze how the political, economic, cultural and social contexts of prior centuries shaped the styles and effectiveness of its leadership. Some giants of history like Cleopatra, Eleanor of Aquitaine, King Richard the Lionhearted, Elizabeth I, Winston Churchill and Abraham Lincoln will be analyzed for their contributions to their own era’s as well as modern concepts of leadership. In addition, lesser-known leaders such as Katherine Swnynford, Mary Anning and Elizabeth Philpot, Llywelyn ab Gruffydd and Simon de Montfort will be analyzed for their contributions to modern leadership behaviors, styles and effectiveness. No audits. Recommended Course Background: EN.660.332 or EN.660.331
Prerequisites: EN.660.331 or EN.660.332.

EN.660.340. Principles of Management. 3 Credits.

This course introduces the student to the management process. The course takes an integrated approach to management by examining the role of the manager from a traditional and contemporary perspective while applying decision-making and critical-thinking skills to the challenges facing managers in today’s globally diverse environment. The course examines the techniques for controlling, planning, organizing resources and leading the workforce. Not open to students who have taken EN.660.220 Principles of Management. No audits.
Prerequisites: EN.660.105
Instructor(s): J. Reiter.

EN.660.341. Business Process. 3 Credits.

This course focuses on both quantitative and qualitative analytical skills and models essential to operations process design, management, and improvement in both service and manufacturing oriented companies. The objective of the course is to prepare the student to play a significant role in the management of a world-class company which serves satisfied customers through empowered employees, leading to increased revenues and decreased costs. The material combines managerial issues with both technical and quantitative aspects. Practical applications to business organizations are emphasized. No audits.
Prerequisites: EN.660.105 OR EN.660.241 IT Mgmt.
Writing Intensive.

EN.660.351. Product and Brand Management. 3 Credits.

Consumers love those little bits of crunchy orange goodness called Cheetos®. But when Frito-Lay decided that consumers might also like Cheetos®-flavored lip balm, they reacted with a hailstorm of derision. This may be proof that our free market economy is just a rudderless, if hilarious, contraption. More likely, Cheetos® Lip Balm was an example of the challenges marketers face in product and brand management. This course is a conceptual and practical exploration of how marketers deliver products and build brands that translate into increased revenues and decreased costs. The material combines managerial issues with both technical and quantitative aspects. Practical applications to business organizations are emphasized. No audits.
Prerequisites: EN.660.105 OR EN.660.241 IT Mgmt.
Writing Intensive.

EN.660.354. Consumer Behavior. 3 Credits.

This course will explore how and why consumers make choices in the marketplace—the “buy-ology” of their behavior. We will learn the psychological, social, anthropological, and economic underpinnings of consumer behavior as well as the brain chemistry that affects choices in the marketplace. Students will learn how consumer behavior can and is influenced and the sometimes-unintended consequences of marketing campaigns designed to produce a particular behavior. Students will analyze how consumers solve problems, assess tradeoffs and make choices; how they integrate and react to retail surroundings, smells, product displays, brand, pricing strategies, social pressures, market structures and a myriad of other influences and motivations to buy. Students will also explore how marketers incorporate what is known about consumer behavior into advertising and promotional campaigns, market segmentation and positioning, pricing strategies and new product introductions. Student experiential projects will include ethnographic observations and analyses of real-world consumer behavior. No audits.
Prerequisites: EN.660.250.

EN.660.355. Sports Marketing. 3 Credits.

This course will allow students to apply marketing principles and concepts to the sports marketing environment while gaining an understanding of how event sponsorships, endorsements, licensing and naming rights are used to achieve business objectives. Through case studies and a group project, students will be exposed to a broad range of sports entities including professional sports teams, governing organizations and sports media.
Prerequisites: EN.660.250 Principles of Marketing
Instructor(s): L. Kendrick.

EN.660.357. Copywriting and Creative Strategy. 3 Credits.

Uncover the process of creative thinking for innovation and conceiving “big ideas” in marketing. Students will be exposed to creative theory and practice as they select a consumer product and determine strategic market positioning, target demographics, media vehicles and creative guidelines. Then students will learn the craft of advertising copywriting for print, broadcast and digital media as they develop finished creative executions for the chosen organization that all build to a complete integrated marketing campaign. Co-listed with EN.661.357. No audits.
Prerequisites: EN.660.250
Instructor(s): K. Quesenberry
Writing Intensive.
EN.660.358. International Marketing. 3 Credits.
This course covers product, pricing, promotion, distribution, market research, organization and implementation and control policies relating to international marketing. It also explores the economic, cultural, political and legal aspects of international marketing. Through interactive and application-oriented assignments and cases, students will gain hands-on experience in analyzing and developing marketing strategies for organizations that market both consumer and business products/services internationally. A group project will involve the development of an international marketing plan for a specific product. One or more local international marketers will be invited to speak to the class. No audits.
Prerequisites: EN.660.250
Instructor(s): L. Kendrick.

EN.660.401. Advanced Corporate Finance. 3 Credits.
The advanced course in corporate finance is designed to provide the upper level business student with a background in the more complex applications of financial management practice. Students will be exposed to advanced financial management concepts through a pedagogy combining classroom instruction, problem solution, business case analysis and work on a group project with coverage of the topics of capital markets, risk and portfolio theory, cost of capital, raising capital, capital structure, corporate dividend policy, real property valuation, merger and acquisition analysis, working capital management, commercial leasing strategies, international finance and derivatives analysis. No audits.
Prerequisites: EN.660.302 Corporate Finance OR EN.660.300 Managerial Finance OR 180.366 Corporate Finance.

EN.660.404. Business Law II. 3 Credits.
Building on the material from Business Law I, topics examined include entrepreneurship, business entities and business formation, principles of agency, real property, personal property, bailments, bankruptcy, secured transactions, employment discrimination, business financing, investor protection, antitrust and environmental law. No audits.
Prerequisites: Not open to students who have taken 660.206 or 660.307 Business Law II.
Instructor(s): D. Fisher
Area: Social and Behavioral Sciences.

EN.660.405. Intellectual Property Law. 3 Credits.
This course explores the acquisition, protection and commercialization of intellectual property, such as patents, trademarks, copyrights and trade secrets, and its impact on businesses and organizations. The course addresses critical issues such as the various types of intellectual property, the protection and commercialization of intellectual property by business and legal means, and the valuation of intellectual property. In addition, the tension between exclusive rights in intellectual property and free competition will be discussed throughout this course. Through interactive class discussions and a group project, students will have ample opportunity to develop a better understanding pertaining to the different types of intellectual property and to develop an intellectual property strategic plan for protecting an intellectual property portfolio. Specifically, the group project requires each team to research a selected Maryland based company’s intellectual property, its plan for protection and commercialization and its business goals, products and services. Each team will then analyze how well the company’s current business goals relate to its intellectual property portfolio, and recommend changes to better meet these company’s goals. Not open to students who have taken EN.660.305 Intellectual Property Law. No audits.
Prerequisites: EN.660.205 Business Law I
Area: Social and Behavioral Sciences.

EN.660.410. Computer Science Innovation and Entrepreneurship. 3 Credits.
This course is designed to give students in CS the requisite skills to generate and screen ideas for new venture creation and then prepare a business plan for an innovative technology of their own design. These skills include the ability to incorporate into a formal business case all necessary requirements, including needs identification and validation; business and financial models; and, market strategies and plans. Student teams will present the business plan to an outside panel made up of practitioners, industry representatives, and venture capitalists. In addition, this course functions as the first half of a two course sequence, the second of which will be directed by CS faculty and focus on the actual construction/programming of the business idea.
Prerequisites: Co-requisite: EN.660.321 OR EN.660.421
Instructor(s): L. Aronhime.

EN.660.411. Corporate Strategy and Business Failure. 3 Credits.
The purpose of this course is to bring together theories of corporate strategy and the tools and techniques of strategy consulting. Students will address these in terms of historical case studies where they will have the opportunity to “fix” famous examples of corporate failure. Students will analyze the political, economic, social, and technological contexts of these cases while applying standard tools to the analysis of competing strategic plans.
Prerequisites: EN.660.105.

EN.660.414. Financial Statement Analysis. 3 Credits.
This course is designed to increase a student’s ability to read and interpret financial statements and related information under both GAAP and IFRS (International Financial Reporting Standards). In addition to a review of the basic financial statements and accounting principles, the course will use industry and ratio analysis in addition to benchmarking and modeling techniques to encourage students to think in a more creative way when analyzing historic information or when forecasting financial statements. Students will assess firm profitability and risk, value assets and use spreadsheet models for financial forecasting and decision making. Not open to students who have taken EN.660.304 Financial Statement Analysis. No audits.
Prerequisites: EN.660.203
Instructor(s): A. Leps.

EN.660.420. Marketing Strategy. 3 Credits.
This writing intensive course helps students develop skills in formulating, implementing, and controlling a strategic marketing program for a given product-market entry. Using a structured approach to case analysis, students will learn how to make the kinds of strategic marketing decisions that will have a long-term impact on the organization and support these decisions with quantitative analyses. Through textbook readings, students will learn how to identify appropriate marketing strategies for new, growth, mature, and declining markets and apply these strategies as they analyze a series of marketing cases. The supplementary readings, from a broad spectrum of periodicals, are more applied and will allow students to see how firms are addressing contemporary marketing challenges. In addition to analyzing cases individually, each student will be part of a team that studies a case during the latter half of the semester, developing marketing strategy recommendations, including financial projections, and presenting them to the class. No audits.
Prerequisites: Prereq: EN.660.250
Instructor(s): L. Kendrick
Writing Intensive.
EN.660.450. Advertising & Integrated Marketing Communication. 3 Credits.
This course builds on the promotional mix concepts covered in Principles of Marketing (EN.660.250)—advertising, public relations, sales promotion and personal selling. Students will learn how marketers are changing the ways they communicate with consumers and the ways in which promotional budgets are allocated—and how this impacts the development of marketing strategies and tactics. Working with a client (provided by EdVenture Partners) that has chosen this JHU class as its “advertising agency” and an actual budget provided by the firm, the class will form small teams to mirror the functional organization of an actual ad agency (market research, media strategy/planning, copywriting/design, public relations, etc.). Student teams will then develop a promotional plan and corresponding budget to reach the desired target market (JHU undergrads who meet the client’s criteria), implement the plan and then evaluate its effectiveness through pre- and post campaign market research conducted on the target consumer. Note: Not open to students who have taken EN.660.450 as Advertising and Promotion. No audits. (Formerly Advertising and Promotion.)
Prerequisites: EN.660.250
Instructor(s): L. Kendrick.

EN.660.453. Social Media and Marketing. 3 Credits.
This course explores strategies for monitoring and engaging consumers in digital media. Students will gain practical knowledge about developing, implementing and measuring social media marketing campaigns. They will learn how to analyze what consumers are saying and connect with them by leveraging word of mouth, viral and buzz marketing through sites like Facebook, Twitter and YouTube. A series of assignments build upon each other toward a final social media marketing plan for a selected consumer product or service. Co-listed with EN.661.453.
Prerequisites: EN.660.250
Instructor(s): K. Quesenberry.

EN.660.456. Marketing Communication Law & Ethics. 3 Credits.
This course focuses on the legal and ethical constraints of advertising and promotion marketing practice. Federal laws, media standards and professional ethics establish what can or cannot be said or done in marketing. Beyond that corporate and personal social responsibility must also be considered. Topics such as deception, copyright, publicity, comparative advertising and social media standards will be covered. Students will apply concepts to current practical examples and delve more deeply into subjects through a series of writing assignments. Co-listed with EN.661.456. No audits. Recommended Course Background: one writing course in any discipline (professional communication, expository writing, or writing seminars).
Instructor(s): K. Quesenberry

EN.660.460. Entrepreneurship. 3 Credits.
This course provides students with a solid introduction to the entrepreneurial process of creating new businesses. Students will gain an appreciation for the investors’ perspective in assessing opportunities, evaluating strategies, and valuing the new enterprise. The course will cover the principal components of building a successful venture including management, market analysis, intellectual property protection, legal and regulatory issues, operations, entrepreneurial financing, and the role of the capital markets. Course work will include case studies and creation of investor marketing materials. Open to Juniors and Seniors. No Audits. Recommended Course Background: EN.660.203
Prerequisites: EN.660.105 OR EN.660.250
Instructor(s): E. Rice.

EN.660.461. Engineering Business and Management. 3 Credits.
An introduction to the business and management aspects of the engineering profession, project management, prioritization of resource allocation, intellectual property protection, management of technical projects, and product/production management. Preference will be given to Mechanical Engineering students. No audits. Recommended Course Background: EN.660.105
Instructor(s): I. Izenberg; M. Agronin
Area: Engineering.

EN.660.500. Business Internship-Summer. 1 Credit.
Students may qualify for an internship with one of the many local employers with whom CLE works or they may arrange a non-local internship on their own. For non-paid internships only, students may apply for sponsorship for academic credit through CLE. Applications must include a resume, transcript and written essay and will be evaluated on the basis of work experience, GPA, writing sample, and course work. Students are expected to complete two reports assigned by the internship coordinator. S/U only.
Instructor(s): L. Kendrick.

EN.660.501. Practicum-Entrepreneurship. 3 Credits.
Students work on an existing business or marketing plan/case project under the close supervision of an Entrepreneurship and Management faculty member. Students must apply by submitting a cover letter, resume, unofficial transcript, and essay describing the business concept/marketing plan. Applications must be approved by both the faculty member and director of CLE. Students are expected to meet regularly with the faculty member and complete assigned readings and projects. Permission required. S/U only.
Instructor(s): L. Kendrick.

EN.660.594. Business Internship. 1 Credit.
Students work on an existing business or marketing plan/case project regularly with the faculty member and complete assigned readings and faculty member and director of CLE. Students are expected to meet by the internship coordinator. S/U only.

EN.660.611. Accounting and Finance. Summer. 1 Credit.
The course includes a review of financial accounting with an emphasis on the conceptual implications of financial statements and their application to financial analysis. Course material will also encompass cost accumulation, cost allocation, product costing, and variance analysis, and their impact on financial forecasting and capital budgeting. Students will also explore valuation techniques for new technologies. Permission of instructor required. Co-listed with 662.611.
Cross Listed Courses

Center for Leadership Education

EN.660.100. Hopkins Leadership Challenge Seminar. 1 Credit.
The Hopkins Leadership Challenge is a one credit pass/fail seminar and is designed specifically for first year undergraduates at JHU who are interested in developing their leadership skills and applying those skills to Hopkins life. The seminar includes both a classroom component and an experiential component. The classroom content includes leadership topics, discussions with university leaders and serves as an introduction to the history, services and involvement opportunities at Hopkins. The experiential component includes programs such as JHU history, faculty student interaction, visits to other JHU campuses and more! Interested students should register early, as there is limited space available in each section of the seminar. Freshmen only. S/U only.
Instructor(s): W. Smedick
Area: Social and Behavioral Sciences.

EN.660.370. Multinational Firms in the International Economy. 3 Credits.
This course on international business focuses on relationships between multinational firms and national governments throughout the world. We will read historical and contemporary authors’ conceptualizations of these relationships in the US and around the world. Students will apply concepts from the readings to real-world situations. The course is capped at 25 to allow discussion. No audits.
Prerequisites: EN.660.105
Instructor(s): D. Heisenberg.

EN.660.665. Technology Entrepreneurship.
The goal of the course is to provide a strategic framework (technological, market, regulatory, and financial) for determining the commercial value of new technologies and the best path for realizing that value. Through lectures, exercises, and case studies, students will develop and advance their own innovations and inventions, culminating in a business plan. No audits.
Area: Engineering, Natural Sciences.

Professional Communication

EN.661.453. Social Media and Marketing. 3 Credits.
This course explores strategies for monitoring and engaging consumers in digital media. Students will gain practical knowledge about developing, implementing and measuring social media marketing campaigns. They will learn how to analyze what consumers are saying and connect with them by leveraging word of mouth, viral and buzz marketing through sites like Facebook, Twitter and YouTube. A series of assignments build upon each other toward a final social media marketing plan for a selected consumer product or service. Co-listed with EN.660.453. No audits.
Prerequisites: EN.660.250 Principles of Marketing Writing Intensive.

General Engineering

The General Engineering program offers both a B.A. with a major in general engineering and a number of non-departmental courses.

Bachelor of Arts in General Engineering

The Bachelor of Arts in General Engineering is a liberal arts degree that is designed to provide students with both a concentration in some area of humanities or social sciences and the fundamental engineering principles needed to understand modern technology, innovations, and engineering practices. It is intended for undergraduate students who desire a background in engineering and technology yet have neither the desire nor the intention to become professional engineers. These students may, for example, plan to pursue graduate or professional study in architecture, business, law (e.g., intellectual property, patent law), or medicine. They may wish to work in areas which relate to engineering and technology or to thrive in the global industrial economy. The Bachelor of Arts in General Engineering is a true liberal arts degree with an emphasis in engineering.

This degree is not an engineering degree, and is not suitable for employment as a professional engineer. This program is not accredited by the Accreditation Board for Engineering and Technology. Students desiring careers as professional engineers should complete a B.S. degree in one of the engineering disciplines offered by the Whiting School.

The distinctive features of the Bachelor of Arts in General Engineering include:

- **Breadth.** Course requirements for the Bachelor of Arts in General Engineering encourage breadth, including mathematics, natural sciences, humanities and/or social sciences, international studies (language or other courses and experience in foreign country), and in engineering. The curriculum also allows for many free electives.
- **Flexibility.** This program is designed to allow students, in consultation with their advisor, the flexibility to choose a program of study that matches their interests. The engineering concentration and the humanities and social science requirements may be departmentally based or may follow a theme designed by the student and his/her advisor. Students are encouraged to minor in any area of their choosing.
- **Interdisciplinary Study.** The distribution requirements are ideal for students who seek to understand areas at the interface between technical fields (such as robotics, nanotechnology, and biomaterials) or the connections between a technical area and a discipline in the humanities or social sciences (for example environment issues and international trade or ethics and biotechnology).
- **International Dimensions of Engineering.** Students are required to develop knowledge of the international dimensions of engineering. They may do this by studying abroad or by taking a combination of language and other classes that develop an understanding of the culture, technology, or society in a foreign country.

Requirements for the B.A. Degree

All undergraduate students majoring in the Bachelor of Arts in General Engineering must follow a program approved by their advisor. Candidates must fulfill the overall requirements for the bachelor’s degree (p. 24) described in this catalog. These include the university writing requirement, distribution requirement and 120 credit minimum. Sample curricula and details on concentrations can be found in the Advising Manual for general engineering (www.engineering.jhu.edu/academics).

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Mathematics</td>
<td>20</td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>15</td>
</tr>
<tr>
<td>Humanities and Social Sciences</td>
<td>24</td>
</tr>
<tr>
<td>International Dimensions of Engineering</td>
<td>9-12</td>
</tr>
<tr>
<td>Engineering Core</td>
<td>15</td>
</tr>
<tr>
<td>Engineering Focus Area</td>
<td>20</td>
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</tbody>
</table>
Mathematics (20 credits)
Mathematics is at the core of modern science and technology and a solid foundation is required to understand how contemporary engineering problems are solved. Students are required to take five courses including:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.108</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>AS.110.109</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>One course in statistics</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>One course at the 200-level or above in either statistics or mathematics</td>
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<td>4</td>
</tr>
<tr>
<td>One mathematics or statistics elective</td>
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<td>4</td>
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</tbody>
</table>

Total Credits | 20

Natural Sciences (15 credits)
Students are required to take four courses and two laboratory courses including:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>AS.171.101</td>
<td>General Physics: Physical Science Major I</td>
</tr>
<tr>
<td>or AS.171.103</td>
<td>General Physics I for Biological Science Majors</td>
</tr>
<tr>
<td>or AS.171.105</td>
<td>Classical Mechanics I</td>
</tr>
<tr>
<td>or AS.171.107</td>
<td>General Physics for Physical Sciences Majors (AL)</td>
</tr>
<tr>
<td>or EN.530.103 &amp; EN.530.104</td>
<td>Introduction to Mechanics I and Introduction to Mechanics II</td>
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</table>

At least one course chosen from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>AS.030.101</td>
<td>Introductory Chemistry I</td>
</tr>
<tr>
<td>EN.510.101</td>
<td>Introduction to Materials Chemistry</td>
</tr>
<tr>
<td>AS.020.151</td>
<td>General Biology I</td>
</tr>
</tbody>
</table>

Two terms of laboratory course | 2

Two elective courses (area code N) | 6

Total Credits | 15

Humanities and Social Sciences (24 credits)
Writing Requirement. Students must complete at least four (minimum of 12 credits) writing intensive courses (catalog code W) and one of these courses must specifically develop writing skills, such as Technical Communication or Basic Expository Writing.

Humanities or Social Science Concentration. A minimum of four courses (12 credits) must be taken as a coherent group in either the humanities or social sciences, of which two are at the advanced (300+) level.

Humanities or Social Science Elective. Three additional courses (9 credits) in either the humanities or social sciences. These electives are typically used to take courses in economics and the history of science and technology, depending on the courses chosen to fulfill the concentration requirements detailed above.

International Dimensions of Engineering
Because of the importance of the globalization of technology, all students completing the B.A. in general engineering are required to demonstrate competence in being able to address technical issues within the context of another society. This can be done in one of three different ways.

First, students are encouraged to study abroad for a minimum of one fall or one spring semester in any foreign country (except Canada). In that country, they must take the equivalent of a minimum of 12 credits which are transferred to their Hopkins transcript. In this case, these credits can satisfy any degree requirements (Humanities or Social Sciences, Engineering Concentration, Mathematics, Free Electives, etc.).

Second, students may complete the equivalent of two semesters of the same foreign language (students may not use language courses in their native language to satisfy this requirement) and one additional course which relates to the culture, economy, social structure, or politics of a country to which uses this foreign language (9 credits).

Third, students may demonstrate proficiency in a foreign language by taking an intermediate course in a foreign language (this can include their native tongue) and two additional courses which relate to the culture, economy, social structure, or politics of a country which uses this foreign language (9 credits).

Engineering Core (15 credits)
One course (3 credits) that is an introduction to an engineering discipline. Examples include:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.500.101</td>
<td>What Is Engineering?</td>
</tr>
<tr>
<td>EN.520.137</td>
<td>Introduction to Electrical &amp; Computer Engineering</td>
</tr>
<tr>
<td>EN.530.1</td>
<td>Freshman: Experiences in Mech. Eng.</td>
</tr>
<tr>
<td>EN.560.141</td>
<td>Perspectives on the Evolution of Structures</td>
</tr>
<tr>
<td>EN.570.108</td>
<td>Introduction Environmental Engineering</td>
</tr>
</tbody>
</table>

One course (3 credits) in a computer language. Examples include:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.500.200</td>
<td>Computing for Engineers and Scientists</td>
</tr>
<tr>
<td>EN.600.107</td>
<td>Introductory Programming in Java</td>
</tr>
</tbody>
</table>

Three courses in the fundamentals of engineering science (at least one course from three of the following four areas):

Area 1: Circuits
EN.520.213 | Circuits |

Area 2: Statics
EN.530.201 | Statics and Mechanics of Materials |
or EN.560.201 | Statics & Mechanics of Materials |

Area 3: Materials Science
EN.510.201 | Introductory Materials Science for Engineers |
or EN.510.311 | Structure of Materials |

Area 4: Thermodynamics
EN.530.231 | Mechanical Engineering Thermodynamics |
or EN.540.203 | Engineering Thermodynamics |

Engineering Focus Area (20 credits)
The engineering focus area must consist of at least six courses (minimum of 20 credits) that are related thematically or departmentally; at least three (3) of which must be at the advanced level (300 or above). While examples of focus areas are provided in the Advising Manual, students are encouraged to develop their own focus areas in consultation with their faculty advisor.
Free Electives

Between five and nine full courses (at least 3 credits each) to ensure a minimum of 120 credits in total. The number of courses required will depend on how the International Dimensions requirement is satisfied and on the courses chosen in other areas. Students must select these courses in consultation with their advisor. These free electives are designed to allow students to develop a curriculum of study uniquely suited to their interests.

Students are required to have a minimum cumulative GPA of 2.0 to graduate. Further, a maximum of 12 “D” credits may be counted toward degree requirements. There is a maximum limit of six “D” credits in any combination of courses used to satisfy the Humanities or Social Sciences concentration, the Engineering Core and the Engineering Concentration (47 total credits). No more than 12 credits completed prior to matriculation or in summer sessions at other accredited colleges or universities may be accepted.

Transfer students are not subject to the 12-credit limit on transfer credit. They must obtain credit for courses they wish to transfer during their first year at Hopkins. University regulations require a minimum of four consecutive full-time semesters and 60 credits earned at JHU for a Hopkins degree.

For current faculty and contact information go to http://engineering.jhu.edu/academics/general-engineering/people/

Faculty

Chair
Edward Scheinerman
Professor (Applied Mathematics and Statistics) and Vice Dean for Education. Primary Advisor to the General Engineering Program and Chair of the General Engineering Faculty Oversight Committee.

Professors
Marc Donohue
Professor (Chemical and Biomolecular Engineering).
Andrew Douglas*
Professor (Mechanical Engineering) and Interim Dean Whiting School of Engineering.
Kalina Hristova*
Professor (Materials Science and Engineering).
Daniel Naiman*
Professor (Applied Mathematics and Statistics).
Ben Schafer*
Professor (Civil Engineering).
Erica Schoenberger*
Professor (Geography and Environmental Engineering).
Scott Smith
Professor (Computer Science)
Howard Weinert
Professor (Electrical and Computer Engineering).

Footnote

* members of the Faculty Oversight Committee for General Engineering

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

EN.500.100. Archimedes’ Lever: How Engineers Move the World. 1 Credit.
S/U Grading Only. Freshmen only. This course is an introduction to the world of engineering as a creative endeavor that reshapes the world. This course will give students multiple perspectives on engineering, including historical, ethical, societal, commercial, legal, environmental, and interpersonal. The soul of engineering is invention and students will enjoy opportunities to express their creativity. Weekly meetings will feature presentations and hands-on activities led by the Dean and Vice Deans of engineering as well as other faculty from our campus.
Instructor(s): E. Scheinerman
Area: Engineering.

EN.500.101. What Is Engineering?. 3 Credits.
This is a course of lectures, laboratories, and special projects. Its objective is to introduce students not only to different fields of engineering but also to the analytic tools and techniques that the profession uses. Assignments include hands-on and virtual experiments, oral presentations of product design, and design/construction/testing of structures. Freshmen only or Permission Required.
Instructor(s): Staff
Area: Engineering.

EN.500.103. Hopkins Engineering Sampler Seminar. 1 Credit.
This course provides students with an overview of the undergraduate programs in the Whiting School of Engineering. Faculty from various departments will introduce students to their discipline including aspects of their personal research. Freshmen only.
Instructor(s): E. Scheinerman
Area: Engineering.

EN.500.110. What is Engineering?-Summer. 3 Credits.
To introduce engineering ideas, thoughts, and problem-solving to potential engineering students. The course is intended to establish the framework within which engineers typically operate. Registration Requirement: Algebra II with Trig. Open only to high school students admitted to the Engineering Innovation Summer Program. Undergraduates should refer to EN.500.101.
Instructor(s): K. Borgsmiller.

EN.500.125. Spatial Reasoning and Visualization for Engineers. 1 Credit.
This course will enhance students ability to imagine and mentally manipulate objects in three-dimensional space—a talent that is important in engineering. Through guided practice and fun hands-on activities, students will hone their spatial skills. This course is only for engineering freshmen. Registration is by invitation only, based on the results of the summer spatial reasoning diagnostic assessment. S/U only.
Instructor(s): A. Stephens
Area: Engineering.
**EN.500.200. Computing for Engineers and Scientists. 3 Credits.**
This course introduces a variety of techniques for solving problems in engineering and science on a computer using MATLAB. Topics include structure and operation of a computer, the programming language MATLAB, computational mathematics, and elementary numerical analysis. Co-listed with EN.550.200.

**Prerequisites:** Prereqs: AS.110.107 OR AS.110.109
Instructor(s): K. Hedrick
Area: Engineering, Quantitative and Mathematical Sciences.

**EN.500.401. Research Laboratory Safety. 1 Credit.**
An introduction to laboratory safety including chemical, biological, radiation, and physical hazards. Includes information on hazard assessment techniques, laboratory emergencies, and general lab standards for Whiting School of Engineering. The class will feature hands-on exercises with real-life experiments. Intended for students who have not yet begun working in a research laboratory.

Instructor(s): D. Kuespert.

**EN.500.403. Introduction to Research Laboratory Safety.**
This course covers laboratory hazards including chemical, biological, radiation (non-ionizing and ionizing), and physical hazards, as well as JHU-specific procedures. This course is intended for undergraduates beginning work in a research laboratory for the first time, as well as other students with no laboratory safety background. Credit may be received for only one of these courses, EN.500.703 Research Lab Safety Review, and EN.540.490 Chemical and Laboratory Safety. Co-listed with EN.500.703, AS.360.403, and AS.360.703. ***NOTE: Most coursework is on Blackboard and must be completed before the live class meeting. A brief introduction to safety in Johns Hopkins University experimental research laboratories.

Instructor(s): D. Kuespert.

**EN.500.410. Surgery For Engineers. 3 Credits.**
Perm Req’d. Students must apply for this course - contact Cynthia Ramey at cramey@jhu.edu
Instructor(s): M. Marohn; R. Kumar
Area: Engineering, Natural Sciences.

**EN.500.551. Engineering Research Practicum.**
Instructor(s): J. Selinski; S. Smith.

**EN.500.602. Seminar: Environmental and Applied Fluid Mechanics.**
Instructor(s): C. Meneveau.

**EN.500.603. Academic Ethics.**
Instructor(s): C. Kavanagh; C. Smith.

**EN.500.703. Research Laboratory Safety Review.**
This course briefly reviews hazards in the laboratory and provides information regarding JHU-specific procedures such as chemical and biological waste handling. This course is intended for incoming postdoctoral fellows with some experience in laboratory safety; those with no background should take EN.500.403 instead. Credit may be received for only one of these courses, EN.500.403 Intro to Research Lab Safety, and EN.540.490 Chemical and Laboratory Safety. Co-listed with EN.500.403, EN.360.403, and EN.360.703. ***NOTE: Most coursework is on Blackboard and must be completed before the live class meeting. A review of hazards and safety procedures specific to Johns Hopkins University laboratories.

Instructor(s): D. Kuespert.

**EN.500.745. Seminar in Computational Sensing and Robotics.**
Seminar series in robotics. Topics include: Medical robotics, including computer-integrated surgical systems and image-guided intervention. Sensor based robotics, including computer vision and biomedical image analysis. Algorithmic robotics, robot control and machine learning. Autonomous robotics for monitoring, exploration and manipulation with applications in home, environmental (land, sea, space), and defense areas. Biorobotics and neuromechanics, including devices, algorithms and approaches to robotics inspired by principles in biomechanics and neuroscience. Human-machine systems, including haptic and visual feedback, human perception, cognition and decision making, and human-machine collaborative systems. Cross-listed Mechanical Engineering, Computer Science, Electrical and Computer Engineering, and Biomedical Engineering.

Instructor(s): L. Whitcomb; P. Kazanzides.

**EN.500.781. Preparation for University Teaching.**
This course will prepare graduate students to teach at the university level. Topics covered include large and small class teaching, characteristics of student learning, syllabus construction, grading students, and developing a teaching portfolio. Full-time EN Graduate Students only. Co-listed as EN.360.781.

Instructor(s): R. Shingles.

**EN.500.809. Mechanics of Materials and Structures Graduate Seminar.**
Cross-listed with Mechanical Engineering.
Instructor(s): J. Guest.

**EN.500.851. Engineering Research Practicum.**
Instructor(s): Staff.

**Cross Listed Courses**

**Civil Engineering**

**EN.560.141. Perspectives on the Evolution of Structures. 3 Credits.**
Why do buildings and bridges look the way they do today? Students will be provided the tools to answer this question for themselves through a study of the history of the design of buildings and bridges throughout the world from both engineering and architectural/aesthetic perspectives. Only simple mathematics is required (no calculus). Students will participate in individual and group critique of structures from engineering, architectural, and social points of view.

Instructor(s): B. Schafer
Area: Engineering, Quantitative and Mathematical Sciences Writing Intensive.

**Institute for NanoBio Technology**

**EN.670.495. Animation in Nanotechnology & Medicine. 3 Credits.**
Instructor(s): P. Searson
Area: Engineering, Natural Sciences.

**EN.670.616. Introduction to NanoBio Tutorials II.**
Ph.D. students and postdoctoral fellows in the HHMI/IGERT/PSOC/CCNE/CNTC training programs study and present topics in nanotechnology for biology and medicine.

Instructor(s): D. Wirtz.
EN.670.620. Fundamental Laboratory Principles of Nanobiotechnology.
This laboratory course introduces students to fundamental concepts of materials science and cell engineering required for research in biological nanoscience. Topics covered include cell culture, quantitative light microscopy, and synthesis of nanoparticles. This laboratory course is a prerequisite for EN.500.621.

EN.670.629. Cancer Nanotechnology Training Center (CNTC) Tutorial.
This course is intended to allow CNTC fellows the opportunity each week to review and present on cancer research topics. The papers and discussions covered will be on areas of human cancers and nanotechnology and include the latest developments from studies of model organisms.
Instructor(s): P. Searson.

EN.670.695. Animation in Nanotechnology & Medicine.
Area: Engineering, Natural Sciences.
Instructor(s): P. Searson

Geography and Environmental Engineering

The Department of Geography and Environmental Engineering is concerned with the improved understanding and description of environmental problems including questions of pollutant fate and transport, water resources engineering, environmental chemistry, geomorphology, drinking water and wastewater treatment, ecosystem dynamics, and technology, society, and environmental change. Drawing from a number of disciplines and approaches, elements within these systems are examined, and interconnections among elements are explored. The department represents a unique opportunity for undergraduate education through our environmental engineering major, a geography major, three minors, and for advanced graduate education, research, and interdisciplinary collaboration. Some broadly defined examples of subjects collaboratively studied by our faculty and students are listed below.

- Engineering processes to alleviate environmental problems. This requires knowledge of both natural processes and engineering design. The former addresses phenomena that are basic to understanding how engineering can help solve environmental problems. The latter involves the application of such understanding to problem solutions.
- Surficial, atmospheric and subsurface processes involving interactions of chemical, biological, and hydrological processes in the environment.
- Application of engineering solutions in the context of the public decision making process including economic, social, and administrative factors.
- Analysis of interrelationships between engineering and administrative decisions and cultural, institutional, and governmental sectors of society, especially in the urban environment.

Engineering designs and public decisions must rest upon a sound knowledge of fundamental scientific processes as well as economic policy and social science. Research and study are focused on both basic, and the applied aspects of environmental problems. Interdisciplinary work is necessary, combining, for example, the basic sciences, engineering, and environmental economics. Because of its diversity of interests and association with other departments of the university, the department can offer a broad range of graduate programs based on the natural, social, and engineering sciences.

Department Areas of Interest, Study, and Research

The following areas of interest help illustrate the depth and breadth of academic and research opportunities available through the Department of Geography and Environmental Engineering. This list is far from complete. The interests and expertise of students and faculty within the department are continually expanding and changing. Students are encouraged to work with their advisors to build upon these areas of interest to construct a program that best suits their interests and professional goals and includes sufficient depth and rigor. Unique combinations of course work and research experience make it possible for students to identify and address issues in new, imaginative ways.

The Environmental Engineering area of interest is concerned with issues that involve water and wastewater treatment, transport and fate of contaminants in natural and engineered environments, hazardous and solid waste management, hydrology, and environmental fluid dynamics. Current research efforts are directed to:

- applying biological, chemical, and physical processes to treatment of contaminants in drinking water or wastewaters;
- evaluating colloidal stability in natural and engineered systems;
- exploring contaminant transport and interphase transfer, and the influence of these processes on chemical or biological transformations; and
- examining heat and mass transport and scaling mechanics at the land-atmosphere interface.

The Water and Air Resources Engineering area of interest is concerned with the occurrence, movement, and management of water and air through and above the surface of the Earth. This area involves many faculty in the department and has close interactions with faculty and students throughout Hopkins including those in the Center for Environmental and Applied Fluid Mechanics. Research in this area currently deals with:

- surface hydrology and groundwater;
- the dispersion of pollutants in the atmosphere and surface and subsurface waters;
- water supply, distribution, and risk analysis;
- measurement and modeling of turbulent environmental flows;
- mathematical modeling of subsurface and atmospheric transport phenomena;
- movement of water and chemicals in the vadose zone and in water supply aquifers;
- the impact of climate change on water resources; and
- river system dynamics.

The Environmental Chemistry area of interest is devoted to understanding the chemical and biological reactions and mobility of contaminants in natural environments and engineered aquatic systems. Research is focused on:

- identifying chemical and biological constituents of aquatic environments that catalyze, inhibit, or react with organic and inorganic contaminants;
Substantive domains of inquiry include:

- organization, technological and industrial change, the production of climate policy and impacts.
- management, simulation of market responses to environmental policies, urban and regional facilities for services and/or distribution, pollution simulation, Bayesian analysis, and multiobjective decision making.
- linear programming, integer programming, stochastic programming, Students focusing on systems analysis take courses in the mathematics of optimization and decision analysis, including linear and nonlinear programming, integer programming, stochastic programming, simulation, Bayesian analysis, and multiobjective decision making.

The goal of the area of interest in Systems Analysis and Economics for Public Decision Making is to develop competence in the modeling and analysis of public policy alternatives and private sector responses to those policies. To achieve this goal, students typically emphasize economics or systems analysis or a blend of these two disciplines.

Those emphasizing economics undertake specialized training in resource economics, microeconomic theory, cost-benefit analysis, public finance, and econometrics. Example applications include the economics of public works, water and energy pricing and regulation, demand forecasting, natural resource valuation, and public utility financing.

Students focusing on systems analysis take courses in the mathematics of optimization and decision analysis, including linear and nonlinear programming, integer programming, stochastic programming, simulation, Bayesian analysis, and multiobjective decision making. Example applications include water resources management, siting of urban and regional facilities for services and/or distribution, pollution management, simulation of market responses to environmental policies, and integrated assessment of climate policy and impacts.

The Geomorphology, Hydrology, and Ecology area of interest promotes the fundamental understanding of processes at the Earth’s surface. Research is presently focused on:

- physical dynamics of tidal freshwater wetland evolution;
- land use impacts on forest dynamics;
- sediment transport, channel dynamics, and benthic ecology in rivers;
- acquisition of metals by plants, fungi, and bacteria;
- estuarine paleoecology; and
- maintenance and flushing flows in mountainous rivers.

The Technology, Society, and Environmental Change area of interest focuses primarily on the relationships among social organization, technological and industrial change, the production of space and place, government policy and environmental outcomes. Substantive domains of inquiry include:

- globalization and regional/local processes of economic, political, and cultural change. In particular, this entails grappling in particular with the behavior of multinational corporations and governments and the regional/local consequences of technological changes and institutional activities and decision making. Comparative studies of industrial transformations and their social and environmental consequences are emphasized.
- urbanization and regional growth and decay. This involves the study of spatial differentiation in population distributions and their well-being arising out of the spatial mobilities of capital and labor, shifts in industrial structure, and processes of technological and cultural change. Comparative studies of urbanization processes—particularly Baltimore’s—are encouraged; and
- the dynamics of environmental and social change. This requires consideration of philosophic, economic, and broad-based cultural backgrounds to environmental problems. Issues such as environmental justice, environmental ethics, and a critical application of appropriate knowledge (scientific, economic, cultural) for environmental decision making are strongly emphasized.

Facilities

Student and staff offices and laboratories are located in Ames and Krieger halls. A large teaching laboratory is equipped for biological and chemical examination of water and wastewater. Laboratories for research and teaching provide opportunities for research involving chemistry and microbiology. These include a number of environmental control rooms along with research opportunities involving sediment transport as well as pilot scale process investigations. Excellent facilities and instrumentation for atmospheric field studies exist, including laser radar for aerosols, fast response turbulence instruments, and radiation meters. Students also have access to treatment plants and other municipal and state facilities that may be useful in conducting research, as well as to vehicles and boats for field trips and field research of all types. Extensive computer facilities are available both in the department and in the university as a whole.

Financial Aid

The department maintains a large and continuing program of financial aid for graduate students, including tuition scholarships, fellowship awards, research assistantships, and teaching assistantships. Financial aid is granted on the basis of merit, and criteria for consideration for these awards include academic excellence, professional or research experience, and career commitment to the field. Continued support is subject to the student’s performance, availability of research or TA funds, and requisite staffing of current projects. Ph.D. students receive priority for full financial support. Pending available funding, partial tuition fellowships are offered to qualified master’s students. Ph.D. applicants are nominated by the department for consideration for fellowships. The department offers can offer one or more departmental fellowships to help support the most qualified Ph.D. applicants for their first year of study.

Furthermore, many students within the department have been awarded graduate research fellowships available to Ph.D. and Masters students through programs administered by the National Science Foundation and the Environmental Protection Agency. Graduate fellowships are also available for underrepresented minority students in the engineering and natural science fields through the GEM Consortium. Additionally, the Johns Hopkins Environment, Energy, Sustainability & Health Institute (E²SHI) invites applications for one-year fellowships of up to $25,000 to support Johns Hopkins University doctoral students pursuing interdisciplinary research in environment, energy, sustainability, or health topics. Qualified students are strongly recommended to apply for these fellowships during the fall of the final year prior to beginning graduate studies, as many programs have November or December deadlines.

The Department of Geography and Environmental Engineering offers:

- an undergraduate Bachelor of Science (B.S.) degree in Environmental Engineering
- four focus areas within the environmental engineering major:
  - Environmental Management and Economics
  - Environmental Engineering Science
  - Environmental Transport
  - Environmental Health Engineering
• an undergraduate Bachelor of Arts (B.A.) in Geography
• two focus areas within the Geography major:
  • Human Geography
  • Physical Geography
• three minors:
  • a minor in environmental engineering
  • a minor in environmental sciences
  • a minor in engineering for sustainable development
• a five-year combined (B.S./M.S. or B.S./M.S.E.) program.

As part of these minor programs, or as part of other programs of the student’s own design, the department offers electives in such areas as ecology, geomorphology, water and wastewater pollution treatment processes, environmental systems analysis, and environmental policy studies.

**Major in Environmental Engineering**

The mission of our undergraduate program is to provide students with a broadly based yet rigorous education in the fundamental subjects central to the field, in a milieu that fosters development of a spirit of intellectual inquiry and the problem-solving skills required to address the open-ended issues characteristic of the real world.

Our B.S. program provides a strong foundation in the physical, chemical, and biological sciences, as well as in mathematics, engineering science, and engineering design. It is broad and flexible enough to accommodate students with a variety of interests in environmental engineering. This training should provide an ideal preparation for future employment in business or industry or for subsequent training at the graduate level, either in environmental engineering or in a field such as environmental law, public health, or medicine.

**Program Objectives**

The B.S. in Environmental Engineering degree program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

The Program in Environmental Engineering educates students to think critically, communicate clearly, and collaborate effectively as they apply the fundamental scientific principles of engineering to environmental problems. We emphasize the importance of intellectual growth, professional ethics, and service to society. Our graduates are prepared to be successful:

• engineering professionals in private and governmental organizations, and
• students in the best graduate programs.

Our department is noted for our students’ exceptionally high pass rate of the “Fundamentals of Engineering” (FE) exam offered by the National Council of Examiners for Engineering and Surveying (NCEES).

**Focus Areas within the Environmental Engineering (EE) Major**

Students must select among four different focus areas:

• Environmental Management and Economics
• Environmental Engineering Science
• Environmental Transport
• Environmental Health Engineering

With the assistance of a faculty advisor, each student will plan a curriculum suited to his or her ultimate career goals. The program also encourages and supports individual study and research. Program requirements total 125 credits.

**Mathematics with a focus on applications (19 credits)**

<table>
<thead>
<tr>
<th>Required Courses:</th>
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<tbody>
<tr>
<td>AS.110.108</td>
<td>Calculus I</td>
</tr>
<tr>
<td>AS.110.109</td>
<td>Calculus II</td>
</tr>
<tr>
<td>AS.110.202</td>
<td>Calculus III</td>
</tr>
<tr>
<td>or AS.110.211</td>
<td>Honors Multivariable Calculus</td>
</tr>
<tr>
<td>EN.550.291</td>
<td>Linear Algebra and Differential Equations</td>
</tr>
<tr>
<td>or AS.110.302</td>
<td>Differential Equations and Applications</td>
</tr>
</tbody>
</table>

An advanced course (300-level or higher) in probability and statistics. The Department of Applied Mathematics and Statistics offers a number of suitable courses.

**Total Credits**

**20**

**Basic Science (BS) (24-25 credits)**

<table>
<thead>
<tr>
<th>Required courses:</th>
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</tr>
</thead>
<tbody>
<tr>
<td>AS.171.101</td>
<td>General Physics: Physical Science Major I</td>
</tr>
<tr>
<td>or AS.171.107</td>
<td>General Physics for Physical Sciences Majors (AL)</td>
</tr>
<tr>
<td>AS.171.102</td>
<td>General Physics: Physical Science Majors II</td>
</tr>
<tr>
<td>or AS.171.108</td>
<td>General Physics for Physical Sciences Majors (AL)</td>
</tr>
<tr>
<td>AS.173.111</td>
<td>General Physics Laboratory I</td>
</tr>
<tr>
<td>AS.173.112</td>
<td>General Physics Laboratory II</td>
</tr>
<tr>
<td>One year of introductory chemistry (i.e. AS.030.101 Introductory Chemistry I and AS.030.102 Introductory Chemistry II)</td>
<td>6</td>
</tr>
<tr>
<td>AS.030.105</td>
<td>Introductory Chemistry Lab I</td>
</tr>
<tr>
<td>AS.030.106</td>
<td>Introductory Chemistry Laboratory II</td>
</tr>
<tr>
<td>EN.570.205</td>
<td>Ecology</td>
</tr>
<tr>
<td>An additional course in the biological sciences such as: AS.020.151 General Biology I, or EN.570.328 Geography &amp; Ecology of Plants</td>
<td>3</td>
</tr>
<tr>
<td>Note: Premedical Students could substitute:</td>
<td></td>
</tr>
<tr>
<td>AS.020.305</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>AS.020.306</td>
<td>Cell Biology</td>
</tr>
<tr>
<td>AS.020.315</td>
<td>Biochemistry Laboratory</td>
</tr>
<tr>
<td>AS.020.316</td>
<td>Cell Biology Lab</td>
</tr>
<tr>
<td>Premedical students should also take additional chemistry courses as electives, such as:</td>
<td></td>
</tr>
<tr>
<td>AS.030.205</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>AS.030.206</td>
<td>Organic Chemistry II</td>
</tr>
<tr>
<td>AS.030.225</td>
<td>Introductory Organic Chemistry Lab</td>
</tr>
</tbody>
</table>

**Total Credits**

**24**

**Humanities and Social Sciences (HS) (18 credits)**

A minimum of six courses totaling 18 credits in Humanities or Social Sciences. The six courses must include:
1. one advisor-approved course that specifically develops writing skills (e.g., a how to write class),
2. EN.570.334 Engineering Microeconomics, and
3. four additional Humanities and Social Sciences courses with at least two at the 300-level or higher. EN.570.404 Political Ecology and/or EN.570.406 Environmental History can be taken as part of these requirements.

Please note that the writing course will fulfill one of the two writing intensive courses required by the university.

**Note:** most medical schools require a year of English literature and/or composition.

**Required course:**
- EN.570.334 Engineering Microeconomics

**Elective examples for DoGEE:**
- EN.570.404 Political Ecology
- EN.570.406 Environmental History

**Writing course examples:**
- AS.220.105 Fiction/Poetry Writing I
- AS.220.106 Fiction/Poetry Writing II
- AS.220.146 Introduction to Science Writing
- AS.220.202 Introduction to Non-Fiction: Matters of Fact

Either AS.060.113 or AS.060.114; both cannot be counted for H/S credit.
- AS.060.113 Expository Writing
- AS.060.114 Expository Writing

**Total Credits**
- 18

**General Engineering (GE) (16 credits)**

**Required courses:**
- EN.570.108 Introduction Environmental Engineering
- EN.570.210 Computation/Math Modeling

A course in thermodynamics, such as:
- EN.540.203 Engineering Thermodynamics
  - EN.510.312 Thermodynamics/Materials
- EN.530.231 Mechanical Engineering Thermodynamics

A course in Statics, such as:
- EN.560.201 Statics & Mechanics of Materials
- EN.530.201 Statics and Mechanics of Materials
- EN.570.351 Introduction to Fluid Mechanics

**Total Credits**
- 16-19

**Design Experience and Engineering Laboratory (Senior Design) (D) (9 credits)**

**Required courses:**
- EN.570.305 Environmental Engineering Systems Design
- EN.570.419 Environmental Engineering Design I
- EN.570.421 Environmental Engineering Design II

**Total Credits**
- 9

The Design and Synthesis sequence is a five-credit project course (2 credits fall semester, 3 credits spring semester) and involves a comprehensive study of the engineering design process from problem definition to final design. The course involves team projects that include written and oral presentations. Students will form small teams that will work with local companies or government agencies in executing the project. Prerequisite: senior standing in Environmental Engineering.

**Environmental Engineering Requirements (26 credits)**

**Required courses: (15 credits)**
- EN.570.239 Emerging Environmental Issues
- EN.570.301 Environmental Engineering Fundamentals I
- EN.570.302 Water & Wastewater Treatment
- EN.570.304 Environmental Engineering Laboratory
- EN.570.353 Hydrology

**Total Credits**
- 15

**Environmental Engineering Electives (12 credits):**

Students take at least two courses from one of the following focus areas, and at least one course from two of the other focus areas. Courses to be selected in consultation with advisor. Changes in courses must be accompanied by a Waiver/Substitution Form.

**Environmental Management and Economics**
- EN.570.418/618 Multiobjective Programming and Planning
- EN.570.496 Urban and Environmental Systems
- EN.570.497 Risk and Decision Analysis
- EN.570.490 Solid Waste Engineering and Management
- EN.570.491 Hazardous Waste Engineering and Management

**Environmental Engineering Science**
- EN.570.411 Engineering Microbiology
- EN.570.442 Environmental Organic Chemistry
- EN.570.443 Aquatic Chemistry
- EN.570.460 Environmental Colloidal Phenomena

**Environmental Transport**
- EN.530.328 Fluid Mechanics II
- EN.570.423 Principles of Geomorphology
- EN.570.432 Sediment Transport & River Mechanics
- EN.570.657 Air Pollution

**Environmental Health Engineering**
- AS.280.350 Fundamentals of Epidemiology
- PH.221.624
- PH.182.638
- PH.182.626
- PH.182.640
- PH.182.627
- PH.182.615
- PH.182.622
- PH.188.680
- PH.182.625
Technical Electives (TE) (minimum of 12 credits)

(Selected in consultation with an advisor)

At least three Engineering, Quantitative Studies, or Natural Sciences at or above the 300-level, subject to approval by the department totalling at least 12 credits.

Technical electives must fulfill the following requirements:

1. TEs must total 12 credits of advanced 300-level Engineering, Quantitative Studies, or Natural Sciences courses, and
2. must be approved by the department. (For ABET requirements at least one from: Solid Waste; Hazardous Waste; Air Pollution; Environmental Health Engineering, if not satisfied as part of the Environmental Engineering electives.) Up to six credits of independent study or research may be applied toward engineering requirements (e.g., EN.570.501 Undergraduate Research/EN.570.502 Undergraduate Independent Study, or Senior Thesis). Note earlier comments for premedical majors.

It is strongly recommended that students take additional advanced classes in computing and numerical methods. EE students are strongly encouraged to take at least one course in organic chemistry (e.g., AS.030.205 Organic Chemistry I). The organic chemistry course will meet the TE requirement.

Guidance for Technical Electives for the EE Major

Technical electives are intended to provide students with courses with technical content and extend mastery in appropriate subject matter.

- TEs require use of fundamental science or mathematics, have appropriate prerequisites (e.g., university-level calculus, physics, chemistry, or other N or Q courses) and generally at a 300-level or higher.
- TEs must have the appropriate level of rigor which is defined as encompassing both of the following requirements:
  - 5-10 homework assignments; and
  - a culminating project (final project, group project, paper) or final examination. Lecture-only classes (no homework or exams) will not qualify as a TE for the EE major.
- TEs require accumulation and depth of analytical skill or knowledge. In general, this precludes survey courses or courses that have no technical prerequisites that are taught by multiple professors or a series of guest lecturers, or cover a broad spectrum of a topic instead of building mastery in one area.

Exceptions are possible only with the approval of either the Departmental Chair or Director of Undergraduate Studies.

Sample EE Program (Focus Area: Environmental Engineering Science)

Note: This program is based on the assumption that students have not previously completed A.P. courses in calculus, physics, chemistry, etc.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AS.110.108</td>
<td>Calculus I (Physical Sciences and Engineering (M))</td>
<td>4 AS.110.109</td>
<td>Calculus II (Physical Sciences and Engineering (M))</td>
</tr>
<tr>
<td>AS.030.101</td>
<td>Introductory Chemistry I (BS)</td>
<td>3 AS.030.102</td>
<td>Introductory Chemistry II (BS)</td>
</tr>
<tr>
<td>AS.030.105</td>
<td>Introductory Chemistry Lab I (BS)</td>
<td>1 AS.030.106</td>
<td>Introductory Chemistry Laboratory II (BS)</td>
</tr>
<tr>
<td>EN.570.108</td>
<td>Introduction Environmental Engineering (GE)</td>
<td>3 AS.171.101</td>
<td>General Physics: Physical Science Major I (BS)</td>
</tr>
<tr>
<td>HS Elective</td>
<td>3 AS.173.111</td>
<td>General Physics Laboratory I (BS)</td>
<td></td>
</tr>
<tr>
<td>EN.570.210</td>
<td>Computation/ Math Modeling (GE)</td>
<td>3</td>
<td></td>
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<td>14</td>
<td></td>
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<thead>
<tr>
<th>Second Year</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>Fall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN.550.291</td>
<td>Linear Algebra and Differential Equations (M)</td>
<td>4 AS.110.202</td>
<td>Calculus III (Calculus of Several Variables (M))</td>
</tr>
<tr>
<td>AS.171.102</td>
<td>General Physics: Physical Science Majors II</td>
<td>4 EN.510.312</td>
<td>Thermodynamic: Materials (GE)</td>
</tr>
<tr>
<td>AS.173.112</td>
<td>General Physics Laboratory II (BS)</td>
<td>1 EN.570.239</td>
<td>Emerging Environmental Issues (EER)</td>
</tr>
<tr>
<td>EN.560.201</td>
<td>Statics &amp; Mechanics of Materials (GE)</td>
<td>4</td>
<td>HS Elective 2</td>
</tr>
<tr>
<td>EN.570.205</td>
<td>Ecology (BS)</td>
<td>3</td>
<td>HS Elective 3</td>
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<td></td>
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<td>16</td>
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</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN.570.301</td>
<td>Environmental Engineering Fundamentals I (EER)</td>
<td>3</td>
<td>Probability/ Statistics (M)</td>
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<td></td>
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<td>3</td>
</tr>
</tbody>
</table>
Environmental engineers play particularly pivotal roles as professionals who bridge the gap between understanding complex scientific concepts and helping to formulate public policies that affect the environment.

Environmental engineering has become an important aspect of engineering practice in most engineering fields, and the discipline spans the professional spectrum from the private sector through governmental agencies to academia. An undergraduate minor in environmental engineering allows engineering students to pursue an interest in this field and to incorporate aspects of environmental engineering into careers in other engineering disciplines.

Students in any undergraduate major in the Whiting School of Engineering are eligible for admission to the environmental engineering minor program. Students will work with an advisor in the Department of Geography and Environmental Engineering to develop a program that meets the requirements for the minor and is consistent with the educational requirements of their major field of engineering study.

Requirements of the EE minor program consist of:
- a set of required core science and mathematics courses, already common to civil and chemical engineering majors;
- four required courses in environmental engineering (total of 12 credits, listed below); and
- two elective courses, one taken at the freshman or sophomore level, and the other taken at the junior or senior level.

### Core Courses (EE Minor)

Advanced placement credits and/or equivalent courses in other schools or departments are acceptable, subject to advisor approval.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AS.110.108</td>
<td>Calculus I</td>
</tr>
<tr>
<td>AS.110.109</td>
<td>Calculus II</td>
</tr>
<tr>
<td>AS.110.202</td>
<td>Calculus III</td>
</tr>
<tr>
<td>or AS.110.211</td>
<td>Honors Multivariable Calculus</td>
</tr>
<tr>
<td>EN.550.291</td>
<td>Linear Algebra and Differential Equations</td>
</tr>
<tr>
<td>AS.030.101</td>
<td>Introductory Chemistry I</td>
</tr>
<tr>
<td>AS.030.102</td>
<td>Introductory Chemistry II</td>
</tr>
<tr>
<td>AS.030.105</td>
<td>Introductory Chemistry Lab I</td>
</tr>
<tr>
<td>AS.030.106</td>
<td>Introductory Chemistry Laboratory II</td>
</tr>
<tr>
<td>AS.171.101</td>
<td>General Physics:Physical Science Major I</td>
</tr>
<tr>
<td>or AS.171.107</td>
<td>General Physics for Physical Sciences Majors (AL)</td>
</tr>
<tr>
<td>AS.173.111</td>
<td>General Physics Laboratory I</td>
</tr>
<tr>
<td>AS.173.112</td>
<td>General Physics Laboratory II</td>
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</tbody>
</table>

### Required Courses (total of 12 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EN.570.301</td>
<td>Environmental Engineering Fundamentals I</td>
</tr>
<tr>
<td>EN.570.302</td>
<td>Water &amp; Wastewater Treatment</td>
</tr>
<tr>
<td>EN.570.304</td>
<td>Environmental Engineering Laboratory</td>
</tr>
<tr>
<td>EN.570.305</td>
<td>Environmental Engineering Systems Design</td>
</tr>
</tbody>
</table>

**Note:** EN.500.200 is not strictly required for students who are willing to undertake additional effort toward obtaining basic skills in these areas; see the instructor if you have specific concerns.

### Elective Courses

(Total of 6 credits) one course from each of two groups is required. Double counting of these courses with specified required courses in the

### Minor in Environmental Engineering

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.305</td>
<td>Environmental Engineering Systems Design (D)</td>
</tr>
<tr>
<td>EN.570.334</td>
<td>Engineering Microeconomics (HS Elective 4)</td>
</tr>
<tr>
<td>EN.570.351</td>
<td>Introduction to Fluid Mechanics (GE)</td>
</tr>
</tbody>
</table>

Environmental Engineering Electives (EEE) = 12 credits; Technical Electives (TE) = 12 credits; Design (D) = 9 credits | Credits |
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Environmental Engineering or Technical Elective (EEE or TE)</td>
<td>3</td>
</tr>
<tr>
<td>Environmental Engineering or Technical Elective (EEE or TE)</td>
<td>3</td>
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</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EN.570.353</td>
<td>Hydrology (EER)</td>
</tr>
<tr>
<td>EN.570.419</td>
<td>Environmental Engineering Design I (D)</td>
</tr>
<tr>
<td>Environmental Engineering or Technical Elective (EEE or TE)</td>
<td>3</td>
</tr>
<tr>
<td>Environmental Engineering or Technical Elective (EEE or TE)</td>
<td>3</td>
</tr>
<tr>
<td>Environmental Engineering or Technical Elective (EEE or TE)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits: 125**

Math (M) = 19 credits; Humanities and Social Sciences (HS) = 18 credits; Basic Science (BS) = 24 credits; General Engineering (GE) = 16 credits; Environmental Engineering Requirement (EER) = 15 credits; Environmental Engineering Electives (EEE) = 12 credits; Technical Electives (TE) = 12 credits; Design (D) = 9 credits.
student’s major is not allowed. Substitution for one required course may be possible under special circumstances, with explicit approval of the environmental engineering minor advisor. Additional course electives are possible but require approval of the environmental engineering minor advisor.

**Group A**
Introductory courses at the freshman and sophomore level. One course required.*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.108</td>
<td>Introduction Environmental Engineering</td>
</tr>
<tr>
<td>EN.570.205</td>
<td>Ecology</td>
</tr>
<tr>
<td>EN.570.239</td>
<td>Emerging Environmental Issues</td>
</tr>
<tr>
<td>EN.570.328</td>
<td>Geography &amp; Ecology of Plants</td>
</tr>
<tr>
<td>AS.020.151</td>
<td>General Biology I</td>
</tr>
<tr>
<td>AS.270.220</td>
<td>The Dynamic Earth: An Introduction to Geology</td>
</tr>
</tbody>
</table>

**Group B**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>EN.570.353</td>
<td>Hydrology</td>
</tr>
<tr>
<td>EN.570.411</td>
<td>Engineering Microbiology</td>
</tr>
<tr>
<td>EN.570.423</td>
<td>Principles of Geomorphology</td>
</tr>
<tr>
<td>EN.570.442</td>
<td>Environmental Organic Chemistry</td>
</tr>
<tr>
<td>EN.570.443</td>
<td>Aquatic Chemistry</td>
</tr>
<tr>
<td>EN.570.445</td>
<td>Physical and Chemical Processes</td>
</tr>
<tr>
<td>EN.570.460</td>
<td>Environmental Colloidal Phenomena</td>
</tr>
<tr>
<td>EN.570.490</td>
<td>Solid Waste Engineering and Management</td>
</tr>
<tr>
<td>EN.570.491</td>
<td>Hazardous Waste Engineering and Management</td>
</tr>
<tr>
<td>AS.030.204</td>
<td>Chemical Structure and Bonding w/Lab</td>
</tr>
<tr>
<td>AS.030.205</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>AS.030.301</td>
<td>Physical Chemistry I</td>
</tr>
<tr>
<td>AS.270.369</td>
<td>Geochem Earth/Environmen</td>
</tr>
<tr>
<td>EN.540.301</td>
<td>Kinetic Processes</td>
</tr>
<tr>
<td>EN.540.303</td>
<td>Transport Phenomena I</td>
</tr>
<tr>
<td>EN.550.310</td>
<td>Probability &amp; Statistics for the Physical Sciences &amp; Engineering</td>
</tr>
</tbody>
</table>

**Total Credits** 6

* Engineering science courses that are developed for juniors and seniors and also introductory graduate-level courses. One course is required.

For further information, contact Dr. William P. Ball, EE Minor Coordinator, 410-516-5434, bbball@jhu.edu, or Adena Rojas, Senior Academic Program Coordinator, 410-516-5533, arojas@jhu.edu.

**Core Sciences (ES Minor)**

Because of the interdisciplinary nature of environmental science, it is important that professionals from various areas of expertise acquire a common language and set of core concepts to make discussion and cooperation possible. The following courses represent the minimum set of requirements:

**Mathematics (12 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>AS.110.108</td>
<td>Calculus I</td>
</tr>
<tr>
<td>AS.110.109</td>
<td>Calculus II</td>
</tr>
<tr>
<td>EN.570.353</td>
<td>Hydrology</td>
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<tr>
<td>EN.570.411</td>
<td>Engineering Microbiology</td>
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<tr>
<td>EN.570.423</td>
<td>Principles of Geomorphology</td>
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<tr>
<td>EN.570.442</td>
<td>Environmental Organic Chemistry</td>
</tr>
<tr>
<td>EN.570.443</td>
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<tr>
<td>EN.570.445</td>
<td>Physical and Chemical Processes</td>
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<td>EN.570.490</td>
<td>Solid Waste Engineering and Management</td>
</tr>
<tr>
<td>EN.570.491</td>
<td>Hazardous Waste Engineering and Management</td>
</tr>
</tbody>
</table>

**Biology (3 credits)**

One course, such as:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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</thead>
<tbody>
<tr>
<td>AS.020.151</td>
<td>General Biology I</td>
</tr>
</tbody>
</table>

**Physics (10 credits)**

<table>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>AS.171.101</td>
<td>General Physics: Physical Science Major I</td>
</tr>
<tr>
<td>AS.171.107</td>
<td>General Physics for Physical Sciences Majors (AL)</td>
</tr>
<tr>
<td>AS.171.102</td>
<td>General Physics: Physical Science Majors II</td>
</tr>
<tr>
<td>AS.171.108</td>
<td>General Physics for Physical Sciences Majors (AL)</td>
</tr>
<tr>
<td>AS.173.111</td>
<td>General Physics Laboratory I</td>
</tr>
<tr>
<td>AS.173.112</td>
<td>General Physics Laboratory II</td>
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</table>

**Chemistry (13 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.030.101</td>
<td>Introductory Chemistry I</td>
</tr>
<tr>
<td>AS.030.105</td>
<td>Introductory Chemistry Lab I</td>
</tr>
<tr>
<td>AS.030.106</td>
<td>Introductory Chemistry Laboratory II</td>
</tr>
</tbody>
</table>

**Total Credits** 31

**Environmental Sciences**

Students must take two introductory courses dealing with the environment and three or more of the upper-level environmental science courses on the following lists:

**Introductory Courses (6 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.110</td>
<td>Introduction to Engineering for Sustainable Development</td>
</tr>
<tr>
<td>EN.570.205</td>
<td>Ecology</td>
</tr>
<tr>
<td>EN.570.239</td>
<td>Emerging Environmental Issues</td>
</tr>
<tr>
<td>AS.270.110</td>
<td>Freshman Seminar: Sustainable + Non-Sustainable Resources</td>
</tr>
<tr>
<td>AS.270.220</td>
<td>The Dynamic Earth: An Introduction to Geology</td>
</tr>
<tr>
<td>AS.270.221</td>
<td>The Dynamic Earth Laboratory</td>
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</tbody>
</table>

**Upper-Level Courses (9 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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</thead>
<tbody>
<tr>
<td>EN.570.239</td>
<td>Emerging Environmental Issues</td>
</tr>
<tr>
<td>EN.570.301</td>
<td>Environmental Engineering Fundamentals I</td>
</tr>
<tr>
<td>EN.570.302</td>
<td>Water &amp; Wastewater Treatment</td>
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<tr>
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<tr>
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<td>Hydrology</td>
</tr>
<tr>
<td>EN.570.411</td>
<td>Engineering Microbiology</td>
</tr>
</tbody>
</table>
EN.570.432  Sediment Transport & River Mechanics
EN.570.441  Environmental Inorganic Chemistry
EN.570.442  Environmental Organic Chemistry
EN.570.443  Aquatic Chemistry
EN.570.445  Physical and Chemical Processes
EN.570.446  Biological Process of Wastewater Treatment
EN.570.460  Environmental Colloidal Phenomena
EN.570.491  Hazardous Waste Engineering and Management
AS.270.302  Aqueous Geochemistry
AS.270.311  Geobiology
AS.270.313  Isotope Geochemistry
AS.270.314  Planetary Tectonics and Geodynamics
AS.270.350  Sedimentary Geology
AS.270.369  Geochem Earth/Environment

Physical Processes

Erosion of hillslopes, rivers, and coastlines; sediment production, transport, and fate; groundwater, movement of contaminant plumes; oceanography; atmospheric physics; aerosol formation; global warming. Illustrative majors: Civil Engineering, Chemical and Biomolecular Engineering, Mechanical Engineering, Physics, Earth and Planetary Sciences.

Environmental Chemistry


Environmental Systems

Environmental modeling, risk assessment, environmental systems design, pollution control strategies. Illustrative majors: Civil Engineering, Applied Mathematics and Statistics.

Faculty Advising

A faculty advisor is assigned to each student in the environmental sciences minor program to assist in planning his/her academic program and to approve the choice of courses to satisfy the minor. Faculty advisors are available in the following areas:

Biological Processes: Edward J. Bouwer

Environmental Chemistry: Alan T. Stone
Environmental Systems: Ben Hobbs
Human Geography: Erica J. Schoenberger

Minor in Engineering for Sustainable Development

Engineers will be increasingly called upon to help devise solutions to the tremendous problems of poverty, inequality, and social and environmental dislocation that afflict major parts of the globe in the 21st century. Working as an engineer in this context involves negotiating highly complex social, economic, and political realities and dealing with a wide range of institutions and actors, including national and local governments, multilateral lenders such as the World Bank, diverse non-governmental organizations (NGOs), and local communities. It also increasingly involves working in interdisciplinary teams with social scientists, public health and medical workers, humanitarian aid workers, bankers, politicians, and the like. “Sustainable” development implies a development path that is socially equitable, culturally sensitive, and environmentally appropriate over a multi-generational time frame. The minor in Engineering for Sustainable Development exposes engineering students to some of the key issues related to development, methods of information-gathering in diverse and difficult settings, and working effectively with non-engineers on complex problems.

The minor encompasses seven courses. The core course is EN.570.110 Introduction to Engineering for Sustainable Development. Five additional courses will be selected in a program devised in consultation with the minor advisor.

Of the Five Additional Courses

• Three must be grouped around a specific theme, region or within a specific discipline. Themes might include, for example, public health, environment, or economic development. Regions include Africa, Latin America, or Asia. Disciplinary concentrations might be in Anthropology, Economics, Geography, History, Political Science, Public Health, or Sociology.

• Three of the courses must be at the 300-level or above.

• One of the courses must cover methods for gathering and evaluating information in a development context.

Examples include:

- AS.070.219 Anthropology & Public Action 3
- AS.070.319 Logic of Anthropological Inquiry 3
- AS.070.347 Anthropology and Public Action 3
- AS.280.345 Public Health Biostatistics 4
- AS.280.350 Fundamentals of Epidemiology 4
- AS.230.202 Research Methods for the Social Sciences 3

Bachelor of Arts in Geography

Geographical knowledge constitutes a vital store of information concerning the distribution over the earth’s surface of those environmental conditions (both naturally occurring and anthropogenic) essential to support an immense diversity of human life and activity.

The study of Geography focuses on understanding how physical, biotic, social, and economic processes are perpetually reshaping environments
and landscapes in ways either favorable or unfavorable for different life forms in general and for different and distinctive kinds of human occupancy and culture in particular. Geographical education seeks to instill a deep appreciation of the grand diversity of ways in which the peoples of the earth have learned to use and modify their environments creatively. It also focuses on the environmental problems that arise in association with such processes of modification. While geography in general looks to maintain a strong bond between physical and human dimensions of landscape formation, specialization within that general framework is also encouraged.

Human Geography is primarily concerned with the detailed specification of the economic, social, political, and cultural processes that lead to the substantive modification of natural environments through the draining of marshes, the damming of rivers, the development of agriculture, mining, and industry, and the construction of human settlements. It is also crucially concerned with the forms of interaction (trade, communications, capital flows, and migrations) between people over space and the effects of such interactions upon the people of the world. The barriers to interaction (political boundaries, for example, and the acquisition by human populations of strong senses of local, regional, and territorial identity) are likewise a key topic for examination.

Physical geography is primarily concerned with those physical processes—climatic, ecological, geological, hydrological—which have shaped and which continue to shape the earth's surface, creating distinctive physical and ecological conditions for different life forms. Training in physical geography aims to build sufficient technical expertise to handle a wide range of environmental problems concerning the atmosphere, the Earth, and the hydrosphere, with special emphases upon water, surficial processes, and ecology.

### Requirements for the B.A. Degree

(See also General Requirements for Departmental Majors (p. 24) and Writing Requirement sections.)

The B.A. in geography offers a broad background in the sciences (particularly biological and ecological), the social sciences, and the humanities. All geography majors must fulfill the general university requirements and take four fundamental courses in geography. They may then choose a concentration in either physical or human geography. In addition to these courses focused on their special interest, they may freely select electives to fill the 120 credit hours required for the B.A. degree. Students work closely with their faculty advisor to create a program that fulfills their individual academic objectives and includes sufficient depth and rigor.

#### Focus Areas within the Geography Major

Students may select between two different focus areas within the geography major:

**Human Geography**

- And knowledge of one foreign language at the intermediate level.
- At least four appropriate introductory courses (12 or more credits) are also required in such fields as anthropology, economics, humanities, political science, and sociology.

**Physical Geography**

The major with a focus area in physical geography consists of four parts:

1. mathematics,
2. the basic natural sciences,
3. those sciences directly related to the student's area of specialization, such as environmental chemistry, physical geography, or biogeography, and
4. courses which focus on the environment itself: the atmosphere, earth, and hydrosphere.

### Requirements

- AS.110.202 Calculus III; EN.550.310 Probability & Statistics for the Physical Sciences & Engineering (or the equivalent).
- At least four appropriate introductory courses (12 or more credits) are also required in such fields as chemistry, biology, geology, or physics.
- A minimum of eight courses (about 24 credits) at the intermediate level in their field of major interest (in consultation with their geography minor advisor).

Undergraduates with an interest in environmental chemistry, for example, would take fundamental courses such as organic chemistry, biochemistry, and thermodynamics, while those oriented toward the earth sciences would take courses in petrology, thermodynamics, fluid mechanics, and other aspects of geology. For a student interested in biogeography—dealing with the spatial pattern of plants, the role of environmental factors in influencing those distributions, and the effect of changes in vegetation on the landscape—the department offers courses in plant geography, ecology, and paleoecology.

### Program in Public Decision Making

Undergraduates majoring in geography may satisfy departmental requirements through the program in Systems Analysis and Economics for Public Decision Making. In addition to prerequisites from other departments (e.g., EN.550.361 Introduction to Optimization-EN.550.362 Introduction to Optimization II and AS.180.101 Elements of Macroeconomics-AS.180.102 Elements of Microeconomics), students in this program take at least four courses from the public decision making
The goals for students in the Ph.D. program are:

- to develop reasoning skills that can be applied to new and unanticipated issues;
- learn how to pose questions and answer them in a logical manner;
- acquire a depth of understanding and technical knowledge in a particular study area, on par with others worldwide; and
- make a significant contribution to our understanding in this particular study area. The emphasis in the Ph.D. degree is upon a sound foundation in the fundamentals required in a given area with considerable flexibility in course selection determined by the interests and background of each graduate student. The doctoral student must take the equivalent of about two full academic years of formal course work. Roughly half of this is done in the principal subject, and the rest is chosen from allied fields. The minimum residence requirement is two consecutive semesters registered as a full-time student.

All students must pass departmental and Graduate Board oral examinations for the doctorate. Usually these examinations are taken after two years of academic work. Research leading to the dissertation should make an original contribution to the chosen field of specialization, and the result must be worthy of publication. A final dissertation defense that involves an open seminar and a closed oral examination is required of all DoGEE doctoral students.

Master of Science (M.S.) Degree

The M.S. degree is open to students with undergraduate degrees in engineering, mathematics, biology, chemistry, physics, geology, and other scientific disciplines. The M.S. degree program includes the following requirements:

- a minimum of 30 credits including no more than 1 credit of seminar, 1 credit of intersession course work, and 6 credits of independent research counting toward the 30 credits.
- at least 50% of the required 30 credits must come from courses within the department.
- students are permitted to apply up to two classes with a grade of “C” toward their degree.
- up to two semesters of AAP or EP courses can be taken and counted to receive a master’s degree as long as there is sufficient rigor as deemed by the advisor. Students must have written consent from advisor (an email will suffice) prior to signing up for the course.

M.S. students have the option to complete an independent research project, submitted as a formal essay. A minimum of two semesters is required to complete the M.S. degree without the research project option. Three to four semesters are typically required to complete the degree with a research project.

M.S. students are strongly recommended to take as prerequisites for the M.S. program mathematics through differential equations and computing skills. Additionally, M.S. students who choose to follow Contaminate Fate and Transport, Environmental Process Engineering, and Water Resources Engineering concentrations are encouraged to take an introductory fluid mechanics course. Whether introductory fluid mechanics will count towards an M.S. student’s graduation credits is decided on a case-by-case basis by the department. Each individual’s program of study is planned by the student in consultation with department faculty and must be approved by the faculty advisor.

Concentrations for the M.S. Degree

Environmental Science

This concentration provides a broad yet rigorous background for environmental professionals. Using the department’s areas of interest, study, and research as guides and in consultation with their advisors, M.S. students can construct their own concentration that complements and expands their interests and professional goals. Additionally, M.S. students can choose to follow or pull from the M.S.E. concentration tracks: Fate & Transport, Environmental Management and Economics, Environmental Process Engineering, and Water Resources Engineering.
Environmental Science and Policy
This concentration is similar to Environmental Science but includes economics and systems courses. Four courses are recommended in environmental science, including the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.445</td>
<td>Physical and Chemical Processes</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.446</td>
<td>Biological Process of Wastewater Treatment</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.448</td>
<td>Physical and Chemical Processes II</td>
<td>3</td>
</tr>
</tbody>
</table>

M.A. and M.S. students pursuing this program who do not have prior background in environmental engineering can substitute EN.570.301 Environmental Engineering Fundamentals I and EN.570.302 Water & Wastewater Treatment in lieu of the courses suggested above.

The other environmental science courses should be chosen from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.411</td>
<td>Engineering Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>EN.570.442</td>
<td>Environmental Organic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.443</td>
<td>Aquatic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.491</td>
<td>Hazardous Waste Engineering and Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Four courses are required in environmental policy, including:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.493</td>
<td>Economic Foundations For Public Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.495</td>
<td>Mathematical Foundations For Public Decision Making</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose one of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.195.477</td>
<td>Intro To Urban Policy</td>
</tr>
<tr>
<td>AS.195.478</td>
<td>Urban Policy Internship</td>
</tr>
<tr>
<td>AS.195.607</td>
<td>The Policy Process</td>
</tr>
<tr>
<td>EN.570.497</td>
<td>Risk and Decision Analysis</td>
</tr>
<tr>
<td>EN.570.659</td>
<td>Environmental Policy Analysis</td>
</tr>
</tbody>
</table>

The final two courses would be a project or electives in environmental science, engineering, policy, or systems that are appropriate to the student’s goals.

Master of Science in Engineering (M.S.E.) Degree
The M.S.E. degree is open to students with an ABET-accredited undergraduate engineering degree or demonstrated equivalent. The M.S.E. degree program includes the following requirements:

- a minimum of 30 credits including no more than 1 credit of seminar, 1 credit of intersession course work, and 6 credits of independent research counting toward the 30 credits.
- at least 50% of the required 30 credits must come from courses within the department.
- students are permitted to apply up to two classes with a grade of “C” toward their degree.
- 5-6 required courses and 4-5 recommended elective courses depending on concentration (Note: In order to substitute an alternate course for a recommended elective, students must receive written approval from their advisor).
- prerequisites (required) for the M.S.E. program includes mathematics through differential equations and computing skills.
- up to two semesters of AAP or EP courses can be taken and counted to receive a master’s degree as long as there is sufficient rigor as deemed by the advisor. Students must have written consent from advisor (an email will suffice) prior to signing up for the course.

The M.S.E. program is typically a nine month program based on course work alone. However, M.S.E. students have the option to complete an independent research project, submitted as a formal essay or group project report. An M.S.E. degree with significant research components will usually require three to four semesters for completion and is generally intended for those students planning to work in engineering practice. Each individual’s program of study is planned by the student in consultation with department faculty and must be approved by the faculty advisor. M.S.E. students select from the concentrations below.

Recommended Electives Note: It is strongly advised to select elective courses from the list of recommended electives appropriate for each concentration. In order to substitute an alternate course for a recommended elective, students must receive written approval from their advisor.

Concentrations for the M.S.E. Degree
Contaminant Fate and Transport
This concentration emphasizes understanding of physical, chemical, and biological phenomena that affect the movement and transformation of pollutants in the environment.

Required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.411</td>
<td>Engineering Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>EN.570.441</td>
<td>Environmental Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.442</td>
<td>Environmental Organic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.443</td>
<td>Aquatic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.452</td>
<td>Exper Meth Env Eng Chem</td>
<td>4</td>
</tr>
</tbody>
</table>

One course in applied mathematics, numerical analysis, or engineering mathematics, such as:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.495</td>
<td>Mathematical Foundations For Public Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.496</td>
<td>Urban and Environmental Systems</td>
<td></td>
</tr>
<tr>
<td>EN.570.487</td>
<td>Financial Market Research</td>
<td></td>
</tr>
<tr>
<td>EN.570.661</td>
<td>Applied Math For Engine</td>
<td></td>
</tr>
</tbody>
</table>

Recommended electives include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.375</td>
<td>Groundwater</td>
<td>3</td>
</tr>
<tr>
<td>or EN.570.412</td>
<td>Landscape Hydrology and Watershed Analysis</td>
<td></td>
</tr>
<tr>
<td>EN.570.446</td>
<td>Biological Process of Wastewater Treatment</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.460</td>
<td>Environmental Colloidal Phenomena</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.657</td>
<td>Air Pollution</td>
<td></td>
</tr>
<tr>
<td>EN.570.686</td>
<td>Multiscale Flow &amp; Transport</td>
<td></td>
</tr>
</tbody>
</table>

Environmental Process Engineering
This concentration involves the analysis and design of processes of water treatment, waste treatment, and environmental remediation, and includes a solid grounding in the chemical, biological, and physical principles underlying treatment and remediation technologies.

Required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.411</td>
<td>Engineering Microbiology</td>
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<tr>
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<td>Aquatic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.445</td>
<td>Physical and Chemical Processes</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.446</td>
<td>Biological Process of Wastewater Treatment</td>
<td>3</td>
</tr>
</tbody>
</table>
### Physical and Chemical Processes II

EN.570.448 Physical and Chemical Processes II  
EN.570.452 Exper Meth Env Eng Chem

One course in applied mathematics, numerical analysis, or engineering mathematics, such as:

- EN.570.487 Financial Market Research
- EN.570.495 Mathematical Foundations For Public Decision Making
- EN.570.496 Urban and Environmental Systems
- EN.570.661 Applied Math For Engineer

Additional Requirements: an introductory fluid mechanics course. If this prerequisite is lacking, it can be taken as part of the course of study, but the credits will not be counted toward the 30-credit requirement.

#### Recommended electives include:

- At least one course in Geomorphology, Hydrology, or Ecology
- At least one course in Systems Analysis and Economics
- EN.570.442 Environmental Organic Chemistry
- EN.570.460 Environmental Colloidal Phenomena
- EN.570.491 Hazardous Waste Engineering and Management

### Water Resources Engineering

This concentration combines a solid grounding in environmental fluid mechanics and hydrology with electives in modeling, water development planning, policy, and contaminant fate and transport.

#### Required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.353</td>
<td>Hydrology</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.375</td>
<td>Groundwater</td>
<td>3</td>
</tr>
<tr>
<td>or EN.570.412</td>
<td>Landscape Hydrology and Watershed Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.395</td>
<td>Principles of Estuarine Environment: Chesapeake Bay</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.405</td>
<td>Modeling the Hydrological Cycle</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.426</td>
<td>Geomorphic and Ecologic Foundations of Stream Restoration</td>
<td>3</td>
</tr>
</tbody>
</table>

One course in applied mathematics, numerical analysis, or engineering mathematics, such as:

- EN.570.487 Financial Market Research
- EN.570.661 Applied Math For Engineer
- EN.570.495 Mathematical Foundations For Public Decision Making
- EN.570.496 Urban and Environmental Systems

Additional requirements: an introductory fluid mechanics course. If this prerequisite is lacking, it can be taken as part of the course of study, but the credits will not be counted toward the 30-credit requirement.

#### Recommended electives include:

- At least one course in Systems Analysis or Economics
- EN.570.493 Economic Foundations For Public Decision Making
- EN.570.497 Risk and Decision Analysis
- EN.570.423 Principles of Geomorphology
- EN.570.432 Sediment Transport & River Mechanics
- EN.570.443 Aquatic Chemistry

### Environmental Management and Economics

This concentration focuses on using models of physical and economic systems to analyze and improve the design of public policies and environmental control systems.

#### Required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.570.493</td>
<td>Economic Foundations For Public Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.495</td>
<td>Mathematical Foundations For Public Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.496</td>
<td>Urban and Environmental Systems</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.497</td>
<td>Risk and Decision Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.608</td>
<td>Data Analytics for Engineering, Policy Analysis and Management</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.659</td>
<td>Environmental Policy Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Recommended electives include:

- At least one course in physical, chemical, or biological processes
- EN.570.607 Energy Policies & Plan Models
- EN.570.618 Multiobject Programming and Planning
- EN.570.676 Stochastic Programming
- Or other environmental economics course.

### M.A. Degree

The M.A. degree is open to students with undergraduate degrees in social sciences or the humanities. It requires:

- a minimum of 30 credits including no more than 1 credit of seminar, 1 credit of intersession course work, and 6 credits of independent research counting toward the 30 credits.
- at least 50% of the required 30 credits must come from courses within the department.
- students are permitted to apply up to two classes with a grade of “C” toward their degree.
- up to two semesters of AAP or EP courses can be taken and counted to receive a master’s degree as long as there is sufficient rigor as deemed by the advisor. Students must have written consent from advisor (an email will suffice) prior to signing up for the course.

In addition to these course credits, M.A. students have the option to complete an independent research project, submitted as a formal essay. Students can focus on one of the department’s areas of interest, study, or research or construct their own program that complements and expands their undergraduate experience; three semesters are typically required to complete the degree. Each program of study is planned by the student in consultation with department faculty and must be approved by the faculty advisor.

For current faculty and contact information go to [http://engineering.jhu.edu/dogee/people/faculty.html](http://engineering.jhu.edu/dogee/people/faculty.html)

#### Faculty

**Chair**

Edward J. Bouwer
Abel Wolman Professor of Environmental Engineering: environmental engineering, environmental microbiology, waste treatment.

**Professors**

William P. Ball  
Professor: environmental engineering, contaminant fate and transport.

Grace S. Brush  
Professor: ecology, plant geography.

J. Hugh Ellis  
Professor: environmental systems.

Steve H. Hanke  
Professor: applied micro- and macroeconomics and finance.

Benjamin F. Hobbs  
Theodore K. and Kay W. Schad Professor of Environmental Management: energy and environmental systems, engineering and economics.

A. Lynn Roberts  
Professor: environmental chemistry.

Erica J. Schoenberger  
Professor: economic geography, environment, society and technology, environmental history.

Alan T. Stone  
Professor: environmental and aquatic chemistry.

**Associate Teaching Professor**

Hedy V. Alavi  
Associate Teaching Professor, Program Chair, EP Environmental Engineering, Science, and Management: environmental engineering, hazardous and solid waste engineering and management.

**Professor Emeritus**

John J. Boland  
Professor Emeritus: environmental economics and policy.

**Research Professor Emeritus**

Eugene D. Shchukin  
Research Professor Emeritus: colloid and surface science.

**Assistant Professors**

Kai Loon Chen  
Assistant Professor: physiochemical processes, particle interaction.

Seth Guikema  
Assistant Professor: Probabilistic systems modeling techniques, risk analysis, uncertainty modeling, infrastructure modeling, and decision making under uncertainty.

Ciaran Harman  
Assistant Professor: watershed hydrology, geomorphology.

Sarah Preheim  
Assistant Professor: environmental microbiology, microbial ecology, bioinformatics

**Associate Research Professor**

Justin C. Williams  
Associate Research Professor: environmental and urban systems.

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**Joint, Part-Time, and Visiting Appointments**

Joseph Katz  
Professor (Mechanical Engineering): experimental fluid mechanics, development of advanced diagnostics techniques.

Charles Meneveau  
Professor (Mechanical Engineering): environmental fluid mechanics, engineering, turbulence.

Marc B. Parlange  
Adjunct Professor: hydrology, environmental fluid mechanics, atmospheric interactions.

Andrea Prosperetti  
Professor (Mechanical Engineering): fluid mechanics, bubble mechanics, numerical simulations.

Kellogg Schwab  
Associate Professor (Environmental Health Engineering, Bloomberg School of Public Health): environmental public health, pathogen microbiology.

For current course information and registration go to https://isis.jhu.edu/classes/

**Courses**

**EN.570.108. Introduction Environmental Engineering. 3 Credits.**  
Overview of environmental engineering including water/air quality issues, water supply/ wastewater treatment, hazardous/solid waste management, pollution prevention, global environmental issues, public health considerations/environmental laws, regulations and ethics. Cross listed with Public Health Studies.  
Instructor(s): H. Alavi  
Area: Engineering.

**EN.570.109. Environment & Society: Towards Sustainability. 3 Credits.**  
An introduction to understanding sustainability, with a focus on identifying and implementing solutions for a world of increasing needs and limited resources.  
Area: Humanities, Social and Behavioral Sciences.

**EN.570.110. Introduction to Engineering for Sustainable Development. 3 Credits.**  
Instructor(s): E. Schoenberger  
Area: Humanities, Social and Behavioral Sciences.

**EN.570.130. Climate, Environment and Society. 3 Credits.**  
Climate change will put major stress on the environment and society. Some predict wars over water and climate-induced mass migration. What can the past teach us about how we cope or fail to cope with climate change? What do we think the future holds and what do we think we can do about it? The class involves reading, discussion, debate and research. Freshman only.

Instructor(s): E. Schoenberger  
Area: Humanities, Social and Behavioral Sciences.
EN.570.147. Adam Smith & Karl Marx. 3 Credits.
Smith and Marx are iconic figures in the history of political economic thought, often cited, rarely read. They are positioned as polar opposites in highly consequential debates about how society should be ordered. In this class, we will read and discuss their work, closely and carefully. We concentrate on the two iconic texts – The Wealth of Nations and Capital, Vol. 1 – but also explore some of their less well-known writings.
Instructor(s): E. Schoenberger
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

EN.570.205. Ecology. 3 Credits.
Introduction to processes governing the organization of individual organisms into populations, communities, and ecosystems. Interactions between individual organisms, groups of organisms, and the environment, including adaptation, natural selection, competition.
Instructor(s): G. Brush
Area: Natural Sciences.

EN.570.210. Computation/Math Modeling. 3 Credits.
An introduction to the use of computers in developing mathematical models. A structured approach to problem definition, solution, and presentation using spreadsheets and mathematical software. Modeling topics include elementary data analysis and model fitting, numerical modeling, dimensional analysis, optimization, simulation, temporal and spatial models. Recommended Course Background: AS.110.108 or equivalent.
Instructor(s): P. Wilcock
Area: Engineering, Quantitative and Mathematical Sciences.

EN.570.222. Environment and Society. 3 Credits.
Humans make their living in the environment. How we do that changes nature and changes us. This class explores human impacts on the environment, how we have thought about our relationship to nature over the millennia, and contemporary environmental discourses.
Instructor(s): E. Schoenberger.

EN.570.239. Emerging Environmental Issues. 3 Credits.
Scientific principles underpinning environmental issues, with an emphasis on potential impacts of anthropogenic perturbation on human and ecosystem health. Recommended Course Background: two semesters of Chemistry.
Instructor(s): A. Roberts
Area: Engineering, Natural Sciences.

EN.570.285. Understanding Aid: Anthropological Perspectives for Technology-Based Interventions. 3 Credits.
This course combines anthropological perspectives with the discussion and examination of technology-based interventions in the field of development and aid policies, with particular focus on activities related to water resources, sanitation, and hygiene. Readings and discussions analyze some of the theoretical, historically rooted, and practical issues that challenge those who hope to provide effective aid. A key aim of this course is to provide students with better understanding of cultural, social, environmental and economic issues relevant to technical intervention in developing countries.
Instructor(s): E. Cervone; W. Ball
Area: Humanities, Social and Behavioral Sciences.

EN.570.301. Environmental Engineering Fundamentals I. 3 Credits.
Fundamentals and applications of physical and chemical processes in the natural environment and engineered systems. This class will cover material balances, chemical equilibrium, chemical kinetics, vapor pressure, dissolution, sorption, acid-base reactions, transport phenomena, reactor design, water quality, and environmental implications of nanotechnology.
Instructor(s): K. Chen
Area: Engineering, Natural Sciences.

EN.570.302. Water & Wastewater Treatment. 3 Credits.
Theory and design of water and wastewater treatment processes including coagulation, sedimentation, filtration, adsorption, gas transfer, aerobic and anaerobic biological treatment processes, disinfection, and hydraulic profiles through treatment units.
Prerequisites: EN.570.301 or permission required.
Instructor(s): W. Ball
Area: Engineering, Natural Sciences.

EN.570.304. Environmental Engineering Laboratory. 3 Credits.
Introduction to laboratory measurements relevant to water supply and wastewater discharge, including pH and alkalinity, inorganic and organic contaminants in water, reactor analysis, bench testing for water treatment, and measurement and control of disinfection by-products. Recommended Course Background: EN.570.210 or Instructor Permission; Corequisite: EN.570.302.
Instructor(s): A. Roberts
Area: Engineering, Natural Sciences.

EN.570.305. Environmental Engineering Systems Design. 4 Credits.
Techniques from systems analysis applied to environmental engineering design and management problems: reservoir management, power plant siting, nuclear waste management, air pollution control, and transportation planning. Design projects are required.
Instructor(s): J. Ellis
Area: Engineering, Quantitative and Mathematical Sciences.

EN.570.310. Unraveling Error: Moral Explorations of Technology. 3 Credits.
In this course we will explore the concept of error as a way of thinking through the fundamental moral problems posed by technology. We will unpack how technologies have created new ways of living that pose both new possibilities and new challenges to established value systems. We will critically think through the notion of technological progress in relation to error, through specific cases such as disasters, climate change and global inequalities. And we will examine moral decision making in engineering ethics and how it is rooted in different ways of understanding and considering (or ignoring) error and its consequences.
Area: Humanities, Engineering
Writing Intensive.

EN.570.312. Projects in Appropriate and Sustainable Technology. 1 Credit.
Corequisite: EN.570.311
Corequisites: EN.570.311
Instructor(s): E. Schoenberger; W. Ball.
EN.570.320. Topics on Appropriate and Sustainable Technology for Developing Communities. 1 Credit.
Lectures, readings and discussions on general and location-specific issues related to collaborative student projects about appropriate technology-based interventions. Focus is on improving student understanding about some of the environmental, social, health, and economic issues relevant to the development of sustainable technical interventions for under-developed communities and about the role of engineers in designing, planning, implementing, and evaluating such interventions.
Instructor(s): W. Ball
Area: Engineering, Social and Behavioral Sciences.

EN.570.321. Practicum on Appropriate and Sustainable Technology for Developing Communities. 2 Credits.
Permission required Academic and practical support for students working on engineering projects in developing countries. Readings and discussions on general and location-specific issues related to collaborative student projects about appropriate technology-based interventions.
Instructor(s): W. Ball
Area: Engineering, Social and Behavioral Sciences.

EN.570.322. Projects in Appropriate and Sustainable Technology. 1 Credit.
Corequisite: EN.570.311
Instructor(s): W. Ball
Area: Natural Sciences.

EN.570.328. Geography & Ecology of Plants. 3 Credits.
Patterns of aquatic and terrestrial plant species; historical changes in patterns using paleobotanical techniques; emphasis on biological and physical mechanisms controlling the patterns; the role of climate and man on plant distributions; several field trips; project required.
Instructor(s): G. Brush
Area: Natural Sciences.

EN.570.334. Engineering Microeconomics. 3 Credits.
This course uses a calculus-based approach to introduce principles of engineering economics and microeconomics (demand and production theory) and their uses in engineering decision making. Recommended Course Background: AS.110.202
Instructor(s): B. Hobbs
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

EN.570.351. Introduction to Fluid Mechanics. 3 Credits.
Introduction to the use of the principles of continuity, momentum, and energy to fluid motion. Topics include hydrostatics, ideal-fluid flow, laminar flow, turbulent flow. Recommended Course Background: Statics, Dynamics, and AS.110.302
Instructor(s): W. Marr
Area: Engineering.

EN.570.353. Hydrology. 3 Credits.
The occurrence, distribution, movement, and properties of the waters of the Earth. Topics include precipitation, infiltration, evaporation, transpiration, groundwater, and streamflow. Analyzes include the frequency of floods and droughts, time-series analyzes, flood routing, and hydrologic synthesis and simulation. Recommended Course Background: AS.110.302, EN.570.351
Instructor(s): C. Harman
Area: Social and Behavioral Sciences.

EN.570.375. Groundwater. 3 Credits.
This introductory course emphasizes the fundamental principles governing the movement of water and contaminants in groundwater systems. Topics include groundwater hydraulics, well hydraulics, groundwater recharge, and solute transport. Prerequisites: EN.550.291/AS.110.302; Corequisites: EN.570.351
Instructor(s): M. Hilpert.

EN.570.395. Principles of Estuarine Environment: Chesapeake Bay. 3 Credits.
Topics include the physical, chemical, and biological components of the Chesapeake Bay ecosystem from the time it started to form some 10,000 to 12,000 years ago, when sea level began to rise as the continental glaciers receded; the geology, geomorphology, and biology of the watershed drained by the estuary; relationships between the watershed and the estuary through the millennia and the effect of climate, geomorphology, and humans on the ecology of the ecosystem and its economic productivity.
Area: Engineering, Natural Sciences.

EN.570.401. Ecosystems Ecology. 3 Credits.
This course compares the geography, biological structure, economics, history and dynamics of a number of terrestrial and marine ecosystems. The effect of human and natural disturbance, including climate on the evolution of the ecosystem will be considered. Designs for restoration and maintenance of ecosystems within the context of climate change and societal organizations will be studied. Sources will include historical and paleoecological records as well as results from the National Science Foundation Long Term Ecological Studies of Ecosystems (the LTER program).
Area: Natural Sciences
Writing Intensive.

EN.570.402. Practicum on Appropriate and Sustainable Technology for Developing Communities. 2 Credits.
Suggested: Microeconomics, Introductory Statistics and Optimization.
Instructor(s): W. Ball
Area: Engineering.

EN.570.403. Ecology. 3 Credits.
This is a graduate level of EN.570.205; Addtional Writing Requirements.
Instructor(s): G. Brush
Area: Natural Sciences
Writing Intensive.

EN.570.404. Political Ecology. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

EN.570.405. History of Environmental Thought. 3 Credits.
Area: Humanities, Social and Behavioral Sciences.

EN.570.406. Environmental History. 3 Credits.
Environmental history explores the interactions between social change and environmental transformation, or the ways in which societies modify landscapes and are themselves affected by geological, climatological and changing ecological conditions. Topics include the relationship between climate change and human evolution, the environmental impacts of market-based commodity production and regional economic specialization; the relationship between urbanization and environmental change; how warfare affects and is affected by environmental conditions.
Instructor(s): E. Schoenberger
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.
EN.570.407. Comparison of Environmental Challenges and Governance in China and the US. 3 Credits.

In cooperation with the School of the Environment at Nanjing University, Nanjing, China, this course will study China’s environmental challenges and governance in the context of America’s own environmental challenges and governance system. Case studies will involve greenhouse gas emissions and a comparison of water quality issues in Tai Lake and the Chesapeake Bay. We will consider how developments may shape business, government, and culture, and the ways in which China and America may learn from one another. The class sessions will be conducted in part “live,” in part by teleconference with Nanjing University, and in part by web (including communications with Nanjing University students and faculty). The objectives for the course are to 1) Provide students with basic information and concepts of law, business, and governance needed to understand 21st century environmental governance challenges; 2) Provide students exposure to important environmental problems facing both China and America; 3) Provide students with alternative frameworks needed to sift through and understand the wealth of information about environmental challenges and opportunities faced by China in the globalized world; and 4) Encourage students to learn to observe and think independently about how to frame and address questions of China environmental challenges and governance which may be key to the 21st century.

Instructor(s): E. Bouwer; H. Alavi
Area: Social and Behavioral Sciences.

EN.570.411. Engineering Microbiology. 4 Credits.

Fundamental aspects of microbiology and biochemistry as related to environmental pollution and water quality control processes, biogeochemical cycles, microbiological ecology, energetics and kinetics of microbial growth, and biological fate of pollutants.

Instructor(s): E. Bouwer
Area: Engineering, Natural Sciences.

EN.570.412. Landscape Hydrology and Watershed Analysis. 3 Credits.

The purpose of this class is to understand the landscape-scale controls on the fluxes of water and waterborne materials through watersheds. This class differs from the Hydrology and Hydrologic Modeling classes in its focus on data analysis, and its embrace of the complexity of real landscapes. There will be significant quantitative components to the material taught, but emphasis will be on developing a greater sense of the way that landscapes “function”, and how this function is related to real-world issues of water resources and pollution. Students will gain an understanding of how climate, geologic and ecologic setting, and human impacts control the partitioning of water between different fates, the flowpaths through the landscape and the storage and residence time of water. They will also learn conceptual and practical tools for analyzing hydrologic and other landscape data, and integrating this data in a holistic approach to watershed analysis. The class will be of interest for students intending to go into watershed or landscape management, and anyone wishing to pursue research in hydrology, geomorphology or ecology at landscape and watershed scales. The class will include at least one field trip to an instrumented watershed. GIS skills will be an advantage but are not required. Recommended Course Background: AS.270.405 or EN.570.353 or equivalent.

Instructor(s): C. Harman
Writing Intensive.

EN.570.418. Multiobjective Programming and Planning. 3 Credits.

Public sector problems are typically characterized by a multiplicity of objectives and decision makers. This course presents a relatively new area of systems analysis which is useful for such problems: multiobjective programming or vector optimization theory. The fundamental concepts are developed and various methods are presented, including multiattribute value and utility theory. Undergraduate level of EN.570.618. Recommended Course Background: EN.570.495 or Permission Required.

Instructor(s): J. Williams
Area: Engineering.

EN.570.419. Environmental Engineering Design I. 2 Credits.

Through general lectures and case study examples, this course will expose students to some of the non-technical professional issues that they will face as professional engineers and in their second-semester senior design project.

Instructor(s): E. Bouwer
Area: Engineering.

EN.570.421. Environmental Engineering Design II. 3 Credits.

Engineering design process from problem definition to final design. Team projects include written/oral presentations. Students will form small teams that work with local companies or government agencies in executing the project. Recommended Course Background: EN.570.302, EN.570.352, and EN.570.419

Instructor(s): B. Hobbs; E. Bouwer; P. Wilcock
Area: Engineering.

EN.570.423. Principles of Geomorphology. 4 Credits.

Analysis of the factors responsible for the form of the landscape. The concept of the cycle of erosion is discussed primarily in terms of the principles that govern the processes of erosion. Climate, conditions of soil formation, and the distribution of vegetation are considered as they relate to the development of landforms. Recommended Course Background: AS.270.220 or permission required.

Instructor(s): P. Wilcock
Area: Natural Sciences.

EN.570.426. Geomorphic and Ecologic Foundations of Stream Restoration. 3 Credits.

Principles from hydrology, sedimentation engineering, geomorphology, and ecology applied to design and assessment of stream restoration. Watershed context, design alternatives, uncertainty, ecological response. Field trips, design exercises, and project assessment.

Area: Engineering, Natural Sciences.

EN.570.428. Problems in Applied Economics Research. 3 Credits.

This course brings the principles of economic theory to bear upon particular problems in the fields of economics, finance and public policy. Micro, macro and international problems, from both the private and public sectors, are addressed. A heavy emphasis is placed on research and writing. Students learn how to properly conduct substantive economic research, utilizing statistical techniques and lessons from economic history. Findings are presented in the form of either memoranda or working papers. Exceptional work may be suitable for publication through the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise.

Prerequisites: EN.660.203
Instructor(s): S. Hanke
Area: Social and Behavioral Sciences
Writing Intensive.
EN.570.432. Sediment Transport & River Mechanics. 3 Credits.
Sediment entrainment, transport, and deposition; the interaction of flow and transport in shaping river channels. Review of boundary layer flow; physical properties of sediment; incipient, bed-load, and suspended-load motion; bed forms; hydraulic roughness; velocity and stress fields in open channels; scour and deposition of bed material; bank erosion; size, shape, planform, and migration of river channels. Techniques of laboratory, theoretical, and numerical modeling are developed and applied to problems of channel design, restoration, and maintenance. Recommended Course Background: EN.570.351
Instructor(s): P. Wilcock
Area: Engineering, Natural Sciences.

EN.570.441. Environmental Inorganic Chemistry. 3 Credits.
Advanced undergraduate/graduate course that explores the chemical transformations of elements of the periodic table. Thermodynamic, kinetic, and mechanistic tools needed to address the multiple chemical species and interfaces that are present in natural waters and water-based technological processes are emphasized. Ligand exchange, metal ion exchange, adsorption/desorption, precipitation/dissolution, electron and group transfer reactions, and other concepts from coordination chemistry will be covered. Applications include elemental sources and sinks in ocean waters, reactive transport in porous media, weathering and soil genesis, nutrient and toxic element uptake by organisms, water treatment chemistry, and rational design of synthetic chemicals.
Instructor(s): A. Stone
Area: Natural Sciences.

EN.570.442. Environmental Organic Chemistry. 3 Credits.
Advanced undergraduate/graduate course focusing on examination of processes that affect the behavior and fate of anthropogenic organic contaminants in aquatic environments. Students learn to predict chemical properties influencing transfers between hydrophobic organic chemicals, air, water, sediments, and biota, based on a fundamental understanding of intermolecular interactions and thermodynamic principles. Recommended Course Background: AS.030.104 or permission required.
Instructor(s): A. Roberts
Area: Engineering, Natural Sciences.

EN.570.443. Aquatic Chemistry. 3 Credits.
Equilibrium speciation of natural waters, biofluids, and engineered systems. Electrolyte solutions, acids and bases, complex formation, precipitation and dissolution, oxidation and reduction. Recommended Course Background: One year of both Chemistry and Calculus.
Instructor(s): A. Stone
Area: Engineering, Natural Sciences.

EN.570.445. Physical and Chemical Processes. 3 Credits.
The application of basic physical and chemical concepts to the analysis of environmental engineering problems. Principles of chemical equilibrium and reaction, reaction engineering, interphase mass transfer, and adsorption are presented in the context of process design for unit operations in common use for water and wastewater treatment. Topics addressed include mass balances, hydraulic characteristics of reactors, reaction kinetics and reactor design, gas transfer processes (including both fundamentals of mass transfer and design analysis), and adsorption processes (including both fundamentals of adsorption and design analysis).
Prerequisites: EN.570.301 AND EN.570.302 or permission of instructor
Instructor(s): W. Ball
Area: Engineering.

EN.570.446. Biological Process of Wastewater Treatment. 3 Credits.
Fundamentals and application of aerobic and anaerobic biological unit processes for the treatment of municipal and industrial wastewater. Recommended Course Background: EN.570.411
Instructor(s): E. Bouwer
Area: Engineering, Natural Sciences.

EN.570.448. Physical and Chemical Processes II. 3 Credits.
Fundamentals and applications of physical and chemical processes used in water and wastewater treatment. This class will cover particle interactions, coagulation, flocculation, granular media filtration, membrane processes, and emerging water treatment processes. Recommended Course Background: EN.570.445 or Permission Required.
Instructor(s): K. Chen
Area: Engineering.

EN.570.449. Social Theory for Engineers. 3 Credits.
Engineers work in a social context. This course addresses a number of questions about that social context. How should we understand how societies come about, how they evolve, and why the rules of the game are what they are? What is the relationship between the individual and society, what does it mean to be 'modern,' are there different forms of rationality? How might all this impinge on what it means to be an engineer?
Instructor(s): E. Schoenberger
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

EN.570.452. Exper Meth Env Eng Chem. 4 Credits.
An advanced laboratory covering principles of modern analytical techniques and their applications to problems in environmental sciences. Topics include electrochemistry, spectrometry, gas and liquid chromatography. The course is directed to graduate students and advanced undergraduates in engineering and natural sciences.
Prerequisites: EN.570.443
Instructor(s): A. Stone
Area: Engineering, Natural Sciences Writing Intensive.

EN.570.460. Environmental Colloidal Phenomena. 3 Credits.
This class will introduce fundamental concepts of colloidal and interfacial phenomena and apply them to natural and engineered aquatic systems. This course will also include topics related to the environmental applications and implications of nanotechnology. Modern measurement techniques employed in the laboratory to study colloidal behavior and interfacial interactions will be discussed. Lab demonstrations will be conducted and students will be given opportunities to review research papers related to topics covered in class. Topics include: Brownian motion and diffusion, size and surface characterization, electric double layer, electrokinetic phenomena, DLVO theory, Non-DLVO forces, aggregation, deposition, modern measurement techniques in the laboratory, fate and transport of engineered nanoparticles in the environment, and environmental applications of nanotechnology (e.g., sensors, remediation, antimicrobial agents).
Instructor(s): K. Chen.

EN.570.465. Water Resource Dev. 3 Credits.
Perm. Req’d. An attempt to review utilization and development of water in diverse environments beginning with early irrigation systems revealed by archaeology including those in the Middle East, Asia, and Latin America.
Area: Humanities, Social and Behavioral Sciences.
EN.570.470. Applied Econ & Finance. 3 Credits.
This course focuses on company valuations, using the proprietary Hanke-Guttridge Discounted Free Cash Flow Model. Students use the model and data from financial statements filed with the Securities and Exchange Commission to calculate the value of publically-traded companies. Using Monte Carlo simulations, students also generate forecast scenarios, project likely share-price ranges and assess potential gains/losses. Stress is placed on using these simulations to diagnose the subjective market expectations contained in current objective market prices, and the robustness of these expectations. During the weekly seminar, students’ company valuations are reviewed and critiqued.
Prerequisites: EN.660.203
Instructor(s): S. Hanke
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences
Writing Intensive.

EN.570.487. Financial Market Research. 3 Credits.
This course investigates the workings of financial, foreign exchange, and commodity futures markets. Research is focused on price behavior, speculation, and hedging in these markets. Extensive research and writing is required. Exceptional work may be suitable for publication through the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise.
Prerequisites: EN.660.203
Instructor(s): S. Hanke
Area: Social and Behavioral Sciences
Writing Intensive.

EN.570.490. Solid Waste Engineering and Management. 3 Credits.
This course covers advanced engineering and scientific concepts and principles applied to the management of municipal solid waste (MSW) to protect human health and the environment and the conservation of limited resources through resource recovery and recycling of waste material.
Instructor(s): H. Alavi
Area: Engineering.

EN.570.491. Hazardous Waste Engineering and Management. 3 Credits.
This course addresses traditional and innovative technologies, concepts, and principles applied to the management of hazardous waste and site remediation to protect human health and the environment.
Instructor(s): H. Alavi
Area: Engineering.

EN.570.492. Department Seminar - Undergraduates. 1 Credit.
Undergraduates only with permission of instructor.
Instructor(s): K. Chen.

EN.570.493. Economic Foundations For Public Decision Making. 3 Credits.
This course includes an exposition of intermediate level price theory, combined with a survey of applications to the analysis of public sector decisions. Theoretical topics include demand, supply, the function and behavior of the market, and introductory welfare economics. Recommended Course Background: AS.180.101-AS.180.102, AS.110.202 or equivalent.
Instructor(s): B. Hobbs; T. Coleman
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

EN.570.495. Mathematical Foundations For Public Decision Making. 3 Credits.
A collection of systems analytic techniques which are frequently used in the study of public decision making is presented. Emphasis is on mathematical programming techniques. Primarily linear programming, integer and mixed-integer programming, and multiobjective programming. Recommended Course Background: AS.110.106-AS.110.107/AS.110.109
Instructor(s): J. Williams
Area: Engineering, Quantitative and Mathematical Sciences.

EN.570.496. Urban and Environmental Systems. 3 Credits.
The mathematical techniques learned in EN.570.305 and EN.570.495 are applied to realistic problems in urban and environmental planning and management. Examples of such problems include the siting of public-sector and emergency facilities; natural areas management, protection and restoration; solid waste collection, disposal, and recycling; public health; the planning and design of energy and transportation systems; and cost allocation in environmental infrastructure development.
Instructor(s): J. Williams
Area: Engineering, Quantitative and Mathematical Sciences.

EN.570.497. Risk and Decision Analysis. 3 Credits.
This course introduces the methods of probabilistic risk and decision analysis. Topics will include risks in daily life, public attitudes towards risk, fault trees, event trees, decision trees, utility functions, risk attitude, and value of information calculations. Recommended Course Background: Introductory Statistics.
Instructor(s): S. Guikema
Area: Engineering, Quantitative and Mathematical Sciences.

EN.570.501. Undergraduate Research. 3 Credits.
Instructor(s): Staff.

EN.570.502. Undergraduate Research.
Instructor(s): Staff.

EN.570.505. Undergraduate Independent Study. 3 Credits.
Instructor(s): Staff.

EN.570.506. Maryland Department of the Environment Independent Study. 3 Credits.
This independent study within the MDE’s Water Management Administration (WMA) will engage the student in scientific/policy literature and data research and management, field investigations, or evaluation of emerging issues and innovative approaches to surface and ground water protection and drinking water management, wastewater management, wetlands and non-point source pollution control. Each independent course will focus on a scientific, regulatory or policy topic designed to further the mission of the administration, which is to protect the public health and the aquatic environment. The student will be assigned to a WMA engineer, scientist or project manager to develop a course of study. Hours can be tailored to accommodate student’s schedule.
Instructor(s): E. Bouwer.
EN.570.507. Independent Study: Baltimore City Energy Office. 3 Credits.
This Independent Study within Baltimore City’s Energy Office will engage students in local energy policies, energy initiatives, data and City operations. Interns will have the chance to apply optimization and modeling skills to one of many projects. These projects can include: • Measurement and verification of performance contracts with energy service contractors • Collection of data from City operated co-generation and solar plants and developing operation models • Analyzing energy usage data from City buildings and making recommendations As part of an independent student project, students will be required to submit a final report and present their findings to the City. Hours can be tailored to accommodate student’s schedule but a minimum of 10 hours per week during the semester is required. Permission required.
Instructor(s): E. Bouwer.

EN.570.590. Internship-Summer. 1 Credit.
Instructor(s): G. Brush.

EN.570.597. Research-Summer. 3 Credits.
Instructor(s): Staff.

EN.570.599. Independent Study. 0 - 3 Credit.
Instructor(s): C. Norman.

EN.570.601. IGERT Water, Climate and Health Colloquium. Recommended Course Background: Microeconomics, Introductory Statistics, and Optimization.
Instructor(s): G. Brush.

EN.570.602. IGERT-Water, Climate & Health-Capstone.
Instructor(s): G. Brush.

EN.570.605. Interdisciplinary Research Practice in Sustainability and Health.
Through the application of interdisciplinary research methods and skills to case studies in environmental sustainability and health, the course will provide hands-on training in the management, coordination, and practice of interdisciplinary research. The goal is to enable doctoral students to work effectively on interdisciplinary research and prepare them for professional success in an increasingly interdisciplinary funding environment. This course will be in the format of a weekly seminar and laboratory and is open to all Johns Hopkins University doctoral students from any School. No prior knowledge of sustainability or public health is required.
Instructor(s): A. Monopolis; B. Hobbs.

Methods for optimizing operation and design of energy systems and for analyzing market impacts of energy and environmental policies are reviewed, emphasizing both theory and solution of actual models. Review of linear and nonlinear programming and complementarity methods for market simulation. Recommended Course Background: EN.570.493 and EN.570.495 or equivalent.
Instructor(s): B. Hobbs.

EN.570.608. Data Analytics for Engineering, Policy Analysis and Management.
Data analytics is the use of computational statistics and data mining to draw insights and build predictive models based on large data sets. As data becomes more prevalent in across many different areas of importance in engineering, policy analysis, and management, analytics is becoming an increasingly important topic. This course assumes a working knowledge of regression and statistics and builds from this to introduce modern data analytics. This course covers major classes of methods beyond linear regression, including additive models, tree-based models, Bayesian networks, boosting, bagging, and model averaging. The course focuses on the application and interpretation of the methods while also providing an understanding of the underlying basis and theory behind them. Assignments, exams, and the term project are primarily data-driven analytic exercises. Recommended Course Background: EN.550.420 and EN.550.430 or equivalent (by approval of instructor).
Instructor(s): S. Guikema
Area: Engineering, Quantitative and Mathematical Sciences.

EN.570.611. Natural Resource Economics.
Development of the economic theory of depletable and renewable private and common property natural resources, including those which may be recyclable or storable.

EN.570.612. Infrastructure Modeling, Simulation, and Analysis.
This course will be a mix of seminar-style guided discussions and student presentations and lectures on specific topics based on the current research literature in the field. It will give an overview of the infrastructure systems that form the basis for health, security, and economic prosperity in the developed world and give an overview of some of the most pressing infrastructure challenges in the developing world. The focus will be on quantitative modeling of infrastructure performance, sustainability, and resilience for supporting infrastructure management and policy decision-making. Suggested: Microeconomics, Introductory Statistics, and Optimization.
Instructor(s): S. Guikema
Area: Engineering, Natural Sciences.

EN.570.618. Multiobject Programming and Planning.
Public sector problems are typically characterized by a multiplicity of objectives and decision makers. This course presents a relatively new area of systems analysis which is useful for such problems: multiobjective programming or vector optimization theory. The fundamental concepts are developed and various methods are presented, including multiattribute value and utility theory. Graduate level of EN.570.418. Recommended Course Background: EN.570.495 or Permission Required.
Instructor(s): J. Williams
Area: Engineering.

We will analyze examples of excellent proposals in different disciplinary idioms and write multiple drafts of dissertation proposals and thesis or dissertation chapters.
Instructor(s): E. Schoenberger
Writing Intensive.
EN.570.633. Stochastic Simulation and Game Theory.
This course provides an introduction to stochastic simulation and game theory. It covers a mix of the theoretical background and the practical use of these two methods. The stochastic simulation portion of the course will take advantage of the diverse science and health. The course structure is appropriate for students of any science of interest to the IGERT students in engineering, science, and public health. The course will appeal to engineers and non-engineers, as the design of sustainable solutions for remediating contaminants. Students will apply this understanding toward the quantitative design and sizing of engineered facilities for water and wastewater treatment. Using a team-based semester project, students will learn to collaborate within interdisciplinary teams and share technical information and ideas with others. Background information will first be delivered via lectures and presentations, followed by open-ended problems, and culminating in the team design project. To the extent possible, the design portion of the course will include green, sustainable design options. Several case studies are covered.
Instructor(s): S. Guikema.

EN.570.634. Foundational Literature of Risk and Decision Analysis.
This will be a guided reading, discussion, and assessment of the foundational literature from the fields of risk and decision analysis. We will read work by authors such as Ramsey, Savage, Raiffa, Laplace, and others that have established the foundations on which the fields are built. The goal is to provide Ph.D. students with a strong foundation in the field and an understanding of the literature underlying the development of the field. PhD students or permission of instructor.
Prerequisites: EN.570.497
Instructor(s): S. Guikema.

Detailed investigation of mechanisms of abiotic and biochemical transformations of organic pollutants in natural and engineered environments. Recommended Course Background: EN.570.442.
Instructor(s): A. Roberts
Area: Engineering, Natural Sciences.

EN.570.646. Water Quality and Treatment: Global Issues and Solutions.
The goal of this course is to introduce students to the theory and concepts necessary to understand the factors that affect water quality and to design unit operations and processes for water and wastewater treatment, including sedimentation, coagulation, filtration, adsorption, disinfection, biological treatment, sludge handling and disposal. Students will be introduced to the organic, inorganic and biological contaminants that affect water quality, the relevant water quality regulations that ensure water safety, and appropriate treatment techniques for remediating contaminants. Students will apply this understanding toward the quantitative design and sizing of engineered facilities for water and wastewater treatment. Using a team-based semester project, students will learn to collaborate within interdisciplinary teams and share technical information and ideas with others. Background information will first be delivered via lectures and presentations, followed by open-ended problems, and culminating in the team design project. To the extent possible, the design portion of the course will include green, sustainable design options. This course will appeal to engineers and non-engineers, as the design of sustainable solutions for remediating the world’s deteriorating water sources is of interest to the IGERT students in engineering, science, and public health. The course structure is appropriate for students of any science-related background, and the interdisciplinary team format for the semester design project will take advantage of the diverse science backgrounds of the students in the IGERT cohorts. Undergraduates with department permission.
Instructor(s): W. Ball.

EN.570.647. Mass Transfer in Environmental Engineering.

EN.570.657. Air Pollution.
The course consists of an introduction to the fundamental concepts of air pollution. Major topics of concern are aspects of atmospheric motion near the earth’s surface; basic thermodynamics of the atmosphere; atmospheric stability and turbulence; equations of mean motion in turbulent flow, mean flow in the surface boundary layer; mean flow, turbulence in the friction layer; diffusion in the atmosphere; statistical theory of turbulence; plume rise. Emphasis is placed upon the role and utility of such topics in a systems analysis context, e.g., development of large and mesoscale air pollution abatement strategies. Comparisons of the fundamental concepts common to both air and water pollution are discussed.
Instructor(s): J. Ellis.

EN.570.659. Environmental Policy Analysis.
Instructor(s): C. Norman
Writing Intensive.

EN.570.661. Applied Math For Engineer.
This course presents a broad survey of the basic mathematical methods used in the solution of ordinary and partial differential equations: linear algebra, power series, Fourier series, separation of variables, integral transforms.
Instructor(s): M. Hilpert.

EN.570.676. Stochastic Programming.
Instructor(s): S. Guikema.

EN.570.680. Environment and Society.
This class addresses a range of questions, including: Why do we not act in our own best interests in the environment? How are environmental discourses developed and how do they relate to environmental policies? How do environmental politics and policy in the US compare with other countries?
Instructor(s): E. Schoenberger
Area: Social and Behavioral Sciences.

The scope of this course is to quantitatively describe flow and transport processes in porous media on a variety of length scales ranging from the molecular to the field scale. Phenomena investigated include single-phase and multiphase flow, solute transport, and chemotaxis. We will derive and/or motivate the governing dynamic equations and discuss mathematical and computational methods to solve these equations. This course addresses audiences from environmental and chemical engineering as well as the hydrological sciences. The course will give an introduction to the necessary mathematical and computational methods.
Instructor(s): M. Hilpert.

EN.570.701. Professional Presentation and peer review Skills in Systems Analysis and Modeling.
Area: Engineering.

EN.570.800. Independent Study.
Instructor(s): Staff.

EN.570.801. Doctoral Research.
Instructor(s): Staff.

EN.570.803. Master's Research.
Instructor(s): Staff.

EN.570.805. Masters Internship.
Instructor(s): W. Ball.
EN.570.813. Seminar: Geomorphology.
EN.570.841. Department Seminar - Graduate.
  Instructor(s): K. Chen.
EN.570.850. Graduate Independent Study.
  Instructor(s): M. Hilpert; S. Guikema; W. Ball.
  Instructor(s): B. Hobbs; S. Guikema.
  Instructor(s): E. Bouwer.

Cross Listed Courses

Anthropology
AS.070.285. Understanding Aid: Anthropological Perspectives for Technology-Based Interventions. 3 Credits.
  This course combines anthropological perspectives with the discussion and examination of technology-based interventions in the field of development and aid policies, with particular focus on activities related to water resources, sanitation, and hygiene. Readings and discussions analyze some of the theoretical, historically rooted, and practical issues that challenge those who hope to provide effective aid. A key aim of this course is to provide students with better understanding of cultural, social, environmental and economic issues relevant to technical intervention in developing countries.
  Instructor(s): E. Cervone; W. Ball
  Area: Humanities, Social and Behavioral Sciences
  Writing Intensive.

Public Policy
AS.195.477. Intro To Urban Policy. 3 Credits.
  Perm. Req’d. 195.477 & 195.478 must be taken together by undergraduates Cross-listed with Political Science, Sociology, Public Health Studies, and Geography and Environmental Engineering
  Instructor(s): S. Newman
  Area: Social and Behavioral Sciences
  Writing Intensive.

AS.195.478. Urban Policy Internship. 3 Credits.
  195.478 & 195.477 must be taken together by undergraduates Cross-listed with Political Science, Sociology, Public Health Studies, and Geography and Environmental Engineering
  Instructor(s): S. Newman
  Writing Intensive.

Earth Planetary Sciences
AS.270.205. Introduction to Geographic Information Systems and Geospatial Analysis. 3 Credits.
  The course provides a broad introduction to the principles and practice of Geographic Information Systems (GIS) and related tools of Geospatial Analysis. Topics will include history of GIS, GIS data structures, data acquisition and merging, database management, spatial analysis, and GIS applications. In addition, students will get hands-on experience working with GIS software.
  Instructor(s): X. Chen
  Area: Engineering, Natural Sciences.

AS.270.320. The Environment and Your Health. 3 Credits.
  This course surveys the basic environmental health sciences (toxicology, risk assessment), current public health issues (hazardous waste, radon, water-borne diseases) and emerging global health threats (global warming, ozone depletion, sustainability).
  Area: Natural Sciences.

Public Health Studies
AS.280.335. The Environment and Your Health. 3 Credits.
  This course surveys the basic concepts underlying environmental health sciences (toxicology, exposure assessment, risk assessment), current public health issues (hazardous waste, water- and food-borne diseases), and emerging global health threats (global warming, built environment, ozone depletion, sustainability). Public Health Studies, Global Environmental Change and Stability, and Earth and Planetary Science majors have 1st priority for enrollment. Your enrollment may be withdrawn at the discretion of the instructor if you are not a GECS, PHS, or EPS major.
  Prerequisites: (Students may not have taken AS.270.320)
  Instructor(s): M. Trush
  Area: Natural Sciences.

Interdepartmental
AS.360.147. Adam Smith and Karl Marx. 3 Credits.
  Freshmen Seminar. This freshmen seminar examines the ideas of Smith, the greatest proponent of the free market, and Marx, his most radical critic. Freshmen only.
  Instructor(s): E. Schoenberger; P. Jelavich
  Area: Humanities, Social and Behavioral Sciences
  Writing Intensive.

AS.360.528. Problems in Applied Economics. 3 Credits.
  Permission Required. This course brings the principles of economic theory to bear upon particular problems in the fields of economics, finance and public policy. Micro, macro and international problems, from both the private and public sectors, are addressed. A heavy emphasis is placed on research and writing. Students learn how to properly conduct substantive economic research, utilizing statistical techniques and lessons from economic history. Findings are presented in the form of either memoranda or working papers. Exceptional work may be suitable for publication through the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise.
  Instructor(s): S. Hanke
  Area: Social and Behavioral Sciences
  Writing Intensive.

Information Security Institute

The Johns Hopkins University Information Security Institute (JHUISI) (isi.jhu.edu) is the University’s focal point for research and education in information security, assurance and privacy. Securing cyberspace and our national information infrastructure is more critical now than ever before, and it can be achieved only when the core technology, legal and policy issues are adequately addressed. JHUISI is committed to a comprehensive approach that includes input from academia, industry and government. The University, through JHUISI’s leadership, has thus been designated as a Center of Academic Excellence in Information Assurance Education and Research by the National Security Agency and leading experts in the field. Through our broad range of educational opportunities including a ground-breaking graduate program and leading edge research in foundational science and applied technologies, JHUISI is having a significant impact in the region and nationwide.

Our research in networking, wireless, systems evaluation, medical privacy and electronic voting, among other areas is widely circulated among academics and policymakers. Moreover, JHUISI is instrumental in
homeland security efforts across Hopkins, including emergency health preparedness, bio-terrorism and national defense.

The Johns Hopkins University Information Security Institute based in the Whiting School of Engineering provides a broad and holistic perspective to the information security and assurance field relative to both research and education. In addition to a comprehensive collection of programs related to information technology, a range of management, governance, and policy issues are integrated into the Information Security Institute agenda. The breadth of focus provided represents a strength and distinction of the Johns Hopkins University Information Security Institute. Through the involvement of the faculty and resources from the Whiting School of Engineering, the Krieger School of Arts and Sciences, the Bloomberg School of Public Health, the Carey Business School, and the Applied Physics Lab, a variety of innovative as well as international research and educational initiatives in information security and assurance are supported within the Information Security Institute.

Facilities

The computing facilities include a laboratory of shared PC workstations running Windows, several customizable machines for student projects, and multiple high-speed laser printers. Various focused research laboratories have additional resources that provide greater specialization than the general lab. The facilities are connected to a secure high-speed network which allows access to specialized hardware in other departments and institutions. The Information Security Institute and Department of Computer Science cooperate in the use of some of these facilities.

M.S.S.I. Graduate Program

The flagship educational experience offered by Johns Hopkins University in the area of information security and assurance is represented by the Master of Science in Security Informatics (M.S.S.I.) degree. A wide range of courses is available in support of this unique and innovative graduate program. Its full-time, part-time, or adjunct faculty deliver these courses at multiple sites spanning the Homewood campus in northern Baltimore, the medical and health facilities in eastern Baltimore, the part-time graduate program operations at APL and the Montgomery County Campus, and the SAIS and KSAS facilities in Washington, D.C.

The M.S.S.I. is a full-time day program offered on the Homewood Campus in North Baltimore. Most students complete the program in three full-time semesters though some graduate students may finish their degree part-time after completing two consecutive semesters of residency as a full-time student.

Application Requirements for the M.S.S.I. Degree

• Application to the M.S.S.I. degree is open to outstanding candidates who hold a bachelor’s degree with sufficient technical exposure to computer science that serves as preparation for the core technology courses, including intermediate programming, data structure, discrete mathematics, and computer system fundamentals.

• All U.S. citizens and U.S. permanent residents are obligated to take and submit the results of the Aptitude Test of the Graduate Record Examination as one of the requirements for admission.

• International students are obligated to take either the TOEFL test or the IELTS test.

The preferred scores are as follows:

**GRE General Test**

<table>
<thead>
<tr>
<th>Component</th>
<th>Score</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal</td>
<td>153</td>
<td>62%</td>
</tr>
<tr>
<td>Quantitative</td>
<td>160</td>
<td>84%</td>
</tr>
<tr>
<td>Analytical</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>TOEFL Internet based</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>IELTS</td>
<td>7.0</td>
<td></td>
</tr>
</tbody>
</table>

• The institution code for both the GRE and TOEFL is 5332.
• The department code for the GRE is 0404. The department code for TOEFL is 78.
• These scores serve as general guidelines for admission. The Admissions Committee in making its final decisions will consider the combination of professional knowledge, academic excellence, letters of recommendation, and the statement of purpose, as well as GRE, TOEFL, and IELTS scores of the applicants.

• A student is required to apply online at [https://app.applyyourself.com/?id=jhu-grad](https://app.applyyourself.com/?id=jhu-grad).

Course Requirements for the M.S.S.I.

Upon admission to the Master of Science in Security Informatics, a student is assigned a graduate advisor from the Information Security Institute who must approve the courses to be applied to the M.S.S.I.

The Master of Science in Security Informatics program has a course requirement of a minimum of 10 courses, plus a capstone project including a report and presentation.

All courses supporting the M.S.S.I. are categorized as one of four types:

1. Technology;
2. Policy;
3. Health;

Each course is further classified into core, elective or foundational category. All M.S.S.I. course programs must satisfy the following distribution requirements:

• A minimum of four courses in the Technology category; at least three Core Technology courses and at least one core technology course in Cryptography.

• A minimum of four core courses in the Policy/Health/Management categories: at least one course from each category of Policy, Health and Management.

• Two additional courses from core or elective technology courses; or when deemed appropriate relative to a student’s background, interests, and goals and with the prior approval by the faculty advisor, from elective Policy/Health/Management courses or (at most one) from foundational technology courses.

Project Requirement

The students register for EN.650.736/EN.650.737/EN.650.738 for the capstone project. The /EN.650.737/ are not counted toward the ten-course requirement.

In general, the M.S.S.I. Capstone Project will include both technology and non-technology components, and will be conducted within a team-structured environment comprised of students and faculty.
mentors (plus external mentors if appropriate). These projects will generally be sponsored by government/industry partners and affiliates of the Information Security Institute, and can also be related to faculty research programs supported by grants and contracts. They should relate to real-world problems and exhibit both theoretical and practical significance. The project must be documented by a report and presentation, as well as other applicable deliverables including but not limited to system prototypes, utility libraries, experimental demonstrations, conference or journal submissions, and so on. It should follow the best practice of software engineering.

Students should actively initiate the project while communicating with the potential faculty mentor for technical issues and the faculty advisor for project management. They are expected to develop a project plan at the end of the second semester. The project is expected to have a proposal approved at the start of the third semester and be finished by the end of the third semester. A presentation will be scheduled when the project concludes. The faculty mentor should approve each milestone of the project with the faculty advisor being informed. When the project is completed with all the deliverables, the faculty advisor assigns a score upon the recommendation of the faculty mentor.

Course Requirement Details

- All courses toward the degree requirement must be 400-level or above.
- The overall grade point average of the courses counted toward the coursework requirements must be 3.00 or higher.
- At most two independent study courses can be counted toward the course requirements.
- No courses with grades of P may be counted with the exception of EN.650.736/ and independent study courses.
- At most two courses with grade less than B- may be counted toward the course work requirements. No courses with grade less than C- may be counted.
- At most two courses may be transferred from other institutions. The student’s faculty advisor and the director of Information Security Institute must approve such transfer courses.
- Courses not found on the area-specific lists can be used to meet area requirements with written approval from the student’s advisor and one additional faculty member.
- A grade of D or F results in probation. A second D or F is cause for being dropped from the program.

JHUISI Courses

Core Technology Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.600.442</td>
<td>Modern Cryptography</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.443</td>
<td>Security &amp; Privacy in Computing</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.643</td>
<td>Advanced Topics in Computer Security</td>
<td>3</td>
</tr>
<tr>
<td>EN.650.424</td>
<td>Network Security</td>
<td>3</td>
</tr>
<tr>
<td>EN.650.445</td>
<td>Practical Cryptographic Systems</td>
<td>3</td>
</tr>
<tr>
<td>EN.650.457</td>
<td>Computer Forensics</td>
<td>3</td>
</tr>
<tr>
<td>EN.650.458</td>
<td>Introduction to Cryptography</td>
<td>3</td>
</tr>
<tr>
<td>EN.650.460</td>
<td>Software Vulnerability Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EN.650.471</td>
<td>Cryptography &amp; Coding</td>
<td>4</td>
</tr>
<tr>
<td>EN.650.633</td>
<td>Computer Security Architectures</td>
<td></td>
</tr>
<tr>
<td>EN.650.654</td>
<td>Computer Intrusion Detection</td>
<td></td>
</tr>
</tbody>
</table>

Elective Technology Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.650.657</td>
<td>Advanced Computer Forensics</td>
<td></td>
</tr>
<tr>
<td>EN.650.668</td>
<td>Advanced Topics in Software Security</td>
<td></td>
</tr>
</tbody>
</table>

Core Policy Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.650.414</td>
<td>Rights in Digital Age</td>
<td>3</td>
</tr>
<tr>
<td>EN.650.640</td>
<td>Moral &amp; Legal Foundations of Privacy</td>
<td></td>
</tr>
</tbody>
</table>

Core Health Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.650.652</td>
<td>Healthcare Security Management</td>
<td></td>
</tr>
<tr>
<td>AS.280.340</td>
<td>Fundamentals of Health Policy &amp; Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Core Management Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.650.653</td>
<td>Financial Issues in Managing a Secure Operation</td>
<td></td>
</tr>
<tr>
<td>EN.650.655</td>
<td>Implementing Effective Information Security Projects</td>
<td></td>
</tr>
</tbody>
</table>

Elective Policy/Health/Management Courses

The following are sample courses offered by the Bloomberg School of Public Health, the Carey Business School, and the Krieger School of Arts and Sciences.*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH.300.651</td>
<td>Introduction to U.S. Healthcare System Policy</td>
<td></td>
</tr>
<tr>
<td>BE.320.435</td>
<td>E-Commerce Security</td>
<td></td>
</tr>
<tr>
<td>AS.406.661</td>
<td>Technology of Mass Destruction</td>
<td></td>
</tr>
<tr>
<td>AS.406.665</td>
<td>Art and Practice of Intelligence</td>
<td></td>
</tr>
<tr>
<td>AS.406.666</td>
<td>Contemporary Terrorism and the American Response</td>
<td></td>
</tr>
<tr>
<td>AS.406.668</td>
<td>Intelligence and Counter-Terrorism</td>
<td></td>
</tr>
</tbody>
</table>

* For other elective options that fulfill this requirement refer to http://isi.jhu.edu/mssi/course_distribution

Foundational Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.600.120</td>
<td>Intermediate Programming</td>
<td>4</td>
</tr>
<tr>
<td>EN.600.226</td>
<td>Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>EN.600.415</td>
<td>Databases</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.418</td>
<td>Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.421</td>
<td>Object Oriented Software Engineering</td>
<td></td>
</tr>
<tr>
<td>EN.600.433</td>
<td>Computer Systems</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.463</td>
<td>Algorithms I</td>
<td>3</td>
</tr>
</tbody>
</table>
Concurrent Bachelor’s/Master’s Degree Program in Conjunction with the M.S.S.I.

A concurrent bachelor’s/master’s degree program including the M.S.S.I. is also available to Johns Hopkins University students. In this program, by the conclusion of the undergraduate sophomore/junior academic year, a student can apply for concurrent admission into the M.S.S.I. program. If accepted, the student during each subsequent semester partitions her/his course load into courses that will count for the undergraduate degree and courses that will count for the M.S.S.I. degree. Usually with one additional year of study, the student can simultaneously satisfy both sets of degree requirements.

Dual Master’s Program with the Department of Computer Science

Students interested in pursuing the above Dual Master’s Program (DMP) will have initially entered either the M.S.S.I. program or the M.S.E. program in Computer Science, and then apply for the DMP at a later point. A maximum of two courses (approved by the advisors) can be double counted toward each set of course requirements, thereby facilitating the feasibility of completing the DMP in two academic years plus the in-between summer. In such cases, the designation of the double counted courses would be done in conjunction with one advisor from each department and the Academic Program Administrator.

Dual Master’s Program with the Department of Applied Math and Statistics in the WSE

A similar DMP has been initiated regarding the JHUISI M.S.S.I. and the master’s program in the Department of Applied Math and Statistics in the WSE. The details of this DMP are similar in principle to those for the M.S.S.I./M.S.E. in Computer Science, but there are some significant differences. Each program should be contacted if a student is interested.

Dual Master’s Program with the School of Public Health

A similar DMP has been initiated regarding the JHUISI M.S.S.I. and the Master of Health Sciences (M.H.S.) program in the Bloomberg School of Public Health (BSPH). The details of this M.S.S.I./M.H.S. DMP are similar in principle to those for the M.S.S.I./M.S.E. in Computer Science, but there are some significant differences. Each program should be contacted if a student is interested.

Joint Program with the Certificate in National Security Studies of the School of Arts and Sciences

A joint M.S.S.I. Degree and the Certificate in National Security Studies (C.N.S.S.) in the Krieger School of Arts and Sciences is now being offered. The C.N.S.S. requires completion of five core courses. Two designated courses can be double counted for the M.S.S.I. and the C.N.S.S. Each program should be contacted if a student is interested in completing this course of study.

For current faculty and contact information go to http://isi.jhu.edu/institute/people

Faculty

Interm Executive Director
Anton Dahbura
Information Security Institute.

Program Director
Xiangyang Li
Master of Science in Security Informatics.

Professors
Gerald Masson
Professor (Computer Science); reliable computing, computer networking, real-time monitoring of software operations, computer architecture, computer networking, security informatics relative to networks and software operations.

Aviel Rubin
Professor (Computer Science), Technical Director of Information Security Institute: network and systems security, applied cryptography, cryptographic key distribution, anonymity and computer privacy, electronic commerce, fire-walls and network perimeter defenses, security issues in e-voting, applying security to applications such as medical information systems, intellectual property protection.

Associate Professor
Giuseppe Ateniese
Computer Science: applied cryptology, cryptology and network security, security and privacy in computing, applied cryptography and network security, DNSSEC and medical information privacy protection.

Associate Research Professor
Susan Hohenberger
Computer Science: theory, cryptography, computer security, algorithms, complexity theory, balancing privacy and accountability in information systems.

Assistant Professor
Abhishek Jain
Computer Science: Cryptography & Security, Theoretical Computer ScienceTheoretical Computer Science

Assistant Research Professor
Stephen Checkoway
Computer Science: systems security, voting security, post-election auditing.

Matthew Green
Computer Science: applied cryptography, cryptographic protocol design, analysis of practical security systems, privacy-preserving storage and identification technologies.

Lecturers
William Agresti
Professor and Associate Dean for Professional Programs (Carey Business School): system design and development, information systems architecture, and IT integration for business, software engineering, IT measurement and knowledge management.

Kevin Fairbanks
Assistant Professor (U.S. Naval Academy): digital forensics.

Michael Jacobs, J.D.
Computer ethics, digital rights management, intellectual property protection.

George Kalb
Information Security Institute; Adjunct Professor, Lecturer, Part-time
Programs in Engineering and Applied Science: embedded computer
systems-vulnerabilities, intrusions and protection mechanisms,
embedded systems security, software engineering.

Michael Kociemba
Instructor (Carey Business School): information security, management,
and infrastructure protection.

Darren Lacey, J.D.
Chief Information Security Officer for Johns Hopkins University.

Williams Sauers, J.D.
Digital rights management, intellectual property protection.

Lanier Watkins
Senior Cyber Security Research Engineer, Applied Physics Laboratory:
critical infrastructure protection.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

**EN.650.412. Java Security. 3 Credits.**
This course provides a comprehensive coverage of the security aspects of the Java platform, Java’s security model and the VM and language features that support security are covered. The course concentrates on the practical aspects of using these APIs. Use of the Java Cryptography APIs is addressed and material on security in J2EE (Java 2 Enterprise Edition) is presented. Topics covered include the java security.* packages, the Java Cryptography Architecture and Java Cryptography Extension (JCA and JCE), Java Secure Sockets Extension (JSSE), Java Authentication and Authorization Service (JAAS), Java Generic Security Services (Java GSS-API), and the Java Certification Path API.

Instructor(s): E. Ceesay
Area: Engineering.

**EN.650.414. Rights in Digital Age. 3 Credits.**
This course will examine various legal and policy issues presented by the tremendous growth in computer technology, especially the Internet. The rights that various parties have with respect to creating, modifying, using, distributing, storing, and copying digital data will be explored. The concurrent responsibilities, and potential liabilities, of those parties will also be addressed. The course will focus on intellectual property issues, especially copyright law, and other legal and economic considerations related to the use and management of digital data. Copyright law and its role within the framework of intellectual property law will be presented in a historical context with an emphasis on its applicability to emerging-technology issues. Specifically, the treatment of various works, such as music, film, and photography that were traditionally, analog in nature will be analyzed with respect to their treatment in the digital domain; works that are by their nature digital, such as computer software, will also be analyzed. The current state of U.S. copyright law will be presented, as will relevant international treaties and foreign laws. The goal of the course is to provide those involved or interested in digital rights management with a general awareness of the rights and obligations associated with maintaining and distributing digital data. (This course will be taught in Washington, DC and video-cast into Hodson Hall Room 213.)

Instructor(s): M. Jacobs
Area: Social and Behavioral Sciences.

**EN.650.424. Network Security. 3 Credits.**
This course focuses on communication security in computer systems and networks. The course is intended to pro-vide students with an introduction to the field of network security. The course covers network security services such as authentication and access control, integrity and confidentiality of data, firewalls and related technologies, Web security and privacy. Course work involves implementing various security techniques. A course project is required. [Systems] Co-listed with EN.600.424.

**Prerequisites:** 600.226 and (600.344 or 600.444) or permission; 600.120 (or equivalent) recommended.

Instructor(s): A. Mishra
Area: Engineering, Quantitative and Mathematical Sciences.

**EN.650.432. Law & Policy Informations Assurance. 3 Credits.**
Instructor(s): G. Masson; M. Lavine
Area: Engineering.

**EN.650.433. Embedded Computer Systems. 3 Credits.**
This course provides an understanding of differences in network-based computers, program mobility, current intrusion protection technologies and exploitation methods along with material relating to computer hacking and vulnerability assessment. Department Majors Only. Course taught On-line.

Instructor(s): G. Kalb
Area: Engineering.

**EN.650.445. Practical Cryptographic Systems. 3 Credits.**
This semester long course will teach skill of how cryptographic systems work and fail - as part of a complete hardware and software system. The skills will be taught by examples I.e., by studying and identifying flows in widely deployed crypto systems. We will place a particular emphasis on the failure of "security by obscurity" and the feasibility of reverse-engineering undocumented crypto systems. Co-listed with EN.600.454.

Instructor(s): M. Green.
EN.650.457. Computer Forensics. 3 Credits.
This course introduces students to the field of computer forensics and it will focus on the various contemporary policy issues and applied technologies. Topics to be covered include: legal and regulatory issues, investigation techniques, data analysis approaches, and incident response procedures for Windows and UNIX systems. Homework in this course will relate to laboratory assignments and research exercises. Students should also expect that a group project will be integrated into this course.
Instructor(s): T. Leschke
Area: Engineering.

EN.650.458. Introduction to Cryptography. 3 Credits.
Cryptography has a rich history as one of the foundations of information security. This course serves as the introduction to the working primitives, development and various techniques in this field. It emphasizes reasoning about the constraint and construction of cryptographic protocols that use shared secret key or public key. Students will also be exposed to some current open problems. Permission of instructor only.
Instructor(s): X. Li
Area: Engineering.

EN.650.460. Software Vulnerability Analysis. 3 Credits.
This course will examine vulnerabilities in C source, stack overflows, writing shell code, etc. Also, vulnerabilities in web applications: SQL injection, cookies, as well as vulnerabilities in C binary fuzzing, and exploit development without source among other topics. Students should have experience in C++ Programming.
Area: Engineering.

EN.650.471. Cryptography & Coding. 4 Credits.
A first course in the mathematical theory of secure and reliable electronic communication. Cryptology is the study of secure communication: How can we ensure the privacy of messages? Coding theory studies how to make communication reliable: How can messages be sent over noisy lines? Topics include finite field arithmetic, error-detecting and error-correcting codes, data compressions, ciphers, one-time pads, the Enigma machine, one-way functions, discrete logarithm, primality testing, secret key exchange, public key cryptosystems, digital signatures, and key escrow. Students should have computing experience. Recommended Course Background: AS.110.201
Prerequisites: EN.550.171 or permission
Instructor(s): D. Fishkind
Area: Engineering, Quantitative and Mathematical Sciences.

EN.650.621. Critical Infrastructure Protection.
This course focuses on understanding the history, the vulnerability, and the need to protect our Critical Infrastructure and Key Resources (CIKR). We will start by briefly surveying the policies which define the issues surrounding CIKR and the strategies that have been identified to protect them. Most importantly, we will take a comprehensive approach to evaluating the technical vulnerabilities of the 18 identified sectors, and we will discuss the tactics that are necessary to mitigate the risks associated with each sector. These vulnerabilities will be discussed from the perspective of ACM, IEEE or other technical journals/articles which detail recent and relevant network-level CIKR exploits. We will cover well known vulnerable systems such the Internet, SCADA or PLC and lesser known systems such as E911 and industrial robot. Also, a class project is required. Recommended Course Background: EN.650.424 or equivalent or permission by instructor.
Instructor(s): L. Watkins
Area: Engineering, Natural Sciences.

EN.650.630. Moral and Legal Foundations of Privacy.
This course explores the ethical and legal underpinnings of privacy. Inquiries into the values that underline the right; constitutional and common law foundations; balancing privacy against other rights and interests. Core Policy course for MSSI degree
Instructor(s): A. Siegel.

This course will study information security and assurance methodologies from the perspective of implementation and performance on reduced instruction set architectures. All 1st year MSSI students entering after Fall ’08 will be required to take this course.
Instructor(s): G. Masson.

EN.650.640. Moral & Legal Foundations of Privacy.
This course explores the ethical and legal underpinnings of the concept of privacy. It examines the nature and scope of the right to privacy by addressing fundamental questions such as: What is privacy? Why is privacy morally important? How is the right to privacy been articulated in constitutional law?
Instructor(s): M. Jacobs; W. Sauers.

EN.650.650. Special Topics in Security and Privacy of Medical Information.
This course will cover topics in security and privacy of medical information. Topics will include security and access control with respect to medical records (EPR,PHR), securing communication standards (HL7,DICOM), recent attacks on patient monitoring systems, security architectures for portable patient records, break the glass systems, privacy, anonymity and medical identity theft. Students are expected to enter this class with basic knowledge in computers and networking and should be comfortable programming.
Area: Quantitative and Mathematical Sciences.

The course will address information security in the public health and medical fields, with special emphasis on clinical care, research and the role of the academic medical center. In many respects, the course builds on EN.650.651 Health Information, Privacy, Law and Policy’s treatment of privacy and how such privacy is protected in the health and medical arena, including but not limited to HIPAA. Open to MSSI students or Permission required.
Instructor(s): D. Lacey.

This course addresses the risks (financial, reputation, business, and third party), costs, ROI, and other business issues concerned in planning and managing a secure operation. Topics include disaster recovery, outsourcing issues; service level agreements; evaluating external security service providers; assessing security total cost of ownership; audit procedures; financial integrity; cost/benefit analyses; back-up and recovery provisions; insurance protection; contingency and business continuity plans; qualitative and quantitative risk analysis; monitoring the security of the enterprise; information economics; performance reporting; automated metrics reporting; responses to threats; effects of security policies and practices on business and customers; preparing a business case for information security investments; and developing cost-effective solutions given constraints in money, assets, and personnel. Case studies and exercises will be used to illustrate financial planning and evaluation of security operations.
Instructor(s): W. Agresti.
Intrusion detection supports the on-line monitoring of computer system activities and the detection of attempts to compromise normal services. This course starts with an overview of intrusion detection tasks and activities. Detailed discussion introduces a traditional classification of intrusion detection models, applications in host-centered and distributed environments, and various intrusion detection techniques ranging from statistical analysis to biological computing. This course serves as a comprehensive introduction of recent research efforts in intrusion detection and the challenges facing modern intrusion detection systems. Students will also be able to pursue in-depth study of special topics of interest in course projects.
Instructor(s): X. Li
Area: Engineering, Natural Sciences.

This course focuses on the personnel, legal, regulatory and privacy issues that comprise the basic security management areas that must be considered when developing and implementing an effective information security program. Specific topics include security-related legislation, government and industry security frameworks, the identification and management of risk, security controls, defense in depth, critical infrastructure protection, development and implementation of an enterprise wide security strategy, and organizational roles and responsibilities.
Instructor(s): M. Kociemba.

This course will analyze advanced topics and state of the art issues in the field of digital forensics. The course will be run in a research seminar format and students will be given both basic and applied research projects in such areas as: intrusion analysis, network forensics, memory forensics, mobile devices, and other emerging issues.
Prerequisites: EN.650.457 or instructors permission required
Instructor(s): T. Leschke.

The human factor is critical to any successful computer security solution since users are very often the weakest link in such systems. This course will examine a variety of human behaviors ranging from micro to macro cybernetic levels that are relevant to making the best case for information security. It is delivered through lectures on relevant findings in different disciplines of human computer interaction, human factors engineering, cognitive science, and product design; studies of useful user and security modeling frameworks and tools; and term research projects to explore security oriented topics in human machine systems. Its goal is to improve security informatics through informed decisions by the knowledge of the good and bad human characters in computer and cyber security.
Instructor(s): X. Li
Area: Engineering.

Topics vary but mainly focus on recent advances in exploitation techniques and defenses for software including software running on embedded systems software, browsers, and nontraditional devices such as microcontrollers in PCs. Recommended Course Background: EN.600.460 or EN.650.442 or permission of instructor.

Topics vary but mainly focus on recent advances in exploitation techniques and defenses for software including software running on embedded systems software, browsers, and nontraditional devices such as microcontrollers in PCs. Recommended Course Background: EN.600.460 or EN.650.442 or permission of instructor
Instructor(s): S. Checkoway.

All MSSI programs must include a project involving a research and development oriented investigation focused on an approved topic addressing the field of information security and assurance from the perspective of relevant applications and/or theory. There must be project supervision and approval involving a JHUISI affiliated faculty member. A project can be conducted individually or within a team-structured environment comprised of MSSI students and an advisor. A successful project must result in an associated report suitable for on-line distribution. When appropriate, a project can also lead to the development of a so-called “deliverable” such as software or a prototype system. Projects can be sponsored by government/industry partners and affiliates of the Information Security Institute, and can also be related to faculty research programs supported by grants and Contracts. Required course for any full-time MSSI student. Open to MSSI students. Permission required for non-MSSI students.
Instructor(s): A. Dahbura; X. Li.

Open to MSSI students Permission Required for non-MSSI students
All MSSI programs must include a project involving a research and development oriented investigation focused on an approved topic addressing the field of information security and assurance from the perspective of relevant applications and/or theory. There must be project supervision and approval involving a JHUISI affiliated faculty member. A project can be conducted individually or within a team-structured environment comprised of MSSI students and an advisor. A successful project must result in an associated report suitable for on-line distribution. When appropriate, a project can also lead to the development of a so-called “deliverable” such as software or a prototype system. Projects can be sponsored by government/industry partners and affiliates of the Information Security Institute, and can also be related to faculty research programs supported by grants and Contracts. A project can count for as much as 3 course credits towards the MSSI requirements by means of enrolling in EN.650.736/EN.650.746. Satisfactory/Unsatisfactory only Elective Technology course for MSSI degree.
Instructor(s): A. Dahbura; X. Li.

Instructor(s): G. Masson.

Instructor(s): Staff.

Individual study in an area of mutual interest to a graduate student and a faculty member in the Institute.
Instructor(s): G. Masson.

Instructor(s): G. Masson.
Cross Listed Courses

Computer Science

EN.600.412. Security and Privacy in Cloud Computing. 1 Credit.
This course focuses on the security and privacy issues in Cloud Computing systems. While the cloud computing paradigm gains more popularity, there are many issues related to confidentiality, integrity, and availability of data and computations involving a cloud. In this course, we examine cloud computing models, look into the threat model and security issues related to data and computation outsourcing, and explore practical applications of secure cloud computing. Students should have some background in network and/or data security.
Instructor(s): R. Hasan
Area: Engineering.

EN.600.415. Databases. 3 Credits.
Graduate level version of EN.600.315 [Systems]. Students may receive credit for EN.600.315 or EN.600.415, but not both. Recommended Course Background: EN.600.226.
Instructor(s): D. Yarowsky
Area: Engineering.

EN.600.421. Object Oriented Software Engineering. 3 Credits.
Graduate level version of EN.600.321 [Systems or Applications]. Students may receive credit for EN.600.321 or EN.600.421, but not both. Recommended Course Background: EN.600.226 and EN.600.120.
Instructor(s): Z. Palmer
Area: Engineering.

EN.600.424. Network Security. 3 Credits.
This course focuses on communication security in computer systems and networks. The course is intended to provide students with an introduction to the field of network security. The course covers network security services such as authentication and access control, integrity and confidentiality of data, firewalls and related technologies, Web security and privacy. Course work involves implementing various security techniques. A course project is required. [Systems] EN.600.120 (or equivalent) recommended.
Prerequisites: 600.226 and (600.344 or 600.444) or permission; 600.120 (or equivalent) recommended.
Instructor(s): S. Nielson
Area: Engineering.

EN.600.433. Computer Systems. 3 Credits.
Graduate version of 600.333. Students may receive credit for 600.333 or 600.433, but not both. [Systems]
Instructor(s): P. Froehlich
Area: Engineering.

EN.600.442. Modern Cryptography. 3 Credits.
This course focuses on cryptographic algorithms, formal definitions, hardness assumptions, and proofs of security. Topics include number-theoretic problems, pseudo-randomness, block and stream ciphers, public-key cryptography, message authentication codes, and digital signatures. Recommended Course Background: EN.600.226 and a 300-level or above systems course; EN.600.271/EN.600.471 and EN.550.171 or equivalent.
Instructor(s): C. Pappacena
Area: Engineering, Quantitative and Mathematical Sciences.

EN.600.443. Security & Privacy in Computing. 3 Credits.
Lecture topics will include computer security, network security, basic cryptography, system design methodology, and privacy. There will be a heavy work load, including written homework, programming assignments, exams and a comprehensive final. The class will also include a semester-long project that will be done in teams and will include a presentation by each group to the class. [Applications]
Prerequisite: A basic course in operating systems and networking, or permission of instructor.
Instructor(s): A. Rubin
Area: Engineering.

EN.600.444. Computer Networks. 3 Credits.
This course considers intersystem communications issues. Topics covered include layered network architectures; the OSI model; bandwidth, data rates, modems, multiplexing, error detection/correction; switching; queuing models, circuit switching, packet switching; performance analysis of protocols, local area networks; and congestion control. Recommended Course Background: EN.600.333 or EN.600.433 or permission. Students can only receive credit for EN.600.344 or EN.600.444, not both.
Instructor(s): A. DeSimone
Area: Engineering.

EN.600.450. Network Embedded Systems & Sensor Networks. 3 Credits.
This course is an introduction to fundamental concepts of networked embedded systems and wireless sensor networks. It is intended for juniors, seniors and first year graduate students in Computer Science and other engineering majors with the prerequisite background. Covered topics include: embedded systems programming concepts, low power and power aware design, radio technologies, communication protocols for ubiquitous computing systems, and some of the mathematical foundation of sensor behavior. Laboratory work consists of a set of programming assignments that consider a set of the issues described in class. Recommended Course Background: EN.600.226, EN.600.120, and EN.600.344/EN.600.444
Instructor(s): M. Chang
Area: Engineering.

EN.600.460. Software Vulnerability Analysis. 3 Credits.
This course will examine vulnerabilities in C source, stack overflows, writing shell code, etc. Also, vulnerabilities in web applications: SQL Injection, cookies, as well as vulnerabilities in C binary fuzzing, and exploit development without source among other topics. Co-listed with EN.650.460
Instructor(s): S. Checkoway
Area: Engineering.

EN.600.463. Algorithms I. 3 Credits.
Graduate version of EN.600.363 [Analysis] Students may receive credit for EN.600.363 or EN.600.463, but not both. Recommended Course Background: EN.600.226 and EN.550.171 or instructor permission required.
Instructor(s): M. Dinitz
Area: Engineering, Quantitative and Mathematical Sciences.
EN.600.471. Theory of Computation. 3 Credits.
This is a graduate-level course studying the theoretical foundations of computer science. Topics covered will be models of computation from automata to Turing machines, computability, complexity theory, randomized algorithms, inapproximability, interactive proof systems and probabilistically checkable proofs. Students may not take both EN.600.271 and EN.600.471, unless one is for an undergraduate degree and the other for grad. [Analysis]Recommended Course Background: EN.550.171 or instructor permission.
Instructor(s): X. Li
Area: Engineering, Quantitative and Mathematical Sciences.

EN.600.642. Advanced Topics in Cryptography.
This course will focus on advanced cryptographic topics with an emphasis on open research problems and student presentations. Instructor(s): G. Ateniese.

Topics will vary from year to year, but will focus mainly on network perimeter protection, host-level protection, authentication technologies, intellectual property protection, formal analysis techniques, intrusion detection and similarly advanced subjects. Emphasis in this course is on understanding how security issues impact real systems, while maintaining an appreciation for grounding the work in fundamental science. Students will study and present various advanced research papers to the class. There will be homework assignments and a course project.
Prerequisites: EN.600.443 OR EN.600.424 or permission of instructor.
Instructor(s): A. Rubin.

Center for Leadership Education

The Center for Leadership Education (CLE) at Johns Hopkins is comprised of three academic programs as well as experiential activities, programs, and events. The academic programs, the W. P. Carey Program in Entrepreneurship and Management (E & M), the Professional Communication Program (PCP), and the Master of Science in Engineering Management (MSEM) program offer challenging business-related courses with practical applications. Students may take classes in management, marketing, law, finance, accounting, leadership, social enterprises, creativity and innovation, technical communication, oral communication, research writing, and other contemporary topics in professional communication.

The W. P. Carey Program was established in 1996 as an opportunity for undergraduate students to learn management and leadership skills. Students may complete a minor in Entrepreneurship and Management, or they may choose instead to take a few courses of interest. The E & M minor is the largest and most popular minor at Hopkins, as students from both Engineering and Arts and Sciences greatly benefit from practical and interesting business courses. (See our website for more information at web.jhu.edu/leadership.)

In addition to the academic programs, the Center for Leadership Education sponsors experiential programs designed to give students real-world business and leadership experience. These learning experiences help students make career choices or select among fields for graduate and professional studies.

CLE Experiential Programs Include

Competitions and Other Educational Opportunities:

• The Annual JHU Business Plan Competition: Students compete for cash prizes for best business plans in several different categories. The competition is open to students from all divisions of the university. The Medical Technology Category has separate tracks for Undergraduate and Graduate Students and accepts national and international competitors that meet the eligibility requirements. www.jhu.edu/bpc.

• The Oral Presentations Contest: In an effort to provide a venue for JHU students to demonstrate their creativity, problem-solving ability and persuasive oratory skills, the CLE holds an annual Oral Presentation Contest where competitors are provided a specific topic to address for the contest.

• Internships: Students can apply for sponsorship for academic credit of unpaid business-related internships during the spring, summer or fall semester.

• Intersession Courses: including P.R. and Media in the Big Apple, featuring a two-day visit to P.R. firms in NYC.

• CLE Speaker Series: Prominent and successful business professionals and entrepreneurs speak on campus.

Professional Associations:

• Alpha Kappa Psi: Students run a chapter of this national co-ed business fraternity.

• American Advertising Federation JHU Chapter: Students run a chapter of this national advertising organization.

• American Marketing Association Student Chapter: Students run a chapter of this national marketing organization. http://jhu.edu/ama/

• Golden Key International Honour Society: An international, interdisciplinary honor society which recognizes the top 15% of sophomores, juniors and seniors at JHU.. http://jhu.goldenkey.org/

• Kairos Society: JHU Chapter of this international, student-run, not-for-profit foundation based in the US. Kairos fosters a culture of innovation-driven entrepreneurship by engaging its diverse fellows with a variety of industry and thought leaders.

Social Entrepreneurship:

• Save the Future: STF leverages the brainpower of business-savvy, socially-minded college undergraduates from Hopkins to teach personal money management skills to high school students.

• Building Bright Ideas: This intensive 10-week entrepreneurship course designed for Baltimore City high school students is taught by hand-selected and trained JHU students.

• Hopkins AND1: A student run program that partners Hopkins student athletes with students from area Baltimore City High Schools to help prospective athletes in Baltimore meet their NICAA academic eligibility requirements. The group provides SAT prep and academic tutoring.

• Social Investment Outreach: SIO provides people of underprivileged communities and developing countries with a means of helping themselves escape poverty through microcredit and sustainable community development.

• Students Consulting for Non-Profit Organizations: A national organization of undergraduate students committed to developing communities through pro bono consulting engagements with non-profit organizations. http://web1.johnshopkins.edu/scno
Other Experiential Opportunities

- **Business in China Association:** BCA was created with a mission to bridging the east and west and improving our community’s understanding of business in China.

- **Hopkins Student Enterprises:** Students have the ability start and manage businesses that provide services to the campus and surrounding communities. HSE currently has 8 successful student run business serving the Homewood Campus.

- **Marshal Salant Student Investment Team:** The team was founded with a generous $100K donation by alumnus Marshal L. Salant. The team portfolio is currently valued at over $250K. Profits from the portfolio are used to fund student scholarships. [http://www.jhu.edu/salant](http://www.jhu.edu/salant)

For current faculty and contact information go to [http://eng.jhu.edu/wse/cle/page/our_people](http://eng.jhu.edu/wse/cle/page/our_people)

Faculty

**Director**

Timothy Weihs  
Director of CLE, Professor of Materials Science & Engineering

**Program Directors**

Lawrence Aronhime  
Senior Lecturer & Director of Entrepreneurship & Management Program: accounting, finance, entrepreneurship, technology commercialization.

Julie Reiser  
Senior Lecturer & Director of The Professional Communication Program: technical communication, oral presentations, research writing, dissertation writing, American literature and critical theory.

Eric Rice  
Senior Lecturer & Director of Graduate Programs: organizational behavior, social entrepreneurship, management, negotiation and conflict management, leadership, public speaking, professional writing.

Pamela Sheff  
Senior Lecturer & Director of Master of Science in Engineering Management Program: business and technical communication, marketing, public relations, science and scientific writing, oral presentations, higher education in prisons, community-based learning, entrepreneurship.

**Full Time Faculty**

Bob Graham  
Lecturer: entrepreneurship, professional communications, oral presentations

Illysa Izenburg  
Lecturer: engineering management

Leslie Kendrick  
Senior Lecturer: marketing strategy, integrated marketing communications, sports marketing, international marketing.

Annette Leps  
Senior Lecturer: accounting, finance, management.

Charlotte O’Donnell  
Lecturer: oral presentations, professional communication, visual rhetoric

Keith Quesenberry  
Lecturer: integrated marketing communications, advertising, social media marketing, online blogging and copywriting, creative strategy, digital media, communications law and ethics.

William Smedick  
Senior Lecturer: leadership

**Part Time Faculty**

Michael Agronin  
Lecturer: product development.

Jennifer Bernstein  
Lecturer: professional communication.

Laura Davis  
Lecturer: professional communication for ESL.

Marci DeVries  
Lecturer: marketing.

Kevin Dungey  
Senior Lecturer: oral presentations.

David Fisher  
Lecturer: business law.

Mark Franceschini  
Senior Lecturer: business ethics, Internet law.

Sean Furlong  
Lecturer: financial accounting.

Dorothee Heisenberg  
Senior Lecturer: multinational firms in the international economy

Jason Heiserman  
Lecturer: oral presentations.

Nicole Jerr  
Lecturer: professional communication.

Theresa Jones  
Lecturer: marketing.

Andrew Kulanko  
Senior Lecturer: oral presentations.

Denise Link-Farajali  
Lecturer: professional communication for ESL.

Kimberly Manns  
Lecturer: marketing

Sinan Ozdemir  
Lecturer: professional communication.

Marco Priolo  
Lecturer: managerial finance.

Bryan Rakes  
Lecturer: business law.

Joshua Reiter  
Senior Lecturer: business process and quality management.

Douglas Sandhaus
Capped at 25 to allow discussion. No audits.

Instructor(s): D. Heisenberg.

This course on international business focuses on relationships between multinational firms and national governments throughout the world. Students will read historical and contemporary authors’ conceptualizations of these relationships in the US and around the world. Students will develop and advance their own innovations and inventions, culminating in a business plan. No audits.

Instructor(s): L. Aronhime.

EN.660.640. Writing Proposals that Win.
Graduate students only.
Instructor(s): E. Rice.

This course teaches graduate students to communicate effectively with a non-specialized audience including the “voting public” and high school students. Possible projects include an article for mainstream science news outlet and a hands-on presentation. Class emphasizes writing clearly for a non-technical audience, creating appropriate visuals and manipulatives, developing oral presentation skills, giving and receiving feedback, and simulating the real world environment in which most communication occurs. Graduate students only.
Instructor(s): M. Hart.
EN.663.645. Improving Presentation Skills for Scientists and Engineers.
This course is designed to help scientists and engineers improve their oral presentation skills in a practice-intensive environment. Students will learn how to hone their message, to craft presentations that address both technical and non-technical audiences, and create clear, compelling PowerPoint presentations. All presentations will be recorded for self-evaluation, and students will receive extensive instructor and peer feedback. Graduate students only. This is a 7-week course and is not open to undergraduates.
Instructor(s): Staff.

EN.663.646. Improving Presentation and Interview Skills for Humanities Students.
This course is designed to give Humanities students an opportunity to refine their lecturing and interviewing skills in a practice-intensive environment. Students will learn how to hone their message, to craft presentations that address both expert and non-expert audiences, and create clear, compelling PowerPoint presentations (if appropriate). All presentations will be recorded for self-evaluation, and students will receive extensive instructor and peer feedback. Graduate students only. This is a 7-week course that begins halfway through the semester and is not open to undergraduates. Second 7 Weeks, Wednesday 4 – 6:30 pm.

EN.663.647. Academic Writers’ Workshop.
Do you struggle with writers’ block? Do you have trouble setting writing goals and sticking to them once the hustle and bustle of the semester begins? This module is for academic writers of all stripes and persuasions--dissertation students, creative writers, post-docs, and new faculty--who would like to work with other academic writers on setting writing goals, strategizing how to overcome individual obstacles that are impeding the writing process, and getting feedback on work in a positive, supportive atmosphere of non-specialists/non-experts. The module emphasizes productivity rather than critique. Suggested readings: How to Write a Lot by Daniel Silvia, The Now Habit by Neil Fiore.
Instructor(s): J. Reiser.

EN.663.650. Finding a Job and Building Your Career.
Finding a job often is hard work – a task that takes time, energy and skills. Moreover, advancing in your career requires planning and attention to issues and opportunities at work. This module is designed to assist you in sharpening skills required for your efforts in these regards. Among topics of concern are building a resume, writing letters of application, interviewing effectively, engaging a mentor, managing initial personal finance issues and adjusting to current trends in the workplace. Expect to produce a polished resume, an effective letter of application and a set of practiced interviewing skills and a positive, supportive atmosphere of non-specialists/non-experts. The module emphasizes productivity rather than critique. Suggested readings: How to Write a Lot by Daniel Silvia, The Now Habit by Neil Fiore.
Instructor(s): J. Reiser.

EN.663.651. Developing a Business Plan.
So you have an idea for a business – now what?? How do you convert your idea to a plan? What factors must you consider and how should you do that? How do you think about customers and competition? How much money do you need and where can you find it? How do you pitch your idea for maximum impact? Answers to these questions and more are the topics of concern for this module. Expect to build at least several sections of a business plan for your idea with the time period of the class. Graduate students only.
Instructor(s): E. Rice.

EN.663.654. Commercializing Your Invention or Idea.
Graduate and Post Doc Only.
Instructor(s): Staff.

EN.663.655. Social Media Integration for Entrepreneurship.
Graduate students only.

EN.663.660. Managing People and Resolving Conflicts.
Graduate students only.
Instructor(s): E. Rice.

EN.663.661. Searching the Academic Job Marketplace.
Graduate and Post Doc Only.
Instructor(s): E. Rice.

EN.663.662. Setting Up and Operating Your Own Lab.
Graduate and Post Doc Only.
Instructor(s): Staff.

EN.663.663. The People Side of Work: Management, Conflict Resolution and Negotiation.
Graduate and Post Doc Only.
Instructor(s): E. Rice.

EN.663.666. Managing Personal Finances.
Graduate students only.
Instructor(s): A. Leps.

EN.663.681. Instructional Skills - Engaging Students.
Graduate students only.

EN.663.710. Instructional Strategies: Managing Learning Environments.
Managing the learning environment is critical to success in any course. Learn best practices for developing syllabi, rules, and establishing expectations. Gain insight into creating effective and intriguing assignments. Discover how to manage group and team activities. Master time management and engagement in the classroom. Study techniques for dealing with difficult students and attain the skills needed to ask and respond effectively to questions. These research based methods in instruction will increase your effectiveness in and out of the classroom.

Cross Listed Courses
Entrepreneurship and Management

EN.660.101. Writing a Business Plan. 1 Credit.
This one credit, four session course offered as preparation for the JHU Business Plan Competition, will cover the fundamentals of creating and delivering a business plan for a new venture. Topics to include: organizing the business plan, market analysis, competitive analysis, financial projections, strategies to meet the expectations of varied investors, identification of necessary resources and developing and delivering a persuasive, well-articulated pitch. No audits.

EN.660.103. The Promise and Peril of Microfinance. 1 Credit.
Microcredit, microlending and microfinance are relatively new tools, potentially useful to help alleviate poverty, contribute to local economies, earn a living and make profit. The promise and publicity has generated practices, experiments and businesses worldwide; microcredit even generated a Nobel Prize for Muhammad Yunus and the Grameen Bank in 2006. So too, the spread of the concept has produced excesses and controversy and more recently, scholarship in the practices and ideas. In this course we will explore the theory, practice and possibilities of the ideas with emphasis on both the developing world and western economies. The course uses lecture, discussion, case study and community investigation to explore the content. No audits.
Instructor(s): E. Rice.
EN.660.105. Introduction to Business. 4 Credits.
This course is designed as an introduction to the terms, concepts, and values of business and management. The course comprises three broad categories: the economic, financial, and corporate context of business activities; the organization and management of business enterprises; and, the marketing and production of goods and services. Topic specific readings, short case studies and financial exercises all focus on the bases for managerial decisions as well as the long and short-term implications of those decisions in a global environment. No audits.
Instructor(s): L. Aronhime
Area: Social and Behavioral Sciences
Writing Intensive.

EN.660.203. Financial Accounting. 3 Credits.
The course in Financial Accounting is designed for anyone who could be called upon to analyze and/or communicate financial results and/or make effective financial decisions in a for-profit business setting. No prior accounting knowledge or skill is required for successful completion of this course. Because accounting is described as the language of business, this course emphasizes the vocabulary, methods, and processes by which all business transactions are communicated. The accounting cycle, basic business transactions, internal controls, and preparation and understanding of financial statements including balance sheets, statements of income and cash flows are covered. No audits.
Instructor(s): A. Leps; L. Aronhime; S. Furlong.

EN.660.205. Business Law I. 3 Credits.
This course is designed for the student who is interested in either (a) a broad knowledge of law as it relates to modern business, or (b) a survey of many business related aspects of law with a view to further legal studies. The course will involve reviewing and analyzing statutory and case law covering a variety of substantive subject areas including civil procedure, personal and subject matter jurisdiction, intentional torts, negligence, criminal law, contract law, consumer law and parts of the Uniform Commercial Code. This course, together with Business Law II, will provide a complete, self-contained, well-rounded, study of business law, or will provide a foundation for further legal study. No audits.
Instructor(s): D. Fisher; D. Sandhaus; M. Franceschini
Area: Social and Behavioral Sciences.

EN.660.206. Business Law II. 3 Credits.
Building on the material from Business Law I, topics examined include entrepreneurship, business entities and business formation, principles of agency, real property, personal property, bailments, bankruptcy, secured transactions, employment discrimination, business financing, investor protection, antitrust and environmental law.
Prerequisites: EN.660.205
Area: Social and Behavioral Sciences.

EN.660.220. Principles of Management. 3 Credits.
This course introduces the student to the management process. It examines the role of the manager from a traditional and contemporary perspective while applying decision-making and critical thinking skills to the challenges facing managers in today's globally-diverse environment. Recommended Course Background: EN.660.105.

EN.660.231. Case Studies-Bus Ethics. 3 Credits.
This course is designed as a workshop using case studies to introduce students to the ethical concepts that are relevant to resolve moral issues in contemporary business and social settings - both global and personal in nature.
Area: Humanities.

EN.660.235. Leading Change. 3 Credits.

EN.660.250. Principles of Marketing. 3 Credits.
This course explores the role of marketing in society and within the organization. It examines the process of developing, pricing, promoting and distributing products to consumer and business markets and shows how marketing managers use the elements of the marketing mix to gain a competitive advantage. Through interactive, application-oriented exercises, case videotapes, a guest speaker (local marketer), and a group project, students will have ample opportunity to observe key marketing concepts in action. The group project requires each team to research the marketing plan for an existing product of its choice. Teams will analyze what is currently being done by the organization, choose one of the strategic growth alternatives studied, and recommend why this alternative should be adopted. The recommendations will include how the current marketing plan will need to be modified in order to implement this strategy and will be presented to the instructor in written form and presented to the class. No audits.
Instructor(s): K. Manns; K. Quesenberry; L. Kendrick; M. DeVries; T. Jones.

EN.660.300. Managerial Finance. 3 Credits.
This course is designed to familiarize the student with the basic concepts and techniques of financial management practice. The course begins with a review of accounting, securities markets, and the finance function. The course then moves to discussion of financial planning, financial statement analysis, time value of money, interest rates and bond valuation, stock valuation, and concludes with capital budgeting and project analysis. A combination of classroom discussions, problem sets, and case studies will be used. Note: not open to students who have taken EN.660.302 Corporate Finance. No audits.
Prerequisites: EN.660.203 or EN.660.105.

EN.660.303. Managerial Accounting. 3 Credits.
This course introduces management accounting concepts and objectives including planning, control, and the analysis of sales, expenses, and profits. Major topics include cost behavior, cost allocation, product costing (including activity based costing), standard costing and variance analysis, relevant costs, operational and capital budgeting, and performance measurement. Note: not open to students who have taken EN.660.204 Managerial Accounting. No audits.
Prerequisites: EN.660.203
Instructor(s): A. Leps.

EN.660.304. Financial Statement Analysis. 3 Credits.
This course is designed to increase a student’s ability to read and interpret financial statements and related information under both GAAP and IFRS (International Financial Reporting Standards). In addition to a review of the basic financial statements and accounting principles, the course will use industry and ratio analysis in addition to benchmarking and modeling techniques to encourage students to think in a more creative way when analyzing historic information or when forecasting financial statements. Students will access firm profitability and risk, value assets and use spreadsheet models for financial forecasting and decision making. No audits.
Prerequisites: EN.660.203 Financial Accounting
Instructor(s): A. Leps.

EN.660.305. Intellectual Property Law. 3 Credits.
This course explores the acquisition, protection and commercialization of intellectual property, such as patents, trademarks, copyrights and trade secrets, and its impact on businesses and organizations.
Prerequisites: PREREQ: EN.660.205 Business Law I
Area: Social and Behavioral Sciences.
EN.660.306. Law and the Internet. 3 Credits.
Sometimes called “Cyber law,” this course uses the case study method to examine some of the most significant and compelling legal aspects, issues, and concerns involved with operating a business enterprise in an Internet environment. Some of the issues likely to be covered include jurisdiction, resolution of online disputes, trademarks, copyright, licenses, privacy, defamation, obscenity, the application of traditional concepts of tort liability to an Internet context, computer crime, information security, taxation, international considerations, and an analysis of other recent litigation and/or statutes. No audits.
Prerequisites: Prerequisite: EN.660.205
Area: Social and Behavioral Sciences.

EN.660.307. Business Law II. 3 Credits.
Building on the material from Business Law I, topics examined include entrepreneurship, business entities and business formation, principles of agency, real property, personal property, bailments, bankruptcy, secured transactions, employment discrimination, business financing, investor protection, antitrust and environmental law. Not open to students who have taken EN.660.206 Business Law II. No audits.
Prerequisites: EN.660.205 Business Law I
Area: Social and Behavioral Sciences.

EN.660.308. Business Law I. 3 Credits.
This course is designed to provide students an introduction to legal reasoning and analysis. Content distinguishes forms of business, civil versus criminal law, and agency principles; intellectual property concepts, contract law, the UCC (Uniform Commercial Code) and consumer protection are explored and discussed in the context of assigned legal cases which are intended to develop a student’s ability to analyze and apply law. Note: not open to students who have taken 660.205 Business Law I. No audits.
Prerequisites: EN.660.105
Instructor(s): D. Fisher; W. Rakes
Area: Social and Behavioral Sciences.

EN.660.310. Case Studies in Business Ethics. 3 Credits.
This course is designed as a workshop using case studies to introduce students to the ethical concepts that are relevant to resolve moral issues in contemporary business and social settings—both global and personal in nature. Students will learn the reasoning and analytical skills needed to apply ethical concepts to their own decision-making, to identify moral issues involved in the management of specific problem areas in business and society, and to understand the social and natural environments which give rise to moral issues. The course focuses on performance articulated by clear reasoning and effective verbal and written communication concerning ethical issues in business and society. Not open to students who have taken EN.660.231 Case Studies in Business Ethics. No audits.
Prerequisites: EN.660.105
Instructor(s): M. Franceschini
Area: Humanities.

EN.660.311. Law and the Internet. 3 Credits.
Sometimes called “Cyber law,” this course uses the case study method to examine some of the most significant and compelling legal aspects, issues, and concerns involved with operating a business enterprise in an Internet environment. Some of the issues likely to be covered include jurisdiction, resolution of online disputes, trademarks, copyright, licenses, privacy, defamation, obscenity, the application of traditional concepts of tort liability to an Internet context, computer crime, information security, taxation, international considerations, and an analysis of other recent litigation and/or statutes. Note: not open to students who have taken EN.660.306 Law and the Internet. No audits.
Area: Social and Behavioral Sciences.

EN.660.321. Managing & Marketing Social Enterprises. 3 Credits.
This course focuses on preparing students to engage in and lead social enterprises as we explore the options for creating social value. Using a combination of lecture, case study and project work, we investigate both for-profit and non-profit models for creating social value with special emphasis on the non-profit community. Particular emphasis is placed on the management challenges of social enterprises such as creating and conveying their message, options for dealing with finances, relationships within communities, and methods for building constituencies. Additionally, we address critical issues such as measures of success, scale, replication and failure. The class requires contact with organizations in the community as well as one long weekend away from campus. Recommended Course Background: EN.660.105 or EN.660.333 or EN.660.220/EN.660.340. No audits.
Writing Intensive.

EN.660.331. Leadership in Teams. 3 Credits.
This course will allow students to develop the analytical skills needed to effectively lead and work in teams. Students will learn tools and techniques for problem solving, decision-making, conflict resolution, task management, communications, and goal alignment in team settings. They will also learn how to measure team dynamics and performance, and assess methods for building and sustaining high-performance teams. Students will also explore their own leadership, personality and cognitive styles and learn how these may affect their performance in a team. The course will focus on team-based experiential projects and exercises as well as provide opportunities to individually reflect and write about the concepts explored and skills gained throughout the course. No Audits.
Prerequisites: EN.660.332
Instructor(s): W. Smedick

EN.660.332. Leadership Theory. 3 Credits.
Students will be introduced to the history of Leadership Theory from the “Great Man” theory of born leaders to Transformational Leadership theory of non-positional learned leadership. Transformational Leadership theory postulates that leadership can be learned and enhanced. The course will explore the knowledge base and skills necessary to be an effective leader in a variety of settings. Students will assess their personal leadership qualities and develop a plan to enhance their leadership potential. Recommended Course Background: EN.660.105 or EN.660.220/EN.660.340. No audits.
Instructor(s): W. Smedick
Area: Social and Behavioral Sciences
Writing Intensive.
EN.660.333. Leading Change. 3 Credits.
In this course, we will use a combination of presentation, discussion, experiential learning, research and self-reflection to investigate issues surrounding leadership and change in communities and the economy. While considering both for-profit and non-profit entities, we will pursue topics including understanding and using theories of change; finding competitive advantage and creating strategic plans; making decisions, even in uncertain times; valuing differences; employing leadership styles; giving and receiving feedback; understanding employee relations; creating performance measures; and developing organizational cultures; and using the dynamics of influence. Not open to students who have taken EN.660.235. No audits. Recommended Course Background: EN.660.105

EN.660.334. Principles of Management. 3 Credits.
This course introduces the student to the management process. The course takes an integrated approach to management by examining the role of the manager from a traditional and contemporary perspective while applying decision-making and critical-thinking skills to the challenges facing managers in today’s globally diverse environment. The course examines the techniques for controlling, planning, organizing resources and leading the workforce. Not open to students who have taken EN.660.220 Principles of Management. No audits. 
Prerequisites: EN.660.105
Instructor(s): J. Reiter.

EN.660.335. Negotiation/Conflict. 3 Credits.
The focus of this class is the nature and practice of conflict resolution and negotiation within and between individuals and organizations. The primary format for learning in this class is structured experimental exercises designed to expose students to different aspects of negotiation and to build tangible skills through interpersonal exchange. While some class time is devoted to presentations on theories and approaches, the class method primarily relies on feedback from fellow classmates on their observations of negotiation situations and on personal reflections by students after each structured experience. Topics include conflict style, negotiation, and group conflict. No audits. Recommended Course Background: EN.660.105, an additional course in the Entrepreneurship and Management Program or in the social sciences.
Instructor(s): E. Rice.

EN.660.336. Community Engineering: Interdisciplinary Problem Solving-Community Based Learning. 3 Credits.
So many big and seemingly intractable problems inhibit progress and diminish quality of life especially in and around urban communities. Surely there are ways to begin to tackle some of these problems, if we approach them from a multi-disciplinary perspective. This course provides that opportunity as students, who work primarily in teams, apply theory and ingenuity to investigate problems, propose solutions or invent devices that address some of these problems. Class time is spent in lecture, discussion, and applied community projects to master content. Time will be spent participating on teams and working in community organizations in addition to class.
Area: Social and Behavioral Sciences
Writing Intensive.

EN.660.337. Dead Leaders Society: Historical Perspectives on Leadership. 3 Credits.
Students will analyze how the political, economic, cultural and social contexts of prior centuries shaped the styles and effectiveness of its leadership. Some giants of history like Cleopatra, Eleanor of Aquitaine, King Richard the Lionhearted, Elizabeth I, Winston Churchill and Abraham Lincoln will be analyzed for their contributions to their own era’s as well as modern concepts of leadership. In addition, lesser-known leaders such as Katherine Swynford, Mary Anning and Elizabeth Philpot, Llywelyn ab Gruffydd and Simon de Montfort will be analyzed for their contributions to modern leadership behaviors, styles and effectiveness. No audits. Recommended Course Background: EN.660.332 or EN.660.331.
Prerequisites: EN.660.331 or EN.660.332.

EN.660.338. New Product Development. 3 Credits.
New product development is the ultimate interdisciplinary entrepreneurial art, combining marketing, technical, and managerial skills. A successful product lies at the intersection of the user’s need, a technical solution, and compelling execution. This class will bootstrap your experience in the art through exercises and team projects. We will examine products and services, consumer and industrial, simple and technologically complex. Case studies will feature primary sources and the instructor’s personal experiences as an inventor for a major consumer products company. Topics will span the product development cycle: identifying user needs, cool-hunting, brainstorming, industrial design, prototyping techniques, market research to validate new ideas, and project management -- especially for managing virtual teams and foreign manufacturers. No audits.
Prerequisites: EN.660.250
Instructor(s): D. Crane.

EN.660.339. Product and Brand Management. 3 Credits.
Consumers love those little bits of crunchy orange goodness called Cheetos®. But when Frito-Lay decided that consumers might also like Cheetos®-flavored lip balm, they reacted with a hailstorm of derision. This may be proof that our free market economy is just a rudderless, if hilarious, contraption. More likely, Cheetos® Lip Balm was an example of the challenges marketers face in product and brand management. This course is a conceptual and practical exploration of how marketers deliver products and build brands that translate into competitive advantage for their companies. Among the critical concepts typically addressed in the course are developing and positioning a brand, assembling the marketing mix media into a whole, establishing price, creating packaging, and tracking the customer experience. The course uses readings, lecture, exercises, cases and examples to explore these concepts. No audits.
Prerequisites: EN.660.250
Instructor(s): D. Crane.
EN.660.354. Consumer Behavior. 3 Credits.
This course will explore how and why consumers make choices in the marketplace—the “buy-ology” of their behavior. We will learn the psychological, social, anthropological, and economic underpinnings of consumer behavior as well as the brain chemistry that affects choices in the marketplace. Students will learn how consumer behavior can and is influenced and the sometimes-unintended consequences of marketing campaigns designed to produce a particular behavior. Students will analyze how consumers solve problems, assess tradeoffs and make choices; how they integrate and react to retail surroundings, smells, product displays, brand, pricing strategies, social pressures, market structures and a myriad of other influences and motivations to buy. Students will also explore how marketers incorporate what is known about consumer behavior into advertising and promotional campaigns, market segmentation and positioning, pricing strategies and new product introductions. Student experiential projects will include ethnographic observations and analyses of real-world consumer behavior. No audits.
Prerequisites: EN.660.250.

EN.660.355. Sports Marketing. 3 Credits.
This course will allow students to apply marketing principles and concepts to the sports marketing environment while gaining an understanding of how event sponsorships, endorsements, licensing and naming rights are used to achieve business objectives. Through case studies and a group project, students will be exposed to a broad range of sports entities including professional sports teams, governing organizations and sports media.
Prerequisites: EN.660.250 Principles of Marketing
Instructor(s): L. Kendrick.

EN.660.357. Copywriting and Creative Strategy. 3 Credits.
Uncover the process of creative thinking for innovation and conceiving “big ideas“ in marketing. Students will be exposed to creative theory and practice as they select a consumer product and determine strategic market positioning, target demographics, media vehicles and creative guidelines. Then students will learn the craft of advertising copywriting for print, broadcast and digital media as they develop finished creative executions for the chosen organization that all build to a complete integrated marketing campaign. Co-listed with EN.661.357. No audits.
Prerequisites: EN.660.250
Instructor(s): K. Quesenberry
Writing Intensive.

EN.660.358. International Marketing. 3 Credits.
This course covers product, pricing, promotion, distribution, market research, organization and implementation and control policies relating to international marketing. It also explores the economic, cultural, political and legal aspects of international marketing. Through interactive and application-oriented assignments and cases, students will gain hands-on experience in analyzing and developing marketing strategies for organizations that market both consumer and business products/services internationally. A group project will involve the development of an international marketing plan for a specific product. One or more local international marketers will be invited to speak to the class. No audits.
Prerequisites: EN.660.250
Instructor(s): L. Kendrick.

EN.660.401. Advanced Corporate Finance. 3 Credits.
The advanced course in corporate finance is designed to provide the upper level business student with a background in the more complex applications of financial management practice. Students will be exposed to advanced financial management concepts through a pedagogy combining classroom instruction, problem solution, business case analysis and work on a group project with coverage of the topics of capital markets, risk and portfolio theory, cost of capital, raising capital, capital structure, corporate dividend policy, real property valuation, merger and acquisition analysis, working capital management, commercial leasing strategies, international finance and derivatives analysis. No audits.
Prerequisites: EN.660.302 Corporate Finance OR EN.660.300 Managerial Finance OR 180.366 Corporate Finance.

EN.660.404. Business Law II. 3 Credits.
Building on the material from Business Law I, topics examined include entrepreneurship, business entities and business formation, principles of agency, real property, personal property, bailments, bankruptcy, secured transactions, employment discrimination, business financing, investor protection, antitrust and environmental law. No audits.
Prerequisites: Not open to students who have taken 660.206 or 660.307 Business Law II.
Instructor(s): D. Fisher
Area: Social and Behavioral Sciences.

EN.660.405. Intellectual Property Law. 3 Credits.
This course explores the acquisition, protection and commercialization of intellectual property, such as patents, trademarks, copyrights and trade secrets, and its impact on businesses and organizations. The course addresses critical issues such as the various types of intellectual property, the protection and commercialization of intellectual property by business and legal means, and the valuation of intellectual property. In addition, the tension between exclusive rights in intellectual property and free competition will be discussed throughout this course. Through interactive class discussions and a group project, students will have ample opportunity to develop a better understanding pertaining to the different types of intellectual property and to develop an intellectual property strategic plan for protecting an intellectual property portfolio. Specifically, the group project requires each team to research a selected Maryland based company’s intellectual property, its plan for protection and commercialization and its business goals, products and services. Each team will then analyze how well the company’s current business goals relate to its intellectual property portfolio, and recommend changes to better meet these company’s goals. No open to students who have taken EN.660.305 Intellectual Property Law. No audits.
Prerequisites: EN.660.205 Business Law I
Area: Social and Behavioral Sciences.
EN.660.420. Marketing Strategy. 3 Credits.
This writing intensive course helps students develop skills in formulating, implementing, and controlling a strategic marketing program for a given product-market entry. Using a structured approach to case analysis, students will learn how to make the kinds of strategic marketing decisions that will have a long-term impact on the organization and support these decisions with quantitative analyses. Through textbook readings, students will learn how to identify appropriate marketing strategies for new, growth, mature, and declining markets and apply these strategies as they analyze a series of marketing cases. The supplementary readings, from a broad spectrum of periodicals, are more applied and will allow students to see how firms are addressing contemporary marketing challenges. In addition to analyzing cases individually, each student will be part of a team that studies a case during the latter half of the semester, developing marketing strategy recommendations, including financial projections, and presenting them to the class. No audits.
Prerequisites: Prereq: EN.660.250
Instructor(s): L. Kendrick
Writing Intensive.

EN.660.450. Advertising & Integrated Marketing Communication. 3 Credits.
This course builds on the promotional mix concepts covered in Principles of Marketing (EN.660.250)—advertising, public relations, sales promotion and personal selling. Students will learn how marketers are changing the ways they communicate with consumers and the ways in which promotional budgets are allocated—and how this impacts the development of marketing strategies and tactics. Working with a client (provided by EdVenture Partners) that has chosen this JHU class as its “advertising agency” and an actual budget provided by the firm, the class will form small teams to mirror the functional organization of an actual ad agency (market research, media strategy/planning, copywriting/design, public relations, etc.). Student teams will then develop a promotional plan and corresponding budget to reach the desired target market (JHU undergrads who meet the client’s criteria), implement the plan and then evaluate its effectiveness through pre- and post campaign market research conducted on the target consumer. Note: Not open to students who have taken EN.660.450 as Advertising and Promotion. No audits. (Formerly Advertising and Promotion.)
Prerequisites: EN.660.250
Instructor(s): L. Kendrick.

EN.660.453. Social Media and Marketing. 3 Credits.
This course explores strategies for monitoring and engaging consumers in digital media. Students will gain practical knowledge about developing, implementing and measuring social media marketing campaigns. They will learn how to analyze what consumers are saying and connect with them by leveraging word of mouth, viral and buzz marketing through sites like Facebook, Twitter and YouTube. A series of assignments build upon each other toward a final social media marketing plan for a selected consumer product or service. Co-listed with EN.661.453.
Prerequisites: EN.660.250
Instructor(s): K. Quesenberry.

EN.660.456. Marketing Communication Law & Ethics. 3 Credits.
This course focuses on the legal and ethical constraints of advertising and promotion marketing practice. Federal laws, media standards and professional ethics establish what can or cannot be said or done in marketing. Beyond that corporate and personal social responsibility must also be considered. Topics such as deception, copyright, publicity, comparative advertising and social media standards will be covered. Students will apply concepts to current practical examples and delve more deeply into subjects through a series of writing assignments. Co-listed with EN.661.456. No audits. Recommended Course Background: one writing course in any discipline (professional communication, expository writing, or writing seminars).
Instructor(s): K. Quesenberry
Writing Intensive.
EN.660.460. Entrepreneurship. 3 Credits.
This course provides students with a solid introduction to the entrepreneurial process of creating new businesses. Students will gain an appreciation for the investors’ perspective in assessing opportunities, evaluating strategies, and valuing the new enterprise. The course will cover the principal components of building a successful venture including management, market analysis, intellectual property protection, legal and regulatory issues, operations, entrepreneurial financing, and the role of the capital markets. Course work will include case studies and creation of investor marketing materials. Open to Juniors and Seniors. No Audits. Recommended Course Background: EN.660.203
Prerequisites: EN.660.105 OR EN.660.250
Instructor(s): E. Rice.

EN.660.461. Engineering Business and Management. 3 Credits.
An introduction to the business and management aspects of the engineering profession, project management, prioritization of resource allocation, intellectual property protection, management of technical projects, and product/production management. Preference will be given to Mechanical Engineering students. No Audits. Recommended Course Background: EN.660.105
Instructor(s): I. Izenberg; M. Agronin
Area: Engineering.

EN.660.500. Business Internship. 1 Credit.
Students may qualify for an internship with one of the many local employers with whom CLE works or they may arrange a non-local internship on their own. For non-paid internships only, students may apply for sponsorship for academic credit through CLE. Applications must include a resume, transcript and written essay and will be evaluated on the basis of work experience, GPA, writing sample, and course work. Students are expected to complete two reports assigned by the internship coordinator. S/U only.
Instructor(s): L. Kendrick.

EN.660.501. Practicum-Entrepreneurship. 3 Credits.
Students work on an existing business or marketing plan/case project under the close supervision of an Entrepreneurship and Management faculty member. Students must apply by submitting a cover letter, resume, unofficial transcript, and essay describing the business concept/marketing plan. Applications must be approved by both the faculty member and director of CLE. Students are expected to meet regularly with the faculty member and complete assigned readings and projects. Permission required. S/U only.
Instructor(s): L. Aronhime; P. Sheff.

EN.660.611. Accounting and Finance.
The course includes a review of financial accounting with an emphasis on the managerial implications of financial statements and their application to financial analysis. Course material will also encompass cost accumulation, cost allocation, product costing, and variance analysis, and their impact on financial forecasting and capital budgeting. Students will also explore valuation techniques for new technologies. Permission of instructor required. Co-listed with 662.611.

Professional Communication
EN.661.110. Professional Communication for Science, Business & Industry. 3 Credits.
This course teaches students to communicate effectively with a wide variety of specialized and non-specialized audiences. Projects include production of resumes, cover letters, proposals, instructions, reports, and other relevant documents. Class emphasizes writing clearly and persuasively, creating appropriate visuals, developing oral presentation skills, working in collaborative groups, giving and receiving feedback, and simulating the real world environment in which most communication occurs. No audits.
Instructor(s): Staff
Writing Intensive.

EN.661.111. Professional Communication for ESL Students. 3 Credits.
This course teaches ESL students to communicate effectively with a wide variety of specialized and non-specialized audiences and will provide ESL-specific help with grammar, pronunciation, and idiomatic expression in these different contexts. Projects include production of resumes, cover letters, proposals, instructions, reports, and other relevant documents. Class emphasizes writing clearly and persuasively, creating appropriate visuals, developing oral presentation skills, working in collaborative groups, giving and receiving feedback, and simulating the real world environment in which most communication occurs. Note: not open to students who have taken EN.661.110 as Technical Communication or Professional Communication for Science, Business, and Industry or EN.661.120 Business Communication. Co-listed with EN.661.611. No audits.
Instructor(s): L. Davis
Writing Intensive.

EN.661.150. Oral Presentations. 3 Credits.
This course is designed to help students push through any anxieties about public speaking by immersing them in a practice-intensive environment. They learn how to speak with confidence in a variety of formats and venues - including extemporaneous speaking, job interviewing, leading a discussion, presenting a technical speech, and other relevant scenarios. Students learn how to develop effective slides that capture the main point with ease and clarity, hone their message, improve their delivery skills, and write thought-provoking, well-organized speeches that hold an audience's attention. No audits.
Instructor(s): A. Kulanko; C. O'Donnell; J. Heiserman; J. Reiser; K. Dungey
Writing Intensive.

EN.661.151. Oral Presentations for ESL. 3 Credits.
This course is designed to help students push through any anxieties about public speaking by immersing them in a practice-intensive environment. They learn how to speak with confidence in a variety of formats and venues - including extemporaneous speaking, job interviewing, leading a discussion, presenting a technical speech, and other relevant scenarios. Students learn how to develop effective slides that capture the main point with ease and clarity, hone their message, improve their delivery skills, and write thought-provoking, well-organized speeches that hold an audience's attention. Special attention will be placed on diction, pronunciation, tone, pace and emphasis of language. Additional attention also will be given to syntax as well as non-verbal communication patterns. Co-listed with EN.661.651. No audits.
Instructor(s): L. Davis
Writing Intensive.
**EN.661.160. Online Media and Society. 3 Credits.**
This online course takes a comprehensive and critical view of the history, roles and responsibilities of media in society. It explores the organization, creation, economics, control and effects of mass communications in the United States and the world. Students will learn how both traditional and new digital media has come to play such an integral role in our society while exploring the exciting career opportunities in journalism, public relations, advertising, radio, film, TV and the Internet. Students will apply concepts to current practical examples through a course blog and delve more deeply into subjects through writing assignments. No on-campus components required. No audits.
Instructor(s): K. Quesenberry.

**EN.661.170. Visual Rhetoric. 3 Credits.**
A course that aims to help students design clearer, more visually engaging graphics for a wide variety of business and technical documents. Students will learn to manage essential principles of graphic design through a variety of graphic programs (Adobe Creative Suite) and MS Office software. Topics will include logos, letterhead, event posters, brochures, data graphics and some basic web design. No audits.
Instructor(s): C. O’Donnell.

**EN.661.270. Working with Writer’s Block. 3 Credits.**
This course is designed to help anyone currently struggling with writer’s block--anything from extreme procrastination, avoidance behavior, poor writing process, or outright blockage (among others). It utilizes experimental, non-traditional, and un-orthodox methods--including mindfulness meditation and freewriting--to help students and professionals learn how to embrace their own writing process in a more open, flexible, and creative fashion. We will use the work of Jon Kabat-Zinn, Natalie Goldberg, Anne Lamott, and others. This course will only be taught pass/fail.
Instructor(s): J. Reiser
Writing Intensive.

**EN.661.315. The Culture of the Engineering Profession. 3 Credits.**
This course focuses on building understanding of the culture of engineering while preparing students to communicate effectively with the various audiences with whom engineers interact. Working from a base of contemporary science writing (monographs, non-fiction, popular literature and fiction), students will engage in discussion, argument, case study and project work to investigate: the engineering culture and challenges to that culture, the impacts of engineering solutions on society, the ethical guidelines for the profession, and the ways engineering information is conveyed to the range of audiences for whom the information is critical. Additionally, students will master many of the techniques critical to successful communication within the engineering culture through a series of short papers and presentations associated with analysis of the writings and cases. No on-campus components required. No audits.
For Engineering sophomores, juniors and seniors or by permission of instructor.
Instructor(s): E. Rice
Area: Social and Behavioral Sciences
Writing Intensive.

**EN.661.317. The Culture of the Medical Profession. 3 Credits.**
This course builds understanding of the culture of medicine as well as the ways in which different strata within society have access to and tend to make decisions about health and health related services while preparing students to communicate effectively with the various audiences with whom medical professionals interact. Working from a base of contemporary science writing (monographs, non-fiction, popular literature and fiction), students engage in discussion, argument, case study and project work to investigate topics such as the medical culture, the ways medicine is viewed by different segments of society, issues associated with access to health care, ethical dilemmas and guidelines for medical decisions, the impacts of medical and engineering solutions on society, decision making within client/patient groups, social and cultural differences that effect behavioral change, and the ways medical information is conveyed to the range of audiences for whom the information is critical. Additionally, students will master many of the techniques critical to successful communication through a series of short papers and presentations associated with analysis of the writings and cases. For sophomores, juniors, and seniors or by permission of instructor. No audits.
Area: Social and Behavioral Sciences
Writing Intensive.

**EN.661.357. Copywriting & Creative Strategy. 3 Credits.**
Uncover the process of creative thinking for innovation and conceiving “big ideas” in marketing. Students will be exposed to creative theory and practice as they select a consumer product and determine strategic market positioning, target demographics, media vehicles and creative guidelines. Then students will learn the craft of advertising copywriting for print, broadcast and digital media as they develop finished creative executions for the chosen organization that all build to a complete integrated marketing campaign. Co-listed with EN.660.357. No audits.
Prerequisites: EN.660.250 Principles of Marketing
Writing Intensive.

**EN.661.361. Corporate Communications & P.R. 3 Credits.**
This course focuses on the ways that organizations, both for-profit and non-profit, manage their communications to deliver strategic, coherent and compelling messages to their varied stakeholders. Using case studies and team-based, real world projects, we will explore topics including public and media relations, corporate image, branding, advertising, internal and external communications, crisis management, investor relations, ethics and social responsibility. In the process, we will consider issues ranging from organizational culture and leadership styles to defining strategy, managing conflict, defending positions and disagreeing agreeably. No audits. Recommended Course Background: AS.220.105, EN.661.110, AS.060.113 or AS.060.114, AS.060.215, EN.660.250, EN.660.105, and EN.661.150
Instructor(s): P. Sheff
Writing Intensive.
EN.661.390. Online Journalism: JayStreet: A Journal of Entrepreneurship & Technology at JHU. 3 Credits.
Online journalism, especially at the intersection of science, medicine, and technology, is a rapidly growing field. This interactive course, open to students in all academic disciplines, produces Jay Street, an online journal, focusing on science, medicine, and technology with a JHU connection. Using a combination of guest speakers, interviews, investigative reporting, and selected readings, we will explore and write about some of the exciting and innovative research in science, medicine, and technology conducted at the Johns Hopkins Institutions. Serving as writers, editors and designers, students will choose a theme and design the journal, develop articles and interviews, blogs and videos, providing themselves a key credential for the future. No audits. Recommended Course Background: At least one writing intensive course and/or permission of the instructor. Writing Intensive.

EN.661.410. Research Writing for ESL. 3 Credits.
This course is designed to help ESL writers succeed in writing, editing, and completing a large research project specific to their discipline. This could be a research report, journal article, literature review, dissertation chapter, grant proposal, or other relevant document. The course provides intensive help with grammar, idiomatic phrasing, and overall clarity for writers whose native language is not English. The course includes both individual consultation and group workshops. Undergraduates must be conducting research with a faculty member or must obtain special permission of instructor to register for the course. S/U grading only (students may elect to take this course for a traditional letter grade if their departments require them to do so; students must inform the instructor by the second week of class). Co-listed with EN.661.610. No audits.
Writing Intensive.

EN.661.425. Ethics of Biomedical Innovation. 3 Credits.
Engineers confront problems and make decisions that hold long term social consequences for individuals, organizations, communities and the profession. For biomedical engineers, these decisions may relate to: inventions such as medical devices and pharmaceuticals; neural prosthetics and synthetic biological organisms; responsible and sustainable design; availability of biotechnology in the developing world. Using a combination of cases, fieldwork and readings, we examine the ethical issues, standards, theory and consequences of recent and emerging engineering interventions as a way to understand the profession and to form a basis for future decisions. In addition students will learn and practice multiple forms of communication, including oral, visual and written rhetoric. A particular focus will be communication targeted to different stakeholders including other professionals and the public. Students will apply good communication principle to the discussion of biomedical engineering ethics, develop their own ethical case studies and participate in group projects to aid ethical decision-making, and to improve communication of complex biomedical ethical issues to others. Co-listed with EN.580.425. Area: Social and Behavioral Sciences
Writing Intensive.

EN.661.453. Social Media and Marketing. 3 Credits.
This course explores strategies for monitoring and engaging consumers in digital media. Students will gain practical knowledge about developing, implementing and measuring social media marketing campaigns. They will learn how to analyze what consumers are saying and connect with them by leveraging word of mouth, viral and buzz marketing through sites like Facebook, Twitter and YouTube. A series of assignments build upon each other toward a final social media marketing plan for a selected consumer product or service. Co-listed with EN.660.453. No audits.
Prerequisites: EN.660.250 Principles of Marketing
Writing Intensive.

EN.661.454. Blogging and Online Copywriting. 3 Credits.
Learn how to develop, write and manage content for marketing communication on the Web and build an online presence through search engine optimization (SEO) and search engine marketing (SEM). Each student will create his/her own professional WordPress blog and gain knowledge on how to market it. They will also learn copywriting for various digital formats including Email marketing, website copy and social media while gaining an understanding of web analytics, conversion optimization, writing for keywords and mobile marketing. Co-listed with EN.661.654. No audits. Recommended Course Background: one writing course in any discipline (professional communication, expository writing, or writing seminars).
Prerequisites: Prereq. EN.660.250-Principles of Marketing.
Instructor(s): K. Quesenberry
Writing Intensive.

EN.661.455. Copywriting & Creative Thinking. 3 Credits.
Uncover the process of creative thinking for innovation and conceiving “big ideas” in marketing. Students will be exposed to creative theory and practice as they select a consumer product and determine strategic market positioning, target demographics, media vehicles and creative guidelines. Then students will learn the craft of advertising copywriting for print, broadcast and digital media as they develop finished creative executions for the chosen organization that all build to a complete integrated marketing campaign. No audits.
Prerequisites: EN.660.250
Writing Intensive.

EN.661.456. Marketing Communication Law & Ethics. 3 Credits.
This course focuses on the legal and ethical constraints of advertising and promotion marketing practice. Federal laws, media standards and professional ethics establish what can or cannot be said or done in marketing. Beyond that corporate and personal social responsibility must also be considered. Topics such as deception, copyright, publicity, comparative advertising and social media standards will be covered. Students will apply concepts to current practical examples through a course blog and delve more deeply into subjects through a series of writing assignments. Co-listed with EN.660.456. No audits. Recommended Course Background: one writing course in any discipline (professional communication, expository writing, or writing seminars).
Prerequisites: EN.660.250
Instructor(s): K. Quesenberry
Writing Intensive.
EN.661.487. Advanced Communication Skills for Science and Engineering. 3 Credits.
This course helps students build advanced communication skills that are critical for leveraging their academic experience in the "real world." Course emphasizes reporting information, polishing CVs and resumes, presenting conference papers, participating in poster sessions, tailoring information to both specialist and non-specialist audiences, and writing grant proposals for funding. Undergraduates are required to be conducting research with a faculty member or by special permission of instructor. Co-listed with EN.661.687. No audits. Writing Intensive.

EN.661.488. Communicating Decisions in a Crisis. 3 Credits.
Open to sophomores, juniors and seniors only or permission of instructor. This course focuses on using communication to defuse and manage crisis situations. Students work in teams to consider issues including organizational culture, defining strategy, leadership styles, project management, negotiation and conflict management, stakeholder needs, defending positions, disagreeing agreeably, managing large and small groups, ethics, and social responsibility. Co-listed with 661.688. No audits. Writing Intensive.

EN.661.610. Research Writing for ESL.
This course is designed to help ESL writers succeed in writing, editing, and completing a large research project specific to their discipline. This could be a research report, journal article, literature review, dissertation chapter, grant proposal, or other relevant document. The course provided intensive help with grammar, idiomatic phrasing, and overall clarity for writers whose native language is not English. The course includes both individual consultation and group workshops. P/F grading only (students may elect to take this course for a traditional letter grade if their departments require them to do so; students must inform the instructor by the second week of class). Co-listed with EN.661.410. No audits.
Instructor(s): D. Link-Farajali.

EN.661.611. Professional Communication for ESL.
This course teaches ESL students to communicate effectively with a wide variety of specialized and non-specialized audiences and will provide ESL-specific help with grammar, pronunciation, and idiomatic expression in these different contexts. Projects include production of resumes, cover letters, proposals, instructions, reports, and other relevant documents. Class emphasizes writing clearly and persuasively, creating appropriate visuals, developing oral presentation skills, working in collaborative groups, giving and receiving feedback, and simulating the real world environment in which most communication occurs. Not open to students who have taken EN.661.110 as Technical Communication or Professional Communication for Science, Business, and Industry or EN.661.120 Business Communication. Co-listed with EN.661.411.

This course will prepare you to be competitive in the world of business by offering you some of the oral and written communication techniques you need to be successful. While working to enhance pronunciation, grammar, idiomatic expressions, and business vocabulary, you will work to speak comfortably in business social settings and meetings and to write effectively in a variety of modes not limited to e-mails, memoranda, resumes, and summary reports. The overall goal for all assignments is to speak and to write in clear, effective English. Moreover, improving oral and written communications will give you confidence, help you to make a good impression, and just maybe give you that “edge” you need to get the job you want or the project you desire once employed. Finally, individual pronunciation conferences will be scheduled with each of you throughout the semester. Financial Math students only. P/F only. No audits.

This course will prepare you to be competitive in the world of business by offering you some of the oral and written communication techniques you need to be successful. While working to enhance pronunciation, grammar, idiomatic expressions, and business vocabulary, you will work to speak comfortably in business social settings and meetings and to write effectively in a variety of modes not limited to e-mails, memoranda, resumes, and summary reports. The overall goal for all assignments is to speak and to write in clear, effective English. Moreover, improving oral and written communications will give you confidence, help you to make a good impression, and just maybe give you that “edge” you need to get the job you want or the project you desire once employed. Finally, individual pronunciation conferences will be scheduled with each of you throughout the semester. Financial Math students only. P/F only.
Instructor(s): D. Link-Farajali.

EN.661.651. Oral Presentations for ESL.
This course is designed to help students push through any anxieties about public speaking by immersing them in a practice-intensive environment. They learn how to speak with confidence in a variety of formats and venues - including extemporaneous speaking, job interviewing, leading a discussion, presenting a technical speech, and other relevant scenarios. Students learn how to develop effective slides that capture the main point with ease and clarity, hone their message, improve their delivery skills, and write thought-provoking, well-organized speeches that hold an audience’s attention. Special attention will be placed on diction, pronunciation, tone, pace and emphasis of language. Additional attention also will be given to syntax as well as non-verbal communication patterns. Co-listed with EN.661.151.

EN.661.653. Social Media and Marketing.
Students will design and manage their own “guerilla” marketing and communications firm that will work with a local, non-profit client. The student-run firm will develop the client’s online presence and marketing campaign using a variety of social media resources including website development, blogging, Google Analytics, FB, Tumblr, Twitter, or other tool they determine to be critical to the project. The course is welcome to all students who have had either one writing course—in professional communications, oral presentations, expository writing, or writing seminars—or one marketing course. The course also welcomes students with graphic design, start-up, or other relevant business or management experience. Co-listed with 661.453. No audits.
Instructor(s): J. Reiser.
EN.661.654. Blogging, Editing, and Copywriting.
Learn how to develop, write and manage content for marketing communication on the Web and build an online presence through search engine optimization (SEO) and search engine marketing (SEM). Each student will create his/her own professional WordPress blog and gain knowledge on how to market it. They will also learn copywriting for various digital formats including Email marketing, website copy and social media while gaining an understanding of web analytics, conversion optimization, writing for keywords and mobile marketing. Recommended Course Background: one writing course in any discipline (professional communication, expository writing, or writing seminars). Co-listed with EN.661.454. No audits.
Prerequisites: Prereq. EN.660.250-Principles of Marketing. Recommended prerequisite: one writing course in any discipline (professional communication, expository writing or writing seminars). Co-listed with 661.454. No audits.

This course helps students build advanced communication skills that are critical for leveraging their academic experience in the "real world." Course emphasizes reporting information, polishing CVs and resumes, presenting conference papers, participating in poster sessions, tailoring information to both specialist and non-specialist audiences, and writing grant proposals for funding. Co-listed with EN.661.487. No audits.

This course focuses on using communication to defuse and manage crisis situations. Students work in teams to consider issues including organizational culture, defining strategy, leadership styles, project management, negotiation and conflict management, stakeholder needs, defending positions, disagreeing agreeably, managing large and small groups, ethics, and social responsibility. Co-listed with 661.488. No audits.

EN.661.710. Dissertation Writing Workshop.
This course is designed to introduce students to the dissertation writing process, explain JHU-specific rules and regulations regarding dissertation work, and facilitate the completion of new work or work already in progress. Open to students in any discipline and in any stage of the dissertation process, this course will begin with a selection of speakers from relevant JHU departments, The Graduate Board, the MSE Library and the Commercial Binding Office, the Counseling Center’s Dissertation Support Group, professors, and recently graduated students (among others). During the second half of the course, students will designate one component of the dissertation and work to bring it to completion in a supportive workshop environment. This “component” could include a prospectus, a literature review, a chapter, an introduction, an overall plan for completion, or preparation for the defense. Topics will be geared toward the individual needs of the students registered in the course but will, in general, emphasize goal setting, project planning, developing strategies for working with readers/advisors/committees, learning how to emphasize “the big picture,” working with research tools such as Refworks or Zotero, building a daily writing practice, exploring strategies to deal with the isolation/depression common to dissertation writers, navigating the submission process, and, in general, supporting the overall dissertation writing process through its various stages. Course is taught pass/fail only. Non-native speakers are encouraged to take EN.661.610 Research Writing for ESL before taking this course. No audits.
Instructor(s): J. Reiser.

This workshop is for dissertation writers who have already completed the Dissertation Writing Workshop, EN.661.710. This class provides a venue for students to hold themselves accountable, to set weekly goals, to workshop drafts, and to present work-in-progress to the whole group. Course is taught pass/fail only. Course may be repeated. No audits.
Prerequisites: Prereq. EN.661.710.

Engineering Management

EN.662.611. Accounting and Finance.
This course includes a review of financial accounting with an emphasis on the implications of GAAP selections and other managerial decisions on the financial statements. Historic financial performance is assessed using ratio analysis. Relevant cash flows are used in capital budgeting situations; projects are analyzed using discounted cash flow techniques as a measure of valuation. Managerial accounting topics of financial forecasting, cost accumulation, cost allocation, product costing, and variance analysis are used in decision making. For M.S. in Engineering Management only; graded (not P/F); no audits.
Instructor(s): A. Leps.

Business Law and Intellectual Property introduces participants to the fundamental aspects of law associated with developing and bringing new products to the marketplace. Arranged in modules and taught largely through the case method, the course features the following topics: creating and forming businesses; contracts; intellectual property; principal-agent relations; and product liability. Not only will participants learn the principles associated with each topic, but also they will master the questions and concerns to use when working with legal counsel on these issues in the future. For M.S. in Engineering Management only; no audits.

EN.662.642. Management and Leadership.
Management and Leadership is a case, experiential and research based course intended to introduce participants to issues and solutions related to growing and managing businesses with an emphasis on entrepreneurial enterprises. The course focuses on managerial decision-making and organization building through topics that include planning and managing strategic change; finding competitive advantage; making informed decisions; dealing with uncertainty; negotiating collaborative settlements; managing/leading projects, teams and professionals; networking and forming strategic alliances; valuing differences; creating and maintaining organizational cultures; and devising performance measures. Additionally, participants master aspects of management communication as they address course content. For M.S. in Engineering Management only; graded (not P/F); no audits.
Instructor(s): E. Rice.

This course is designed to introduce students to key marketing, communications, and strategic issues surrounding the process of bringing new products to the marketplace. Through cases, readings, discussion and hands-on team projects, students develop a flexible approach to thinking about marketing problems, maximizing resources and creating strategic solutions. Written and oral work focuses on communicating effectively with target audiences using integrated media and developing interpersonal skills essential for managers, including presenting to a hostile audience, running meetings, listening, and contributing to group decision-making. For M.S. in Engineering Management only; graded (not P/F); no audits.
EXT. 662.692. Venture Planning to New Venture Creation.
Venture Planning requires participants to work in groups to address, design and plan a business solution for an engineering problem with social implications. More specifically, students will work on cross-disciplinary teams to develop a commercially viable new technology. They must select a problem amenable to an engineering solution, investigate the problem, research the issues and potential, develop a design for the technology, investigate the competitive advantage, and create and present a business plan for the idea. Course content will address many of the issues that will be encountered during the process of bringing an idea to fruition. For M.S. in Engineering Management only; graded (not P/F); no audits.
Instructor(s): P. Sheff.

Professional development seminar for engineering management students featuring outside speakers with engineering management experience. For M.S. in Engineering Management only; P/F only; no audits.
Instructor(s): E. Rice; P. Sheff.

Professional development seminar for engineering management students featuring outside speakers with engineering management experience. For M.S. in Engineering Management only; P/F only; no audits.
Instructor(s): E. Rice.

Materials Science and Engineering

Materials are essential to the construction of any engineering structure, from the smallest integrated circuit to the largest bridge. In almost every technology, the performance, reliability, or cost is determined by the materials used. As a result, the drive to develop new materials and processes (or to improve existing ones) makes materials science and engineering one of the most important and dynamic engineering disciplines.

The central theme of materials science and engineering is that the relationships among the structures, properties, processing, and performance of materials are crucial to their function in engineering structures. Materials scientists seek to understand these fundamental relationships and use this understanding to synthesize new materials or develop new processes for producing existing ones. Materials engineers design or select materials for particular applications and develop improved processing techniques. Since materials scientists and engineers must understand the properties of materials as well as their applications, the field is inherently interdisciplinary and draws on aspects of almost every other engineering discipline as well as physics, chemistry, and, most recently, biology. Because the field encompasses so many different areas, it is often categorized according to types of materials (metals, ceramics, polymers, and semiconductors) or to their applications (biomaterials, electronic materials, magnetic materials, or structural materials).

The department prepares students for successful careers in materials science and engineering, for advanced study in science or engineering, and for professional education in other fields. The goal of the undergraduate program is to provide a rigorous and comprehensive curriculum in materials science and engineering as well as in mathematics, basic sciences, humanities, and social sciences. Our low student-to-faculty ratio allows students close contact with faculty in both classroom and research environments, as well as with other students and researchers in the department. The student is encouraged to proceed at his or her own rate and to participate in interdisciplinary, interdepartmental, and interschool programs. In the tradition of Johns Hopkins, all of our undergraduate students participate in research, often beginning in their sophomore year, working closely with faculty and graduate students.

In recognition that biomaterials and nanotechnology represent two of the most rapidly developing areas of materials science and engineering, the Department of Materials Science and Engineering offers challenging specializations in biomaterials or nanotechnology within its undergraduate program.

The field of biomaterials is concerned with the science and engineering of materials in biology and medicine. Engineering materials are increasingly used in applications such as drug delivery and gene therapy, scaffolds for tissue engineering, replacement body parts, and biomedical and surgical devices. Biomaterials is an inherently interdisciplinary field that requires deep understanding of the properties of materials in general, and the interactions of materials with the biological environment. The Biomaterials Track is designed to provide a firm grounding in the physics, chemistry, and biology of materials, as well as breadth in general engineering, mathematics, humanities, and social science. In addition, students are encouraged to gain hands-on experience in biomaterials research laboratories. The program seeks to educate students to reach the forefront of leadership in the field of biomaterials engineering. While the fundamental principles of materials science still apply, a complete understanding of biomaterials and their interactions with biological environments requires a greater degree of specialization than the standard undergraduate curriculum provides. In recognition of completion of the Biomaterials Track, a student may elect to have his or her academic transcript annotated to indicate a specialty in biomaterials.

Nanotechnology advances the utilization of materials and devices with extremely small dimensions. Nanotechnology is a visionary field, as micro and nanostructured devices impact all fields of engineering, from microelectronics (smaller, faster computer chips) to mechanical engineering (micromotors and actuators) to civil engineering (“smart,” self-healing nanocomposite materials for buildings and bridges) to biomedical engineering (biosensors and tissue engineering). Materials science is central to nanotechnology because the properties of materials can change dramatically when things are made extremely small. This observation is not simply that we need to measure such properties or develop new processing tools to fabricate nanodevices. Rather, our vision is that the wide (and sometimes unexpected!) variety of phenomena associated with nanostructured materials allow us to envision radically new devices and applications that can only be made with nanostructured materials. The Nanotechnology Track encompasses a curriculum designed to train students in the fundamental interdisciplinary principles of materials science including physics and chemistry, and also to expose students to the forefront of nanomaterials research through elective classes as well as research laboratories. Students in the Nanotechnology Track will be well-prepared for successful careers in materials engineering across a wide range of disciplines. In recognition of completion of the Nanotechnology Track, a student may elect to have his or her academic transcript annotated to indicate a specialty in nanotechnology.

The graduate curriculum provides students with a broad yet thorough grounding in the fundamentals of materials science and engineering. After completing the core curriculum, students pursuing master
Facilities

The teaching and research facilities of the Department of Materials Science and Engineering are located in Maryland and Krieger halls on the Homewood campus. Our central facilities include the Surface Analytical Laboratory, with advanced tools for the chemical characterization of solid surfaces; the Scanning Electron Microscopy Laboratory; the X-Ray Diffraction Laboratory; the Laboratory for Thin Film Deposition; and facilities for sample preparation, optical microscopy, and mechanical testing. Individual research groups have established laboratories with advanced facilities for materials processing, nanotechnology, and materials characterization. Through collaboration with other departments and national laboratories, students and faculty also have access to a variety of other facilities necessary for world-class research.

Mission Statement

Materials play a central role in the performance and reliability of virtually every technology and living organism. The central theme of materials science and engineering is that the relationships between the structure, properties, processing, and performance of materials are crucial to their function. Materials scientists seek to understand these fundamental relationships, synthesize new materials, develop improved processes for making materials, and understand the role of materials in the functioning of biological organisms. The wide range of problems addressed makes materials science one of the most highly interdisciplinary and dynamic engineering disciplines.

The Materials Science & Engineering faculty strives to maintain the Johns Hopkins University tradition of training a small number of students of the highest quality. We measure our success by the impact our graduates have on the scientific and engineering communities. Our program is designed to provide a solid foundation for future career development for students with diverse career aspirations.

Program Objectives

Our current program educational objectives are stated as follows:

Graduates of the Materials Science and Engineering Program:

1. Pursue careers that include advanced graduate studies in materials science and engineering or careers in related areas of science and engineering or professional disciplines that benefit from an understanding of materials science and engineering such as medicine, business or law.

2. Employ elements of the research process in their careers including the use of:
   - critical reasoning to identify fundamental issues and establish directions for investigation
   - creative processes to define specific plans for problem solution

   • analytical thought to interpret results and place them within a broader context.

Student Outcomes

At completion of the degree program, students in Materials Science and Engineering will have:

1. an ability to apply knowledge of mathematics, science and engineering (to solve problems related to materials science and engineering)

2. an ability to design and conduct experiments, as well as to analyze and interpret data (using statistical, computational or mathematical methods)

3. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability - the design process

4. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability - recognition of constraints within design

5. an ability to function on multidisciplinary teams

6. an ability to identify, formulate and solve engineering problems

7. an understanding of professional and ethical responsibility

8. an ability to communicate effectively (writing)

9. an ability to communicate effectively (oral presentation)

10. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context

11a recognition of the need for and an ability to engage in life-long learning

12a knowledge of contemporary issues

13an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

14the ability to apply advanced science (such as chemistry and physics) and engineering principles to materials systems

15the ability to integrate understanding of the scientific and engineering principles underlying the four major elements: structure, properties, processing, and performance related to material systems appropriate to the field

16the ability to apply and integrate knowledge from each of the above four elements of the field to solve materials selection and design problems

17the ability to utilize experimental, statistical and computational methods consistent with the program educational objectives

Requirements for the B.S. Degree

The Department of Materials Science and Engineering offers a program leading to the Bachelor of Science Degree. The B.S. for the Materials Science and Engineering degree program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org (http://www.abet.org). The student must meet the general university requirements for the chosen degree as well as the departmental requirements, and must complete the program approved by the student’s advisor.
An anticipated individual program of study designed to meet the university and department requirements for the B.S. degree, as well as to reflect the student’s interest, should be filed as early as possible during the student’s residence. The faculty advisor’s signature is required on all course registration and course change forms. As changes are made in the program, it shall be the student’s responsibility to see that a revised program is filed with the advisor. Each student must have an approved program on file no later than the semester before he/she expects to graduate.

General university requirements include (see also General Requirements for Departmental Majors for more information):

- Complete program of study outlined by track or concentration (standard track, biomaterials concentration, or nanotechnology concentration).
- Fulfill the university writing requirement two writing intensive courses, at least 3 credits each.
- Fulfill 75 credits earned in courses coded Engineering, Quantitative Studies, or Natural Science.
- At least 30 credits of this must be counted Natural Science or Quantitative Studies with no course counted twice.
- At least 30 additional credits must be taken outside of Engineering area, excluding prerequisites for the major.
- Fulfill a minimum of six courses coded Humanities or Social and Behavioral Sciences, at least 3 credits each, for a minimum of 18 credits.
- Take a minimum of 128 credits.

To meet the course requirements for the B.S. degree in Materials Science and Engineering, the student must complete a minimum of 128 credits, distributed as follows:

<table>
<thead>
<tr>
<th>Course Area</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials Science</td>
<td>42</td>
</tr>
<tr>
<td>Basic Natural Sciences</td>
<td>22</td>
</tr>
<tr>
<td>Mathematics</td>
<td>20</td>
</tr>
<tr>
<td>Humanities and Social Sciences</td>
<td>18</td>
</tr>
<tr>
<td>Basic Engineering and Computer Programming</td>
<td>11</td>
</tr>
<tr>
<td>Electives</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>128</strong></td>
</tr>
</tbody>
</table>

* The 42 credits of materials science courses must be passed with a letter grade of C or higher.

** All courses must be passed with a letter grade of C- or higher

*** Of these electives, 6 credits must be in natural sciences, mathematics, or engineering, and 9 credits are open electives to be chosen by the student. All courses must be passed with a letter grade of D or higher.

In addition to the degree program in Materials Science and Engineering, students may elect to complete specialized concentrations in biomaterials or nanotechnology. Whether a student chooses to pursue studies following the standard track, the Biomaterials concentration or the Nanotechnology concentration, the course work specified for the degree will provide a firm grounding in the principles of materials science and engineering.

Three B.S. Degree Options are Offered by the Department of Materials Science and Engineering

Standard Track

The Standard Track is intended for those students with general materials science interests. It permits the student to tailor the degree program to specific interests by allowing a broad range of choices for upper-level science and engineering electives.

Biomaterials Concentration

Biomaterials is an exciting and rapidly developing field. Engineered materials are increasingly used in medical applications (such as drug delivery, gene therapy, scaffolds for tissue engineering, replacement body parts, and biomedical and surgical devices) while an understanding of structure-property relationships in natural biomaterials may lead to improved interventions for a wide variety of diseases and injuries. Because it is highly interdisciplinary (involving elements of materials science, engineering, biology, chemistry and medicine), biomaterials as a discipline requires a deep understanding of the properties of materials in general, and the interactions of materials with the biological environment in particular.

The biomaterials concentration is designed to provide a broad basis in the fundamentals of materials science and engineering, as well as a particular emphasis on the principles and applications of biomaterials. While the fundamental principles of materials science still apply, a complete understanding of biomaterials and their interactions with biological environments requires a greater degree of specialization than the standard undergraduate curriculum provides. The biomaterials curriculum includes topics such as biomimetic materials, natural biomaterials, host responses to biomaterials, biocompatibility, and applications of biomaterials, particularly in tissue engineering, drug delivery, and medical devices and implants. Our goal is to train students who can apply these principles to the development of novel materials that benefit human health.

To receive commendation for completion of the Biomaterials concentration, the student must complete three electives, whose subject matter is some aspect of Biomaterials, and complete a biomaterials lab course and a biomaterials-related senior design project. Approval of electives must be made by a student’s academic advisor prior to taking the courses, and approval of the senior design project must be pre-approved by the senior design instructor.

Nanotechnology Concentration

Nanotechnology advances the utilization of materials and devices with extremely small dimensions. Nanotechnology is a visionary field, as micro- and nano-structured devices impact all fields of engineering, including microelectronics (smaller, faster computer chips), mechanical engineering (micromotors and actuators), civil engineering (“smart”, self-healing nanocomposite materials for buildings and bridges), and biomedical engineering (biosensors and tissue engineering).

Materials science is central to nanotechnology because the properties of materials can change dramatically when things are made extremely small. This observation is not simply that we need to measure such properties or develop new processing tools to fabricate nanodevices. Rather, our vision is that the wide (and sometimes unexpected) variety of phenomena associated with nanostructured materials allow us to envision radically new devices and applications that can
only be made with nanostructured materials. The nanotechnology concentration encompasses a curriculum designed to train students in the fundamental interdisciplinary principles of materials science, including physics and chemistry, and also to expose students to the forefront of nanomaterials research through elective classes and research laboratories. In recognition of completion of the Nanotechnology concentration, a student may elect to have his or her academic transcript annotated to indicate a concentration in nanotechnology.

To receive commendation for completion of the Nanotechnology concentration, the student must complete three electives, whose subject matter is some aspect of Nanotechnology, and complete a nanomaterials lab course and a nanotechnology-related senior design project. Approval of electives must be made by a student’s academic advisor prior to taking the courses, and approval of the senior design project must be pre-approved by the senior design instructor.

Detailed description of the B.S. program (course credits in parenthesis):

**Detailed Description of the B.S. Program**

**Materials Science (42 credits)**

- Must be passed with a letter grade of C- or higher.
- EN.510.311 Structure of Materials
- EN.510.312 Thermodynamics/Materials
- EN.510.313 Mechanical Properties of Materials
- EN.510.314 Electronic Properties of Materials
- EN.510.315 Physical Chemistry of Materials II
- EN.510.316 Biomaterials I
- EN.510.428 Material Science Laboratory I
- EN.510.429 and Materials Science Laboratory II
- EN.510.433 Senior Design Research
- EN.510.434 and Senior Design/Research II
- or EN.510.438 Biomaterials Senior Design I
- or EN.510.439 and Biomaterials Senior Design II
- or EN.510.440 Nanomaterials Senior Design I & EN.510.441 Nanomaterials Senior Design II

Four upper-level materials science electives each 300-level or higher **

**Basic Sciences (22 credits)**

- Must be passed with a letter grade of C- or higher
- AS.171.101 General Physics:Physical Science Major I
- or AS.171.107 General Physics for Physical Sciences Majors (AL)
- AS.171.102 General Physics: Physical Science Majors II
- or AS.171.108 General Physics for Physical Science Majors (AL)
- AS.173.111 General Physics Laboratory I
- & AS.173.112 and General Physics Laboratory II
- EN.510.101 Introduction to Materials Chemistry **
- or AS.030.101 Introductory Chemistry I
- & AS.030.102 and Introductory Chemistry II
- AS.030.105 Introductory Chemistry Lab I
- & AS.030.106 and Introductory Chemistry Laboratory II
- AS.030.205 Organic Chemistry I
- AS.030.225 Introductory Organic Chemistry Lab

**Mathematics (20 credits) (students can substitute LADE + an upper-level mathematics course for LA+DE)**

- AS.110.108 Calculus I
- AS.110.109 Calculus II
- AS.110.202 Calculus III
- or AS.110.211 Honors Multivariable Calculus
- AS.110.201 Linear Algebra
- or AS.110.212 Honors Linear Algebra
- AS.110.302 Differential Equations and Applications

**Basic Engineering (11 credits) (students can substitute Cell Biology+Biochemistry for Mol & Cells)**

- Students must completed two of the following:
  - EN.520.213 Circuits
  - EN.530.201 Statics and Mechanics of Materials
  - EN.580.221 Molecules and Cells ***

**Computer Programming (3 credits)**

- EN.510.202 Computation and Programming for Materials Scientists and Engineers (offered spring)

**Humanities (18 credits)**

- 18 credits of Humanities or Social Sciences electives. Letter grade of C- or higher.

**Science and Engineering Electives (6 credits)**

- Two courses of 200-level or above in engineering, natural sciences, or mathematics. Letter grade of D or higher required.

**Unrestricted Electives (9 credits)****

- 9 credits of unrestricted electives. Letter grade of D or higher is required.

**Total Credits** 128

* Courses in other departments with an emphasis on the structure, properties, or processing of materials may be counted as materials science electives. A list of approved electives appears in the department’s Undergraduate Advising Manual (available from a student’s academic advisor). All 400-level or higher classes required in the Biomaterials and Nanotechnology concentrations will be counted toward satisfying the upper-level materials science electives requirement.

** Students are encouraged to also take the 1-credit introductory 510.109 Materials Science & Engineering for the 21st Century. Students may take EN.510.101 Introduction to Materials Chemistry to fulfill the Intro. Chem (AS.030.101/AS.030.102) requirement. In this case, the student needs to make up the balance of the credits with 3 credits of free electives.

*** For the Biomaterials Track, EN.580.221 Molecules and Cells must be passed with a grade of C or higher.

**** A student who has taken both 030.101 and 030.102 may count one of them toward one unrestricted elective.

**Sample Undergraduate Programs for Materials Science and Engineering**

**Standard Track**

(For a student beginning with Calculus I)
### Year 1

#### Fall
- **EN.510.101** Introduction to Materials Chemistry* 3
- **AS.110.108** Calculus I 4
- **AS.030.105** Introductory Chemistry Lab I 1
- **AS.171.101** General Physics: Physical Science Major I 4
- **AS.173.111** General Physics Laboratory I 1
- **Unrestricted Elective** 3

#### Credits
- **16**

#### Spring
- **EN.510.202** Computation and Programming for Materials Scientists and Engineers 1
- **AS.030.106** Introductory Chemistry Laboratory II 4
- **AS.171.112** General Physics: Physical Science Majors II 1
- **AS.110.109** Calculus II 4
- **Unrestricted Elective** 3

#### Credits
- **16**

**Total Credits: 128**

* Students are encouraged to take the 1-credit introductory 510.109 Materials Science & Engineering for the 21st Century. Students must take either EN.510.101 Introduction to Materials Chemistry or both AS.030.101 Introductory Chemistry I/AS.030.102 Introductory Chemistry II to fulfill the introductory chemistry lecture requirement.

### Biomaterials Concentration

(For a student beginning with Calculus I)

#### Year 1

#### Fall
- **EN.510.101** Introduction to Materials Chemistry* 3
- **AS.110.108** Calculus I 4
- **AS.030.105** Introductory Chemistry Lab I 1
- **AS.171.101** General Physics: Physical Science Major I 4
- **AS.173.111** General Physics Laboratory I 1
- **Unrestricted Elective** 3

#### Credits
- **16**

#### Year 2

#### Fall
- **EN.510.101** Introduction to Materials Chemistry* 3
- **AS.030.205** Organic Chemistry I 4
- **AS.030.225** Introductory Organic Chemistry Lab I 3
- **AS.110.202** Calculus III 4
- **EN.520.213** Circuits 4

#### Credits
- **18**

#### Year 3

#### Fall
- **EN.510.311** Structure of Materials 3
- **AS.030.205** Organic Chemistry I 4
- **EN.510.315** Thermodynamics/ Materials 3
- **EN.510.316** Biomaterials I 3
- **EN.510.312** Material Science Laboratory I 3
- **EN.510.428** Statics and Mechanics of Materials 4
- **EN.510.201** Statics and Mechanics of Materials 4

#### Credits
- **16**

#### Year 4

#### Fall
- **EN.510.433** Senior Design Research 3
- **AS.030.205** Organic Chemistry I 4
- **EN.510.315** Thermodynamics/ Materials 3
- **AS.030.225** Introductory Organic Chemistry Lab I 3
- **EN.510.428** Material Science Laboratory I 3
- **EN.510.429** Material Science Laboratory II 3
- **EN.510.430** Statics and Mechanics of Materials 4
- **EN.510.431** Statics and Mechanics of Materials 4

#### Credits
- **16**

**Total Credits: 128**

* Students are encouraged to take the 1-credit introductory 510.109 Materials Science & Engineering for the 21st Century. Students must take either EN.510.101 Introduction to Materials Chemistry or both AS.030.101 Introductory Chemistry I/AS.030.102 Introductory Chemistry II to fulfill the introductory chemistry lecture requirement.
The Department of Materials Science and Engineering (DMSE) offers three graduate degrees: the Ph.D. (Doctor of Philosophy), the M.S.E. (Master of Science in Engineering), and the M.M.S.E. (Master of Materials Science and Engineering). The Ph.D. and the M.S.E. can be completed on either a full-time or part-time basis. Financial aid is available only for students admitted to the full-time Ph.D. program. The M.S.E. degree may be completed either with or without an essay, as described below.

Hopkins undergraduate students are encouraged to consider completing both the B.S. degree and the M.S.E. degree in a total of five years. This five-year, dual degree option offers additional preparation for the pursuit of Ph.D. programs and careers in materials science and engineering. Students are encouraged to consult their undergraduate advisors to gain information on M.S.E. programs at Hopkins, as well as third- and fourth-year course selections best suited to the pursuit of the M.S.E. degree.

The M.M.S.E. is a terminal master's degree offered through Johns Hopkins Engineering for Professionals (EP) of the Whiting School of Engineering. The degree program consists of 10 courses offered primarily in the evening. Students interested in this program should apply through the EP Office, 410.516.2300 or www.ep.jhu.edu.

### Admission

To be admitted to graduate study in the Department of Materials Science and Engineering, students must submit credentials sufficient to convince the faculty that they have the potential to successfully complete the program requirements. Under the new GRE test, applicants should take the General Test package containing the Mathematical Reasoning test.

Hopkins undergraduate students who plan to pursue a M.S.E. degree in their fifth year are encouraged to submit an application early in their fourth year of study.

A graduate student pursuing a Ph.D. degree with the Department of Materials Science and Engineering who is funded by the department as a teaching assistant or research assistant may not enroll simultaneously in a master's program in another department, unless he or she receives written approval from his or her advisor, the DMSE Graduate Program Committee, and the department chairman.

### Advising and Review of Student Performance

Each graduate student will normally have one or more faculty advisors. Students who are entering the M.S.E. program and plan to pursue a degree without an essay will be assigned an academic advisor. Students who are entering the M.S.E. program and plan to pursue a degree with an essay will be advised by their research advisor. Students with a research advisor in another department will be advised by their research advisor. Students who are entering the Ph.D. program will be advised by their research advisor. Students with a research advisor in another department will be assigned an academic advisor from among the full-time faculty in the department. Student progress will be assessed regularly by the faculty advisor(s) and the Graduate Program Committee. Students are expected to remain in regular communication with their faculty advisor(s).

Each student’s progress will be reviewed annually by the Graduate Program Committee, in consultation with the student’s advisor(s). To assist in this evaluation, students are required to submit a form (available from the academic program coordinator) detailing progress.

### Financial Aid

Information about scholarships and other sources of financial assistance for undergraduates is available from Student Financial Services (http://pages.jhu.edu/~finaid). In addition, the faculty employs a number of undergraduates as laboratory assistants to help with various aspects of their individual research programs.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.030.225</td>
<td>Introductory Organic Chemistry Lab</td>
<td>3</td>
</tr>
<tr>
<td>AS.110.201</td>
<td>Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>AS.110.202</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>H/S Elective</td>
<td>H/S Elective</td>
<td>3</td>
</tr>
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</table>

**Year 3**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.312</td>
<td>Thermodynamics/ Materials</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.316</td>
<td>Biomaterials I</td>
<td>3</td>
</tr>
<tr>
<td>EN.510.428</td>
<td>Material Science Laboratory I</td>
<td>3</td>
</tr>
<tr>
<td>EN.580.221</td>
<td>Molecules and Cells</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 4</th>
<th>Fall</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.438</td>
<td>Biomaterials Senior Design I</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN.4xx::MSE Elective</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>EN.4xx::MSE Elective</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>EN.530.201</td>
<td>Statics and Mechanics of Materials</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Credits: 128**

*Students are encouraged to take the 1-credit introductory 510.109 Materials Science & Engineering for the 21st Century. Students must take EN.510.101 Introduction to Materials Chemistry or both AS.030.101 Introductory Chemistry I/AS.030.102 Introductory Chemistry II to fulfill the introductory chemistry lecture requirement.*
toward completion of the degree requirements. This form must be signed by the student’s advisor(s) and filed with the Graduate Program Committee each year. The department must be convinced that all academic requirements have been satisfied by the candidate before a recommendation to confer a graduate degree is passed on to the University Graduate Board.

Grade requirements for graduate course work differ according to the degree program, as described below. All graduate students are required to maintain an overall grade point average (GPA) of 3.0 or higher; failure to do so will ordinarily be cause for dismissal from the program. Independent research courses will not be counted toward completion of course requirements.

The department believes that teaching experience is important to professional growth; therefore, a student may be required to serve as a teaching assistant during his or her academic career.

**Requirements for the M.S.E. Degree with Essay**

(8 courses)

The degree of Master of Science in Engineering (M.S.E.) with Essay is awarded subject to the recommendation of the student’s advisor and departmental approval, based on satisfactory completion of the following requirements:

Three core courses in Materials Science and Engineering

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.601</td>
<td>Structure of Materials</td>
</tr>
<tr>
<td>EN.510.602</td>
<td>Thermodynamics of Materials</td>
</tr>
<tr>
<td>EN.510.603</td>
<td>Phase Transformations of Materials</td>
</tr>
</tbody>
</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>EN.510.604</td>
<td>Mechanical Properties of Materials</td>
</tr>
<tr>
<td>EN.510.605</td>
<td>Electrical, Optical and Magnetic Properties of Materials</td>
</tr>
<tr>
<td>EN.510.606</td>
<td>Chem Bio Properties/Mat</td>
</tr>
</tbody>
</table>

Four advanced (400 level or higher) elective courses in materials science and engineering or related fields *

A master’s essay or journal publication is required

* Elective courses in materials science and engineering or related fields, subject to the following rules:
  - Up to two of the elective courses may be taken from within the Engineering for Professionals (EP) program.
  - Up to two of the elective courses can be business courses.
  - Any elective taken from outside the department (including EP courses) requires prior approval of the Graduate Program Committee.
  - With approval of the Graduate Program Committee, the student can transfer up to two graduate courses from another institution. Students desiring such credit must make the request in writing to the Graduate Program Committee by the end of the first semester after matriculation. This request must include a description of the course, a course syllabus, and documentation of the grade received. Please note that transfer coursework grades do not count towards calculation of the GPA.
  - With approval of the Graduate Program Committee, current or former Johns Hopkins undergraduates can count two courses (400 level or higher) to both their B.S. and M.S.E. requirements.
  - A grade of C or better must be achieved in each course to obtain credit.
  - A overall grade point average of 3.0 must be maintained, and a grade point average of a 3.0 is required to earn the degree at the end of the program.
  - Attendance is required at the weekly Graduate Student Seminar and the Department of Materials Science and Engineering Seminar.

** Admission to the M.S.E. program is through the standard graduate admissions process. The typical duration of the program is 21 months. The student’s transcript will reflect a “Master of Science in Engineering with Essay.”

** Requirements for the M.S.E. Degree without Essay**

(10 courses)

The degree of Master of Science in Engineering (M.S.E.) is awarded subject to the recommendation of the student’s advisor and departmental approval, based on satisfactory completion of the following requirements:

Three core courses in Materials Science and Engineering

<table>
<thead>
<tr>
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<tr>
<td>EN.510.601</td>
<td>Structure of Materials</td>
</tr>
<tr>
<td>EN.510.602</td>
<td>Thermodynamics of Materials</td>
</tr>
<tr>
<td>EN.510.603</td>
<td>Phase Transformations of Materials</td>
</tr>
</tbody>
</table>

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<table>
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<tbody>
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<td>EN.510.604</td>
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<td>Electrical, Optical and Magnetic Properties of Materials</td>
</tr>
<tr>
<td>EN.510.606</td>
<td>Chem Bio Properties/Mat</td>
</tr>
</tbody>
</table>

Six advanced (400-level or higher elective courses in materials science and engineering or related fields. *
Six advanced (400-level or higher) elective courses in materials science and engineering or related fields, subject to the following rules:

- Up to two of the elective courses may be taken from within the Engineering for Professionals (EP) program.
- Up to two of the elective courses can be business courses.
- Any elective taken from outside the department (including EP courses) requires prior approval of the Graduate Program Committee.
- With approval of the Graduate Program Committee, the student can transfer up to two graduate courses from another institution. Students desiring such credit must make the request in writing to the Graduate Program Committee by the end of the first semester after matriculation. This request must include a description of the course, a course syllabus, and documentation of the grade received. Please note that transfer coursework grades do not count towards calculation of the GPA.
- All electives will need prior approval from the Graduate Program Committee.

- A grade of C or better must be achieved in each course to obtain credit.
- A overall GPA of 3.0 must be maintained, and a GPA of 3.0 is required to earn the degree at the end of the program.
- Attendance is required at the weekly Graduate Student Seminar and the Department of Materials Science and Engineering Seminar.
- Up to two of the elective courses may be Graduate Research in Materials Science (EN.510.807), which may be taken in any session (Fall, January, Spring, or Summer). Note that 117 hours or research per course are required for credit.

Admission to the M.S.E. program is through the standard graduate admissions process. The typical duration of the program is 12 months. The student’s transcript will reflect a “Master of Science in Engineering.”

**Requirements for the Ph.D. degree**

To receive the degree of Ph.D., the candidate must fulfill the requirements below. The department must be satisfied that all academic requirements have been satisfied by the candidate before a recommendation will be made to the University Graduate Board to confer the Ph.D. degree.

1. Successful completion of four required courses in materials science and engineering.

   - EN.510.601 Structure of Materials
   - EN.510.602 Thermodynamics of Materials
   - EN.510.603 Phase Transformations of Materials
   - EN.510.615 Physical Properties of Materials

   Each of the four required courses must be passed with a letter grade of B- or higher. If a student receives a grade of C+ or lower in a required course, the student may re-take the course once to achieve a grade of B- or higher. Receipt of grades of C+ or lower in two or more required courses will ordinarily be cause for dismissal from the program without the opportunity to re-take those courses.

   In addition, the student must maintain an overall GPA of 3.0 or better in the four required courses. If the student's GPA falls below 3.0, the student must re-take one or more of the required courses and earn higher grade(s). Upon doing so the prior grade(s) in those course(s) is replaced and not counted toward the GPA. The four required courses must be successfully completed (meeting the grade and GPA requirements above) no later than the start of the student’s third year after matriculation; failure to do so will result in dismissal from the program. Exception: A student who fails to meet the requirements above due to a low grade in a single required course, and who has not had an opportunity to re-take that course during the first two years, will be permitted to re-take that one course in the third year.

   Students who have completed prior graduate-level coursework similar to EN.510.601 Structure of Materials, EN.510.602 Thermodynamics of Materials or EN.510.603 Phase Transformations of Materials may petition the Graduate Program Committee to waive one of these required courses. Alternatively, students with undergraduate degrees in Materials Science may petition the Graduate Program Committee to waive the Physical Properties course. However, only one of the four required courses can be waived. If approved, the course that has been waived will not be counted toward calculation of the GPA as described above. Written requests for such waivers must be submitted to the Graduate Program Committee no later than the end of the first semester after matriculation. Please note that transfer coursework grades do not count towards calculation of the GPA.

2. Successful completion of three advanced (600-level or higher) elective courses in materials science and engineering or a related field.

   Elective courses must be completed with a grade of C or higher, but there is no cumulative GPA requirement. A list of approved electives is available from the Academic Program Coordinator. Students wishing to use a course not on this list must submit a request to the Graduate Program Committee no later than the end of the first week of the semester in which the course is taken. Students who have completed prior graduate-level coursework may petition the Graduate Program Committee to waive one of the required elective courses.

   Graduate research (EN.510.807-EN.510.808), part-time graduate courses (from Engineering for Professionals in WSE or Advanced Academic Programs in KSAS), and seminars (courses with less than three contact hours per week) will not be counted toward completion of PhD course requirements. Undergraduate courses (400-level or lower) will not be counted unless they are cross-listed as graduate level, 600 or higher. Independent study courses may be used with prior approval of the Graduate Program Committee.

   Students who have completed prior graduate-level coursework may petition the Graduate Program Committee to waive one of the required elective courses. Written requests for such waivers must be submitted to the Graduate Program Committee no later than the end of the first semester after matriculation.

   In some cases an advisor may require a student to complete additional coursework, beyond the four required courses and three electives described above.

3. Teaching Assistant Requirement.

   Students in their second year in the department will be required to act as teaching assistant for two courses.

4. Successful completion of a comprehensive oral examination covering fundamentals of materials science and engineering.

   The comprehensive examination tests knowledge in each of the subjects listed below:

   - Structure of materials
In each of the three subject areas, students may be asked questions related to the properties of materials. The depth of required knowledge regarding properties of materials will match the level of knowledge presented in the Physical Properties of Materials class.

Successful completion of the comprehensive exam requires satisfactory performance on all areas tested; there are no partial or conditional passes.

The comprehensive exam is offered semiannually, usually immediately prior to the fall and spring semesters. A student who fails the exam on the first try may make a second attempt, but the exam must be successfully completed no later than the start of the third year following matriculation. Failure to do so will result in dismissal from the program.

5. An oral presentation of a proposal for a research project to form the basis of the candidate’s dissertation.

The dissertation proposal must be presented at a department seminar no later than the end of the third year following matriculation. A written version of the dissertation proposal must be submitted to a faculty committee consisting of the student’s faculty advisor and two other faculty members (to be selected in consultation with the advisor) no later than two weeks prior to the oral presentation. A brief closed session between the student and the committee shall follow the presentation, at which the committee members will ask questions about and provide comments on the proposed plan of research. Additional private discussions may be required by one or more committee members. The thesis proposal is also an examination, with the committee testing the candidate’s depth of knowledge in his or her area of specialization (and not simply on the specific proposed research).

6. Completion of an original research project, documented in a dissertation that is defended by the candidate in a public presentation.

Candidates must write a dissertation conforming to university requirements that describes their work and results in detail. A public defense of the dissertation is required, and will be followed by a closed examination session. The committee for the closed examination shall consist of five faculty members, approved by the Graduate Program Committee, with at least two members being from outside the department. The outcome of the closed examination will be decided by majority vote of the committee. Because the closed examination session fulfills the university Graduate Board Oral (GBO) examination requirement, all procedures pertaining to GBOs as established by the University Graduate Board must be followed.

The committee may impose certain conditions (e.g. changes to the dissertation) for the candidate to meet prior to final certification that he or she has passed the exam. For this reason, the thesis defense must be scheduled for a date at least two months prior to any personal or university deadline for graduation. A complete draft of the dissertation must be submitted to all committee members no later than two weeks prior to the defense. The dissertation in its final form must be read and approved in writing by two members of the committee (the advisor and one other member to be chosen by the committee as a whole).

Financial Aid

Fellowships of various forms are available for full-time graduate students, including tuition remission fellowships, teaching fellowships, and additional stipend fellowships.

Research assistantships are available to support full-time graduate students who work with individual professors on their research contracts and grants.

For current faculty and contact information go to http://materials.jhu.edu/index.php/people/

Faculty

Chair
Jonah Erlebacher
Professor: Nanostructured materials, self-organization and pattern formation, computational materials science, kinetics of shape change, ultra-high vacuum processing, nanoporous metals, fuel cells and energy.

Professors
Robert C. Cammarata
Structure, properties, and processing of thin films and nanostructured materials, thermodynamics and mechanics of surfaces, mechanical behavior of materials, nanoindentation testing, stresses in thin films, novel electrochemical deposition methods, computer simulations, transport and assembly of nanowires in solution.

Michael Falk
Professor: Theoretical and computational research investigating materials processes far from equilibrium: deformation, failure and fracture in non-crystalline materials such as metallic glasses; reactive materials, interactions of stress and diffusion in energy storage materials; mixing processes that accompany frictional sliding and wear

Kalina Hristova
Biomolecular materials, structure and function of cellular membranes, membrane proteins, self-assembly of biological amphiphiles, protein-lipid interactions, protein synthesis, X-ray diffraction, fluorescence.

Todd C. Hufnagel
Structure and properties of amorphous alloys; mechanical behavior of metals, polymers, and biomaterials; use of synchrotron radiation for in situ studies of deformation and phase transformations in materials; electron microscopy.

Howard E. Katz
Professor: organic, hybrid, nanostructured, and interfacial materials in electronic and photonic devices; organic materials synthesis, thin film fabrication and patterning; novel architectures for devices, sensors, and circuits; host-guest chemistry, material responses to high electric fields; organic nonlinear optics; nanoparticles in biosystems; materials for physical science education.

Evan Ma
Nonequilibrium processing and metastable materials, thermodynamics and kinetics of phase transformations, atomic level structures and polymorphs in metallic glasses and chalcogenide glasses, mechanical
properties of amorphous and nanocrystalline metals, mechanics of small-volume materials, in situ TEM, phase-change alloys for data storage and memory applications.

Hai-Quan Mao
Professor: Nanomaterials, electrospinning, nanofibers, biomimetic matrix, stem cell expansion and differentiation, nerve regeneration, micellar nanoparticle, therapeutic delivery, biodegradable polymers.

Peter C. Searson
Biomaterials, nanomedicine.

James B. Spicer
Ultrafast phenomena, laser interactions with materials, nanostructured composite materials, sensor physics, laser-based materials processing, elastic and anelastic materials properties, intelligent materials processing, near-field optical and microwave techniques.

Timothy P. Weihs
The study of exothermic reactions in layered materials and their applications, processing and characterization of thin films, mechanical testing of metals and biological materials, nanoindentation studies.

Assistant Professors

Margarita Herrera-Alonso
Structure-property relationships of biodegradable polymers, polymer synthesis, graft copolymers, nanoparticles and nanomaterials, kinetics of self-assembly, delivery of drugs and imaging agents.

Tim Mueller
Computational materials discovery and design.

Martin Ulmschneider
Assistant Professor: Protein assembly and function in lipid bilayer membranes; Algorithm and parameter development for atomic detail molecular simulation; Synthetic biology and the de novo design of membrane active peptides and proteins

Professor Emeritus

Robert E. Green Jr.
Materials science, nondestructive characterization, ultrasonics, acoustic emission, X-ray diffraction, radiography, topography and tomography, synchrotron radiation, electro-optical systems, light-sound interactions, mechanical properties, thermography, sensors, process control.

Research Professor

Theodore O. Poehler
Electronically conducting polymers, organic charge transfer compounds, materials for optical Information processing, and semiconductors.

Associate Research Professor

Patricia M. McGuigan
Adhesion, tribology, tribocharging, atomic force microscopy, interfacial phenomena, wetting, interferometry, polymer and ceramic materials.

Assistant Research Professor

John Baty
Paper conservation, heritage science.

Lecturer

Orla Wilson

Synthesis of nanostructured materials, specifically metallic and bimetallic nanoparticles in the 2-20 nm size range; electron, confocal and scanning-probe microscopies as characterization tools; applications of nano-structured materials as homogeneous and heterogeneous catalysts, novel optical security devices, and nanovectors for targeted drug delivery.

Joint, Part-Time, and Visiting Appointments

Kit Bowen
E. Emmet Reid Professor (Chemistry): experimental chemical physics-photoelectron spectroscopy of negative ions, structure and dynamics of gas phase, weakly bound molecular clusters.

Collin Broholm
Gerhard H. Dieke Professor (Director, Institute for Quantum Matter) Physics & Astronomy: experimental condensed matter physics

Chia-Ling Chien
Jacob L. Hain Professor of Physics (Physics & Astronomy): Fabrication of experimental studies of structural, electronic, magnetic, and superconducting properties of nanostructured solids; magneto-electronics, manipulation of small entities in low Reynolds number regime, biosensing.

Michael Edidin
Professor (Biology): membrane organization and dynamics, immunology studied with nanoparticles and advanced microscopy.

Jaafar El-Awady
Assistant Professor: Multiscale materials modeling, damage and fracture mechanisms of materials in mechanical design, material degradation in extreme environments, nano-materials and structures, impact dynamics and wave propagation.

Jennifer H. Elisseeff
Professor (Biomedical Engineering): tissue engineering, biomaterials, cartilage regeneration.

D. Howard Fairbrother
Professor (Chemistry): surface chemistry, electron induced deposition of nanostructured materials, environmental health and safety of nanomaterials.

Sharon Gerecht
Associate Professor (Chemical and Biomolecular Engineering): biomaterials, stem cells, biomimetic hydrogels, vascular differentiation, angiogenesis, regenerative medicine, hypoxia, microfluidics.

Somnath Ghosh
Professor (Civil Engineering): computational mechanics with focus on materials analysis, characterization and processing, including simulation and design.

David Gracias
Professor (Chemical & Biomolecular Engineering): micro and nanotechnology, surface science, metamaterials, complex systems, nanoelectronics, nanomedicine, regenerative medicine, drug delivery and microfluidics.

Warren Grayson
Assistant Professor (Biomedical Engineering): Tissue engineering, stem cells, bioreactors, biomaterials, orthopaedics

Jordan Green
Assistant Professor (Biomedical Engineering): cellular engineering, nanobiotechnology, biomaterials, controlled drug delivery and gene delivery.

Kevin J. Hemker
Professor (Mechanical Engineering): mechanical behavior of materials, transmission on electron microscopy, high temperature alloys, thermal barrier coatings, nanocrystalline materials and materials for MEMS.

Robert Ivkov
Visiting Assistant Professor, Radiation Oncology (JHU School of Medicine): development, characterization, and use of nanomaterials to target cancer and to enhance the effectiveness of other therapies such as radiation. A specific area of research includes the study and development of selective heating with magnetic nanoparticles

Lynne Jones
Associate Professor (Orthopaedic Surgery, School of Medicine): biomaterials, osteonecrosis pathogenesis and treatment, total joint arthroplasty, bone graft materials

Rangaramanujam Kannan
Professor: Ophthalmology, JHU School of Medicine

Feilim MacGabhann
Assistant Professor: computational modeling of growth factor-receptor networks, personalized medicine; individualized medicine; experimental studies of interindividual variation, therapeutic cardiovascular remodeling, novel methods for data visualization and automated image analysis, computational models of virus-host interactions.

Tyrel McQueen
Assistant Professor (Chemistry): Solid State and Inorganic Chemistry/Condensed Matter Physics

Thao (Vicky) Ngyuen

K.T. Ramesh
Alonzo G. Decker Jr. Professor of Science and Engineering (Mechanical Engineering): Nanomaterials, planetary impact, dynamic failure mechanisms, shock, impact, and wave propagation, high-strain-rate behavior of materials, injury biomechanics, constitutive and failure modeling.

John D. Tovar
Professor (Chemistry): materials-oriented synthetic organic chemistry, electrochemistry, pi-conjugated and conducting polymers, supramolecular chemistry, organic electronics, biomimetic electronic materials.

Tza-Huei (Jeff) Wang
Professor (Mechanical Engineering): BioMEMS and microfluidics, single molecule manipulation and detection, nano/micro scale fabrication, conformational dynamics of biomolecules.

Denis Wirtz
Theophilus Halley Smoot Professor (Chemical and Biomolecular Engineering): cell adhesion and migration, cell mechanics, cysto-skeleton physics, receptor-ligand interactions, cancer bioengineering, progeria, particle tracking methods.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

**EN.510.101. Introduction to Materials Chemistry. 3 Credits.**
Basic principles of chemistry and how they apply to the behavior of materials in the solid state. The relationship between electronic structure, chemical bonding, and crystal structure is developed. Attention is given to characterization of atomic and molecular arrangements in crystalline and amorphous solids: metals, ceramics, semiconductors, and polymers (including proteins). Examples are drawn from industrial practice (including the environmental impact of chemical processes), from energy generation and storage (such as batteries and fuel cells), and from emerging technologies (such as biomaterials). Students may receive credit for AS.030.103 or EN.510.101, but not both.

**Prerequisites: Students may receive credit for AS.030.103 or EN.510.101, but not both.**

Instructor(s): P. Mcguiggan
Area: Natural Sciences.

**EN.510.103. Foundations of Nanotechnology. 3 Credits.**
This course will be a survey of the rapidly developing field of nanotechnology from an interdisciplinary point of view. Topics covered will include a general introduction to the nanoworld, fabrication, characterization and applications of hard and soft nanomaterials, as well as examining nanotechnology in terms of its societal, ethical, economic and environmental impact.

Instructor(s): O. Wilson
Area: Engineering, Natural Sciences.

**EN.510.107. Modern Alchemy. 3 Credits.**
Can you really turn lead into gold? Converting common substances into useful materials that play important roles in today’s technologies is the goal of many modern scientists and engineers. In this course, we will survey selected topics related to modern materials, the processes that are used to make them as well as the inspiration that led to their development. Topics will include the saga of electronic paper, the sticky stuff of gecko feet and the stretchy truth of metal rubber.

Instructor(s): J. Spicer
Area: Natural Sciences.

**EN.510.109. Materials Science & Engineering for the 21st Century. 1 Credit.**
Through this course, students are introduced to the basic tenants of the field of materials science and engineering and important aspects of career development. Discussions will cover the range of career options in the field, the opportunities to engage with cutting edge research and technology at JHU, the skills that practitioners require and the ethical conundrums that engineering professionals navigate. Only available to Materials Science & Engineering freshmen and engineering undecided freshmen.

Instructor(s): O. Wilson
Area: Engineering, Natural Sciences.
EN.510.201. Introductory Materials Science for Engineers. 3 Credits.
An introduction to the structure, properties, and processing of materials used in engineering applications. After beginning with the structure of materials on the atomic and microscopic scales, this course explores defects and their role in determining materials properties, the thermodynamics and kinetics of phase transformations, and ways in which structure and properties can be controlled through processing. Previously: Introduction to Engineering Materials.
Instructor(s): E. Ma
Area: Engineering, Natural Sciences.

EN.510.202. Computation and Programming for Materials Scientists and Engineers. 3 Credits.
This course will introduce students to the basics of programming in the MATLAB environment. Students will build skills in algorithmic problem solving by programming assignments regarding a range of biological and non-biological materials systems. Students will learn to write function definitions and deploy basic operations of selection and iteration as well as MATLAB specific vectorization methods and the construction of graphical user interfaces. Applications may include materials structure, phase equilibrium, propagating reactions, and other relevant scientific and engineering applications.
Instructor(s): M. Ulmschneider
Area: Engineering, Natural Sciences.

EN.510.311. Structure of Materials. 3 Credits.
First of the Introduction to Materials Science series, this course seeks to develop an understanding of the structure of materials starting at the atomic scale and building up to macroscopic structures. Topics include bonding, crystal structures, crystalline defects, symmetry and crystallography, microstructure, liquids and amorphous solids, diffraction, molecular solids and polymers, liquid crystals, amphiphilic materials, and colloids. Recommended Course Background: AS.110.106-AS.110.107 or AS.110.108-AS.110.109, EN.510.101 or AS.030.101-AS.030.102, AS.171.101-AS.171.102 or AS.171.103-AS.171.104, EN.510.202 or another programming course, or permission of instructor.
Instructor(s): T. Hufnagel
Area: Engineering, Natural Sciences.

EN.510.312. Thermodynamics/Materials. 3 Credits.
Second of the Introduction to Materials Science series, this course examines the principles of thermodynamics as they apply to materials. Topics include fundamental principles of thermodynamics, equilibrium in homogeneous and heterogeneous systems, thermodynamics of multicomponent systems, phase diagrams, thermodynamics of defects, and elementary statistical thermodynamics.
Prerequisites: (AS.110.106 AND AS.110.107 OR AS.110.108 AND AS.110.108) AND ( EN.510.101 OR AS.030.101 AND AS.030.102 ) AND ( AS.171.101 AND AS.171.102 OR AS.171.103 AND AS.171.104 ) AND EN.510.202 or another programming course; or permission of instructor.
Instructor(s): M. Herrera-Alonso
Area: Engineering, Natural Sciences.

EN.510.313. Mechanical Properties of Materials. 3 Credits.
Third of the Introduction to Materials Science series, this course is devoted to a study of the mechanical properties of materials. Lecture topics include elasticity, anelasticity, plasticity, and fracture. The concept of dislocations and their interaction with other lattice defects is introduced. Recommended Course Background: EN.510.311 and EN.510.202 or another programming course, or permission of instructor.
Instructor(s): T. Weihns
Area: Engineering, Natural Sciences.

EN.510.314. Electronic Properties of Materials. 3 Credits.
Fourth of the Introduction to Materials Science series, this course is devoted to a study of the electronic, optical and magnetic properties of materials. Lecture topics include electrical and thermal conductivity, thermoelectricity, transport phenomena, dielectric effects, piezoelectricity, and magnetic phenomena. Recommended Course Background: EN.510.311 and EN.510.202 or another programming course or permission of instructor.
Instructor(s): T. Poehler
Area: Engineering, Natural Sciences.

EN.510.315. Physical Chemistry of Materials II. 3 Credits.
Fifth of the Introduction to Materials Science series, this course covers diffusion and phase transformations in materials. Topics include Fick’s laws of diffusion, atomic theory of diffusion, diffusion in multi-component systems, solidification, diffusional and diffusionless transformations, and interfacial phenomena. Recommended Course Background: EN.510.311, EN.510.312, and EN.510.202 or another programming course or permission of instructor.
Instructor(s): T. Mueller
Area: Engineering, Natural Sciences.

EN.510.316. Biomaterials I. 3 Credits.
Sixth of the Introduction to Materials Science series, this course offers an overview of principles and properties of biomedical materials. Topics include properties of materials used in medicine, synthesis and properties of polymeric materials, polymeric biomaterials, natural and recombinant biomaterials, biodegradable materials, hydrogels, stimuli-sensitive materials, and characterizations of biomaterials. Recommended Course Background: AS.030.205 and EN.510.202 or another programming course, or permission of instructor.
Instructor(s): H. Mao
Area: Engineering, Natural Sciences.

EN.510.400. Introduction to Ceramics. 3 Credits.
This course will examine the fundamental structure and property relationships in ceramic materials. Areas to be studied include the chemistry and structure of ceramics and glasses, microstructure and property relationships, ceramic phase relationships, and ceramic properties. Particular emphasis will be placed on the physical chemistry of particulate systems, characterization, and the surface of colloid chemistry of ceramics. Recommended Course Background: EN.510.311, EN.510.312, or permission of instructor.
Instructor(s): P. McGuiggan
Area: Engineering, Natural Sciences.

EN.510.403. Materials Characterization. 3 Credits.
This course will describe a variety of techniques used to characterize the structure and composition of engineering materials, including metals, ceramics, polymers, composites and semiconductors. The emphasis will be on microstructural characterization techniques, including optical and electron microscopy, X-ray diffraction, and acoustic microscopy. Surface analytical techniques, including Auger electron spectroscopy, secondary ion mass spectroscopy, X-ray photoelectron spectroscopy, and Rutherford backscattering spectroscopy. Real-world examples of materials characterization will be presented throughout the course, including characterization of thin films, surfaces, interfaces, and single crystals.
Instructor(s): P. McGuiggan
Area: Natural Sciences.
EN.510.405. Materials Science of Energy Technologies. 3 Credits.
This course examines the science and engineering of contemporary and cutting-edge energy technologies. Materials Science and Mechanical Engineering fundamentals in this area will be complemented by case studies that include fuel cells, solar cells, lighting, thermo-electrics, wind turbines, engines, nuclear power, biofuels, and catalysis. Students will consider various alternative energy systems, and also to research and engineering of traditional energy technologies aimed at increased efficiency, conservation, and sustainability. Recommended Course Background: undergraduate course in thermodynamics.
Instructor(s): J. Erlebacher
Area: Engineering, Natural Sciences.

EN.510.407. Biomaterials II: Host response and biomaterials applications. 3 Credits.
This course focuses on the interaction of biomaterials with the biological system and applications of biomaterials. Topics include host reactions to biomaterials and their evaluation, cell-biomaterials interaction, biomaterials for tissue engineering applications, biomaterials for controlled drug and gene delivery, biomaterials for cardiovascular applications, biomaterials for orthopedic applications, and biomaterials for artificial organs. Also listed as EN.510.607.
Prerequisites: EN.510.316
Instructor(s): K. Hristova
Area: Engineering, Natural Sciences.

EN.510.409. Melting, Smelting, Refining and Casting. 3 Credits.
This is a laboratory class on metal formation, an area that underlies almost all other technologies. We will examine extraction of metals from ore, refining of metals. The kinetics of melting and solidification will be explored in the context of casting and forming.
Instructor(s): J. Erlebacher; T. Hufnagel
Area: Engineering, Natural Sciences.

EN.510.410. Simulation of Materials and Biological Systems. 3 Credits.
This course will review basics of programming in MATLAB environment. Students will build their MATLAB skills by programming assignments regarding a range of biological and materials systems. Integration of time-dependent ODEs and PDEs, solution of eigenvalue problems, Monte Carlo calculations and molecular dynamics simulations will be explored in the context of problems that may include chemical reactions, band structure, phase equilibrium, disease progression, waves in heart tissue, glycolysis, and other relevant scientific and engineering applications.
Instructor(s): M. Falk
Area: Engineering, Natural Sciences.

EN.510.413. Statistical Mechanics of Materials. 3 Credits.
This course will present the basic principles of statistical mechanics and apply them to problems concerning the behavior of materials. Topics include: basic principles of statistical mechanics; time averages and ensembles; connection to macroscopic thermodynamics; fluctuations; classical and quantum particles statistics; lattice statistics; statistical thermodynamic models of gases, liquids, solids, crystals, crystalline defects, linear chain polymers, and surfaces; phase transitions and critical phenomena; kinetic and transport phenomena; thermodynamics of irreversible processes. Also listed as EN.510.613/EN.510.413.
Recommended Course Background: EN.510.312 or undergraduate course in thermodynamics.
Instructor(s): R. Cammarata
Area: Engineering, Natural Sciences.

EN.510.415. The Chemistry of Materials Synthesis. 3 Credits.
Many of the latest breakthroughs in materials science and engineering have been driven by new approaches to their synthesis, which has allowed the preparation of materials with fanciful structures and fascinating properties. This advanced course will explore synthetic approaches to multifunctional and nanostructured materials, ranging from opals to complex polymers to nanowires and quantum dots. Applications include electronics, energetics, and drug delivery. Participants will gain sufficient familiarity with synthesis options to be able to design research programs that rely on them. Emphasis will be placed on broad strategies that lead to material functionality, rather than detailed step-by-step sequences. Some topics will be selected “on the fly” from the most exciting current literature.
Prerequisites: Prereq: AS.030.205 AND ( EN.510.312 or EN.580.321 or equivalent Thermodynamics course.)
Instructor(s): H. Katz
Area: Engineering, Natural Sciences.

EN.510.418. Electronic and Photonic Processes and Devices. 3 Credits.
This course is intended for advanced undergraduates and graduate students and will cover the fundamentals and properties of electronic and optical materials and devices. Subject matter will include a detailed and comprehensive discussion of the physical processes underlying modern electronic and optical devices. Detailed descriptions of modern semiconductor devices such as lasers and detectors used in optical communications and information storage and processing will be presented. Also listed as EN.510.618/EN.510.418.
Instructor(s): T. Poehler
Area: Engineering, Natural Sciences.

EN.510.419. Physical Metallurgy. 3 Credits.
This course examines the relationship between microstructure and mechanical properties of metals and alloys. Starting from fundamentals (phase diagrams and phase transformation kinetics), we will explore how the structure of metals and alloys can be manipulated by thermomechanical processing to achieve desired properties. Detailed examples will be drawn from several alloy systems, including steels, aluminum, and titanium. A theme of the course will be the impact of materials processing and materials selection on the environment, including considerations of lightweight materials and processing techniques for minimizing energy consumption.
Instructor(s): E. Ma
Area: Engineering, Natural Sciences.

EN.510.420. Stealth Science & Engineering. 3 Credits.
The goal of stealth engineering is the creation of objects that are not easily detected using remote sensing techniques. To achieve this end, engineered systems of materials are arrayed to alter the signature of objects by reducing energy returned to remote observers. This course will provide an introduction to the general principles behind signature reduction by examining the mathematics and science behind basic electromagnetic and acoustic transport processes. Specific topics will include energy absorbing materials, anti-reflection coatings, wave guiding and scattering, metamaterials and adaptive screens.
Instructor(s): J. Spicer
Area: Engineering, Natural Sciences.
EN.510.421. Nanoparticles. 3 Credits.
Nanoparticles - one-dimensional materials with diameters of nearly atomic dimension - are one of the most important classes of nanostructured materials because their unusual properties that often differ significantly from bulk materials. This course will explore the synthesis, structure and properties of nanoparticles. Applications of nanoparticles in medicine, optics, sensing, and catalysis will be discussed, with an emphasis will be on metal nanoparticles and semiconductor quantum dots.
Instructor(s): O. Wilson
Area: Engineering, Natural Sciences.

EN.510.422. Micro and Nano Structured Materials & Devices. 3 Credits.
Almost every material's property changes with scale. We will examine ways to make micro- and nano-structured materials and discuss their mechanical, electrical, and chemical properties. Topics include the physics and chemistry of physical vapor deposition, thin film patterning, and microstructural characterization. Particular attention will be paid to current technologies including computer chips and memory, thin film sensors, diffusion barriers, protective coatings, and microelectromechanical (MEMS) devices.
Instructor(s): E. Ma; H. Katz
Area: Engineering, Natural Sciences.

EN.510.424. Physical Science of Paper. 3 Credits.
An exploration of paper’s past, present, and possible future from the physical science and engineering perspectives. Includes an in-depth analysis of the defining physical, chemical, and electronic properties of paper since its origins in China as early as 202 BCE and the periodic technological innovations that improved quality, lowered price, and expanded use. Applications include paper as a medium for historic and artistic works, packaging, transformer insulation, architectural elements, medical diagnostics, and printed sensors. Topics include technologies such as email and e-books which may disrupt traditional paper formats, environmental concerns of industrial manufacture, transferrable knowledge from pulping such as the manufacture of feeds and fuels from cellulosic biomass, and paper’s legacy as found in cultural heritage artifacts and their conservation. Recommended: AS.030.205 Organic Chemistry I
Prerequisites: EN.510.101 OR (AS.030.101 AND AS.030.102)
Instructor(s): J. Baty
Area: Engineering, Natural Sciences.

EN.510.425. Spectroscopy and Spectral Microscopy of Materials Systems. 3 Credits.
This class will explore the nature of the fundamental spectral behavior of materials and materials systems. The course will pay particular attention to linear and nonlinear spectroscopies in microscopes. We will discuss the quantum mechanical basis for the spectral response in condensed media and the fundamentals of the interaction of radiation with matter. We will survey the array of linear and nonlinear spectral techniques available to the materials scientist and will include some “hands-on” experimental training in a number of techniques.
Area: Engineering, Natural Sciences.
EN.510.431. **Biocompatibility of Materials.** 3 Credits.
This course provides a detailed examination of the interaction of surgical implant materials (i.e., metals, polymers, ceramics, and composites) with the body. The effect of the physiological environment on the properties of implant materials is described as well as the cellular, tissue response to the implant. Concepts dealing with the design of materials with improved biocompatibility are explored.
Department Majors only or permission of instructor. Recommended Course Background: EN.510.104 or EN.510.316
Instructor(s): M. Yu
Area: Engineering, Natural Sciences.

EN.510.432. **Electrochemical Energy Conversion and Power Sources.** 3 Credits.
Area: Engineering, Natural Sciences.

EN.510.433. **Senior Design Research.** 3 Credits.
This course is the first half of a two-semester sequence required for seniors majoring or double majoring in materials science and engineering. It is intended to provide a broad exposure to many aspects of planning and conducting independent research. During this semester, students join ongoing graduate research projects for a typical 10-12 hours per week of hands-on research. Classroom activities include discussions, followed by writing of research pre-proposals (white papers), proposals, status reports and lecture critiques of the weekly departmental research seminar. Co-listed with EN.510.438 and EN.510.440
Prerequisites: Prereq: EN.510.311 and 510.312 and EN.510.428 and 510.429
Instructor(s): O. Wilson
Area: Engineering
Writing Intensive.

EN.510.434. **Senior Design/Research II.** 3 Credits.
This course is the second half of a two-semester sequence required for seniors majoring or double majoring in materials science and engineering. It is intended to provide a broad exposure to many aspects of planning and conducting independent research. Recommended Course Background: EN.510.311-EN.510.312, EN.510.428-EN.510.429, and EN.510.433 Co-listed with EN.510.439 and EN.510.441
Instructor(s): O. Wilson
Area: Engineering, Natural Sciences
Writing Intensive.

EN.510.435. **Mechanical Properties of Biomaterials.** 3 Credits.
This course will focus on the mechanical properties of biomaterials and the dependence of these properties on the microstructure of the materials. Organic and inorganic systems will be considered through a combination of lectures and readings and the material systems will range from cells to bones to artificial implants. Same course as 510.635.
Instructor(s): T. Weihs
Area: Engineering, Natural Sciences.

EN.510.436. **The Foundations of Information Technology.** 3 Credits.
The revolutionary technologies of the Information age have been driven by an array of physics and materials science advances which have served as the foundation for their development. In this course we will explore the developments in solid-state devices, photonics, optical communications, and storage that serve as the underpinnings of the revolution with focus on the enabling materials innovations. The fundamental physical principles, i.e., the basic science of the devices and concepts will be reviewed. In addition, next generation concepts and devices, (such as holographic storage, quantum computing, etc.), will be discussed. Also listed as 510.636.
Instructor(s): W. Wilson
Area: Engineering, Natural Sciences.

EN.510.437. **Biosensor Materials and Mechanisms.** 3 Credits.
Recent advances in biosensor technology are poised to revolutionize health care, enabling faster and more personalized diagnoses and recommendations. Biosensors are also increasingly important to public health, security, industry, and environmental science. This course will cover the materials, processes, and signaling mechanisms in use and anticipated for future developments in biosensors. Techniques such as electrochemistry, fluorescence, plasmonics, and enzymatic amplification will be discussed, and materials including nanowires, nanoparticles, organic semiconductors, and templated materials will be covered. Detection of nucleic acid sequences, proteins, carbohydrates, pharmaceuticals, and microorganisms will be emphasized. Same course as EN.510.637.
Instructor(s): H. Katz
Area: Engineering, Natural Sciences.

EN.510.438. **Biomaterials Senior Design I.** 3 Credits.
This course is the first half of a two-semester sequence required for seniors majoring in materials science and engineering with the Biomaterials Concentration. It is intended to provide a broad exposure to many aspects of planning and conducting independent research with a focus on biomaterials. During this semester, students join ongoing graduate research projects for a typical 10-12 hours per week of hands-on experiences in design and research. Classroom activities include discussions, followed by writing of research pre-proposals (white papers), proposals, status reports and lecture critiques of departmental research seminars. Co-listed with EN.510.440 and EN.510.443
Instructor(s): O. Wilson
Area: Engineering, Natural Sciences
Writing Intensive.

EN.510.439. **Biomaterials Senior Design II.** 3 Credits.
This course is the second half of a two-semester sequence required for seniors majoring in materials science and engineering with the Biomaterials Concentration. It is intended to provide a broad exposure to many aspects of planning and conducting independent research with a focus on biomaterials. During this semester, verbal reporting of project activities and status is emphasized, culminating in student talks presented to a special session of students and faculty. Students also prepare a poster and a written final report summarizing their design and research results. Co-listed with EN.510.434 and EN.510.441
Instructor(s): O. Wilson
Area: Engineering, Natural Sciences
Writing Intensive.
EN.510.440. Nanomaterials Senior Design I. 3 Credits.
This course is the first half of a two-semester sequence required for seniors majoring in materials science and engineering with the Nanotechnology Concentration. It is intended to provide a broad exposure to many aspects of planning and conducting independent research with a focus on nanotechnology and nanomaterials. During this semester, students join ongoing graduate research projects for a typical 10-12 hours per week of hands-on experiences in design and research. Classroom activities include discussions, followed by writing of research pre-proposals (white papers), proposals, status reports and lecture critiques of departmental research seminars. Co-listed with EN.510.438 and EN.510.439
Instructor(s): O. Wilson
Area: Engineering, Natural Sciences
Writing Intensive.

EN.510.441. Nanomaterials Senior Design II. 3 Credits.
This course is the second half of a two-semester sequence required for seniors majoring in materials science and engineering with the Nanotechnology Concentration. It is intended to provide a broad exposure to many aspects of planning and conducting independent research with a focus on nanotechnology and nanomaterials. During this semester, verbal reporting of project activities and status is emphasized, culminating in student talks presented to a special session of students and faculty. Students also prepare a poster and a written final report summarizing their design and research results. Co-listed with EN.510.434 and EN.510.439
Instructor(s): O. Wilson
Area: Engineering, Natural Sciences
Writing Intensive.

EN.510.442. Nanomaterials Lab. 3 Credits.
The objective of the laboratory course will be to give students hands on experience in nanotechnology based device fabrication through synthesis, patterning, and characterization of nanoscale materials. The students will use the knowledge gained from the specific synthesis, characterization and patterning labs to design and fabricate a working nanoscale/nanostructured device. The course will be augmented with comparisons to microscale materials and technologies. These comparisons will be key in understanding the unique phenomena that enable novel applications at the nanoscale. DMSE Seniors or permission of the instructor.
Instructor(s): O. Wilson; P. Mcguiggan
Area: Engineering, Natural Sciences

EN.510.443. Chemistry and Physics of Polymers. 3 Credits.
The course will describe and evaluate the synthetic routes, including condensation and addition polymerization, to macromolecules with varied constituents and properties. Factors that affect the efficiencies of the syntheses will be discussed. Properties of polymers that lead to technological applications will be covered, and the physical basis for these properties will be derived. Connections to mechanical, electronic, photonic, and biological applications will be made. Also listed as EN.510.643. Recommended Course Background: Organic Chemistry I and one semester of thermodynamics.
Instructor(s): H. Katz
Area: Engineering, Natural Sciences

EN.510.456. Introduction to Surface Science. 3 Credits.
Introduction to the structure and properties of solid surfaces. Topics include Gibbsian and gradient thermodynamics of surfaces; crystallography and structure of free solid surfaces; characterization methods; surface mobility and phase transitions; gas-solid interactions; crystal growth; electronic structure; solid-solid surfaces; thin film epitaxy. Co-listed with EN.510.656. Recommended course background: EN.510.311, EN.510.312, EN.510.313, EN.510.314, EN.510.315 or instructor permission.
Instructor(s): R. Cammarata
Area: Engineering, Natural Sciences.

EN.510.457. Materials Science of Thin Films. 3 Credits.
The processing, structure, and properties of thin films are discussed emphasizing current areas of scientific and technological interest. Topics include elements of vacuum science and technology; chemical and physical vapor deposition processes; film growth and microstructure; chemical and microstructural characterization methods; epitaxy; mechanical properties such as internal stresses, adhesion, and strength; and technological applications such as superlattices, diffusion barriers, and protective coatings. Co-listed with EN.510.657
Instructor(s): R. Cammarata
Area: Engineering, Natural Sciences.

EN.510.465. Advanced Topics in Thermodynamics and Kinetics of Materials. 3 Credits.
Topics to be covered include classical formulations of the laws of thermodynamics, Carathéodory’s formulation, relation of thermodynamics to statistical mechanics, Gibbs’ thermodynamics of heterogeneous systems and of surfaces, thermodynamics of phase transitions, glass transition, theory of absolute reactions rates and thermodynamics of irreversible processes developed generally and applied to the chemical kinetics and diffusion, theory of nucleation (Volmer-Weber, Becker-Düoring, Fisher-Turnbull), theory of growth (including instabilities during growth), Johnson-Mehl-Avrani kinetics of phase transformations, Lifshitz-Slyozov-Wagner kinetics of coarsening, spinodal decomposition. Co-listed with EN.510.665. Recommended Course Background: EN.510.312 or EN.510.602 (or similar course covering thermodynamics).
Area: Engineering, Natural Sciences.

EN.510.501. Research/Materials Science. 3 Credits.
Student participation in ongoing research activities. Research is conducted under the supervision of a faculty member and often in conjunction with other members of the research group.
Instructor(s): Staff.

EN.510.502. Research in Materials Science. 0 - 3 Credit.
Student participation in ongoing research activities. Research is conducted under the supervision of a faculty member and often in conjunction with other members of the research group.
Instructor(s): Staff.

EN.510.503. Independent Study/Materials Science. 3 Credits.
Individual programs of study are worked out between students and the professor supervising their independent study project. Topics selected are those not formally listed as regular courses and include a considerable design component.
Instructor(s): R. Cammarata; Staff.
EN.510.504. Independent Study. NULL Credits.
Individual programs of study are worked out between students and the professor supervising their independent study project. Topics selected are those not formally listed as regular courses and include a considerable design component.
Instructor(s): P. Searson; T. Hufnagel.

EN.510.597. Research-Summer. 3 Credits.
Instructor(s): Staff.

An introduction to the structure of inorganic and polymeric materials. Topics include the atomic scale structure of metals, alloys, ceramics, and semiconductors; structure of polymers; crystal defects; elementary crystallography; tensor properties of crystals; and an introduction to the uses of diffraction techniques (including X-ray diffraction and electron microscopy) in studying the structure of materials. Recommended Course Background: undergraduate calculus, chemistry, and physics or permission of instructor.
Instructor(s): R. Cammarata.

An introduction to the classical and statistical thermodynamics of materials. Topics include the zeroth law of thermodynamics; the first law (work, internal energy, heat, enthalpy, heat capacity); the second law (heat engines, Carnot cycle, Clausius inequality, entropy, absolute temperature); equilibrium of single component systems (free energy, thermodynamic potentials, virtual variations, chemical potential, phase changes); equilibrium of multicomponent systems and chemical thermodynamics; basics of statistical physics (single and multiple particle partition functions, configurational entropy, third law; statistical thermodynamics of solid solutions); and equilibrium composition-temperature phase diagrams. Recommended Course Background: undergraduate calculus, chemistry, and physics or permission of instructor.
Instructor(s): M. Falk.

This course presents a unified treatment of the thermodynamics and kinetics of phase transformations from phenomenological and atomistic viewpoints. Phase transformations in condensed metal and nonmetal systems are discussed. Recommended Course Background: EN.510.601 and EN.510.602
Instructor(s): J. Erlebacher.

An introduction to the properties and mechanisms that control the mechanical performance of materials. Topics include mechanical testing, tensor description of stress and strain, isotropic and anisotropic elasticity, plastic behavior of crystals, dislocation theory, mechanisms of microscopic plasticity, creep, fracture, and deformation and fracture of polymers. Recommended Course Background: EN.510.601
Instructor(s): T. Hufnagel.

An overview of electrical, optical and magnetic properties arising from the fundamental electronic and atomic structure of materials. Continuum materials properties are developed through examination of microscopic processes. Emphasis will be placed on both fundamental principles and applications in contemporary materials technologies. Recommended Course Background: EN.510.601
Instructor(s): J. Spicer.

An introduction to the chemical and biological properties of organic and inorganic materials. Topics include an introduction to polymer science, polymer synthesis, chemical synthesis, and modification of inorganic materials, biomineralization, biosynthesis, and properties of natural materials (proteins, DNA, and polysaccharides), structure-property relationships in polymeric materials (synthetic polymers and structural proteins), and materials for biomedical applications. Recommended Course Background: undergraduate chemistry and biology or permission of instructor.
Instructor(s): M. Herrera-Alonso.

EN.510.607. Biomaterials II.
This course focuses on the interaction of biomaterials with the biological system and applications of biomaterials. Topics include host reactions to biomaterials and their evaluation, cell-biomaterials interaction, biomaterials for tissue engineering applications, biomaterials for controlled drug and gene delivery, biomaterials for cardiovascular applications, biomaterials for orthopedic applications, and biomaterials for artificial organs. Recommended Course Background: EN.510.606
Instructor(s): K. Hristova.

EN.510.608. Electrochemistry.
Thermodynamics of electrochemical interfaces, including electrochemical potential, the Nernst equation, ion-solvent interactions, and double layer theory. Charge transfer kinetics for activation and diffusion controlled processes. Analysis of kinetics at various electrodes, including redox reactions, metal-ion electrodes, and semiconductor electrodes. Electroanalytical techniques are discussed, including those related to bioelectrochemistry and semiconductor electrochemistry. Selected reactions of technological importance are evaluated, including the hydrogen evolution reaction, oxygen reduction, electrodeposition, and energy generation and storage. Recommended Course Background: introductory chemistry or permission of instructor.
Instructor(s): P. Searson.

An introduction to solid state physics for advanced undergraduates and graduate students in physical science and engineering. Topics include crystal structure of solids; band theory; thermal, optical, and electronic properties; transport and magnetic properties of metals, semiconductors, and insulators. The concepts of solid state principles in modern electronic, optical, and structural materials are discussed. Cross-listed with Electrical and Computer Engineering.
Instructor(s): T. Poehler.

Basic solid state physics principles applied to modern electronic, optical, and structural materials. Topics discussed will include magnetism, superconductivity, polymers, nano-structured materials, electronic effects, and surface physics. For advanced undergraduates and graduate students in physical science and engineering. Recommended Course Background: EN.510.611
Instructor(s): T. Poehler.
This course will present the basic principles of statistical mechanics and apply them to problems concerning the behavior of materials. Topics include: basic principles of statistical mechanics; time averages and ensembles; connection to macroscopic thermodynamics; fluctuations; classical and quantum particles statistics; lattice statistics; statistical thermodynamic models of gases, liquids, crystals, crystalline defects, linear chain polymers, and surfaces; phase transitions and critical phenomena; kinetic and transport phenomena; thermodynamics of irreversible processes. Also listed as EN.510.413/EN.510.613. Recommended Course Background: EN.510.312 or undergraduate course in thermodynamics.
Instructor(s): R. Cammarata.

A detailed survey of the relationship between materials properties and underlying microstructure. Structure/property/processing relationships will be examined across a wide spectrum of materials including metals, ceramics, polymers and biomaterials, and properties including electrical, magnetic, optical, thermal, mechanical, chemical and biocompatibility.
Instructor(s): P. Mcguiggan
Area: Engineering, Natural Sciences.

EN.510.618. Electronic and Photonic Processes and Devices.
This course is intended for advanced undergraduates and graduate students and will cover the fundamentals and properties of electronic and optical materials and devices. Subject matter will include a detailed and comprehensive discussion of the physical processes underlying modern electronic and optical devices. Detailed descriptions of modern semiconductor devices such as lasers and detectors used in optical communications and information storage and processing will be presented. Also listed as EN.510.618/EN.510.418.
Instructor(s): T. Poehler.

In this course, we will review the current synthetic methods for preparing biopolymers of both synthetic and natural origin. The class will focus mainly on polypeptides and polysaccharides, but natural polymers and polynucleotides (DNA and RNA) will be covered as well. Some of the main topics are; solid phase peptide synthesis, ring-opening polymerization for polypeptide synthesis, recombinant DNA and bacterial protein synthesis, bacterial production of biodegradable polyester, and chemical and biological engineering of polysaccharides.
Instructor(s): M. Yu
Area: Engineering, Natural Sciences.

Instructor(s): K. Hristova
Area: Engineering, Natural Sciences.

EN.510.624. X-Ray Scattering, Diffraction and Imaging.
An introduction to the uses of X-rays for structural characterization of materials. Topics include: X-ray scattering by atoms; kinematic and dynamical theories of diffraction; Fourier series and transform methods; scattering by liquids and amorphous solids; coherent X-ray diffraction, scattering, and imaging; and modern X-ray sources (synchrotron radiation and X-ray free-electron lasers). Recommended Course Background: EN.510.601 or permission of the instructor.
Instructor(s): T. Hufnagel.

EN.510.628. Organics, Polymers and Hybrids for New Electronics.
This will be an advanced course on material alternatives to those used in conventional silicon electronics. We will begin with a review of the materials associated with silicon, then introduce alternative materials such as organic semiconductors, composite dielectrics, and carbon nanotubes being contemplated for high performance displays and high-throughput printed circuits. We conclude with a discussion of nanomaterials in circuits and solar cells.

Area: Engineering, Natural Sciences.

This course examines the relationship between microstructure and mechanical properties of metals and alloys. Starting from fundamentals (phase diagrams and phase transformation kinetics), we will explore how the structure of metals and alloys can be manipulated by thermomechanical processing to achieve desired properties. Detailed examples will be drawn from several alloy systems, including steels, aluminum, and titanium. A theme of the course will be the impact of materials processing and materials selection on the environment, including considerations of lightweight materials and processing techniques for minimizing energy consumption. Prerequisite: EN.510.311-312 Same course as EN.510.419.
Instructor(s): E. Ma.

EN.510.632. Introduction to and Applications of Scanning Probe Microscopy.
Scanning Probe Microscopy has emerged as one of the premier techniques to characterize surfaces. This course will give an overview of the family of SPM techniques including scanning tunneling microscopy (STM), atomic force microscopy (AFM), scanning near field optical microscopy (SNOM) and Kelvin probe microscopy. In each of these applications, the theory of operation, measurement and imaging techniques, and experimental limitations will be discussed.
Instructor(s): P. Mcguiggan
Area: Engineering, Natural Sciences.

This course will cover the use of computational methods to discover and design materials for new technologies. Topics addressed will include structure prediction, materials informatics, and the calculation of material properties from first principles using methods such as density functional theory. Participants will gain hands-on experience with modern computational techniques.
Instructor(s): T. Mueller
Area: Engineering, Natural Sciences.
EN.510.635. Mechanical Properties of Biomaterials.
This course will focus on the mechanical properties of biomaterials and the dependence of these properties on the microstructure of the materials. Organic and inorganic systems will be considered through a combination of lectures and readings and the material systems will range from cells to bones to artificial implants. Same course as 510.435
Instructor(s): T. Weihs
Area: Engineering, Natural Sciences.

The revolutionary technologies of the Information age have been driven by an array of physics and materials science advances which have served as the foundation for their development. In this course we will explore the developments in solid-state devices, photonics, optical communications, and storage that serve as the underpinnings of the revolution with focus on the enabling materials innovations. The fundamental physical principles, i.e., the basic science of the devices and concepts will be reviewed. In addition, next generation concepts and devices, (such as holographic storage, quantum computing, etc.), will be discussed. Also listed as 510.436.
Instructor(s): W. Wilson.

Recent advances in biosensor technology are poised to revolutionize health care, enabling faster and more personalized diagnoses and recommendations. Biosensors are also increasingly important to public health, security, industry, and environmental science. This course will cover the materials, processes, and signaling mechanisms in use and anticipated for future developments in biosensors. Techniques such as electrochemistry, fluorescence, plasmonics, and enzymatic amplification will be discussed, and materials including nanowires, nanoparticles, organic semiconductors, and templated materials will be covered. Detection of nucleic acid sequences, proteins, carbohydrates, pharmaceuticals, and microorganisms will be emphasized. Same course as EN.510.437.
Instructor(s): H. Katz
Area: Engineering, Natural Sciences.

EN.510.643. Chemistry and Physics of Polymers.
The course will describe and evaluate the synthetic routes, including condensation and addition polymerization, to macromolecules with varied constituents and properties. Factors that affect the efficiencies of the syntheses will be discussed. Properties of polymers that lead to technological applications will be covered, and the physical basis for these properties will be derived. Connections to mechanical, electronic, photonic, and biological applications will be made. Also listed as EN.510.443. Recommended Course Background: Organic Chemistry I and one semester of thermodynamics.
Instructor(s): H. Katz
Area: Engineering, Natural Sciences.

EN.510.656. Introduction to Surface Science.
Introduction to the structure and properties of solid surfaces.
Topics include Gibbssian and gradient thermodynamics of surfaces; crystallography and structure of free solid surfaces; characterization methods; surface mobility and phase transitions; gas-solid interactions; crystal growth; electronic structure; solid-solid surfaces; thin film epitaxy. Co-listed with EN.510.456. Recommended course background: EN.510.311, EN.510.312, EN.510.313, EN.510.314, EN.510.315 or instructor permission.
Instructor(s): R. Cammarata.

The processing, structure, and properties of thin films are discussed emphasizing current areas of scientific and technological interest. Topics include elements of vacuum science and technology; chemical and physical vapor deposition processes; film growth and microstructure; chemical and microstructural characterization methods; epitaxy; mechanical properties such as internal stresses, adhesion, and strength; and technological applications such as superlattices, diffusion barriers, and protective coatings. Co-listed with EN.510.457
Instructor(s): R. Cammarata.

Selected areas of thermodynamics and kinetics will be examined in depth with the aim of understanding the ideas and assumptions underlying results central to materials science. Attempts will be made to be as rigorous as possible without losing sight of the physical meanings. The theories and models obtained will be evaluated critically to determine their validity and limitations. Topics to be covered include classical formulations of the laws of thermodynamics, Carathéodory’s formulation, relation of thermodynamics to statistical mechanics, Gibbs’ thermodynamics of heterogeneous systems and of surfaces, thermodynamics of phase transitions, glass transition, theory of absolute reactions rates and thermodynamics of irreversible processes developed generally and applied to the chemical kinetics and diffusion, theory of nucleation (Volmer-Weber, Becker-Dürring, Fisher-Turnbull), theory of growth (including instabilities during growth), Johnson-Mehl-Avrami kinetics of phase transformations, Lifshitz-Slyozov-Wagner kinetics of coarsening, spinodal decomposition. Co-listed as EN.510.465. Recommended Course Background: EN.510.312 or EN.510.602 or similar course covering thermodynamics.

The Graduate Research Seminar in the Department of Materials Science and Engineering provides a forum for students to present their latest research results in a formal seminar setting. The course encourages discussion between students in varying disciplines in order to establish new collaborations and develop the shared vocabulary required for interdisciplinary materials science research. Permission Required.
Instructor(s): J. Erlebacher.

Instructor(s): H. Katz.

The Materials Science Seminar exposes students to a wide array of internationally recognized speakers who discuss topics of cutting-edge Materials Science research. Speakers are selected both to overlap research interests within the department and to expose students to broader trends in contemporary Materials Science.
Instructor(s): J. Erlebacher.

Instructor(s): H. Katz.

EN.510.807. Graduate Research In Materials Science.
Individual programs of study are worked out between students and the professor supervising their independent study project. Topics selected are those not formally listed as regular courses and include a considerable design component.
Instructor(s): J. Erlebacher.

EN.510.808. Graduate Research.
Instructor(s): H. Katz.
Cross Listed Courses

Physics Astronomy

**AS.171.321. Introduction to Space, Science, and Technology. 3 Credits.**
Topics include space astronomy, remote observing of the earth, space physics, planetary exploration, human space flight, space environment, orbits, propulsion, spacecraft design, attitude control and communication. Crosslisted by Departments of Earth and Planetary Sciences, Materials Science and Engineering and Mechanical Engineering. Recommended Course Background: AS.171.101-AS.171.102 or similar; AS.110.108-AS.110.109.
Instructor(s): S. McCandliss; S. Murray
Area: Engineering, Natural Sciences.

Electrical Computer Engineering

**EN.520.627. Photovoltaics and Energy Devices.**
This course provides an introduction to the science of photovoltaics and related energy devices. Topics covered include basic concepts in semiconductor device operation and carrier statistics; recombination mechanisms; p-n junctions; silicon, thin film, and third generation photovoltaic technologies; light trapping; and detailed balance limits of efficiency. Additionally, thermophotovoltaics and electrical energy storage technologies are introduced. A background in semiconductor device physics (EN.520.485, or similar) is recommended.
Instructor(s): S. Thon.

Institute for NanoBio Technology

**EN.670.619. Fundamental Physics and Chemistry of Nanomaterials.**
This course will cover the physics and chemistry relevant to the design, synthesis, and characterization of nanoparticles. Topics include nanoparticle synthesis, functionalization, surface engineering, and applications in diagnostics and therapeutics. The properties of semiconductor quantum dots and magnetic nanoparticles will be reviewed along with techniques for nanoparticle manipulation, particle tracking, and bio-microrheology. Patterning tools including soft lithography, optical lithography, e-beam lithography, and template lithography will be discussed. Electron and scanning probe microscopy will be reviewed. Cross-listed with Materials Science & Engineering and Chemical & Biomolecular Engineering.
Instructor(s): C. Chien; J. McCaffery; M. Bevan; N. Markovic; P. Searson.

Mechanical Engineering

The Department of Mechanical Engineering offers undergraduate and graduate programs of instruction and research. Undergraduate programs are offered in Mechanical Engineering and in Engineering Mechanics. The B.S. in the Mechanical Engineering and Engineering Mechanics degree programs are accredited by the Engineering Accreditation Commission of ABET, [http://www.abet.org](http://www.abet.org). Graduate programs are offered leading to the M.S.E. and the Ph.D. degrees. A five-year accelerated B.S./M.S.E. program is also available.

**Mechanical Engineering** is of great importance in most contemporary technologies. Examples include aerospace, power generation and conversion, fluid machinery, design and construction of mechanical systems, transportation, manufacturing, production, biomechanics, and others. This wide range of applications is reflected in the four main stems of the undergraduate curriculum-thermal and fluid systems, mechanics and materials, robotics and control systems, and biomechanics. Engineering Mechanics is a more flexible program that enables students to pursue particular interests while centering on a smaller core of courses. Students may use this flexibility to follow specific interests in physics, mathematics, economics, biology, and other disciplines while receiving an engineering degree.

Design is a major component of both undergraduate programs. In the two-semester Engineering Design Project course taken by undergraduates during their senior year, students work in teams of three or four to design, construct, and test a mechanical device or system for an industrial sponsor.

A major effort of the department is directed toward the creation of a stimulating intellectual environment in which both undergraduate and graduate students can develop to their maximum potential. Faculty members encourage undergraduate students to participate in both fundamental and applied research along with the graduate students. In most junior and senior undergraduate classes, and in graduate classes, small enrollments permit close contact with faculty members. Students have excellent opportunities to participate actively in the classroom and laboratories and to follow special interests within a subject area.

Facilities

Most teaching and research facilities of the department, as well as the departmental office, are located in Latrobe, Krieger, Wyman, Maryland, and Hackerman Halls. The undergraduate laboratories are equipped with sophisticated data acquisition and analysis systems. A V-6 automobile engine with dynamometer and a computer-controlled milling machine are examples of facilities used for undergraduate instruction. The Mechatronics laboratory allows students to design and build their own robots for a class competition. The Senior Design laboratories are used by seniors to construct and test their prototypes in the yearlong design project course. Computer facilities are readily available throughout the department and the Whiting School.

Research facilities include laboratories in several disciplines. The Laboratory for Impact Dynamics and Rheology includes facilities for the study of failure, instabilities, impact and dynamic phenomena. The Hopkins Extreme Materials Institute addresses fundamental science issues associated with materials under extreme conditions, such as dynamic environments, human tissues, and impacts on planets and asteroids. The Laboratory for Active Materials and Biomimetics contains facilities for the characterization of tissues, active materials and biomaterials. These, coupled with electron microscopy facilities, enable innovative research on the mechanical properties of materials.

The Microspecimen Testing Laboratory has special tensile test machines for specimens as thin as 60 nanometers. The Computational Solid Mechanics Laboratory uses state-of-the-art finite-element techniques to study the physics of impact, wear, and more generally, the behavior of materials under high deformation and high-deformation rates. The calculations are conducted at length scales ranging from the nanoscale up to the macroscale.

A large hydrodynamics laboratory is the home of laser-based flow simulation and analysis research, and the Corssin wind tunnel is equipped with modern instrumentation for turbulence research. The heat transfer laboratory is equipped for research using holographic interferometry to study heat transfer in complex geometries with single- and two-phase flows.

The Laboratory for Computational Sensing and Robotics consists of numerous laboratories and collaborating research centers covering multiple domains. The robotics and mechatronics laboratory is fully
equipped for the construction and testing of prototypes of novel robotic systems. The Dynamical Systems and Control laboratory is equipped for design, fabrication, and testing of advanced robotic arms and underwater robots. Experimental equipment includes a test-bed remotely operated underwater vehicle. The Locomotion in Mechanical and Biological Systems (LIMBS) laboratory is equipped with an industrial six-axis manipulator, and as well as the facilities for the development of mobile and medical robots.

Financial Aid

Scholarships and other forms of financial assistance for undergraduates are described under Admissions and Finances (p. 13). In addition, selected undergraduates may be employed as laboratory assistants on research projects. Assistance in various forms is available for graduate students, including tuition fellowships, fellowships with stipend, research assistantships, and competitively-awarded hourly teaching assistant positions. Applications for graduate study must be received by January 5th for consideration.

Research assistantships support graduate students who work with professors on their research contracts and grants.

The Department of Mechanical Engineering offers two undergraduate programs: the Bachelor of Science in Mechanical Engineering and the Bachelor of Science in Engineering Mechanics. Both programs are accredited by ABET, the Accreditation Board for Engineering and Technology. The department offers concentrations in biomechanical engineering and aerospace engineering. For additional information regarding both the mechanical engineering and engineering mechanics academic programs, please consult the undergraduate advising manuals which are available on the departmental website at http://www.me.jhu.edu/advise.html. For details and an explanation of ABET requirements, visit www.abet.org.

Requirements for the Bachelor’s Degree

See also General Requirements for Departmental Majors (p. 24); Writing Requirement, and the department’s undergraduate advising manuals.

The Mechanical Engineering Program

The mission of the B.S. in mechanical engineering degree program is to provide a rigorous educational experience that prepares a select group of students for leadership positions in the profession and a lifetime of learning. The faculty is committed to maintaining a modern and flexible curriculum which, building on a foundation of basic sciences and mathematics, develops a solid education in the mechanical engineering sciences. The aim of the Mechanical Engineering program is to build competence in the design and development of thermal, fluid, and mechanical systems, to promote a broad knowledge of the contemporary social and economic context, and to develop the communication skills necessary to excel.

The program provides a basic background in thermal and mechanical systems. Laboratory instruction, as well as the senior design project, gives the student hands-on experience. Each student’s program of study is planned in consultation with his or her faculty advisor. Students are encouraged to develop depth in one or two areas of concentration within mechanical engineering chosen from fluid mechanics, mechanics of solids and design, heat transfer and energy, robotics, and biomechanics. The choice of concentration is decided in the junior year after consultation with the student’s faculty advisor.

The objectives for the B.S. in mechanical engineering degree program are designed to provide a high-quality educational experience that is tailored to the needs and interests of the student. The program will educate an exceptional group of engineers who, after graduation, will be:

- ...successful and on track to become leaders among their peers in industry, government laboratories and other organizations, and
- ...advanced students in the best graduate programs.

Students graduating from the B.S. in mechanical engineering will have demonstrated the ability to:

- understand and apply the fundamentals of mathematics (through linear algebra and multivariate calculus), numerical methods, statistical analysis, and physical sciences (physics and chemistry) necessary to attain competence in the mechanical engineering disciplines.
- design, conduct, evaluate, and report experiments including analysis and statistical interpretation of data.
- identify, conduct, evaluate, and report experiments including analysis and statistical interpretation of data.
- enter professional practice and/or graduate school, with the recognition of the need for life-long learning and the ability to pursue it.
- use effective communication, multidisciplinary teamwork, and possess awareness of professional and ethical responsibilities, and an appreciation of the societal, economic, and environmental impacts of engineering.

The Mechanical Engineering Curriculum is Structured as Follows

<table>
<thead>
<tr>
<th>Mathematics (19 credits)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>( grades below C- not accepted)</td>
<td></td>
</tr>
<tr>
<td>AS.110.108 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>AS.110.109 Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>AS.110.202 Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.211 Honors Multivariable Calculus</td>
<td></td>
</tr>
<tr>
<td>EN.550.291 Linear Algebra and Differential Equations</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.211 Honors Multivariable Calculus</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.201 Linear Algebra &amp; AS.110.302 and Differential Equations and Applications</td>
<td></td>
</tr>
<tr>
<td>Statistics Elective at 300-level or above:</td>
<td>3-4</td>
</tr>
<tr>
<td>EN.560.348 Probability &amp; Statistics in Civil Engineering</td>
<td></td>
</tr>
<tr>
<td>or EN.550.310 Probability &amp; Statistics for the Physical Sciences &amp; Engineering</td>
<td></td>
</tr>
</tbody>
</table>

Other qualified statistics courses can be taken upon advisor’s approval.

Science (12 Credits)
Total Credits: 126-127

(grades of D, D+, D- or F not accepted)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.530.103</td>
<td>Introduction to Mechanics I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; EN.530.104</td>
<td>Introduction to Mechanics II</td>
<td></td>
</tr>
<tr>
<td>AS.171.102</td>
<td>General Physics: Physical Science Majors II</td>
<td>4</td>
</tr>
<tr>
<td>AS.173.112</td>
<td>General Physics Laboratory II</td>
<td>1</td>
</tr>
<tr>
<td>EN.530.101</td>
<td>Introduction to Materials Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>or AS.030.101</td>
<td>Introductory Chemistry I</td>
<td></td>
</tr>
</tbody>
</table>

**Humanities (18 credits)**

Six humanities and/or social science electives, of which one must specifically teach writing (either AS.060.113 or another course as approved by the student’s advisor).

**Required Engineering Courses (51 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.530.101</td>
<td>Freshman: Experiences in Mech. Eng.</td>
<td>4</td>
</tr>
<tr>
<td>&amp; EN.530.102</td>
<td>Freshman Experiences in Mechanical Engineering</td>
<td></td>
</tr>
<tr>
<td>EN.530.105</td>
<td>Mechanical Engineering Freshman Laboratory I</td>
<td>2</td>
</tr>
<tr>
<td>&amp; EN.530.106</td>
<td>Mechanical Engineering Freshman Laboratory II</td>
<td></td>
</tr>
<tr>
<td>EN.530.201</td>
<td>Statics and Mechanics of Materials</td>
<td>4</td>
</tr>
<tr>
<td>EN.530.202</td>
<td>Dynamics</td>
<td>4</td>
</tr>
<tr>
<td>EN.530.215</td>
<td>Mechanics-Based Design</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.216</td>
<td>Mechanics Based Design Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>EN.530.231</td>
<td>Mechanical Engineering Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.232</td>
<td>Mechanical Engineering Thermodynamics Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>EN.530.241</td>
<td>Electronics &amp; Instrumentation</td>
<td>4</td>
</tr>
<tr>
<td>or EN.520.213</td>
<td>Circuits and Electrical &amp; Computer Engineering</td>
<td></td>
</tr>
<tr>
<td>&amp; EN.520.345</td>
<td>and Electrical &amp; Computer Engineering Laboratory</td>
<td></td>
</tr>
<tr>
<td>EN.530.327</td>
<td>Introduction to Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.329</td>
<td>Introduction to Fluid Mechanics Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>EN.530.334</td>
<td>Heat Transfer</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.335</td>
<td>Heat Transfer Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>EN.530.343</td>
<td>Design and Analysis of Dynamical Systems</td>
<td>4</td>
</tr>
<tr>
<td>EN.530.352</td>
<td>Materials Selection</td>
<td>4</td>
</tr>
<tr>
<td>EN.530.414</td>
<td>Computer-Aided Design</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.454</td>
<td>Manufacturing Engineering</td>
<td>3</td>
</tr>
<tr>
<td>EN.660.461</td>
<td>Engineering Business and Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**Capstone Design (8 credits)**

(grades below C not accepted)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.530.403</td>
<td>Engineering Design Project</td>
<td>8</td>
</tr>
<tr>
<td>&amp; EN.530.404</td>
<td>Engineering Design Project II</td>
<td></td>
</tr>
</tbody>
</table>

**Mechanical Engineering Electives (9 credits)**

Three courses (300-level or higher) in mechanical engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.530.470</td>
<td>Fluid Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.467</td>
<td>Thermal Design Issues for Aerospace Systems</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.470</td>
<td>Space Vehicle Dynamics &amp; Control</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.425</td>
<td>Mechanics of Flight</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.432</td>
<td>Jet &amp; Rocket Propulsion</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.444</td>
<td>Computer-Aided Fluid Mechanics and Heat Transfer</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.467</td>
<td>Thermal Design Issues for Aerospace Systems</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.470</td>
<td>Space Vehicle Dynamics &amp; Control</td>
<td>3</td>
</tr>
<tr>
<td>AS.171.321</td>
<td>Introduction to Space, Science, and Technology</td>
<td>3</td>
</tr>
<tr>
<td>AS.270.318</td>
<td>Remote Sensing of the Environment</td>
<td>4</td>
</tr>
</tbody>
</table>

**Other courses relevant to the concentration which don’t count toward the requirements include:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.171.118</td>
<td>Stars and the Universe: Cosmic Evolution</td>
<td></td>
</tr>
<tr>
<td>EN.520.214</td>
<td>Signals &amp; Systems I</td>
<td></td>
</tr>
<tr>
<td>EN.520.401</td>
<td>Basic Communication</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits: 126-127

**Biomechanics Concentration**

A student may specialize in biomechanics once a solid background in the fundamentals of mechanical engineering has been developed through the core Mechanical Engineering or Engineering Mechanics courses. The essence of mechanics is the interplay between forces and motion. In biology, mechanics is important at the macroscopic, cellular, and subcellular levels.
At the macroscopic length scale biomechanics of both soft and hard tissues plays an important role in computer-integrated surgical systems and technologies, e.g., medical robotics. At the cellular level, issues such as cell motility and chemotaxis can be modeled as mechanical phenomena. At the subcellular level, conformational transitions in biological macromolecules can be modeled using molecular dynamics simulation, which is nothing more than computational Newtonian mechanics; statistical mechanics, or using coarse-grained techniques that rely on principles from the mechanics of materials.

In addition, much of structural biology can be viewed from the perspective of Kinematics, e.g., finding spatial relationships in data from the Protein Data Bank.

Each student who pursues the Biomechanics concentration will, in consultation with his or her academic advisor, choose the set of technical and mechanical engineering course electives that best matches the student’s interests. Upon completion of the concentration, notification of this achievement is placed on the student’s academic record and transcript.

A student may specialize in biomechanics once a solid background in the fundamentals of mechanical engineering has been developed through the basic courses. Students pursuing the biomechanics concentration within mechanical engineering are required to take at least four of the following courses. Two among the four should be chosen from the biomechanics-oriented courses, indicated by an asterisk (*).

<table>
<thead>
<tr>
<th>credit</th>
<th>course description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.431</td>
<td>Biocompatibility of Materials</td>
</tr>
<tr>
<td>EN.510.435</td>
<td>Mechanical Properties of Biomaterials</td>
</tr>
<tr>
<td>EN.530.410</td>
<td>Biomechanics of the Cell</td>
</tr>
<tr>
<td>EN.530.426</td>
<td>Biofluid Mechanics</td>
</tr>
<tr>
<td>EN.530.440</td>
<td>Computational Mechanics Of Biological Macromolecules</td>
</tr>
<tr>
<td>EN.530.445</td>
<td>Introduction to Biomechanics</td>
</tr>
<tr>
<td>EN.530.446</td>
<td>Experimental Methods in Biomechanics</td>
</tr>
<tr>
<td>EN.530.448</td>
<td>Biosolid Mechanics</td>
</tr>
<tr>
<td>EN.530/530.452</td>
<td>Cell &amp; Tissue Engineering Laboratory</td>
</tr>
<tr>
<td>EN.530.485</td>
<td>Physics and Feedback in Living Systems</td>
</tr>
<tr>
<td>EN.530.495</td>
<td>Microfabrication Laboratory</td>
</tr>
<tr>
<td>EN.530.672</td>
<td>Biosensing &amp; BioMEMS</td>
</tr>
<tr>
<td>EN.540.405/605</td>
<td>The Design of Biomolecular Systems</td>
</tr>
<tr>
<td>EN.540.440</td>
<td>Micro/Nanotechnology: The Science and Engineering of Small Structures</td>
</tr>
<tr>
<td>EN.580.221</td>
<td>Molecules and Cells</td>
</tr>
<tr>
<td>EN.580.421</td>
<td>Systems Bioengineering I</td>
</tr>
<tr>
<td>EN.580.422</td>
<td>Systems Bioengineering II</td>
</tr>
<tr>
<td>EN.580.423</td>
<td>Systems Bioengineering Lab I</td>
</tr>
<tr>
<td>EN.580.424</td>
<td>Systems Bioengineering Lab II</td>
</tr>
<tr>
<td>EN.580.440</td>
<td>Cell &amp; Tissue Engineer</td>
</tr>
<tr>
<td>EN.580.455</td>
<td>Introduction to Orthopaedic Biomechanics</td>
</tr>
</tbody>
</table>

Note: Some courses that from time to time may be counted toward the biomechanics concentration may require AS.030.205 Organic Chemistry I as a prerequisite. This course will count as a technical elective when taken to allow enrollment in the appropriate biomechanics concentration courses. Note that AS.030.205 has several prerequisites: AS.030.101 Introductory Chemistry I, AS.030.102 Introductory Chemistry II and AS.030.105 Introductory Chemistry Lab I, AS.030.106 Introductory Chemistry Laboratory II.

Students may not use the satisfactory/unsatisfactory option for required courses, including Humanities and Social Studies. Exceptions can be considered and approved by their faculty advisors. Further, the Department of Mechanical Engineering requires that grades of C- or better be obtained in all required engineering, mathematics, and science courses (i.e., grades of D, D+ or D-, or F will not be accepted). The department will accept D, D+ or D- grades only up to a maximum of 10 credits for Humanities and Social Sciences courses.

**Sample Program**

**First Year**

<table>
<thead>
<tr>
<th>credit</th>
<th>course description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.510.108</td>
<td>Calculus I</td>
</tr>
<tr>
<td>AS.110.108</td>
<td>Mechanical Engineering I</td>
</tr>
<tr>
<td>EN.510.109</td>
<td>Mechanical Engineering II</td>
</tr>
<tr>
<td>EN.530.101</td>
<td>Freshman: Introduction to Materials Chemistry</td>
</tr>
<tr>
<td>EN.530.102</td>
<td>Freshman: Experiences in Mechanical Engineering</td>
</tr>
<tr>
<td>EN.530.103</td>
<td>Introduction to Mechanics I</td>
</tr>
<tr>
<td>EN.530.104</td>
<td>Introduction to Mechanics II</td>
</tr>
<tr>
<td>EN.530.105</td>
<td>Mechanical Engineering Freshman Laboratory I</td>
</tr>
<tr>
<td>EN.530.106</td>
<td>Mechanical Engineering Freshman Laboratory II</td>
</tr>
<tr>
<td>EN.530.107</td>
<td>Introduction to Experiences in Social Studies</td>
</tr>
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</table>

**Second Year**

<table>
<thead>
<tr>
<th>credit</th>
<th>course description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.202</td>
<td>Calculus III</td>
</tr>
<tr>
<td>EN.550.291</td>
<td>Linear Algebra and Differential Equations</td>
</tr>
<tr>
<td>EN.530.201</td>
<td>Statics and Mechanics of Materials</td>
</tr>
<tr>
<td>EN.530.215</td>
<td>Mechanical Engineering Thermodynamics</td>
</tr>
</tbody>
</table>

Total Credits 61
The educational objectives for the B.S. in engineering mechanics degree are designed to educate a select group of science-oriented engineers who, after graduation, will be successful and on track to become leaders among their peers:

- ...in the best graduate programs in engineering, science, medical schools, or law schools, and

...in industry, government laboratories, and other organizations.

Students graduating from the B.S. in Engineering Mechanics programs will have demonstrated the ability to

- understand and apply the fundamentals of mathematics (through linear algebra and multivariate calculus), numerical methods, statistical analysis, and physical sciences (physics and chemistry) necessary to attain competence in the mechanics or related disciplines such as applied physics, bioengineering, or other scientific/engineering disciplines.

- understand the interplay between engineering science and the design, evaluation, and reporting of experiments including analysis and statistical interpretation of data.

- identify, formulate, and solve engineering problems in the mechanical sciences.

- use basic concepts from the mechanical sciences, mathematics, the basic sciences, and related subjects, as well as modern engineering tools, to design mechanical engineering components and processes, taking into account constraints such as manufacturability, cost, safety, environmental, and socio-political impacts.

- enter graduate school and/or professional practice with the tools needed for life-long learning and the recognition of its importance.

- use effective communication, multidisciplinary teamwork, and possess awareness of professional and ethical responsibilities, and an appreciation of the societal, economic, and environmental impacts of engineering.

The curriculum is intended to enable graduates to explore fundamental questions in many fields of engineering. Emphasis is placed on the basic sciences (mathematics, physics, and chemistry) and on the analysis, modeling, and design aspects of solid and fluid engineering systems. Although specific core courses are required, the student is encouraged and guided by his or her advisor to select an individual program of study, within ABET guidelines, according to the student’s particular goals. This program of study may range from a general study of mechanics or engineering science to more specialized programs in a variety of areas, such as robotics, fluid dynamics, environmental engineering, mechanics of solids, experimental mechanics, dynamical systems, mechanics of materials, or biomechanics.

This flexibility makes the program ideal for double-majors and for those wishing to tailor a strong foundation for graduate work in a wide range of disciplines. All mathematics elective and technical elective courses must be at the 300-level or higher, unless approved by their faculty advisor.
Mathematics (23 credits)
(grades below C- not accepted)
AS.110.108 Calculus I 4
AS.110.109 Calculus II 4
AS.110.202 Calculus III 4
or AS.110.211 Honors Multivariable Calculus 4
or AS.110.212 Honors Linear Algebra 4
Mathematics elective 4
Statistics Elective at 300-level or above 3-4
EN.560.348 Probability & Statistics in Civil Engineering 4
EN.550.310 Probability & Statistics for the Physical Sciences & Engineering

Other qualified statistics courses can be taken upon advisor's approval.
EN.550.291 Linear Algebra and Differential Equations 4
or AS.110.212 Honors Linear Algebra 4
or AS.110.201 Linear Algebra 4
& AS.110.302 Differential Equations and Applications 4

Basic Science (16-17 credits)
(grades below C- not accepted)
EN.530.103 Introduction to Mechanics I 4-5
& EN.530.104 and Introduction to Mechanics II
or AS.171.101 General Physics:Physical Science Major I 5
& AS.173.111 General Physics Laboratory I 5
AS.171.102 General Physics: Physical Science Majors II 5
& AS.173.112 General Physics Laboratory II 5
EN.510.101 Introduction to Materials Chemistry 3
or AS.030.101 Introductory Chemistry I 3
Another basic science elective 4

Humanities (18 credits) 18
Six humanities and/or social science electives ✩

Introductory Engineering and Computing
EN.530.101 Freshman: Experiences in Mech. Eng. 4
& EN.530.102 and Freshman Experiences in Mechanical Engineering
EN.530.105 Mechanical Engineering Freshman Laboratory I 2
& EN.530.106 and Mechanical Engineering Freshman Laboratory II (provide the necessary engineering and computing instruction for freshmen and are strongly recommended.)

Alternate introductory courses are available. If EN.530.101-EN.530.102 and EN.530.105-EN.530.106 are not taken, students must take one course from each of the engineering and computing course lists below:

Introductory Engineering:
EN.500.101 What Is Engineering? 4
EN.510.101 Introduction to Materials Chemistry 4
EN.520.137 Introduction To Electrical & Computer Engineering 4
EN.570.108 Introduction Environmental Engineering 4
EN.580.202 BME in the Real World 4
Computing:
EN.500.200 Computing for Engineers and Scientists (recommended) 4
EN.510.202 Computation and Programming for Materials Scientists and Engineers 4
EN.580.200 Introduction to Scientific Computing in BME using Python, Matlab, and R 4
EN.600.112 Introductory Programming for Scientists and Engineers 4
EN.600.107 Introductory Programming in Java 4
Any other computing course approved by the faculty advisor.
EN.600.107 should be taken as a last resort if none of the other computing options fits the student's schedule, as it is important to learn MATLAB and Intro to Java does not offer that program.

Other Required Engineering Courses
EN.530.201 Statics and Mechanics of Materials 4
EN.530.231 Mechanical Engineering Thermodynamics 4
EN.530.327 Introduction to Fluid Mechanics 4
EN.530.405 Mechanics of Advanced Engineering Structures 4
or EN.530.215 Mechanics-Based Design 4
EN.560.202 Dynamics 4

Capston Design (8 credits)
(grades below C- not accepted)
EN.530.403 Engineering Design Project 8
& EN.530.404 and Engineering Design Project II 8

Engineering Science Electives (12 credits)
(grades below C- not accepted) 12
One course in the mechanics of solids (see below) 12
One course in the mechanics of fluids (see below) 12
One additional course in the mechanics of either solids or fluids (see below) 12
One course in either materials or dynamics (see below) 12

Engineering Mechanics Electives (6 credits)
(grades below C- not accepted) 6
Two additional elective courses in the same area of engineering mechanics (solid mechanics, fluid mechanics, or dynamics, see below). 6

Technical Electives (minimum of 18 credits) ✩✩
(grades below C- not accepted) 18
Engineering, Quantitative Studies, or Natural Science courses at or above the 300-level, chosen in consultation with the student's advisor from any combination of courses in engineering, basic sciences, or mathematics. 18
Total Credits 124-126

+ One must specifically teach writing (either AS.060.113 Expository Writing or AS.060.114 Expository Writing, AS.220.105 Fiction/Poetry Writing I, or another course as approved by the student's advisor). To obtain coherence and depth in these humanities and social science electives, at least six credits must be at the 300-level or higher.

Required Engineering Courses (minimum of 26 credits; grades below C- not accepted)
+ Appropriate choices from the social sciences and philosophy may be also used to fulfill this requirement. Because of the importance of computer languages in modern technical society, students may take computer language courses at any level.

Fluid mechanics courses may be chosen from courses such as:
One course in solid mechanics

Engineering Science Electives (12 credits)

Solid mechanics courses may be chosen from courses such as:
- EN.530.215 Mechanics-Based Design 3
- EN.530.405 Mechanics of Advanced Engineering Structures 3
- EN.530.414 Computer-Aided Design 3
- EN.530.416 Advanced Mechanical Design 3
- EN.530.448 Biosolid Mechanics 3
- EN.530.730 Finite Element Methods 3
- EN.560.320 Structural Design I 3
- EN.560.330 Foundation Design 3

Biomechanics Concentration

Engineering Mechanics (EM) is a highly flexible program offered by the Department of Mechanical Engineering, which is ideal for students who want to specialize in any area of mechanics, including biomechanics. The essence of mechanics is the interplay between forces and motion.

In biology, mechanics is important at the macroscopic, cellular, and subcellular levels. At the macroscopic length scale biomechanics of both soft and hard tissues plays an important role in computer-integrated surgical systems and technologies (e.g., medical robotics). At the cellular level, issues such as cell motility and chemotaxis can be modeled as mechanical phenomena. At the subcellular level, conformational transitions in biological macromolecules can be modeled using molecular dynamics simulation (which is nothing more than computational Newtonian mechanics), statistical mechanics, or using coarse-grained techniques that rely on principles from the mechanics of materials. In addition, much of structural biology can be viewed from the perspective of Kinematics (e.g., finding spatial relationships in data from the Protein Data Bank).

Each student who pursues the biomechanics concentration within the EM major will, in consultation with his or her EM advisor, choose the set of technical and EM electives that best matches the student’s interests. Many electives from other departments are acceptable. The electives for the EM major are structured as follows:

Engineering Science Electives (12 credits)

One course in solid mechanics
# The Combined Five-Year Bachelor’s / Master’s Program

The Mechanical Engineering Department offers a concurrent five-year bachelor’s/master’s program for mechanical engineering and engineering mechanics majors. Applications to the B.S./M.S.E. program should be submitted by January 5 for consideration of spring admission and June 15 for possible Fall admission, during applicant’s junior (3rd) year.

To apply for admission, students must submit an application, plus a statement of purpose, college transcript, and three letters of recommendation, two of which should be from Mechanical Engineering faculty.

Upon acceptance into the program, students will be asked to develop an outline of their proposed academic program with their advisor.

## Admission and Advising

To be admitted to graduate study in the Department of Mechanical Engineering, applicants must submit credentials sufficient to convince the faculty that they will thrive in a program of advanced course work and/or research. No academic degree is required, but the applicant should have at least two years of relevant undergraduate training, or the equivalent, and should have achieved very high marks or have given other evidence of outstanding ability. Graduate Record Examination scores must be submitted.

Upon arrival, each graduate student is assigned to a faculty advisor to help map a tentative program for the first year and enter the intellectual life of the department. The student will remain in regular communication with the advisor. The advisor may use a variety of methods to assess the student’s progress, sometimes including special oral or written examinations. It is not necessary that a student have the same advisor in successive years. After serious research for a dissertation has begun, the research supervisor will automatically function as advisor. All Ph.D. students are required, and master’s...
students are strongly encouraged to attend the weekly Mechanical Engineering Graduate Seminars.

Requirements for the M.S.E. Degree

**Essay Option:** For the Master of Science in Engineering degree at least eight one-semester courses are required. At least half of them must be selected among those listed as graduate courses in this catalog. The remaining courses can be chosen from 300- and 400-level courses in this catalog, with the advisor's approval. Effective in Fall 2014, 50% of all substantive courses must be offered by Mechanical Engineering (530.xxx), including at least two courses at the .600-level or .700-level. A completed piece of research conducted under the guidance of a full-time faculty member of the department and reported as a master's essay is required. All students must follow a course of study approved by their individual advisor.

**Non-Essay Option:** The student must successfully complete a coordinated sequence of ten courses, which requires one year of full-time resident graduate study. At least six of the ten courses must be selected amongst the graduate courses of this catalog. Effective in Fall 2014, 50% of all substantive courses must be offered by Mechanical Engineering (530.xxx), including at least two courses at the .600-level or .700-level. The intent of this program is to provide the student with an intensive exposure to fundamental and advanced topics within mechanical engineering and engineering mechanics. Students must follow a course of study approved by their individual advisor.

Requirements for the Ph.D. Degree

As soon as the student is prepared to do so, he/she should fulfill the requirements for candidacy. In addition to general university requirements, the student must pass two exams. The first is an oral Departmental Qualifying Exam based on core courses. This exam is usually taken after the third semester. The second is a preliminary Graduate Board Oral examination satisfying the Graduate Board requirements. This is a comprehensive examination in which students must demonstrate proficiency at the graduate level in their field of specialization.

Although there are no formal course requirements, students are presumed to be prepared by studies equal to six 600-level courses in their field of specialization and six courses in related fields. All candidates for the doctorate must complete two semesters as a teaching assistant as part of their training. All students are required to follow a course of study approved by their individual advisor.

The final and principal requirement for the doctorate is a piece of original research worthy of publication. Candidates must write a dissertation describing their work in detail and successfully defend it in a final oral presentation and examination.

For current faculty and contact information go to http://www.me.jhu.edu/faculty.html

Faculty

**Chair**

Louis L. Whitcomb
Professor: Control Systems: adaptive and model-based control of linear and nonlinear systems, observers, nonlinear systems analysis, with focus on problems arising in mechanical systems, robots, and robotic vehicles. Underwater Robotics: dynamics, control, instrumentation, and navigation of underwater vehicles and inhabited submersibles—with focus on deep submergence oceanographic vehicles. Industrial and Medical Robotics: dynamics, control, instrumentation, and operation of precision robotics for novel medical and industrial applications.

**Full Time Professors**

Ishan Barman
Assistant Professor, joining January 2014: elucidation of morphological and chemical information of different patho-physiological states through an interdisciplinary approach featuring novel optical, spectroscopic and microfluidic measurements, mechanistic modeling and advanced numerical methods for analysis and interpretation of the acquired data.

Gregory S. Chirikjian
Professor: computational structural biology (in particular, computational mechanics of large proteins), conformational statistics of biological macromolecules, developed theory for ‘hyper-redundant’ (snakelike) robot motion planning, designs and builds hyper-redundant robotic manipulator arms, applied mathematics (applications of group theory in engineering), self-replicating robotic systems.

Noah J. Cowan
Associate Professor: robot dynamics, animal biomechanics, and sensorimotor control; theory and application of control systems and system identification techniques for closed-loop systems (especially biological systems); biological motor control and systems neuromechanics; medical robotics.

Andrew S. Douglas
Professor (Vice Dean for Academic Affairs, Whiting School of Engineering): nonlinear mechanics of solids, mechanical response of compliant biological tissues, finite deformation elasticity, Static and dynamic fracture of ductile materials.

Jaafar El-Awady
Assistant Professor: multiscale materials modeling, damage and fracture mechanisms of materials in mechanical design, material degradation in extreme environments, nano-materials and structures, impact dynamics and wave propagation.

Dennice Gayme
Assistant Professor: Dynamics and control of nonlinear, networked and spatially distributed systems such as the electric power grid, and wind farms. Modeling of turbulence and transition to turbulence in wall bounded shear flows and wind farms. Grid integration of renewable energy sources.

Kevin J. Hemker
Professor, Alonzo G. Decker, Jr. Chair in Mechanical Engineering: Professor Hemker and his students seek to identify the underlying atomic-scale processes that govern the mechanical behavior of advanced material systems. They are making key observations and discoveries that define the way the mechanics and materials community thinks about and understands the properties of: nanocrystalline materials, MEMs and micro-lattice materials, thermal barrier coatings, armor ceramics, and high temperature structural materials.

Cila Herman
Professor: experimental heat transfer and fluid mechanics, optical measurement techniques, image processing. Thermoacoustic refrigeration, influence of electric fields on boiling in terrestrial conditions and microgravity, heat exchangers, heat transfer in boiling, optical tomography, holographic interferometry, cooling of electronic equipment, digital image processing, heat transfer augmentation.
Joseph M. Katz  
Professor, Whiting School Mechanical Engineering Chaired Professor, Gilman Scholar: cavitation phenomena, attached partial cavitation, cavitation in turbulent shear flows, jets and wakes. Multiphase flows: interaction between bubbles and flow structure, mixing mechanisms and droplet formation in water-fuel stratified shear flows, transport of microscopic particles and droplets in turbulent development. Development of optical flow diagnostics techniques, including Particle Image Velocimetry (PIV) and Holographic Particle Image Velocimetry (HPIV). Applications of PIV and HPIV for measuring the characteristics of turbulence and addressing turbulence modeling issues. Complex flow structure and turbulence within turbo-machines: Wake-wake and blade-wake interactions in multistage axial turbomachines, flow and rotating stall in centrifugal pumps, development of optical diagnostics techniques for measurements in turbomachines. Oceanography: flow structure and turbulence in the bottom boundary layer of the coastal ocean; measurement of spatial distributions of plankton, particles and bubbles in the ocean; development of optical instrument-tation, including submersible holography and PIV systems. Prevention of nozzle wear in abrasive water suspension jets (AWSJ) using porous lubricated nozzles. Flow-induced vibrations and noise, mechanisms of noise generation in turbulent separated flows and in turbomachines.

Marin Kobilarov  
Assistant Professor: developing intelligent robotic vehicles that can perceive, navigate, and accomplish challenging tasks in uncertain, dynamic, and highly constrained environments. Performing research in analytical and computational methods for mechanics, control, motion planning, and reasoning under uncertainty, and in the design and integration of novel mechanisms and embedded systems. Application areas include mobile robots, aerial vehicles, and nanosatellites.

Charles Meneveau  
Professor, Louis M. Sardella Chair in Mechanical Engineering, Director of the Center for Environmental and Applied Fluid Mechanics: theoretical, experimental, and numerical studies in turbulence, large-eddy-simulation, turbulence modeling, fractals and scaling in complex systems, small-scale structure of turbulence and velocity gradient dynamics, applications of LES to environmental flows, wind energy, development of data-intensive science tools to study turbulence.

Rajat Mittal  
Professor: computational fluid dynamics, low Reynolds number aerodynamics, biomedical flows, active flow control, LES/DNS, immersed boundary methods, fluid dynamics of locomotion (swimming and flying), biomimetics and bioinspired engineering, turbomachinery flows.

Andrea Prosperetti  
Professor, Charles A. Miller Jr. Chair in Mechanical Engineering: multiphase flow; theoretical and computational fluid mechanics and acoustics; gas and vapor bubbles.

K. T. Ramesh  
Professor, Alonzo G. Decker, Jr. Professor of Science and Engineering, Director of the Center for Advanced Metallic and Ceramic Systems (CAMCS) and the Hopkins Extreme Materials Institute (HEMI): Nanomaterials, planetary impact, dynamic failure mechanisms, shock, impact, and wave propagation, high-strain-rate behavior of materials, injury biomechanics, constitutive and failure modeling.

Sean Sun  
Vice Chair, Associate Professor: mechanobiology of the cell, molecular biomechanics and biophysics, molecular motors and muscle, statistical mechanics and nonlinear phenomena.

Jeff Tza-Huei Wang  
Associate Professor: bioMEMS and microfluidics, single molecule manipulation and detection, nano/micro scale fabrication, conformational dynamics of biomolecules.

Tamer Zaki  
Associate Professor: Transitional and turbulent shear flows: receptivity, linear and non-linear instability waves, secondary instability, breakdown to turbulence, direct numerical simulations, transition modelling. Two-fluid shear flows: linear and non-linear instability methods, interface tracking, the interaction of vortical disturbances with interfaces, direct numerical simulations, laminar-to-turbulence transition. Turbulence: boundary layer turbulence, separation, stratification, drag reduction, turbulence structures, direct numerical simulations, large-scale high-performance computing.

Secondary Faculty Appointments

Stephen Belkoff  
Joint, Part-Time, and Research Appointments: Associate Professor (Orthopedic Surgery): biomechanics, orthopaedic implants, fracture fixation in osteoporotic bone, mechanism of injury, vertebral fracture.

Robert C. Cammarata  
Joint, Part-Time, and Research Appointments: Professor (Materials Science and Engineering): structure, properties, and processing of thin films and nanostructured materials, thermodynamics and mechanics of surfaces, mechanical behavior of materials, nonoindentation testing, stresses in thin films, novel electrochemical deposition methods, computer simulations.

Gregory L. Eyink  

Lori Graham-Brady  
Professor, Civil Engineering: stochastic finite element methods, probabilistic mechanics, stochastic simulation of material properties, micromechanics.

Daniel Naiman  

Mark Robbins  
Joint, Part-Time, and Research Appointments: Professor (Physics and Astronomy): Connecting and contrasting atomistic and macroscopic descriptions of non-equilibrium processes including friction, adhesion, large-strain mechanical deformation, fracture, heat flow, fluid flow, and boundary conditions at interfaces between different materials. Techniques include molecular simulations, continuum calculations and multiscale modeling approaches that bridge the two.

Dan Stoianovici  
Joint, Part-Time, and Research Appointments: Professor (Brady Urological Institute): urology, medical robotics.

Russell H. Taylor
Joint, Part-Time, and Research Appointments: Professor (Computer Science): medical robotics, computer-assisted surgery.

Nitish V. Thakor
Joint, Part-Time, and Research Appointments: Professor (Biomedical Engineering): medical instrumentation and medical micro and nanotechnologies, neurological instrumentation, signal processing, computer applications.

Rene Vidal
Joint, Part-Time, and Research Appointments: Associate Professor (Biomedical Engineering): biomedical image analysis, computer vision, machine learning, dynamical systems, signal processing.

Timothy Weihs
Joint, Part-Time, and Research Appointments: Professor (Materials Science and Engineering), Director of the Center for Leadership Education: self-propagating exothermic reaction and joining with reactive multilayer foils, processing and characterization of thin films, layered materials, and thin film reactions, mechanical testing of metals and biological materials.

Senior Lecturer
David Kraemer
Senior Lecturer
Steven Marra
Senior Lecturer: Soft and hard tissue biomechanics, nonlinear mechanics of solids, mechanics of tissue damage.

Nathan Scott
Senior Lecturer: Principles and practice of engineering design education.

Professor emeritus
William N. Sharpe Jr.
Professor Emeritus: experimental solid mechanics; microelectromechanical systems (MEMS), microsample testing.

Associate Research Professor
Mehran Armand
Associate Research Professor (Applied Physics Laboratory).

Juan I. Arvelo Jr.
Assistant Research Professor (Applied Physics Laboratory).

Lester Su
Associate Research Professor: (Stanford University).

Liming Voo
Associate Research Professor (Applied Physics Laboratory).

Research Scientist
Alan Brandt

Research Professor
Ilene Busch-Vishniac
Research Professor (University of Saskatchewan).

Shiyi Chen
Research Professor (Peking University).

Allison Okamura
Research Professor (Stanford University).

Alexander Spector
Research Professor, Biomedical Engineering: biosolid mechanics, cell mechanics and biophysics, molecular motors, mathematical and computational modeling.

Pazhayannur Swaminathan
Research Professor (Applied Physics Laboratory).

David Van Wie
Research Professor (Applied Physics Laboratory).

Assistant Research Professor
Nitin Daphalapurkar
Assistant Research Professor.

Iulian Iordachita
Assistant Research Professor: robotics, medical robotics and instrumentation, mechanisms and mechanical transmissions for robots, advance electro-mechanical design, biologically-inspired mechanisms.

John Thomas
Assistant Research Professor (Applied Physics Laboratory).

Adjunct Associate Professor
Thomas Dragne
Adjunct Associate Professor: aerospace structures and materials, airframe structure design and development, materials science.

Adjunct Assistant Professors
Ryan Eustice
Adjunct Assistant Professor (Department of Naval Architecture and Marine Engineering, University of Michigan).

Jian Sheng
Adjunct Assistant Professor (University of Minnesota).

Adjunct Professor
Gabor Fichtinger
Adjunct Professor, Computer Science and Radiology: Director of Computer Integrated Surgical Systems and Technology (CISST).

Associate Research Scientist
Tihomir Hristov
Associate Research Scientist.

Xiaofeng Liu
Assistant Research Scientist.

Adjunct Associate Research Scientist
Edwin Malkiel
Adjunct Associate Research Scientist.

Adjunct Research Professor
Thomas Wright
Adjunct Research Professor: theoretical solid mechanics, wave propagation, dynamic failure, adiabatic shear localization, instabilities.

Lecturer
Yury Ronzhes
Courses

EN.530.101. Freshman: Experiences in Mech. Eng.. 2 Credits.
An overview of the field of mechanical engineering along with topics that will be important throughout the mechanical engineering program. This one-year course includes applications of mechanics, elementary numerical analysis, programming in Matlab, use of computer in data acquisition, analysis, design, and visualization, technical drawing, the design process and creativity, report preparation, teamwork, and engineering ethics. Corequisites: EN.530.103 and EN.530.105. Instructor(s): S. Marra
Area: Engineering.

EN.530.102. Freshman Experiences in Mechanical Engineering. 2 Credits.
An overview of the field of mechanical engineering along with topics that will be important throughout the mechanical engineering program. This is the second half of a one-year course that includes applications of mechanics, elementary numerical analysis, programming in Matlab, use of computer data acquisition, analysis, design, and visualization; technical drawing, the design process and creativity, report preparation, teamwork, and engineering ethics.
Prerequisites: EN.530.101
Instructor(s): S. Belkoff
Area: Engineering.

EN.530.103. Introduction to Mechanics I. 2 Credits.
This is the first half of a one-year course offering in-depth study of elements of mechanics, including linear statics and dynamics, rotational statics and dynamics, thermodynamics, fluids, continuum mechanics, transport, oscillations, and waves. This is an alternate to AS.171.101, designed specifically for Mechanical Engineering and Engineering Mechanics students taking EN.530.101 concurrently. Restricted to Mechanical Engineering, Engineering Mechanics, Civil Engineering, Undecided Engineering Majors, or permission of instructor.
Instructor(s): J. Thomas
Area: Engineering, Natural Sciences.

EN.530.104. Introduction to Mechanics II. 2 Credits.
This is the second half of a one-year course offering in-depth study of elements of mechanics, including linear statics and dynamics, rotational statics and dynamics, thermodynamics, fluids, continuum mechanics, transport, oscillations, and waves. This is an alternate to AS.171.101, designed specifically for Mechanical Engineering and Engineering Mechanics students taking EN.530.102 concurrently.
Prerequisites: EN.530.103
Instructor(s): J. Thomas
Area: Engineering, Natural Sciences.

EN.530.105. Mechanical Engineering Freshman Laboratory I. 1 Credit.
Hands on laboratory complementing EN.530.101 and EN.530.103, including experiments, mechanical dissections, and design experiences distributed throughout the year. Experiments are designed to give students background in experimental techniques as well as to reinforce physical principles. Mechanical dissections connect physical principles to practical engineering applications. Design projects allow students to synthesize working systems by combining mechanics knowledge and practical engineering skills. Corequisites: EN.530.101 and EN.530.103. Instructor(s): S. Marra
Area: Engineering.

EN.530.106. Mechanical Engineering Freshman Laboratory II. 1 Credit.
Hands-on laboratory complementing EN.530.102 and EN.530.104, including experiments, mechanical dissections, and design experiences distributed throughout the year. Experiments are designed to give student background in experimental techniques as well as to reinforce physical principles. Mechanical dissections connect physical principles to practical engineering applications. Design projects allow students to synthesize working systems by combining mechanics knowledge and practical engineering skills.
Prerequisites: EN.530.105
Instructor(s): S. Belkoff
Area: Engineering.

EN.530.110. Chair's Dialogue on Grand Engineering Challenges. 1 Credit.
The purpose of this course is to allow the ME Chair and students to engage in a meaningful dialog about grand engineering challenges facing the world today. Based on the premise that these challenges constitute the opportunity of a lifetime disguised as a series of unsolvable problems, the course will explore the technical, scientific, political, and societal facets of these challenges and the opportunities for engineers to engage in topics such as: energy, the environment, medical health and national security.

EN.530.114. Mini Term: Introduction to Computer-Aided Design. 1 Credit.
This course covers many aspects of the mechanical design process using computer-aided design (CAD). Solid modeling, assembly modeling, detail drafting, mechanism dynamics, and structural analysis are all explored using Creo Parametric 2.0.
Area: Engineering.

EN.530.201. Statics and Mechanics of Materials. 4 Credits.
Equilibrium of rigid bodies, free-body diagrams, design of trusses. One-dimensional stress and strain, Hooke's law. Properties of areas. Stress, strain, and deflection of components subjected to uniaxial tension, simple torsion, and bending. Co-listed with EN.560.201. Recommended Course Background: AS.171.101 or EN.530.103 and EN.530.104 or Permission Only.
Instructor(s): R. Sangree; T. Igusa
Area: Engineering.
EN.530.202. Dynamics. 4 Credits.
Basic principles of classical mechanics applied to the motion of particles, system of particles and rigid bodies. Kinematics, analytical description of motion; rectilinear and curvilinear motions of particles; rigid body motion. Kinetics: force, mass, and acceleration; energy and momentum principles. Introduction to vibration. Includes laboratory experience.
Prerequisites: (EN.530.201 or EN.560.201) AND (AS.171.101 or (EN.530.103 AND EN.530.104)) AND AS.110.109
Instructor(s): N. Nakata
Area: Engineering.

EN.530.215. Mechanics-Based Design. 3 Credits.
Prerequisites: EN.530.201 OR EN.560.201
Instructor(s): T. Nguyen
Area: Engineering.

EN.530.216. Mechanics Based Design Laboratory. 1 Credit.
This is the laboratory that supports EN.530.215 Mechanics Based Design.
Corequisites: EN.530.215
Instructor(s): S. Marra
Area: Engineering.

EN.530.231. Mechanical Engineering Thermodynamics. 3 Credits.
Prerequisites: AS.110.109
Instructor(s): C. Meneveau
Area: Engineering.

EN.530.232. Mechanical Engineering Thermodynamics Laboratory. 1 Credit.
This course is the complementary laboratory course and a required corequisite for EN.530.231. Corequisite: EN.530.231
Instructor(s): S. Marra
Area: Engineering, Natural Sciences.

EN.530.241. Electronics & Instrumentation. 4 Credits.
Introduction to basic analog electronics and instrumentation with emphasis on basic electronic devices and techniques relevant to mechanical engineering. Topics include basic circuit analysis, laboratory instruments, discrete components, transistors, filters, op-amps, amplifiers, differential amplifiers, power amplification, power regulators, AC and DC power conversion, system design considerations (noise, precision, accuracy, power, efficiency), and applications to engineering instrumentation.
Prerequisites: AS.171.102
Instructor(s): D. Kraemer
Area: Engineering.

EN.530.319. Molecular Modeling and Simulation for Engineers. 3 Credits.
Nano-sized engineering materials and devices behave in ways that are profoundly different from their traditional macroscopic counterparts. This course will provide students with an introduction to this exciting and rapidly evolving field. Through a combination of lectures, case-studies, and hands-on applications, students will (i) develop an understanding of the principles that govern the performance of nanoscale engineering systems, and (ii) learn how molecular modeling tools can assist in the design and analysis of such systems. Recommended Course Background: AS.110.107/AS.110.109, General Physics II
Area: Engineering.

EN.530.327. Introduction to Fluid Mechanics. 3 Credits.
Prerequisites: Co-requisite: EN.530.329
Instructor(s): D. Gayme
Area: Engineering.

EN.530.328. Fluid Mechanics II. 3 Credits.
Instructor(s): C. Meneveau
Area: Engineering.

EN.530.329. Introduction to Fluid Mechanics Laboratory. 1 Credit.
This course is the complementary laboratory course and a required co-requisite for EN.530.327. Corequisite: EN.530.327
Instructor(s): S. Marra
Area: Engineering.

EN.530.334. Heat Transfer. 3 Credits.
Prerequisites: EN.530.231 AND EN.530.327
Instructor(s): C. Herman
Area: Engineering.

EN.530.335. Heat Transfer Laboratory. 1 Credit.
This is the laboratory that supports EN.530.334 Heat Transfer.
Corequisites: EN.530.334
Instructor(s): S. Marra
Area: Engineering.
EN.530.343. Design and Analysis of Dynamical Systems. 4 Credits.
Modeling and analysis of damped and undamped, forced and free vibrations in single and multiple degree-of-freedom linear dynamical systems. Introduction to stability and control of linear dynamical systems.
Prerequisites: Prereq: (110.108 and 110.109 and (110.202 or 110.211) and ((550.291) or (110.201 and 110.302) or (110.201 and 110.306)), and C- or better or concurrent enrollment in 530.202 or 560.202. MechE Majors must also have taken 530.241
Instructor(s): S. Marra
Area: Engineering.

EN.530.352. Materials Selection. 4 Credits.
An introduction to the properties and applications of a wide variety of materials: metals, polymers, ceramics, and composites. Considerations include availability and cost, formability, rigidity, strength, and toughness. This course is designed to facilitate sensible materials choices so as to avoid catastrophic failures leading to the loss of life and property.
Prerequisites: Prereq: EN.530.215 or permission of instructor
Instructor(s): S. Marra
Area: Engineering.

EN.530.354. Manufacturing Engineering. 3 Credits.
An introduction to the various manufacturing processes used to produce metal and nonmetal components. Topics include casting, forming and shaping, and the various processes for material removal including computer-controlled machining. Simple joining processes and surface preparation are discussed. Economic and production aspects are considered throughout. Special Notes: Labs and field trips will be scheduled with class separately. Mechanical Engineering and Engineering Mechanics Sophomores and Juniors only.
Instructor(s): Y. Ronzhes
Area: Engineering.

EN.530.371. Quantitative Applications in Mechanical Engineering. 3 Credits.
Solution of practical mechanical engineering problems with differential equations and linear algebra using numerical tools. Applications include topics like ballistics with viscous drag, fluid flow, solid mechanics, and kinematics. Numerical exercises with Matlab and other tools are used to reinforce concepts. Laboratory sessions will be scheduled in place of lectures a few times during the semester.
Prerequisites: EN.550.291 OR ( AS.110.201 AND AS.110.302)
Instructor(s): D. Kraemer
Area: Engineering, Quantitative and Mathematical Sciences.

EN.530.381. Engineering Design Process. 3 Credits.
Goal of the course is to teach students the iterative process of design from requirement establishment, to generation of (many) concepts, to decision making and criteria based concept selection. The four C’s of design: Creativity, Complexity, Choice, and Compromise will be explored. The processes of functional decomposition, modeling and simulation and assessment of Risk, Reliability and Safety will be covered. Modern tools of design and their interfaces with manufacturing and Product Lifecycle Management (PLM) tools will be presented. Throughout the course teams of students will maintain a record of design process as it relates to a specific term project. The progress of the design will be reported according the principles of project management. This course will equip students with tools needed for success in Senior Design.
Instructor(s): N. Scott
Area: Engineering.

EN.530.403. Engineering Design Project. 4 Credits.
This senior year “capstone design” course is intended to give some practice and experience in the art of engineering design. Students working in teams of two to four will select a small-scale, industry-suggested design problem in the area of small production equipment, light machinery products, or manufacturing systems and methods. A solution to the problem is devised and constructed by the student group within limited time and cost boundaries. Preliminary oral reports of the proposed solution are presented at the end of the first semester. A final device, product, system, or method is presented orally and in writing at the end of the second semester. Facilities of the Engineering Design Laboratory (including machine shop time) and a specified amount of money are allocated to each student design team for purchases of parts, supplies, and machine shop time where needed. Recommended Course Background: ME Majors: EN.530.215, EN.530.327; EM & BME Majors: EN.530.215 or EN.530.405, and EN.530.327.
Instructor(s): N. Scott
Area: Engineering.

EN.530.404. Engineering Design Project II. 4 Credits.
The Senior Design Project, a unique two-semester course, is the capstone of Johns Hopkins’s Mechanical Engineering Program. In the class, students working in small teams tackle specific design challenges presented by industry, government, and nonprofit organizations. The sponsors provide each team with a budget, access to world-class resources, and technical contacts. Ultimately, each team conceptualizes a novel solution to the sponsor’s problem and then designs, constructs, and tests a real-world prototype before presenting the finished product and specifications to the sponsor. The course requires students to draw upon the four years of knowledge and experience they’ve gained in their engineering studies and put it to practical use. Throughout the year, they produce progress reports as they design, build, and test the device they are developing. Combining engineering theory, budget and time management, and interactions with real clients, the senior design project is critical to students’ preparation for the transition from school to the workplace.
Prerequisites: EN.530.403
Instructor(s): N. Scott
Area: Engineering
Writing Intensive.
EN.530.405. Mechanics of Advanced Engineering Structures. 3 Credits.
This course provides an introduction to the mathematical and theoretical foundations of the mechanics of solids and structures. We will begin with the mathematical preliminaries used in continuum mechanics: vector and tensor calculus, then introduce kinematics and strain measures, descriptions of stress in a body, frame indifference, conservation laws: mass, momentum, energy balance, and entropy. These concepts will be applied to develop the constitutive equations for solids and fluids, methods for solving boundary value problems that occur in engineering structures, energy methods and foundations of the finite element method.
Instructor(s): J. El-Awady
Area: Engineering, Natural Sciences.

EN.530.410. Biomechanics of the Cell. 3 Credits.
Mechanical aspects of the cell are introduced using the concepts in continuum mechanics. Discussion of the role of proteins, membranes and cytoskeleton in cellular function and how to describe them using simple mathematical models.
Instructor(s): A. Spector; S. Sun
Area: Engineering, Natural Sciences.

EN.530.414. Computer-Aided Design. 3 Credits.
The course outlines a modern design platform for 3D modeling, analysis, simulation, and manufacturing of mechanical systems using the “Pro/E” package by PTC. The package includes the following components: • Pro/ENGINEER: is the kernel of the design process, spanning the entire product development, from creative concept through detailed product definition to serviceability. • Pro/MECHANICA: is the main analysis and simulation component for kinematic, dynamic, structural, thermal and durability performance. • Pro/NC: is a numeric-control manufacturing package. This component provides NC programming capabilities and tool libraries. It creates programs for a large variety of CNC machine tools.
Instructor(s): D. Stoianovici
Area: Engineering.

EN.530.416. Advanced Mechanical Design. 3 Credits.
A continuation of EN.530.215 expanding on topics such as fatigue, fracture, and various mechanical components and including linkage systems and cams. Student teams will be assigned different experimental and/or computational projects. Recommended Course Background: EN.530.215
Prerequisites: EN.530.215
Instructor(s): M. Dehghani
Area: Engineering.

EN.530.418. Aerospace Structures & Materials. 3 Credits.
An introduction to the design of aircraft and spacecraft structures and components. This course will build on skills learned in EN.530.215 and EN.530.352. Recommended Course Background: EN.530.352 or instructor permission.
Instructor(s): T. Dragone
Area: Engineering.

EN.530.420. Robot Sensors/Actuators. 4 Credits.
Introduction to modeling and use of actuators and sensors in mechatronic design. Topics include electric motors, solenoids, micro-actuators, position sensors, and proximity sensors.
Prerequisites: (171.101 and 171.102 or 530.103 and 530.104), and 110.108 and 110.109, and (110.202 or 110.211), and (EN.550.291 or AS.110.302) and (EN.530.241 or EN.520.345)
Instructor(s): D. Kraemer
Area: Engineering.

EN.530.421. Mechatronics. 3 Credits.
Students from various engineering disciplines are divided into groups of two to three students. These groups each develop a microprocessor-controlled electromechanical device, such as a mobile robot. The devices compete against each other in a final design competition. Topics for competition vary from year to year. Class instruction includes fundamentals of mechanism kinematics, creativity in the design process, an overview of motors and sensors, and interfacing and programming microprocessors.
Prerequisites: EN.530.420 or permission of instructor
Instructor(s): G. Chirikjian
Area: Engineering.

EN.530.424. Dynamics of Robots and Spacecraft. 3 Credits.
An introduction to Lagrangian mechanics with application to robot and spacecraft dynamics and control. Topics include rigid body kinematics, efficient formulation of equations of motion, stability theory, and Hamilton’s principle.
Instructor(s): G. Chirikjian
Area: Engineering.

EN.530.425. Mechanics of Flight. 3 Credits.
Instructor(s): K. Phillips
Area: Engineering.

EN.530.426. Biofluid Mechanics. 3 Credits.
Course will cover selected topics from physiological fluid dynamics, including respiratory flow patterns, blood flow and pulse propagation, aerodynamics of phonation and speech, rheology of blood flow in the microcirculation, aquatic animal propulsion, and animal flight.
Instructor(s): R. Mittal
Area: Engineering.

EN.530.430. Applied Finite Element Analysis. 3 Credits.
This course will introduce finite element methods for analysis of solids, structures and heat transfer problems. Following topics will be considered. Procedure to defining a mechanics problem: governing equations, constitutive equations, boundary and initial value problems. Theory and implementation of the finite element methods for static analysis using linear elasticity. Finite element analysis (FEA) using ABAQUS software. Verification and validation, understanding uncertainty. Introduction to other FEA topics: structural elements, dynamic analysis, heat transfer and thermodynamics using ABAQUS.
The course will include assignments and a term project. The term project is mandatory for graduate students and will involve applying FEA to an engineering problem or a research problem, interpretation of results and documenting a term paper.
Prerequisites: Prerequisite: EN.350.291 OR AS.110.302, and matrix analysis and programming recommended.
Instructor(s): N. Daphalapurkar
Area: Engineering.
EN.530.432. Jet & Rocket Propulsion. 3 Credits.
The course covers associated aircraft and spacecraft and power generation. The first part reviews the relevant thermodynamics and fluid mechanics, including isentropic compressible flow, Rayleigh and Fanno lines, shock and expansion waves. Subsequently, the performance of various forms of aviation gas turbines, including turbo-jet, turbo-fan, turbo-prop and ram-jet engines are discussed, followed by component analyses, including inlet nozzles, compressors, combustion chambers, turbines and afterburners. Axial and centrifugal turbomachines are discussed on detail, including applications in aviation, power generation and liquid transport. The section on foundations of combustion covers fuels, thermodynamics of combustion, and energy balance. The last part focuses on rockets, including classification, required power for space flight, chemical rocket components, and combustion involving liquid and solid fuels.
Instructor(s): J. Katz
Area: Engineering.

EN.530.437. Energy and the Environment. 3 Credits.
This course focuses on topics of current and developing energy sources and their impact on the environment. It is an upper-level interdisciplinary course that draws on science and engineering topics from the core curriculum related to dynamics, thermodynamics, fluid mechanics and heat transfer, electrical and environmental engineering, and requires integration of understanding achieved in core studies. After the general introduction, the course will begin with a review of energy, energy conversion and thermodynamics related topics to provide a framework for the understanding of current and modern future technologies. After the discussion of fossil fuels and related energy and environmental topics, special attention will be devoted to modern trends in nuclear energy generation (generation IV nuclear reactors), renewable energy with emphasis on solar energy and hydrogen as energy carrier. Topics of sustainability and the environmental impact of energy consumption will be addressed.
Instructor(s): C. Herman
Area: Engineering, Natural Sciences.

EN.530.440. Computational Mechanics Of Biological Macromolecules. 3 Credits.
Biological macromolecules such as proteins and nucleic acids consist of thousands of atoms. Whereas crystallographic data of these molecules provide baseline information on their threedimensional structure, their biological function can depend to a great extent on mechanical characteristics such as conformational flexibility. In this course, we will examine numerical methods for modeling shape fluctuations in large biomolecules using coarse-grained elastic network models. The course will consist of lectures, reading papers, and performing computer projects. No prior knowledge of biochemistry or molecular biology is required.
Area: Engineering.

EN.530.441. Introduction to Biophotonics. 3 Credits.
The primary aim for this course is to explore the unique and diverse properties of light that makes it suited for diagnosis, imaging, manipulation and control of biological structure and function from the nanoscale to the tissue level. The course will focus on different optical spectroscopic and microscopic modalities that provide biochemical and morphological information, while introducing new ideas on analysis and interpretation of the acquired data. We will also discuss manipulation methods, including optical tweezers and laser scissors, and low-level light therapy. In all of these areas, the idea is to develop a basic understanding of the subject and to use it for finding solutions to real-world problems in healthcare. Discussions and open exchanges of ideas will be strongly emphasized.
Instructor(s): I. Barman
Area: Engineering.

EN.530.444. Computer-Aided Fluid Mechanics and Heat Transfer. 3 Credits.
Computer simulation has become an essential part of science and engineering and this course introduces the student to the use of computer simulation in the disciplines of heat transfer and fluid mechanics. The commercial software COMSOL is used a wide variety of problems, ranging from simple models for which analytical solutions are available, to complex, unsteady, multiphysics real-life problems. Problems will be solved by identifying proper governing equations and boundary conditions first, and then implementing these in the COMSOL environment. Applications will include heat conduction, convection and radiation, internal and external flows, with applications ranging from mechanical to biomedical and aerospace engineering.
Instructor(s): C. Herman
Area: Engineering.

EN.530.445. Introduction to Biomechanics. 3 Credits.
An introduction to the mechanics of biological materials and systems. Both soft tissue such as muscle and hard tissue such as bone will be studied as will the way they interact in physiological functions. Special emphasis will be given to orthopedic biomechanics. Recommended Course Background: EN.530.215/EN.530.216 and Lab or equivalent. If you have not taken this course or an equivalent, please contact the instructor before registering to ensure you have the appropriate background knowledge to succeed in this course.
Instructor(s): S. Belkoff
Area: Engineering.

EN.530.446. Experimental Methods in Biomechanics. 3 Credits.
An introduction to experimental methods used in biomedical research. Standard experimental techniques will be applied to biological tissues, where applicable and novel techniques will be introduced. Topics include strain gauges, extensometers, load transducers, optical kinematic tracking, digital image correlation, proper experimental design, calibration and error analysis. Of particular emphasis will be maintaining native tissue temperature and hydration. Laboratory will include “hands-on” testing.
Instructor(s): S. Belkoff
Area: Engineering, Natural Sciences.
EN.530.448. Biosolid Mechanics. 3 Credits.
This class will introduce fundamental concepts of statics and solid mechanics and apply them to study the mechanical behavior of bones, blood vessels, and connective tissues such as tendon and skin. Topics to be covered include concepts of small and large deformation, stress, constitutive relationships that relate the two, including elasticity, anisotropy, and viscoelasticity, and experimental methods. Recommended Course Background: AS.110.201 and AS.110.302, as well as a class in statics and mechanics
Instructor(s): T. Nguyen
Area: Engineering.

EN.530.451. Cell & Tissue Engineering Laboratory. 2 Credits.
Cell and tissue engineering is a field that relies heavily on experimental techniques. This laboratory course will consist of three six experiments that will provide students with valuable hands-on experience in cell and tissue engineering. Students will learn basic cell culture procedures and specialized techniques related to faculty expertise in cell engineering, microfluidics, gene therapy, microfabrication and cell encapsulation. Experiments include the basics of cell culture techniques, gene transfection and metabolic engineering, basics of cell-substrate interactions I, cell-substrate interactions II, and cell encapsulation and gel contraction. Co-listed with EN.580.451. Senior and Graduate students only; others Permission Required. Lab Fee: $100
Instructor(s): E. Haase; J. Wang.
Area: Engineering.

EN.530.452. Cell & Tissue Engineering Laboratory. 2 Credits.
This laboratory course will consist of three experiments that will provide students with valuable hands-on experience in cell and tissue engineering. Experiments include the basics of cell culture techniques, gene transfection and metabolic engineering, basics of cell-substrate interactions I, cell-substrate interactions II, and cell encapsulation and gel contraction. $100 lab fee will be charged. Co-listed with EN.580.452
Instructor(s): E. Haase; J. Wang
Area: Engineering.

EN.530.454. Manufacturing Engineering. 3 Credits.
An introduction to the various manufacturing processes used to produce metal and nonmetal components. Topics include casting, forming and shaping, and the various processes for material removal including computer-controlled machining. Simple joining processes and surface preparation are discussed. Economic and production aspects are considered throughout. Open only to seniors in Mechanical Engineering and Engineering Mechanics and other majors at all levels.
Instructor(s): Y. Ronzhes
Area: Engineering.

EN.530.457. Intro To Acoustics. 3 Credits.
This course is an introduction to the science of sound and its applications to music, speech communication, science, and engineering. Topics will include hearing, speech, wave propagation, microphones and loudspeakers, noise control, underwater sound, and room acoustics. Recommended Course Background: EN.530.327
Area: Engineering, Natural Sciences.

EN.530.464. Energy Systems Analysis. 3 Credits.
This course discusses the grid integration of renewable energy systems. The main emphasis is on grid level effects of renewable energy, particularly wind power systems. It begins with an introduction to basic power system concepts along with power flow analysis (and optimization). Then, important concepts for wind power systems are discussed. Following that, integration issues for wind power at the transmission level and solar cell integration at the distribution level are introduced. The last part of the course will focus on current research in these areas. Students will choose a system to research and present a project or literature review at the end of the term. Prior knowledge of optimization is helpful, but not required.
Instructor(s): D. Gayme
Area: Engineering.

EN.530.467. Thermal Design Issues for Aerospace Systems. 3 Credits.
This course deals with processes, systems, instruments, and equipment for aerospace systems. Issue of energy conversion and thermal design are emphasized. Topics include thermodynamic concepts and heat transfer processes for aerospace systems (with emphasis on radiation), the space environment, influence of gravity on heat transfer, power generation for space systems (energy sources, solar cell arrays, energy storage), thermal control (analysis techniques, design procedures, active versus passive design, heating and refrigeration), environmental effects.
Instructor(s): C. Herman
Area: Engineering.

EN.530.470. Space Vehicle Dynamics & Control. 3 Credits.
In this course we study applied spacecraft orbital and attitude dynamics and their impact on other subsystems. In the orbital dynamics part of the course, we discuss some the issues associated with orbital insertion, control and station keeping. Focus is on the two-body problem regime where conic solutions are valid. Orbit perturbations are also considered. For attitude dynamics, different attitude representations such as of direction cosines, quaternions, and angles are introduced. Then we look at the forces and moments acting on space vehicles. Attitude stability and control considerations are introduced.
Instructor(s): M. Ozimek; T. McGee
Area: Engineering.

EN.530.485. Physics and Feedback in Living Systems. 3 Credits.
The complex mechanisms of living systems cannot be reduced to a set of base pairs: genes are only one part of mystery of life. Rather, organisms must develop, move, interact, and function in their natural environment, and thus are constrained by the laws of physics. For example, during locomotion an animal must accelerate according to Newton’s laws by applying forces between itself and the environment. Beyond physical principles alone, biological systems extensively use feedback to enhance stability and facilitate adaptation in the presence of a changing world. This course examines the critical roles that physical principles and feedback mechanisms play in life, with special emphasis on animal locomotion and its control. Juniors and Seniors only.
Prerequisites: AS.110.109
Instructor(s): N. Cowan
Area: Engineering.

EN.530.491. Special Topics. 1 Credit.
Selected topics for third- and fourth-year students in mechanical engineering and other engineering departments. Offered by arrangement with faculty adviser and instructor in charge.
EN.530.495. Microfabrication Laboratory. 4 Credits.
This laboratory course is an introduction to the principles of microfabrication for microelectronics, sensors, MEMS, and other synthetic microsystems that have applications in medicine and biology. Course comprised of laboratory work and accompanying lectures that cover silicon oxidation, aluminum evaporation, photoresist deposition, photolithography, plating, etching, packaging, design and analysis CAD tools, and foundry services. Seniors only or Permission Required. Instructor(s): A. Andreou; J. Wang
Area: Engineering, Natural Sciences.

EN.530.525. Independent Research. 1 - 3 Credit.
Students pursue research problems individually or in pairs. Although the research is under the direct supervision of a faculty member, students are encouraged to pursue the research as independently as possible. Instructor(s): Staff.

EN.530.526. Independent Study. 1 - 3 Credit.
Students pursue research problems individually or in pairs. Although the research is under the direct supervision of a faculty member, students are encouraged to pursue the research as independently as possible. Instructor(s): Staff.

EN.530.527. Independent Study. 1 - 3 Credit.
Students pursue research problems individually or in pairs. Although the research is under the direct supervision of a faculty member, students are encouraged to pursue the research as independently as possible. Instructor(s): Staff.

EN.530.597. Research-Summer. 1 - 3 Credit.
Instructor(s): Staff.

EN.530.599. Independent Study. 1 - 3 Credit.
Instructor(s): Staff.

EN.530.600. MSE Graduate Research.
Instructor(s): Staff.

The course focuses on the optimal control of dynamical systems subject to constraints and uncertainty by studying analytical and computational methods leading to practical algorithms. Topics include calculus of variations, nonlinear local optimization, global stochastic search, dynamic programming, linear quadratic (gaussian) control, numerical trajectory optimization, model-predictive control. Advanced topics include approximate dynamic programming and optimal control on manifolds. The methods and algorithms will be illustrated through implementation of various simulated examples. Recommended Course Background: AS.110.201 and AS.110.302; experience with control systems; programming in MATLAB. Instructor(s): M. Kobilarov.

This course provides an introduction to the mathematical and theoretical foundations of the mechanics of solids and materials. We will begin with the mathematical preliminaries of continuum mechanics: vectors and tensors calculus, then introduce the kinematics of deformation and descriptions of stress in a continuum: Eulerian and Lagrangian descriptions, followed by conservation laws: mass, momentum, and energy balance, and entropy. These concepts will be applied to develop the concepts of constitutive relations: frame invariance, material symmetry, and dissipation. The second half of the class will be devoted to elasticity, both classical and finite elasticity, and solution methods for boundary value problems. Instructor(s): T. Nguyen.

EN.530.606. Mechanics of Solids and Materials II.
An overview of the area of the mechanics of solids and materials, with the intent of providing the foundation for graduate students interested in research that involves these disciplines. The course is based on the principles of continuum mechanics, and covers the fundamental concepts of elasticity, plasticity, and fracture as applied to materials. One objective is to get graduate students to the point that they can understand significant fractions of research seminars and papers in this area. This mathematically rigorous course emphasizes the setup and solution of boundary value problems in mechanics, and attempts to integrate the primary behaviors with deformation and failure mechanisms in materials. Special topics covered may include (depending on the interests of the student body) wave propagation, viscoelasticity, geomechanics or biomechanics. Instructor(s): J. El-Awady
Area: Engineering.

EN.530.610. Statistical Mechanics in Biological Systems.
Application of equilibrium and nonequilibrium concepts in statistical mechanics to biology is presented in some detail. Topics include many-body dynamics and equilibrium ensembles, thermodynamics and phase transitions, free energy functionals, computer simulations of biological systems, nonequilibrium model such as the Langevin equation and the Fokker-Planck equation, kinetic models of biochemical networks, Markov models of stochastic systems and pattern formation in nonequilibrium systems. Emphasis will be on quantitative understanding of biological problems. Instructor(s): S. Sun.

This course teaches in-depth and hands-on understanding of numerical methods for solid mechanics problems. The course begins with a review of the fundamental concepts of the finite element method for linear boundary value problems (BVP) and initial boundary value problems (IBVP) in solid mechanics. Then more advanced methods for nonlinear BVPs are presented and applied to problems of material inelasticity and finite elasticity. Topics covered include the strong and weak statements of the BVP, weighted residual methods, time integration, Newton-type methods for nonlinear problems, and error estimation and convergence. Instructor(s): T. Nguyen.

EN.530.616. Introduction to Linear Systems.
This course examines linear, discrete- and continuous-time, and multi-input-output systems in control and related areas. Least squares and matrix perturbation problems are considered. Topics covered include state-space models, stability, controllability, observability, transfer function matrices, realization theory, feedback compensators, state feedback, optimal regulation, observers, observer-based compensators, measures of control performance, and robustness issues using singular values of transfer functions. ME EN.530.616 can be used to fulfill the requirement of BME EN.580.616 or ECE EN.520.601.

EN.530.620. Robot Sensors and Actuators (Graduate).
Introduction to modeling and use of actuators and sensors in mechatronic design. Topics include electric motors, solenoids, micro-actuators, position sensors, and proximity sensors. Instructor(s): L. Whitcomb.

EN.530.621. Fluid Dynamics I.
EN.530.622. Fluid Dynamics II.

EN.530.624. Dynamics of Robots and Spacecraft (Graduate).
An introduction to Lagrangian mechanics with application to robot and spacecraft dynamics and control. Topics include rigid body kinematics, efficient formulation of equations of motion, stability theory, and Hamilton’s principle. Instructor(s): G. Chirikjian.

EN.530.625. Turbulence.

Nonlinear dynamical systems theory are discussed in the context of mechanics, engineering and biological problems. Concepts such as stability, bifurcations, limit cycles and chaos are illustrated using simple analytic theories as well as practical examples. Emphasis are placed on developing intuition using analytic approaches and simple numerical calculations. The course is appropriate for graduate students with foundational knowledge of solid and fluid mechanics, and some notions of statistical mechanics and biological concepts. Instructor(s): D. Gayme; S. Sun.

EN.530.630. Applied Finite Element Analysis.
This course will introduce finite element methods for analysis of solids, structures and heat transfer problems. Following topics will be considered. Procedure to defining a mechanics problem: governing equations, constitutive equations, boundary and initial value problems. Theory and implementation of the finite element methods for static analysis using linear elasticity. Finite element analysis (FEA) using ABAQUS software. Verification and validation, understanding uncertainty. Introduction to other FEA topics: structural elements, dynamic analysis, heat transfer and thermodynamics using ABAQUS. The course will include assignments and a term project. The term project is mandatory for graduate students and will involve applying FEA to an engineering problem or a research problem, interpretation of results and documenting a term paper. Recommended Course Background: Course(s) in Linear Algebra, Differential Equations required; matrix analysis / algebra and programming. Instructor(s): N. Daphalapurkar.

In the first part of the course, the focus is on steady and transient two- and three-dimensional heat conduction. Energy balances and the energy equation are reviewed, and mathematical methods for solving partial differential equations are discussed. Heat transfer with a phase change, and contemporary conduction problems are discussed. In the second part of the course radiative properties and thermal radiation exchange are reviewed. The equation of transfer for participating media is developed, and simplification is discussed. Instructor(s): C. Herman.

EN.530.632. Convection.
This course begins with a review of the phenomenological basis of the constitutive models for energy and mass flux. Then, using the transport theorem, general conservation and balance laws are developed for mass, species, energy, and entropy. Scaling analysis is used to determine when simplifications are justified, and simplified cases are solved analytically. Experimental results and correlations are given for more complex situations. Free, mixed, and forced internal and external convection are studied, and convection with a phase change is also explored. Instructor(s): L. Whitcomb.

This course focuses on advanced topics related to energy and thermodynamics. The objective of this course is to provide a thorough understanding of the environmental impacts related to energy conversion systems. The use of the second law of thermodynamics is introduced to quantify the performance of energy conversion systems. Topics such as global warming, alternative energy sources (solar, wind power, geothermal, tides, etc.) and new technology (fuel cells and hydrogen economy) and resources and sustainable development are addressed. A section of the course is devoted to current trends in nuclear energy generation and environmental issues associated with it. Instructor(s): L. Whitcomb.
This course is a survey of group theory with an emphasis on applications in mechanical design research. In particular, the representation theory of finite groups, compact Lie groups, and certain noncompact unimodular groups is reviewed, and Fourier analysis on these groups is applied as a tool in design problems. The concentration is on applications in CAD, discrete and computational geometry, and robotics. Specific applications include modern interpolation, deformation of solid models, and pattern matching.
Instructor(s): G. Chirikjian.

EN.530.649. System Identification.
This course will cover several fundamental approaches system identification, including spectral, prediction error, subspace, and "online" (adaptive) identification methods. The emphasis will be on LTI systems, and some time will be devoted to system identification for classes of nonlinear dynamical systems, such as those that are linear in parameters.
Instructor(s): G. Chirikjian.

EN.530.653. Advanced Systems Modeling.
This course covers the following topics at an advanced level: Newton’s laws and kinematics of systems of particles and rigid bodies; Lagrange’s equations for single- and multi-degree-of-freedom systems composed of point masses; normal mode analysis and forced linear systems with damping, the matrix exponential and stability theory for linear systems; nonlinear equations of motion: structure, passivity, PD control, noise models and stochastic equations of motion; manipulator dynamics: Newton-Euler formulation, Langrange, Kane’s formulation of dynamics, computing torques with O(n) recursive manipulator dynamics: Luh-Walker-Paul, Hollerbach, O(n) dynamic simulation: Rodrigues-Jain-Kreutz, Saha, Fixman. There is also an individual course project that each student must do which related the topics of this course to his or her research.
Instructor(s): G. Chirikjian.

EN.530.654. Advanced Systems Modeling II.
A continuation of EN.530.653, this course covers the following topics at an advanced level: Newton’s laws of kinematics of systems of particles and rigid bodies; Lagrange’s equations for single- and multi-degree-of-freedom systems composed of point masses; normal mode analysis and forced linear systems with damping, the matrix exponential and stability theory for linear systems; nonlinear equations of motion; structure, passivity, PD control, noise models and stochastic equations of motion; manipulator dynamics: Newton-Euler formulation, Langrange, Kane’s formulation of dynamics, computing torques with O(n) recursive manipulator dynamics: Luh-Walker-Paul, Hollerbach, O(n) dynamic simulation: Rodrigues-Jain-Kreutz, Saha, Fixman. There is also an individual course project that each student must do which relates the topics of this course to his or her research.
Instructor(s): G. Chirikjian.

EN.530.656. Deformation Mechanisms.
An advanced course on the microscopic mechanisms that control the mechanical behavior of materials. Methods and techniques for measuring, understanding, and modeling: plasticity, creep, shear banding, and fracture will be addressed. Subjects to be covered include dislocation theory and strengthening mechanisms, high temperature diffusion and grain boundary sliding, shear localization, void formation, ductile rupture, and brittle fracture.
Instructor(s): K. Hemker.

EN.530.657. Physical Acoustics.
This course provides a foundation for modern acoustics including derivation of wave equation and its solution in various media, sound radiation, sound propagation, instrumentation and sound/structure interaction. Specific applications of focus will be determined by the research interests of the students in the class.
Instructor(s): A. Prosperetti.

An advanced course on the theoretical treatment and modeling of the mechanisms of deformation in solids at intermediate and high temperatures. Topics include diffusion of point defects; vacancy migration; diffusion of solutes; cooperative and diffusion-less transformations; dislocation obstacle interactions; dislocation climb and cross-slip; friction forces in metals, alloys and covalent crystals.
Instructor(s): J. El-Awady.

EN.530.660. Computational Analysis of Stochastic Processes.
This class will cover stochastic processes (including both discrete and continuous time, and including both discrete and continuous state), leading to a rigorous treatment of stochastic differential equations and filtering, emphasizing computation. The class will draw from examples relevant to engineering, such as the Kalman filter. The course will comprehensively, but rapidly review all needed material in probability and statistics.
Prerequisites: 580.616 or 530.616 Linear Dynamical Systems.

EN.530.661. Applied Mathematics for Engineering.
This course presents a broad survey of the basic mathematical methods used in the solution of ordinary and partial differential equations: linear algebra, vector calculus, power series, Fourier series, separation of variables, integral transforms.
Instructor(s): M. Hilpert.

This course discusses the grid integration of renewable energy systems. The main emphasis is on grid level effects of renewable energy, particularly wind power systems. It begins with an introduction to basic power system concepts along with power flow analysis (and optimization). Then, important concepts for wind power systems are discussed. Following that, integration issues for wind power at the transmission level and solar cell integration at the distribution level are introduced. The last part of the course will focus on current research in these areas. Students will choose a system to research and present a project or literature review at the end of the term. Prior knowledge of optimization is helpful, but not required.
Instructor(s): D. Gayme.

EN.530.671. Statistical Mechanics in Biological Systems.
Principles of statistical physics are discussed in the context of biological problems. After an introduction, topics covered will include equilibrium theory of liquids and polymers, theory of chemical reactions in complex environments, stochastic models, dynamics of membranes and channels, theory of biological motors, computer simulations of liquids and proteins.
Instructor(s): S. Sun.

EN.530.672. Biosensing & BioMEMS.
The course discusses the principles of biosensing and introduces micro- and nano-scale devices for fluidic control and molecular/cellular manipulation, measurements of biological phenomena, and clinical applications.
Instructor(s): J. Wang.
EN.530.676. Locomotion in Mechanical and Biological Systems.
Advanced graduate course on the mechanics of locomotion in animals and machines, and neural control of locomotion. Terrestrial, aquatic, and aerial locomotion modes are considered. Topics include dynamical systems theory, linear and nonlinear differential equations, Poincaré and Floquet theory, and system identification techniques. Recommended Course Background: graduate course in robotics, controls, or dynamical systems theory, and a basic understanding of probability theory; or permission of instructor.
Instructor(s): N. Cowan.

EN.530.678. Nonlinear Control and Planning in Robotics.
The course starts with a brief introduction to nonlinear systems and covers selected topics related to model-based trajectory planning and feedback control. Focus is on applications to autonomous robotic vehicles modeled as underactuated mechanical systems subject to constraints such as obstacles in the environment. Topics include: nonlinear stability, stabilization and tracking, systems with symmetries, differential flatness, backstepping, probabilistic roadmaps, stochastic optimization. Recommended Course Background: multi-variable/ differential calculus, AS.110.302, AS.110.201, undergraduate linear control, basic probability theory.
Instructor(s): M. Kobilarov.

EN.530.681. TEM: Practice and Applications.
A lab and lecture course covering the practical aspects of transmission electron microscopy. Electron diffraction, image formation, and analytical techniques are explained, and students are given an opportunity to gain hands-on microscopy experience.

The course covers fracture mechanics and fracture toughness of materials. Topics include linear elastic fracture mechanics, fracture fracture, the J-integral, and system identification techniques. Recommended Course Background: graduate course in robotics, controls, or dynamical systems theory, and a basic understanding of probability theory; or permission of instructor.
Instructor(s): S. Ghosh.

Hydrodynamic linear stability theory is developed and applied to a variety of flow problems using analytical techniques and numerical methods. Necessary and sufficient conditions for flow stability are derived. Canonical examples are used to introduce various concepts including, e.g. temporal and spatial analyses, asymptotic and transient flow response, convective and absolute instability, global methods, and direct stability analysis.
Prerequisites: EN.530.621 AND EN.530.622 or equivalent course with permission of instructor.
Instructor(s): T. Zaki.

This course will introduce students to advanced concepts in computational fluid dynamics (CFD) including fast linear sparse solvers, and curvilinear, unstructured and Cartesian grid based methods for complex flows. Students will also learn how to develop fast flow solvers on large-scale shared and distributed memory computers.
Area: Engineering.

EN.530.707. Robot System Programming.
This course seeks to introduce students to open-source software tools that are available today for building complex experimental and fieldable robotic systems. The course is grouped into four sections, each of which building on the previous in increasing complexity and specificity: tools and frameworks supporting robotics research, robotics-specific software frameworks, integrating complete robotic systems, and culminates with an independent project of the student’s own design using small mobile robots or other robots in the lab. Students will need to provide a computer or a virtual-box (with at least a few GB of memory and a few tens of GB of disc space) running Ubuntu 12.04 (or one of its variants). Students should have an understanding of intermediate programming in C/C++ (including data structures and dynamic memory allocation) Familiarity with Linux programming. Familiarity with software revision control systems (e.g. subversion, mercurial, git), linear algebra. Recommended Course Background: EN.530.646 and EN.600.436.
Instructor(s): L. Whitcomb.

EN.530.700. Finite Element Methods.
Variational methods and mathematical foundations, Direct and Iterative solvers, 1-D Problems formulation and boundary conditions, Trusses, 2-D/ 3D Problems, Triangular elements, QUAD4 elements, Higher Order Elements, Element Pathology, Improving Element Convergence, Dynamic Problems.
Instructor(s): S. Ghosh.

An advanced examination of fracture mechanisms in ductile and brittle materials. Both the mechanics and the materials aspects are covered with importance placed on the synthesis of the two approaches. Topics include linear elastic fracture mechanics, ductile fracture, the J-integral, atomistic aspects of fracture in polycrystalline materials, fracture in ceramics and polymers, influence of the material microstructure on fracture toughness and ductility in FCC and BCC materials.

EN.530.748. Stress Waves, Impacts and Shockwaves.
Instructor(s): K. Ramesh.
The course provides a basic understanding of nanomaterials and nanomechanics. Develops the necessary background in mechanics, mechanical properties and modeling to understand the mechanics of nanomaterials and related problems in nanomechanics and nanotechnology. We will also examine the mechanics of nanoscale assemblies and multiscale structures used for investigating nanoscale phenomena. Each student will be expected to complete a paper on a research topic chosen together with the instructor. A mechanics background is NOT required to take this course.

EN.530.759. Research Seminar in Plasticity and Failure.
A weekly research seminar featuring ongoing research as well as reviews of new papers of interest in the general areas of plasticity and failure. The course will have an emphasis on dynamic phenomena, but will consider both engineering materials and biological systems. Students will be expected to make two presentations during the semester. Permission of instructor and advisor required.
Instructor(s): K. Ramesh.

EN.530.762. Advanced Math Methods for Engineers.
Instructor(s): A. Prosperetti.

Elementary introduction to numerical methods for the solution of fundamental problems in engineering. Computer assignments requiring programming.
Instructor(s): R. Mittal.

EN.530.767. Computational Fluid Dynamics.
Advanced introduction to finite-difference and finite-volume approaches to modeling incompressible flows. Computer project requiring programming.

EN.530.772. Non-Linear Finite Elements.
This course will discuss state of the art theoretical developments and modeling techniques in nonlinear computational mechanics, for problems with geometric and material nonlinearities. Contact-friction and other heterogeneous materials like composites and porous materials will be considered. A wide variety of applications in different disciplines, e.g. metal forming, composite materials, polycrystalline materials will be considered. Co-listed with EN.560.772.
Instructor(s): S. Ghosh.

EN.530.773. Topics in Applied Mathematics Engineering.
Instructor(s): A. Prosperetti.

EN.530.790. Advanced Finite Element Methods and Multi-Scale Methods.
Instructor(s): S. Ghosh.

EN.530.800. Independent Study.
Instructor(s): Staff.

EN.530.801. Graduate Research.
Instructor(s): Staff.

EN.530.802. Graduate Research.
Instructor(s): Staff.

EN.530.803. Mechanical Engineering Seminar.
Instructor(s): S. Sun.

EN.530.804. Mechanical Engineering Seminar.
Instructor(s): S. Sun.

Instructor(s): J. Katz.

EN.530.808. Graduate Seminar in Fluid Mechanics.
Instructor(s): J. Katz.

Instructor(s): J. El-Awady.

EN.530.897. Research-Summer.
Instructor(s): Staff.

EN.530.899. Independent Study-Summer.
Instructor(s): Staff.

Cross Listed Courses

Physics Astronomy

AS.171.321. Introduction to Space, Science, and Technology. 3 Credits.
Topics include space astronomy, remote observing of the earth, space physics, planetary exploration, human space flight, space environment, orbits, propulsion, spacecraft design, attitude control and communication. Crosslisted by Departments of Earth and Planetary Sciences, Materials Science and Engineering and Mechanical Engineering. Recommended Course Background: AS.171.101-AS.171.102 or similar; AS.110.108-AS.110.109.
Instructor(s): S. McCandliss; S. Murray
Area: Engineering, Natural Sciences.

General Engineering

Instructor(s): C. Meneveau.

EN.500.745. Seminar in Computational Sensing and Robotics.
Seminor series in robotics. Topics include: Medical robotics, including computer-integrated surgical systems and image-guided intervention. Sensor based robotics, including computer vision and biomedical image analysis. Algorithmic robotics, robot control and machine learning. Autonomous robotics for monitoring, exploration and manipulation with applications in home, environmental (land, sea, space), and defense areas. Biorobotics and neuromechanics, including devices, algorithms and approaches to robotics inspired by principles in biomechanics and neuroscience. Human-machine systems, including haptic and visual feedback, human perception, cognition and decision making, and human-machine collaborative systems. Cross-listed Mechanical Engineering, Computer Science, Electrical and Computer Engineering, and Biomedical Engineering.
Instructor(s): L. Whitcomb; P. Kazanzides.
Cross-listed with Mechanical Engineering.
Instructor(s): J. Guest.

Electrical Computer Engineering
EN.520.270. Introduction to Renewable Energy Engineering. 3 Credits.
This course provides an introduction to the science and engineering of renewable energy technologies. The class will begin with an overview of today's energy landscape and proceed with an introduction to thermodynamics and basic heat engines. Specific technologies to be discussed include photovoltaics, fuel cells and hydrogen, biomass, wind power and energy storage. The class should be accessible to those from a variety of science and engineering disciplines. Recommended Course Background: Introductory Physics and Calculus.
Instructor(s): S. Thon
Area: Engineering.

EN.520.353. Control Systems. 3 Credits.
Modeling, analysis, and an introduction to design for feedback control systems. Topics include state equation and transfer function representations, stability, performance measures, root locus methods, and frequency response methods (Nyquist, Bode).
Instructor(s): D. Tarraf
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.627. Photovoltaics and Energy Devices.
This course provides an introduction to the science of photovoltaics and related energy devices. Topics covered include basic concepts in semiconductor device operation and carrier statistics; recombination mechanisms; p-n junctions; silicon, thin film, and third generation photovoltaic technologies; light trapping; and detailed balance limits of efficiency. Additionally, thermophotovoltaics and electrical energy storage technologies are introduced. A background in semiconductor device physics (EN.520.485, or similar) is recommended.
Instructor(s): S. Sarma.

Civil Engineering
EN.560.201. Statics & Mechanics of Materials. 4 Credits.
Basic principles of classical mechanics applied to the equilibrium of particles and rigid bodies at rest, under the influence of various force systems. In addition, the following topics are studied: free body concept, analysis of simple structures, friction, centroids and centers of gravity, and moments of inertia. Includes laboratory experience. Co-listed with EN.530.201. Recommended Course Background: AS.171.101, or EN.530.103/EN.530.104 or instructor permission.
Instructor(s): R. Sangree
Area: Engineering.

Geography Environmental Engineering
EN.570.661. Applied Math For Engineer.
This course presents a broad survey of the basic mathematical methods used in the solution of ordinary and partial differential equations: linear algebra, power series, Fourier series, separation of variables, integral transforms.
Instructor(s): M. Hilpert.

Biomedical Engineering
EN.580.451. Cell and Tissue Engineering Lab. 3 Credits.
Cell and tissue engineering is a field that relies heavily on experimental techniques. This laboratory course will consist of three six experiments that will provide students with valuable hands-on experience in cell and tissue engineering. Students will learn basic cell culture procedures and specialized techniques related to faculty expertise in cell engineering, microfluidics, gene therapy, microfabrication and cell encapsulation. Experiments include the basics of cell culture techniques, gene transfection and metabolic engineering, basics of cell-substrate interactions I, cell-substrate interactions II, and cell encapsulation and gel contraction. Co-listed with EN.530.451. Senior and Graduate students only; others, instructor permission required. Fall semester only.
Lab Fee: $100
Instructor(s): E. Haase
Area: Engineering, Natural Sciences.

EN.580.616. Introduction to Linear Dynamical Systems.
This course examines linear, discrete- and continuous-time, and multi-input-output systems in control and related areas. Least squares and matrix perturbation problems are considered. Topics covered include state-space models, stability, controllability, observability, transfer function matrices, realization theory, feedback compensators, state feedback, optimal regulation, observers, observer-based compensators, measures of control performance, and robustness issues using singular values of transfer functions. BME EN.580.616 can be used to fulfill the requirement of ME EN.530.616 or ECE EN.520.601.
Instructor(s): S. Sarma.

Entrepreneurship and Management
EN.660.461. Engineering Business and Management. 3 Credits.
An introduction to the business and management aspects of the engineering profession, project management, prioritization of resource allocation, intellectual property protection, management of technical projects, and product/production management. Preference will be given to Mechanical Engineering students. No audits. Recommended Course Background: EN.660.105
Instructor(s): I. Izenberg; M. Agronin
Area: Engineering.

NanoBio Technology
The Institute for NanoBioTechnology (INBT) is a Johns Hopkins University center for integrated nanobiotechnology research, education, and outreach. Launched in May 2006 with funding from NASA, the National Science Foundation, and the Howard Hughes Medical Institute, INBT aims to revolutionize healthcare and medicine by bringing together internationally renowned faculty expertise, students, and world-class research facilities in engineering, the physical sciences, medicine, and public health to create groundbreaking technologies. Supportive funding also has been provided by the Johns Hopkins School of Medicine, Whiting School of Engineering, Krieger School of Arts and Sciences, and Bloomberg School of Public Health. INBT collaborates with industry through its Corporate Partnership Program, which is open to companies involved in all aspects of nanobiotechnology. INBT headquarters are located in 100 Croft Hall on the Homewood campus. Laboratory facilities and faculty are located at several Johns Hopkins locations. Examples of INBT research include the development of new tools and techniques to probe biological systems at the molecular, cellular, and tissue levels, that will provide new insight into the mechanisms of disease, and the
development of new diagnostic and therapeutic platforms for improved
diagnosis, prevention, and treatment of disease.

Education programs at INBT are designed to foster the next wave of
nanobiotechnology innovation. Goals include training a new generation of
scientists and engineers who are better able to work between
physical sciences/engineering fields and life sciences/medical fields
and creating an entrepreneurial environment for students. INBT
facilitates a Nano-Bio predoctoral training program that provides a
Certificate of Advanced Study in Nanobiotechnology for students
who complete 13 lecture/tutorial/laboratory courses along with at
least eight semesters of research from the home department. The
Cancer Engineering Predoctoral program trains students to study and
model cancer motility and the biophysical forces involved in
metastasis. Additional nanobiotechnology research opportunities exist
through INBT’s summer Research Experience for Undergraduates
(REU) and International Research Experience for Students (IRES), both
funded by NSF. Students from any major may learn the techniques of
science writing or animation for nanotechnology and medicine through
independent study.

The Nano-Bio Graduate Training program is recognized by the National
Institutes of Health and the National Science Foundation as an
innovative new approach to multidisciplinary training, integrating
research and education. It combines traditional disciplinary coursework
and laboratory training with peer-to-peer teaching, co-advising and
professional development.

• earn an accredited Certificate of Advanced Study in
  Nanobiotechnology (for students who complete 13 lecture/tutorial/
laboratory courses along with at least eight semesters of research
  from their home department)
• obtain a PhD from participating departments such as Biomedical
  Engineering, Materials Science and Engineering, and Physics. All
  Science and Engineering students are encouraged to apply.
• be co-advised by faculty experts from outside as well as inside your
  specialty
• work in a variety of lab setting and build collaborative skills

Program Requirements
Nano-Bio graduate training students take two core courses and one lab
course. They learn alongside other INBT-sponsored students in cross-
disciplinary journal clubs. To enhance their graduate experience, they
attend professional development seminars and present research at the
annual Nano-Bio Symposium. Students are given the opportunity to
participate in research collaborations with industry partners.

Course Requirements. Students must complete the Nanobiotechnology
graduate training program course requirements.

PhD Thesis Research. A student’s PhD thesis research combines
nanosciences and biology/medicine. Students must submit a thesis
proposal to the INBT Educational Administrator at the start their thesis
research. The thesis proposal must be approved. Since student are
encouraged to have two faculty research advisors with complimentary
expertise in physical sciences/engineering and biology/medicine, it is
likely that the student will have desk space in both research groups.

Other Program Requirements. Students are expected to present their
research at the annual INBT research symposium.

Home Department Requirements. Students must complete the PhD
requirements in their home departments.

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• Courses
• Requirements

Eligibility / How to Apply
Prospective students must apply to and be accepted by a participating
department before pursuing this predoctoral program. For additional
information, contact Ashanti Edwards at aedwards@jhu.edu or
(410)516-6572. Women and minorities are encouraged to apply.

For current course information and registration go to https://isis.jhu.edu/
classes/

Courses
EN.670.495. Animation in Nanotechnology & Medicine. 3
Credits.
Instructor(s): P. Searson
Area: Engineering, Natural Sciences.

EN.670.497. Animation in Nanotechnology & Medicine. 3
Credits.
This course involves the use of animation to visualize scientific
processes in nanotechnology and medicine. Animation is becoming an
increasingly important tool in both research and education, especially
in fields such as nanobiotechnology that involve complex processes and
occur at multiple length scales. Understanding of the subject matter
is gained through interaction with faculty and graduate students in
research groups in the Institute for NanoBioTechnology at Hopkins.
The course follows the basic animation pipeline from concept to post
production.
Instructor(s): M. Rietveld.

EN.670.599. Communication for Scientists and Engineers: Video
News Releases.
Using digital video and recording equipment, students learn to
communicate science and engineering research news to non-technical
audiences, such as the mass media. Lectures focus on rationale behind
and best practices for effective communication and include guest
presentations by media professionals. Students also learn methods of
presenting research to a variety of audiences and how to
prepare themselves for interviews with journalists. Students will work
in groups to write, film, and edit a video news release on a scientific or
engineering topic aimed at a general audience.
Instructor(s): M. Spiro.

Students in the INBT training grant programs study and present topics
in nanotechnology applied to biology from the scientific literature.
Instructor(s): P. Searson.

EN.670.616. Introduction to NanoBio Tutorials II.
Ph.D. students and postdoctoral fellows in the HHMI/IGERT/PSOC/CCNE/
CNTC training programs study and present topics in nanobiotechnology
for biology and medicine.
Instructor(s): D. Wirtz.
As a follow-up to Intro to NanoBio Tutorials, INBT training grant students will conduct extensive article reviews on topics related to the research being conducted in their labs (i.e., nanoparticles synthesis, quantum dots, cancer, etc.). Topics will also be related to nanotechnology applied to biology from scientific literature. Students will present literary reviews, discussions and formal presentations on articles as they relate to research or projects they wish to partake in. Recommended Course Background: EN.670.615/EN.670.616
Instructor(s): P. Searson.

This course will cover the physics and chemistry relevant to the design, synthesis, and characterization of nanoparticles. Topics include nanoparticle synthesis, functionalization, surface engineering, and applications in diagnostics and therapeutics. The properties of semiconductor quantum dots and magnetic nanoparticles will be reviewed along with techniques for nanoparticle manipulation, particle tracking, and bio-microhorology. Patternning tools including soft lithography, optical lithography, e-beam lithography, and template lithography will be discussed. Electron and scanning probe microscopy will be reviewed. Cross-listed with Materials Science & Engineering and Chemical & Biomolecular Engineering.
Instructor(s): C. Chien; J. McCaffery; M. Bevan; N. Markovic; P. Searson.

EN.670.620. Fundamental Laboratory Principles of Nanobiotechnology.
This laboratory course introduces students to fundamental concepts of materials science and cell engineering required for research in biological nanoscience. Topics covered include cell culture, quantitative light microscopy, and synthesis of nanoparticles. This laboratory course is a prerequisite for EN.500.621.

This course introduces students to concepts and laboratory techniques in nanobiotechnology. The focus of the laboratory is on nanoparticle carriers for drug delivery and markers for imaging. The laboratory involves the synthesis of nanoparticles using solution phase techniques and characterization by optical techniques such as dynamic light scattering and absorbance spectroscopy. Strategies for functionalization of nanoparticles are covered with focus on methods for attaching biomolecules. The basic aspects of cell culture and optical microscopy techniques will be covered. Nanoparticles functionalized with a drug or gene will be used to perform transfection experiments and compared to standard techniques.
Prerequisites: Prerequisite EN.670.620
Instructor(s): D. Wirtz.

As a follow-up to NanoBio Tutorials, INBT training grant students will present scientific articles and reviews related to their current research project. Topics will also be related to nanotechnology applied to biology from scientific literature. At this time all students should be assigned a project and be able to engage participating students in their field of study. Recommended Course Background: EN.670.615, EN.670.616, EN.670.618, EN.670.619, and Introduction to NanoBio Tutorials and NanoBio Tutorials.
Instructor(s): P. Searson
Area: Engineering, Natural Sciences.

INBT training grant students only. Recommended Course Background: EN.670.615, EN.670.616, EN.670.618, and EN.670.619
Instructor(s): D. Wirtz
Area: Engineering, Natural Sciences.

This course is to allow students pursuing a certificate in nanobiotechnology the opportunity each week to review and present on special research topics. The papers and discussions will cover the latest developments in various researches. Recommended Course Background: EN.670.615, EN.670.616, EN.670.618, EN.670.619, EN.670.622, and EN.670.623. Certificate of Advanced Studies in Nanobiotechnology only.
Instructor(s): D. Wirtz
Area: Engineering, Natural Sciences.

This course is to allow INBT training grant fellows the opportunity each week to review and present on special research topics. The papers and discussions will cover the latest developments in various researches. INBT training grant students only. Recommended Course Background: EN.670.615, EN.670.616, EN.670.618, EN.670.619, EN.670.622, and EN.670.623.
Instructor(s): P. Searson
Area: Engineering, Natural Sciences.

EN.670.627. Commercializing Emerging Technologies.
This course will provide "hands-on" experience for pre-doctoral students in identifying viable translational commercialization pathways and establishing credible business plans for new technologies. Students will be challenged to identify possible commercial opportunities associated with their own research, to complete a market analysis, develop a project plan and to draft a business plan suitable for presentation to potential investors. While key elements of each step will be described briefly by experts in the field the focus will be on executing the critical steps rather than on business theory. Although each student will be expected to work on an individual project, the course structure will encourage class support and feedback. At the end of the course students will be expected to develop a business plan and funding proposal suitable to present to a panel of venture experts.
Instructor(s): P. Searson; T. Fekete.

EN.670.628. NanoBio Tutorials II.
As a follow-up to Intro to NanoBio Tutorials, INBT training grant students will conduct extensive article reviews on topics related to the research being conducted in their labs (i.e., nanoparticles synthesis, quantum dots, cancer, etc.). Topics will also be related to nanotechnology applied to biology from scientific literature. Students will present literary reviews, discussions and formal presentations on articles as they relate to research or projects they wish to partake in. Recommended Course Background: EN.670.615/EN.500.615 and EN.670.616/EN.500.616
Instructor(s): D. Wirtz.

EN.670.629. Cancer Nanotechnology Training Center (CNTC) Tutorial.
This course is to allow CNTC fellows the opportunity each week to review and present on cancer research topics. The papers and discussions covered will be on areas of human cancers and nanotechnology and include the latest developments from studies of model organisms.
Instructor(s): P. Searson.
EN.670.630. Cancer Nanotechnology Training Center (CNTC) Tutorial.
This course is to allow CNTC fellows the opportunity each week to review and present on cancer research topics. The papers and discussions covered will be on areas of human cancers and nanotechnology and include the latest developments from studies of model organisms.
Instructor(s): D. Wirtz.

EN.670.695. Animation in Nanotechnology & Medicine.
Instructor(s): P. Searson
Area: Engineering, Natural Sciences.

This course involves the use of animation to visualize scientific processes in nanotechnology and medicine. Animation is becoming an increasingly important tool in both research and education, especially in fields such as nanobiotechnology that involve complex processes and occur at multiple length scales. Understanding of the subject matter is gained through interaction with faculty and graduate students in research groups in the Institute for NanoBioTechnology at Hopkins. The course follows the basic animation pipeline from concept to post production.
Instructor(s): M. Rietveld.

This independent design course presents students with engineering needs in developing countries. Teams of students will work together to design solutions for the proposed needs that are defined in part with our global partners. Students will have to rigorously research the local community and cultural context of the proposed problems to design solutions. Prototypes will be built and some teams may test prototypes in the local community to optimize solution. Permission of instructor.
Instructor(s): J. Elisseeff
Area: Engineering.

Professional Communication

Strong communications skills are the key to success in any discipline. The Professional Communication Program (PCP) offers Johns Hopkins undergraduates a variety of hands-on courses designed to develop their abilities to research, write, speak, and display data persuasively. Starting with the highly popular foundation courses Professional Communication and Oral Presentations, the program expands to specialized workshops and seminars on topics ranging from science and research writing, engineering culture and ethics to entrepreneurship, public relations and social media. PCP students create journals, write blogs, present pitches and posters, and conduct multimedia PR campaigns. All PCP courses are small—20 or fewer students—ensuring that everyone receives the skilled attention necessary to grow as a writer and presenter. Since many of our students are international, PCP offers English as a Second Language (ESL) sections of Professional Communication and Oral Presentations as well as free ESL tutoring.

For current faculty and contact information go to http://eng.jhu.edu/wse/cle/page/our_people

Faculty

Program Director
Julie Reiser

Senior Lecturer, Director of The Professional Communication Program: technical communication, oral presentations, research writing, dissertation writing, American literature and critical theory.

Full Time Faculty
Bob Graham
Lecturer: entrepreneurship, professional communications, oral presentations.

Leslie Kendrick
Senior Lecturer: marketing strategy, integrated marketing communications, sports marketing, international marketing.

Charlotte O’Donnell
Lecturer: oral presentations, professional communication, visual rhetoric.

Keith Quesenberry
Lecturer: integrated marketing communications, advertising, social media marketing, online blogging and copywriting, creative strategy, digital media, communications law and ethics.

Eric Rice
Senior Lecturer & Director of Graduate Programs: organizational behavior, social entrepreneurship, management, negotiation and conflict management, leadership, public speaking, professional writing.

Pamela Sheff
Senior Lecturer & Director of Master of Science in Engineering Management Program: business and technical communication, marketing, public relations, science and scientific writing, oral presentations, higher education in prisons, community-based learning, entrepreneurship.

Part Time Faculty
Michael Agronin
Lecturer: product development.

Jennifer Bernstein
Lecturer: professional communication.

Laura Davis
Lecturer: professional communication for ESL and oral presentations for ESL.

Marci DeVries
Lecturer: marketing.

Kevin Dungey
Senior Lecturer: oral presentations.

Jason Heiserman
Lecturer: oral presentations.

Nicole Jerr
Lecturer: professional communication.

Theresa Jones
Lecturer: marketing.

Andrew Kulanko
Senior Lecturer: oral presentations.

Denise Link-Farajali
Lecturer: professional communication, financial math for ESL, research writing for ESL.
Kimberly Manns
Lecturer: marketing.
Sinan Ozdemir
Sinan Ozdemir Lecturer: professional communication.
Jay Thompson
Lecturer: professional communication.
Caroline Wilkins
Lecturer: professional communication.

For current course information and registration go to https://isis.jhu.edu/classes/

Courses

EN.661.110. Professional Communication for Science, Business & Industry. 3 Credits.
This course teaches students to communicate effectively with a wide variety of specialized and non-specialized audiences. Projects include production of resumes, cover letters, proposals, instructions, reports, and other relevant documents. Class emphasizes writing clearly and persuasively, creating appropriate visuals, developing oral presentation skills, working in collaborative groups, giving and receiving feedback, and simulating the real world environment in which most communication occurs. No audits.
Instructor(s): Staff
Writing Intensive.

EN.661.111. Professional Communication for ESL Students. 3 Credits.
This course teaches ESL students to communicate effectively with a wide variety of specialized and non-specialized audiences and will provide ESL-specific help with grammar, pronunciation, and idiomatic expression in these different contexts. Projects include production of resumes, cover letters, proposals, instructions, reports, and other relevant documents. Class emphasizes writing clearly and persuasively, creating appropriate visuals, developing oral presentation skills, working in collaborative groups, giving and receiving feedback, and simulating the real world environment in which most communication occurs. Note: not open to students who have taken EN.661.110 as Technical Communication or Professional Communication for Science, Business, and Industry or EN.661.120 Business Communication. Co-listed with EN.661.611. No audits.
Instructor(s): L. Davis
Writing Intensive.

EN.661.150. Oral Presentations. 3 Credits.
This course is designed to help students push through any anxieties about public speaking by immersing them in a practice-intensive environment. They learn how to speak with confidence in a variety of formats and venues- including extemporaneous speaking, job interviewing, leading a discussion, presenting a technical speech, and other relevant scenarios. Students learn how to develop effective slides that capture the main point with ease and clarity, hone their message, improve their delivery skills, and write thought-provoking, well-organized speeches that hold an audience’s attention. No audits.
Instructor(s): A. Kulanko; C. O’Donnell; J. Heiserman; J. Reiser; K. Dungey
Writing Intensive.

EN.661.151. Oral Presentations for ESL. 3 Credits.
This course is designed to help students push through any anxieties about public speaking by immersing them in a practice-intensive environment. They learn how to speak with confidence in a variety of formats and venues- including extemporaneous speaking, job interviewing, leading a discussion, presenting a technical speech, and other relevant scenarios. Students learn how to develop effective slides that capture the main point with ease and clarity, hone their message, improve their delivery skills, and write thought-provoking, well-organized speeches that hold an audience’s attention. Special attention will be placed on diction, pronunciation, tone, pace and emphasis of language. Additional attention also will be given to syntax as well as non-verbal communication patterns. Co-listed with EN.661.651. No audits.
Instructor(s): L. Davis
Writing Intensive.

EN.661.154. Blogging and Online Writing. 3 Credits.
This course will teach students how to develop, write, and manage content for social media. In this highly experiential course, students will design, create, and market their own blog; and manage the content creation process for a collaborative class project. The course will emphasize best practices for search engine optimization (SEO), intuitive visual design, social media metrics, and content management strategies appropriate for publishing, marketing, and other relevant environments.
Instructor(s): J. Reiser
Writing Intensive.

EN.661.160. Online Media and Society. 3 Credits.
This online course takes a comprehensive and critical view of the history, roles and responsibilities of media in society. It explores the organization, creation, economics, control and effects of mass communications in the United States and the world. Students will learn how both traditional and new digital media has come to play such an integral role in our society while exploring the exciting career opportunities in journalism, public relations, advertising, radio, film, TV and the Internet. Students will apply concepts to current practical examples through a course blog and delve more deeply into subjects through writing assignments. No on-campus components required. No audits.
Instructor(s): K. Quesenberry.

EN.661.170. Visual Rhetoric. 3 Credits.
A course that aims to help students design clearer, more visually engaging graphics for a wide variety of business and technical documents. Students will learn to manage essential principles of graphic design through a variety of graphic programs (Adobe Creative Suite) and MS Office software. Topics will include logos, letterhead, event posters, brochures, data graphics and some basic web design. No audits.
Instructor(s): C. O’Donnell.

EN.661.270. Working with Writer’s Block. 3 Credits.
This course is designed to help anyone currently struggling with writer’s block—anything from extreme procrastination, avoidance behavior, poor writing process, or outright blockage (among others). It utilizes experimental, non-traditional, and un-orthodox methods— including mindfulness meditation and freewriting—to help students and professionals learn how to embrace their own writing process in a more open, flexible, and creative fashion. We will use the work of Jon Kabat-Zinn, Natalie Goldberg, Anne Lamott, and others. This course will only be taught pass/fail.
Instructor(s): J. Reiser
Writing Intensive.
EN.661.315. The Culture of the Engineering Profession. 3 Credits.
This course focuses on building understanding of the culture of engineering while preparing students to communicate effectively with the various audiences with whom engineers interact. Working from a base of contemporary science writing (monographs, non-fiction, popular literature and fiction), students engage in discussion, argument, case study and project work to investigate: the engineering culture and challenges to that culture, the impacts of engineering solutions on society, the ethical guidelines for the profession, and the ways engineering information is conveyed to the range of audiences for whom the information is critical. Additionally, students will master many of the techniques critical to successful communication within the engineering culture through a series of short papers and presentations associated with analysis of the writings and cases. No audits. For Engineering sophomores, juniors and seniors or by permission of instructor.
Instructor(s): E. Rice
Area: Social and Behavioral Sciences
Writing Intensive.

EN.661.317. The Culture of the Medical Profession. 3 Credits.
This course builds understanding of the culture of medicine as well as the ways in which different strata within society have access to and tend to make decisions about health and health related services while preparing students to communicate effectively with the various audiences with whom medical professionals interact. Working from a base of contemporary science writing (monographs, non-fiction, popular literature and fiction), students engage in discussion, argument, case study and project work to investigate topics such as the medical culture, the ways medicine is viewed by different segments of society, issues associated with access to health care, ethical dilemmas and guidelines for medical decisions, the impacts of medical and engineering solutions on society, decision making within client/patient groups, social and cultural differences that affect behavioral change, and the ways medical information is conveyed to the range of audiences for whom the information is critical. Additionally, students will master many of the techniques critical to successful communication through a series of short papers and presentations associated with analysis of the writings and cases. For sophomores, juniors, and seniors or by permission of instructor. No audits.
Area: Social and Behavioral Sciences
Writing Intensive.

EN.661.357. Copywriting & Creative Strategy. 3 Credits.
Uncover the process of creative thinking for innovation and conceiving "big ideas" in marketing. Students will be exposed to creative theory and practice as they select a consumer product and determine strategic market positioning, target demographics, media vehicles and creative guidelines. Then students will learn the craft of advertising copywriting for print, broadcast and digital media as they develop finished creative executions for the chosen organization that all build to a complete integrated marketing campaign. Co-listed with EN.660.357. No audits.
Prerequisites: EN.660.250 Principles of Marketing
Writing Intensive.

EN.661.361. Corporate Communications & P.R.. 3 Credits.
This course focuses on the ways that organizations, both for-profit and non-profit, manage their communications to deliver strategic, coherent and compelling messages to their varied stakeholders. Using case studies and team-based, real world projects, we will explore topics including public and media relations, corporate image, branding, advertising, internal and external communications, crisis management, investor relations, ethics and social responsibility. In the process, we will consider issues ranging from organizational culture and leadership styles to defining strategy, managing conflict, defending positions and disagreeing agreeably. No audits. Recommended Course Background: AS.220.105, EN.661.110, AS.060.113 or AS.060.114, AS.060.215, EN.660.250, EN.660.105, and EN.661.150
Instructor(s): P. Sheff
Writing Intensive.

EN.661.380. Business Analytics. 3 Credits.
In this course students learn the procedures and processes that researchers use to determine answers to questions such as how to price a product, how to differentiate one product from another, and how to evaluate customer response to an offering. The materials combine fundamentals of research design with statistics procedures to answer the questions that entrepreneurs and marketing managers must answer as they write business plans, develop their product mix, set prices, create advertising and test products. The course combines case study, simulated situations, lecture, discussion and real-time projects to produce answers using the techniques, tools and procedures typically used in North American enterprises.

EN.661.390. Online Journalism: JayStreet: A Journal of Entrepreneurship & Technology at JHU. 3 Credits.
Online journalism, especially at the intersection of science, medicine, and technology, is a rapidly growing field. This interactive course, open to students in all academic disciplines, produces Jay Street, an online journal, focusing on science, medicine, and technology with a JHU connection. Using a combination of guest speakers, interviews, investigative reporting, and selected readings, we will explore and write about some of the exciting and innovative research in science, medicine, and technology conducted at the Johns Hopkins Institutions. Serving as writers, editors and designers, students will choose a theme and design the journal, develop articles and interviews, blogs and videos, providing themselves a key credential for the future. No audits. Recommended Course Background: At least one writing intensive course and/or permission of the instructor.
Writing Intensive.

EN.661.410. Research Writing for ESL. 3 Credits.
This course is designed to help ESL writers succeed in writing, editing, and completing a large research project specific to their discipline. This could be a research report, journal article, literature review, dissertation chapter, grant proposal, or other relevant document. The course provides intensive help with grammar, idiomatic phrasing, and overall clarity for writers whose native language is not English. The course includes both individual consultation and group workshops. Undergraduates must be conducting research with a faculty member or must obtain special permission of instructor to register for the course. S/U grading only (students may elect to take this course for a traditional letter grade if their departments require them to do so; students must inform the instructor by the second week of class). Co-listed with EN.661.610. No audits.
Writing Intensive.
EN.661.425. Ethics of Biomedical Innovation. 3 Credits.
Engineers confront problems and make decisions that hold long term social consequences for individuals, organizations, communities and the profession. For biomedical engineers, these decisions may relate to: inventions such as medical devices and pharmaceuticals; neural prosthetics and synthetic biological organisms; responsible and sustainable design; availability of biotechnology in the developing world. Using a combination of cases, fieldwork and readings, we examine the ethical issues, standards, theory and consequences of recent and emerging engineering interventions as a way to understand the profession and to form a basis for future decisions. In addition, students will learn and practice multiple forms of communication, including oral, written and visual rhetoric. A particular focus will be communication targeted to different stakeholders including other professionals and the public. Students will apply good communication principle to the discussion of biomedical engineering ethics, develop their own ethical case studies and participate in group projects to aid ethical decision-making, and to improve communication of complex biomedical ethical issues to others. Co-listed with EN.661.425. 
Area: Social and Behavioral Sciences
Writing Intensive.

EN.661.453. Social Media and Marketing. 3 Credits.
This course explores strategies for monitoring and engaging consumers in digital media. Students will gain practical knowledge about developing, implementing and measuring social media marketing campaigns. They will learn how to analyze what consumers are saying and connect with them by leveraging word of mouth, viral and buzz marketing through sites like Facebook, Twitter and YouTube. A series of assignments build upon each other toward a final social media marketing plan for a selected consumer product or service. Co-listed with EN.661.453. No audits.
Prerequisites: EN.660.250 Principles of Marketing
Writing Intensive.

EN.661.454. Blogging and Online Copywriting. 3 Credits.
Learn how to develop, write and manage content for marketing communication on the Web and build an online presence through search engine optimization (SEO) and search engine marketing (SEM). Each student will create his/her own professional WordPress blog and gain knowledge on how to market it. They will also learn copywriting for various digital formats including Email marketing, website copy and social media while gaining an understanding of web analytics, conversion optimization, writing for keywords and mobile marketing. Co-listed with EN.661.654. No audits. Recommended Course Background: one writing course in any discipline (professional communication, expository writing, or writing seminars).
Prerequisites: Prereq. EN.660.250-Principles of Marketing.
Instructor(s): K. Quesenberry
Writing Intensive.

EN.661.455. Copywriting & Creative Thinking. 3 Credits.
Uncover the process of creative thinking for innovation and conceiving “big ideas” in marketing. Students will be exposed to creative theory and practice as they select a consumer product and determine strategic market positioning, target demographics, media vehicles and creative guidelines. Then students will learn the craft of advertising copywriting for print, broadcast and digital media as they develop finished creative executions for the chosen organization that all build to a complete integrated marketing campaign. No audits.
Prerequisites: EN.660.250
Writing Intensive.

EN.661.456. Marketing Communication Law & Ethics. 3 Credits.
This course focuses on the legal and ethical constraints of advertising and promotion marketing practice. Federal laws, media standards and professional ethics establish what can or cannot be said or done in marketing. Beyond that corporate and personal social responsibility must also be considered. Topics such as deception, copyright, publicity, comparative advertising and social media standards will be covered. Students will apply concepts to current practical examples through a course blog and delve more deeply into subjects through a series of writing assignments. Co-listed with EN.660.456. No audits.
Recommended Course Background: one writing course in any discipline (professional communication, expository writing, or writing seminars).
Prerequisites: EN.660.250
Instructor(s): K. Quesenberry
Writing Intensive.

EN.661.487. Advanced Communication Skills for Science and Engineering. 3 Credits.
This course helps students develop advanced communication skills that are critical for leveraging their academic experience in the "real world." Course emphasizes reporting information, polishing CVs and resumes, presenting conference papers, participating in poster sessions, tailoring information to both specialist and non-specialist audiences, and writing grant proposals for funding. Undergraduates are required to be conducting research with a faculty member or by special permission of instructor. Co-listed with EN.661.687. No audits.
Writing Intensive.

EN.661.488. Communicating Decisions in a Crisis. 3 Credits.
Open to sophomores, juniors and seniors only or permission of instructor. This course focuses on using communication to defuse and manage crisis situations. Students work in teams to consider issues including organizational culture, defining strategy, leadership styles, project management, negotiation and conflict management, stakeholder needs, defending positions, disagreeing agreeably, managing large and small groups, ethics, and social responsibility. Co-listed with 661.688. No audits.
Writing Intensive.

EN.661.610. Research Writing for ESL.
This course is designed to help ESL writers succeed in writing, editing, and completing a large research project specific to their discipline. This could be a research report, journal article, literature review, dissertation chapter, grant proposal, or other relevant document. The course provided intensive help with grammar, idiomatic phrasing, and overall clarity for writers whose native language is not English. The course includes both individual consultation and group workshops. P/F grading only (students may elect to take this course for a traditional letter grade if their departments require them to do so; students must inform the instructor by the second week of class). Co-listed with EN.661.410. No audits.
Instructor(s): D. Link-Farajali.
**EN.661.611. Professional Communication for ESL.**

This course teaches ESL students to communicate effectively with a wide variety of specialized and non-specialized audiences and will provide ESL-specific help with grammar, pronunciation, and idiomatic expression in these different contexts. Projects include production of resumes, cover letters, proposals, instructions, reports, and other relevant documents. Class emphasizes writing clearly and persuasively, creating appropriate visuals, developing oral presentation skills, working in collaborative groups, giving and receiving feedback, and simulating the real world environment in which most communication occurs. Not open to students who have taken EN.661.110 as Technical Communication or Professional Communication for Science, Business, and Industry or EN.661.120 Business Communication. Co-listed with EN.661.411.

**EN.661.612. Professional Communication for ESL: Financial Math.**

This course will prepare you to be competitive in the world of business by offering you some of the oral and written communication techniques you need to be successful. While working to enhance pronunciation, grammar, idiomatic expressions, and business vocabulary, you will work to speak comfortably in business social settings and meetings and to write effectively in a variety of modes not limited to e-mails, memoranda, resumes, and summary reports. The overall goal for all assignments is to speak and to write in clear, effective English. Moreover, improving oral and written communications will give you confidence, help you to make a good impression, and just maybe give you that “edge” you need to get the job you want or the project you desire once employed. Finally, individual pronunciation conferences will be scheduled with each of you throughout the semester. Financial Math students only. P/F only. No audits.

**EN.661.613. Professional Communication for ESL: Financial Math.**

This course will prepare you to be competitive in the world of business by offering you some of the oral and written communication techniques you need to be successful. While working to enhance pronunciation, grammar, idiomatic expressions, and business vocabulary, you will work to speak comfortably in business social settings and meetings and to write effectively in a variety of modes not limited to e-mails, memoranda, resumes, and summary reports. The overall goal for all assignments is to speak and to write in clear, effective English. Moreover, improving oral and written communications will give you confidence, help you to make a good impression, and just maybe give you that “edge” you need to get the job you want or the project you desire once employed. Finally, individual pronunciation conferences will be scheduled with each of you throughout the semester. Financial Math students only. P/F only. No audits.

**EN.661.614. Blogging, Editing, and Copywriting.**

Learn how to develop, write and manage content for marketing communication on the Web and build an online presence through search engine optimization (SEO) and search engine marketing (SEM). Each student will create his/her own professional WordPress blog and gain knowledge on how to market it. They will also learn copywriting for various digital formats including Email marketing, website copy and social media while gaining an understanding of web analytics, conversion optimization, writing for keywords and mobile marketing. Recommended Course Background: one writing course in any discipline (professional communication, expository writing, or writing seminars). Co-listed with EN.661.454. No audits.

**Prerequisites:** Prereq. EN.660.250-Principles of Marketing.

**Recommended prerequisite:** one writing course in any discipline (professional communication, expository writing, or writing seminars). Co-listed with EN.661.454. No audits.

**EN.661.687. Advanced Communication Skills for Science and Engineering.**

This course helps students build advanced communication skills that are critical for leveraging their academic experience in the "real world." Course emphasizes reporting information, polishing CVs and resumes, presenting conference papers, participating in poster sessions, tailoring information to both specialist and non-specialist audiences, and writing grant proposals for funding. Co-listed with EN.661.487. No audits.

**EN.661.688. Communicating Decisions in a Crisis.**

This course focuses on using communication to defuse and manage crisis situations. Students work in teams to consider issues including organizational culture, defining strategy, leadership styles, project management, negotiation and conflict management, stakeholder needs, defending positions, disagreeing agreeably, managing large and small groups, ethics, and social responsibility. Co-listed with 661.488. No audits.
EN.661.710. Dissertation Writing Workshop.
This course is designed to introduce students to the dissertation writing process, explain JHU-specific rules and regulations regarding dissertation work, and facilitate the completion of new work or work already in progress. Open to students in any discipline and in any stage of the dissertation process, this course will begin with a selection of speakers from relevant JHU departments, The Graduate Board, the MSE Library and the Commercial Binding Office, the Counseling Center’s Dissertation Support Group, professors, and recently graduated students (among others). During the second half of the course, students will designate one component of the dissertation and work to bring it to completion in a supportive workshop environment. This “component” could include a prospectus, a literature review, a chapter, an introduction, an overall plan for completion, or preparation for the defense. Topics will be geared toward the individual needs of the students registered in the course but will, in general, emphasize goal setting, project planning, developing strategies for working with readers/advisors/committees, learning how to emphasize “the big picture,” working with research tools such as Refworks or Zotero, building a daily writing practice, exploring strategies to deal with the isolation/depression common to dissertation writers, navigating the submission process, and, in general, supporting the overall dissertation writing process through its various stages. Course is taught pass/fail only. Non-native speakers are encouraged to take EN.661.610 Research Writing for ESL before taking this course. No audits.
Instructor(s): J. Reiser.

This workshop is for dissertation writers who have already completed the Dissertation Writing Workshop, EN.661.710. This class provides a venue for students to hold themselves accountable, to set weekly goals, to workshop drafts, and to present work-in-progress to the whole group. Course is taught pass/fail only. Course may be repeated. No audits.
Prerequisites: Prereq: EN.661.710.

Cross Listed Courses

Center for Leadership Education
EN.661.300. Writing for the Arts. 3 Credits.
The goal of this class is to give students experience in the different kinds of writing practiced in the arts and arts administration. The class uses case studies and emphasizes the production of field-specific contexts, modes, and reports in order to help students succeed either as individual artists or in arts-based organizations.
Writing Intensive.

Robotics and Computational Sensing

Laboratory for Computational Sensing and Robotics
The Laboratory for Computational Sensing and Robotics (LCSR) is one of the most technologically advanced robotics research centers worldwide, and is an international leader in the areas of medical robotics, autonomous systems, and bio-inspiration. Within Johns Hopkins, a premiere research university, the LCSR is a hub for innovative and interdisciplinary robotics engineering, research, and development. The LCSR brings a core group of scholars and students from the Whiting School of Engineering together with researchers from the Johns Hopkins School of Medicine, the Bloomberg School of Public Health, the Krieger School of Arts and Sciences, the Johns Hopkins University Applied Physics Laboratory and the Kennedy Krieger Institute to focus on the common purpose of creating knowledge and fostering innovation.

Minor in Robotics
The field of robotics integrates sensing, information processing, and movement to accomplish specific tasks in the physical world. As such, it encompasses several topics, including mechanics and dynamics, kinematics, sensing, signal processing, control systems, planning, and artificial intelligence. Applications of these concepts appear in many areas including medicine, manufacturing, space exploration, disaster recovery, ordinance disposal, deep-sea navigation, home care, and home automation.

The faculty of the Laboratory for Computational Sensing and Robotics (LCSR), in collaboration with the academic departments and centers of the Whiting School of Engineering, offers a robotics minor in order to provide a structure in which undergraduate students at Johns Hopkins University can advance their knowledge in robotics while receiving recognition on their transcript for this pursuit. The minor is not “owned” by any one department, but rather it is managed by the LCSR itself. Any student from any department within the university can work toward the minor.

Robotics is fundamentally integrative and multidisciplinary. Therefore, any candidate for the robotics minor must develop a set of core skills that cut across these disciplines, as well as obtain advanced supplementary skills.

Core Skills Include the Following
- Robot kinematics and dynamics (R)
- Systems theory, signal processing and control (S)
- Computation and sensing (C)

Supplementary advanced skills may be obtained in specialized applications, such as space, medicine, or marine systems; or in one of the three core areas listed above.

The full minor course listing (available at https://www.lcsr.jhu.edu/Robotics_Minor) specifies which courses fulfill these requirements. Note that ALL core areas must be covered, but that ANY advanced/supplementary courses can be chosen from the list. This allows students to strike a balance between breadth and depth.

Requirements
An undergraduate qualifies for the minor provided he or she has taken at least 18 credits (at the 300-level or above, with a C- or above) from an approved list of courses available at https://www.lcsr.jhu.edu/Robotics_Minor with the following requirements and restrictions:
- Between 6 and 12 credits chosen to cover the three core skills.
- At least 6 credits chosen from advanced supplementary skills.
- At least 3 credits of the 18 must be a laboratory course (at least 15 hours of laboratory time that includes working with physical hardware and/or real data);
- At most 3 credits of the 18 can be an independent research or individual study with a faculty member on the list of approved faculty advisers;
• At least 6 credits must be primarily listed in a department other than
the student’s home department (it is acceptable if such a course is
cross-listed in the student’s home department).
• At most one course up to 3 credits (including independent research
or individual study) may be taken S/U, but all other courses must be
taken for a letter grade.

Advising
• All students interested in the minor are required to make an
appointment with Anita Sampath in the LCSR to be assigned to a
minor adviser to receive guidance about the program.
Phone: 410-516-6841
Email: asampath@jhu.edu

When possible, you will be assigned an adviser in your department
(though this is not required).
• Students who decide to pursue the minor should also review their
academic transcript with their minor adviser to ensure they will be
able to complete the requirements.
• Fill out and submit an Add Minor form (which can be obtained from
the registrar’s office).
• Complete the Requirements Checkout tables in the CheckOut sheet,
downloadable on this web page. You should meet with your minor
adviser periodically (at least once per year), bringing a copy of this
form for review.
• During your senior year, you must also note the Robotics Minor on
your Application for Graduation.
• When all requirements have been completed, take the completed
form to the Robotics Minor Program Coordinator for review and
signature.

Undergraduates interested in completing the minor must be assigned a
minor adviser. The adviser is responsible for helping the student choose
courses and helps to ensure all requirements for the minor are met.
The minor advisers are listed on the Robotics Minor website
(https://www.lcsr.jhu.edu/Robotics_Minor).

Full Minor Course Listing

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.520.353</td>
<td>Control Systems</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.432</td>
<td>Medical Imaging Systems</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.433</td>
<td>Medical Image Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.454</td>
<td>Control Systems Design</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.435</td>
<td>Digital Signal Processing</td>
<td>4</td>
</tr>
<tr>
<td>EN.520.414</td>
<td>Image Processing &amp; Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.415</td>
<td>Image Process &amp; Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.425/424</td>
<td>FPGA Senior Projects Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.448</td>
<td>Electronics Design Lab</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.343</td>
<td>Design and Analysis of Dynamical Systems</td>
<td>4</td>
</tr>
<tr>
<td>EN.530.420</td>
<td>Robot Sensors/Actuators</td>
<td>4</td>
</tr>
<tr>
<td>EN.530.421</td>
<td>Mechatronics (and EN.530.411)</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.603</td>
<td>Applied Optimal Control</td>
<td></td>
</tr>
<tr>
<td>EN.530.424</td>
<td>Dynamics of Robots and Spacecraft</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.678</td>
<td>Nonlinear Control and Planning in Robotics</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.493</td>
<td>Mathematical Image Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EN.580.471</td>
<td>Principles of Design of BME Instrumentation</td>
<td>4</td>
</tr>
<tr>
<td>EN.580.472</td>
<td>Medical Imaging Systems</td>
<td>3</td>
</tr>
<tr>
<td>EN.580.571</td>
<td>Honors Instrumentation</td>
<td>2</td>
</tr>
<tr>
<td>EN.580.484/684</td>
<td>Ultrasound Imaging: Theory and Applications</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.436/636</td>
<td>Algorithms for Sensor-Based Robotics</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.435</td>
<td>Artificial Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.461</td>
<td>Computer Vision</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.445</td>
<td>Computer Integrated Surgery I</td>
<td>4</td>
</tr>
<tr>
<td>EN.600.446/646</td>
<td>Computer Integrated Surgery II</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.476</td>
<td>Machine Learning in Complex Domains</td>
<td>3</td>
</tr>
</tbody>
</table>

Independent Research or Individual Study

Graduate

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.530.646</td>
<td>Robot Devices, Kinematics, Dynamics, and Control</td>
</tr>
<tr>
<td>EN.530.676</td>
<td>Locomotion in Mechanical and Biological Systems</td>
</tr>
<tr>
<td>EN.580.692</td>
<td>Advanced Topics in Machine Learning: Modeling</td>
</tr>
<tr>
<td>EN.600.660</td>
<td>FFT in Graphics &amp; Vision</td>
</tr>
<tr>
<td>EN.580.571</td>
<td>Honors Instrumentation</td>
</tr>
<tr>
<td>EN.580.484/684</td>
<td>Ultrasound Imaging: Theory and Applications</td>
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</tr>
<tr>
<td>EN.600.476</td>
<td>Machine Learning in Complex Domains</td>
</tr>
</tbody>
</table>

MINOR GOVERNANCE

The minor is continually monitored by a standing governance/oversight
committee, currently comprised of the following faculty:
• Noah Cowan, Program Coordinator
• Greg Chirikjian, Program Committee Member
• Ralph Etienne-Cummings, Program Committee Member
• Gregory D. Hager, Program Committee Member
• Russ Taylor, Program Committee Member

The oversight of this minor, including curricular updates, falls to this
committee. The minor is managed by the [faculty of the] Laboratory
for Computational Sensing and Robotics (LCSR) [in collaboration
with the academic departments and centers of the Whiting School of
Engineering]

The minor is managed by faculty of the LCSR in collaboration
with academic departments and centers of the Whiting School of
Engineering. If you have suggestions / questions regarding the minor,
please direct them to Prof. Noah Cowan.

Minor in Computer Integrated Surgery

The Whiting School of Engineering offers a minor in Computer
Integrated Surgery (CIS) for full-time, undergraduate students at
Johns Hopkins. The minor is particularly well suited for students
interested in computer integrated surgery issues who are majoring in
a variety of disciplines including biomedical engineering, computer
science, computer engineering, electrical engineering, and mechanical
engineering. The minor provides formal recognition of the depth and
strength of a student’s knowledge of the concepts fundamental to CIS
beyond the minimal requirements of his/her major.

In order to minor in CIS, a student will require a minor adviser from the
Engineering Research Center in Computer Integrated Surgical Systems
and Technology (CISST ERC) in the Laboratory for Computational
Sensing and Robotics. Current faculty members available as advisers
include Professors Russell Taylor (CS), Greg Hager (CS), Jerry Prince
(ECE), Ralph Etienne-Cummings (ECE), Louis Whitcomb (ME), Noah
Departments, Program Requirements, and Courses

Cowan (ME), Marin Kobilarov (ME), Peter Kazanzides (CS), Iulian Iordachita (ME), and Emad Boctor (Radiology).

To satisfy the requirements for the minor in CIS, a student must have a fundamental background in computer programming and computer science, sufficient mathematical background, and also take a minimum of six courses (with a total of at least 18 credits, earning at least a C- in each course) directly related to the concepts relevant to CIS. These six CIS courses must include two fundamental CIS core courses, which provide the student with the fundamental basis for CIS, and four approved upper-level courses (300-level or above) to allow the student to pursue an advanced CIS topic in depth. The additional four upper-level courses must include at least one course designated as an "imaging" course or one course designated as a "robotics" course, as discussed below.

**Required Fundamental Computer Science Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.600.107</td>
<td>Introductory Programming in Java</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.226</td>
<td>Data Structures</td>
<td>4</td>
</tr>
</tbody>
</table>

Or equivalent experience determined by your CIS minor adviser.

**Required Fundamental Mathematics Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.108</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.106</td>
<td>Calculus I</td>
<td></td>
</tr>
<tr>
<td>AS.110.109</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.107</td>
<td>Calculus II</td>
<td></td>
</tr>
<tr>
<td>AS.110.202</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.211</td>
<td>Honors Multivariable Calculus</td>
<td></td>
</tr>
<tr>
<td>EN.550.291</td>
<td>Linear Algebra and Differential Equations</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.201</td>
<td>Linear Algebra</td>
<td></td>
</tr>
<tr>
<td>or AS.110.212</td>
<td>Honors Linear Algebra</td>
<td></td>
</tr>
</tbody>
</table>

Each math requirement listed above may be satisfied by one of the specific courses listed, or by an equivalent course as determined by CIS advisor.

**Required Fundamental Computer Integrated Surgery Courses**

- EN.600.445 Computer Integrated Surgery I
- A design course in CIS. Either EN.600.446 Computer Integrated Surgery II or a design course in biomedical engineering, electrical and computer engineering, or mechanical engineering with substantial CIS content approved by the student’s faculty adviser in the CIS minor.

**Required Four Other Courses Related to CIS**

Students must also complete at least four other courses related to CIS. Of these, AT LEAST ONE must be in EITHER the Imaging Subgroup or the Robotics Subgroup.

**Imaging**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.600.461</td>
<td>Computer Vision</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.661</td>
<td>Computer Vision</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.414</td>
<td>Image Processing &amp; Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.432/EN.580.472</td>
<td>Medical Imaging Systems</td>
<td>3</td>
</tr>
<tr>
<td>EN.580.484/684</td>
<td>Ultrasound Imaging: Theory and Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

**Robotics**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.520.433</td>
<td>Medical Image Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.420</td>
<td>Robot Sensors/Actuators</td>
<td>4</td>
</tr>
<tr>
<td>EN.530.421</td>
<td>Mechatronics</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.603</td>
<td>Applied Optimal Control</td>
<td></td>
</tr>
<tr>
<td>EN.530.646</td>
<td>Robot Devices, Kinematics, Dynamics, and Control</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.436/.636</td>
<td>Algorithms for Sensor-Based Robotics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Other**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.580.471</td>
<td>Principles of Design of BME Instrumentation</td>
<td>4</td>
</tr>
<tr>
<td>EN.520.448</td>
<td>Electronics Design Lab</td>
<td>3</td>
</tr>
<tr>
<td>EN.520.425</td>
<td>FPGA Senior Projects Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.476</td>
<td>Machine Learning in Complex Domains</td>
<td>3</td>
</tr>
</tbody>
</table>

Please visit [http://www.lcsr.jhu.edu/Education/Undergraduate/CISminor](http://www.lcsr.jhu.edu/Education/Undergraduate/CISminor) for current course listing.

**Robotics M.S.E. Program**

The Master of Science in Engineering in Robotics program provides a structure in which students from a wide variety of engineering, scientific, and mathematical backgrounds can advance their interdisciplinary knowledge in robotics at the Johns Hopkins University. Most students will complete the program in three or four full-time semesters.

Goals of robotics research and education are to conduct engineering and science teaching and research to develop next generation, intelligent devices, platforms, vehicles, and other products, and to create new understandings of the world, with emphasis on biological systems. These applications appear in many areas including medicine, manufacturing, space exploration, disaster recovery, ordinance disposal, deep-sea navigation, home care, and home automation.

**Application Requirements for the M.S.E. in Robotics degree**

- Bachelor’s degree in engineering, science, or math. (Or demonstrated knowledge or accomplishment in these fields.)
- Graduate application
- Statement of Purpose
- Transcripts: unofficial ones uploaded; officials ones sent to the following address:
  Johns Hopkins University  
  The Graduate Admissions Office  
  Full time Graduate Studies in Arts and Sciences  
  28 Shriver Hall  
  3400 North Charles Street  
  Baltimore, MD 21218

- Graduate Record Examination (GRE). Current JHU students may request that this requirement be waived. Such requests will be judged on a case-by-case basis.
- TOEFL or IELTS for international applicants.
- Three letters of reference

The Admissions Committee, in making its final decisions, will consider the combination of professional knowledge, academic excellence,
letters of reference, and the statement of purpose, as well as GRE, TOEFL, and IELTS scores of the applicants.

M.S.E. Program Prerequisites

Math and Physics Proficiency Prerequisites

Proficiency in undergraduate mathematics and physics is expected for all M.S.E. students in the robotics program. This will include the following:

- Multivariable integral and differential calculus
- Linear algebra
- Ordinary differential equations
- Physics - undergraduate calculus-based mechanics, electricity, and magnetism.
- Probability and statistics

This proficiency will be assumed in the prerequisites for the core courses.

Computing Proficiency Prerequisites

Proficiency in computer programming is expected for all M.S.E. students in the robotics program. This will include the following:

- Basic numerical methods using existing programming environments.
- The ability to write well-structured and documented programs in a standard programming language such as C++, Java, or MATLAB.

M.S.E. Degree Requirements

All incoming M.S.E. students will be assigned an M.S.E. Academic Advisor.

- Course Requirements:
  - **Course Option:** 10 credit-bearing courses that total at least 30 credit-hours.
  - **Essay Option:** 8 credit-bearing courses that total at least 24 credit-hours and a Master’s Essay supervised by a WSE faculty member who has been approved by the Robotics M.S.E. Curriculum Committee to serve as a faculty advisor.

At least 6 of these courses must be at the graduate level as defined by the offering department/center. All courses counted toward the M.S.E. degree requirements must be at the 300-level or above. Non-credit courses such as the weekly seminar courses offered by LCSR and Departments may not count toward this course requirement.

- **Foundation Course Requirements:** Two core courses, weekly seminar course, and systems/implementation requirement.
- **Track Course Requirement:** Four courses fulfilling one of the following track requirements:
  - Track in Medical Robotics and Computer Integrated Surgical Systems
  - Track in Perception and Cognitive Systems
  - Track in Automation Science and Engineering
  - Track in Control and Dynamical Systems

Courses counted toward the track requirement may not be used to satisfy the elective requirement.

- **Elective Course Requirement:** Four courses, or two courses and a M.S.E. Essay, fulfilling the elective requirement as described in Section 2.7. Courses may be any engineering or quantitative (designated E or Q in the course catalog) course, subject to the degree requirement limitations, as approved by the student’s M.S.E. academic adviser. Courses counted toward the elective requirement may not be used to satisfy the track requirements.
- **Academic Ethics:** online tutorial required for all incoming M.S.E. students.
- **AS.360.625 Responsible Conduct of Research (online);** Online tutorial required for all incoming MSE students.
- **AS.360.625 Responsible Conduct of Research (in-person);** may be required for certain research projects. More information: (http://eng.jhu.edu/wse/page/conduct-of-research-training).
- **Course Grade Requirement:** A course is satisfactorily completed if a grade from A+ to C- is obtained. No more than one C+, C, or C- can be counted toward the degree requirements. A grade of D or F or second C+, C, or C- grade results in probation. A second D or F, or a third C+, C, or C- grade results in termination from the program.
- **Transfer Courses:** Standard WSE policy and limitations on M.S.E. transfer credits apply (http://eng.jhu.edu/graduate-studies/academic-policies-procedures-graduate). In addition, use of each transfer course toward satisfaction of a specific Robotics M.S.E. degree requirement must be approved in writing by both the student’s faculty advisor and the Robotics M.S.E. Curriculum Committee.
- **Double Counting:** Standard WSE policy and limitations on double counting apply (http://eng.jhu.edu/wse/page/graduate-double-counting).
- **Duration:** Students must complete degree within 5 years from matriculation in the M.S.E. program. University-approved leave of absence does not count toward this limit.
- **Graduate Research Courses:** No more than one 1-semester graduate research course (e.g., EN.530.600 MSE Graduate Research) may be counted toward degree requirements.
- **WSE Engineering for Professionals (EP) Courses** may count toward the M.S.E. degree elective requirements if they are approved in writing by the student’s faculty advisor.
- **Residency Requirement:** Minimum residency of two full-time academic terms at WSE.

M.S.E. Degree Core Courses

Two first year graduate level courses form the core of the Robotics M.S.E. program. These courses can be taken in either order:

EN.600.636 Algorithms for Sensor-Based Robotics
EN.530.646 Robot Devices, Kinematics, Dynamics, and Control.

Seminar Course Requirement

Students are required to register for the following non-credit weekly robotics research seminar course every term in which they are in full-time residency:

EN.500.745 Seminar in Computational Sensing and Robotics
Systems/Implementation Requirement

- Students must demonstrate the ability to undertake substantial implementation projects requiring independent design and decision making.
- Students will be required to take one course with a project involving substantial interaction with or development of actual hardware (sensors, mechanisms, etc.) and one course requiring a substantial software implementation effort.

Course projects may have both elements but two courses are still required and the student’s individual focus in group projects must have one in each area.

- A student’s M.S.E. Essay can, if approved by their advisor, count toward one of the two required systems/implementation project courses.
- Courses that include class projects that are often well suited to satisfying these system/implementation requirement include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.530.421</td>
<td>Mechatronics</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.446</td>
<td>Computer Integrated Surgery II</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.461</td>
<td>Computer Vision</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.676</td>
<td>Locomotion in Mechanical and Biological Systems</td>
<td></td>
</tr>
</tbody>
</table>

The approval of course projects to satisfy the systems/implementation course requirements must be approved by the student’s faculty advisor. The course names, project names, and project dates must be identified in the Robotics M.S.E. Checkout Sheet.

M.S.E. Degree Track Requirements

(4 Courses)

Tracks consist of course sequences that provide the student with strength in a specific area. The required and recommended courses for tracks are listed below. Other courses may be substituted only with written approval of both the student’s academic adviser and the Robotics M.S.E. curriculum committee.

Track in Medical Robotics and Computer Integrated Surgical Systems

Required for the track:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.600.445</td>
<td>Computer Integrated Surgery I</td>
<td>4</td>
</tr>
<tr>
<td>EN.600.446</td>
<td>Computer Integrated Surgery II</td>
<td>3</td>
</tr>
</tbody>
</table>

Two of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.500.410</td>
<td>Surgery For Engineers</td>
<td></td>
</tr>
<tr>
<td>EN.520.433</td>
<td>Medical Image Analysis</td>
<td></td>
</tr>
<tr>
<td>EN.600.461</td>
<td>Computer Vision</td>
<td></td>
</tr>
<tr>
<td>EN.520.432/EN.580.472</td>
<td>Medical Imaging Systems</td>
<td></td>
</tr>
</tbody>
</table>

Track in Perception and Cognitive Systems

Required for the track:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.600.461</td>
<td>Computer Vision</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.435</td>
<td>Artificial Intelligence</td>
<td>3</td>
</tr>
</tbody>
</table>

Two of the following Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.530.420</td>
<td>Robot Sensors/Actuators</td>
<td></td>
</tr>
<tr>
<td>EN.530.421</td>
<td>Mechatronics</td>
<td></td>
</tr>
<tr>
<td>EN.550.437</td>
<td>Statistical Learning With Applications</td>
<td></td>
</tr>
</tbody>
</table>

Track in Automation Science and Engineering

Required for the track:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.530.414</td>
<td>Computer-Aided Design</td>
<td>3</td>
</tr>
<tr>
<td>EN.530.454</td>
<td>Manufacturing Engineering</td>
<td>3</td>
</tr>
</tbody>
</table>

Two of the following Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.550.457</td>
<td>Topics in Operations Research: Supply Chains: Models and Analyses</td>
<td></td>
</tr>
<tr>
<td>EN.550.661</td>
<td>Foundations of Optimization</td>
<td></td>
</tr>
<tr>
<td>EN.550.662</td>
<td>Optimization Algorithms</td>
<td></td>
</tr>
<tr>
<td>EN.530.420</td>
<td>Robot Sensors/Actuators</td>
<td></td>
</tr>
<tr>
<td>EN.530.660</td>
<td>Computational Analysis of Stochastic Processes</td>
<td></td>
</tr>
<tr>
<td>EN.530.649</td>
<td>System Identification</td>
<td></td>
</tr>
<tr>
<td>EN.530.421</td>
<td>Mechatronics</td>
<td></td>
</tr>
<tr>
<td>EN.600.461</td>
<td>Computer Vision</td>
<td></td>
</tr>
<tr>
<td>EN.530.495</td>
<td>Microfabrication Laboratory</td>
<td></td>
</tr>
<tr>
<td>EN.530.653</td>
<td>Advanced Systems Modeling</td>
<td></td>
</tr>
<tr>
<td>EN.530.648</td>
<td>Group Theory in Engineering Design</td>
<td></td>
</tr>
</tbody>
</table>

Track in Control and Dynamical Systems

Required for Track:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.520.616</td>
<td>Introduction to Linear Systems</td>
<td></td>
</tr>
<tr>
<td>EN.530.678</td>
<td>Nonlinear Control and Planning in Robotics</td>
<td></td>
</tr>
</tbody>
</table>

Two of the Following Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.520.621</td>
<td>Introduction To Nonlinear Systems</td>
<td></td>
</tr>
<tr>
<td>EN.530.603</td>
<td>Applied Optimal Control</td>
<td></td>
</tr>
<tr>
<td>EN.530.647</td>
<td>Adaptive Systems</td>
<td></td>
</tr>
<tr>
<td>EN.530.648</td>
<td>Group Theory in Engineering Design</td>
<td></td>
</tr>
<tr>
<td>EN.530.649</td>
<td>System Identification</td>
<td></td>
</tr>
<tr>
<td>EN.530.653</td>
<td>Advanced Systems Modeling</td>
<td></td>
</tr>
<tr>
<td>EN.530.660</td>
<td>Computational Analysis of Stochastic Processes</td>
<td></td>
</tr>
<tr>
<td>EN.530.676</td>
<td>Locomotion in Mechanical and Biological Systems</td>
<td></td>
</tr>
<tr>
<td>EN.520.618</td>
<td>Hybrid Systems</td>
<td></td>
</tr>
<tr>
<td>EN.520.633</td>
<td>Intro To Robust Control</td>
<td></td>
</tr>
<tr>
<td>EN.550.662</td>
<td>Optimization Algorithms</td>
<td></td>
</tr>
<tr>
<td>EN.550.692</td>
<td>Matrix Analysis and Linear Algebra</td>
<td></td>
</tr>
</tbody>
</table>

Track in Perception and Cognitive Systems

Required for the track:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.600.461</td>
<td>Computer Vision</td>
<td>3</td>
</tr>
<tr>
<td>EN.600.435</td>
<td>Artificial Intelligence</td>
<td>3</td>
</tr>
</tbody>
</table>

Two of the following Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.530.420</td>
<td>Robot Sensors/Actuators</td>
<td></td>
</tr>
<tr>
<td>EN.530.421</td>
<td>Mechatronics</td>
<td></td>
</tr>
<tr>
<td>EN.550.437</td>
<td>Statistical Learning With Applications</td>
<td></td>
</tr>
</tbody>
</table>

M.S.E. Degree Electives Courses

(4 Courses or 2 Courses + M.S.E. Essay)

For a list of courses, please see course tab.

Other courses may be substituted with both the approval of the student’s academic adviser and the approval of the Robotics M.S.E.
curriculum committee. A form for approval of such a substitution is available from the academic coordinator.

For complete M.S.E. information, visit https://www.lcsr.jhu.edu/MSE

Courses

**AS.080.810. Readings/Systems Neuro I.**
This is a graduate-level seminar series on current literature in systems neuroscience. It also serves as a discussion group/journal club for students and faculty at the Krieger Mind/Brain Institute, and is open to the wider systems/cognitive neuroscience community at Homewood and other Hopkins campuses. Each week, a student or faculty member will present a recent article selected in consultation with the course directors. The selected readings will focus on the neural mechanisms of perception, attention, motor behavior, learning and memory. Permission required for undergraduate students.
Instructor(s): E. Niebur; V. Stuphorn.

**AS.080.811. Readings/System Neuro II.**
Graduate students only or permission required. The combined journal club functions as a graduate-level seminar series on the current literature in systems neuroscience. It will also serve as a discussion group for systems neuroscience post-docs and faculty from the Homewood and Medical School campuses. All participants interested in systems/cognitive neuroscience are welcome. Each week, a student or faculty member will present a recent article selected in consultation with the course directors. The selected readings will focus on the neural mechanisms of perception, attention, motor behavior, learning and memory, as studied using physiological, psychophysical, computational and imaging techniques. Discussions and open exchanges of opinions are strongly encouraged.
Instructor(s): E. Niebur; V. Stuphorn.

**AS.110.106. Calculus I. 4 Credits.**
Differential and integral calculus. Includes analytic geometry, functions, limits, integrals and derivatives, introduction to differential equations, functions of several variables, linear systems, applications for systems of linear differential equations, probability distributions. Many applications to the biological and social sciences will be discussed.
Instructor(s): Staff
Area: Quantitative and Mathematical Sciences.

**AS.110.107. Calculus II. 4 Credits.**
Differential and integral calculus. Includes analytic geometry, functions, limits, integrals and derivatives, introduction to differential equations, functions of several variables, linear systems, and applications for systems of linear differential equations, probability distributions.
Instructor(s): W. Wilson
Area: Quantitative and Mathematical Sciences.

**AS.110.108. Calculus I. 4 Credits.**
Differential and integral calculus. Includes analytic geometry, functions, limits, integrals and derivatives, polar coordinates, parametric equations, Taylor’s theorem and applications, infinite sequences and series.
Instructor(s): Staff
Area: Quantitative and Mathematical Sciences.

**AS.110.109. Calculus II. 4 Credits.**
Differential and integral calculus. Includes analytic geometry, functions, limits, integrals and derivatives, polar coordinates, parametric equations, Taylor’s theorem and applications, infinite sequences and series. Some applications to the physical sciences and engineering will be discussed, and the courses are designed to meet the needs of students in these disciplines.
Instructor(s): J. Martínez Garcia
Area: Quantitative and Mathematical Sciences.

**AS.110.201. Honors Calculus I. 4 Credits.**
This course includes the material in AS.110.107 with some additional applications and theory. Recommended for mathematically able students majoring in physical science, engineering, or especially mathematics. AS.110.211-AS.110.212 used to be an integrated yearlong course, but now the two are independent courses and can be taken in either order.
Prerequisites: Grade of C- or better in 110.107 or 110.109 or 110.113, or a 5 on the AP BC exam.
Instructor(s): R. Brown
Area: Quantitative and Mathematical Sciences.

**AS.110.202. Calculus III. 4 Credits.**
Calculus of functions of more than one variable: partial derivatives, and applications; multiple integrals, line and surface integrals; Green’s Theorem, Stokes’ Theorem, and Gauss’ Divergence Theorem.
Prerequisites: Grade of C- or better in 110.107 or 110.109 or 110.113, or a 5 on the AP BC exam.
Instructor(s): V. Pingali
Area: Quantitative and Mathematical Sciences.

**EN.500.410. Surgery For Engineers. 3 Credits.**
Perm Req’d. Students must apply for this course - contact Cynthia Ramey at cramey@jhu.edu
Instructor(s): M. Marohn; R. Kumar
Area: Engineering, Natural Sciences.

**EN.500.745. Seminar in Computational Sensing and Robotics.**
Seminar series in robotics. Topics include: Medical robotics, including computer-integrated surgical systems and image-guided intervention. Sensor based robotics, including computer vision and biomedical image analysis. Algorithmic robotics, robot control and machine learning. Autonomous robotics for monitoring, exploration and manipulation with applications in home, environmental (land, sea, space), and defense areas. Biorobotics and neuromechanics, including devices, algorithms and approaches to robotics inspired by principles in biomechanics and neuroscience. Human-machine systems, including haptic and visual feedback, human perception, cognition and decision making, and human-machine collaborative systems. Cross-listed Mechanical Engineering, Computer Science, Electrical and Computer Engineering, and Biomedical Engineering.
Instructor(s): L. Whitcomb; P. Kazanzides.
EN.520.353. Control Systems. 3 Credits.
Modeling, analysis, and an introduction to design for feedback control systems. Topics include state equation and transfer function representations, stability, performance measures, root locus methods, and frequency response methods (Nyquist, Bode).
Instructor(s): D. Tarraf
Area: Engineering, Quantitative and Mathematical Sciences.

EN.520.414. Image Processing & Analysis. 3 Credits.
The course covers fundamental methods for the processing and analysis of images and describes standard and modern techniques for the understanding of images by humans and computers. Topics include elements of visual perception, sampling and quantization, image transforms, image enhancement, color image processing, image restoration, image segmentation, and multiresolution image representation. Laboratory exercises demonstrate key aspects of the course.
Prerequisites: EN.520.214.
Instructor(s): J. Goutsias
Area: Engineering.

EN.520.415. Image Process & Analysis II. 3 Credits.
This course covers fundamental methods for the processing and analysis of images and describes standard and modern techniques for the understanding of images by morphological image processing and analysis, image representation and description, image recognition and interpretation.
Prerequisites: EN.520.414
Instructor(s): J. Goutsias
Area: Engineering.

EN.520.427. Product Design Lab. 3 Credits.
This project-based course is designed to help students learn how to turn their ideas into commercial products. In the first half of the course, emphasis will be placed on the product development process: student teams will gradually build up a complete "contract book" including a mission statement, competitive analysis, patent review, product specifications, system schematics, economic analysis, development schedule, etc. In the second half of the course, each team will be expected to implement its design and demonstrate a prototype of their product's core functionality. At the end of the semester, a final written report will be submitted in the form of a utility patent. Students are encouraged to take this course in conjunction with Electronic Design Lab (ECE 520.448) in the spring semester and leverage the groundwork developed here to enable production of a fully functional and marketable prototype by the end of the academic year.
Instructor(s): P. Pouliquen
Area: Engineering.

EN.520.432. Medical Imaging Systems. 3 Credits.
An introduction to the physics, instrumentation, and signal processing methods used in general radiography, X-ray computed tomography, ultrasound imaging, magnetic resonance imaging, and nuclear medicine. The primary focus is on the methods required to reconstruct images within each modality, with emphasis on the resolution, contrast, and signal-to-noise ratio of the resulting images. Co-listed as EN.580.472
Prerequisites: EN.580.222 OR EN.520.214
Instructor(s): J. Prince
Area: Engineering.

EN.520.433. Medical Image Analysis. 3 Credits.
This course covers the principles and algorithms used in the processing and analysis of medical images. Topics include interpolation, registration, enhancement, feature extraction, classification, segmentation, quantification, shape analysis, motion estimation, and visualization. Analysis of both anatomical and functional images will be studied and images from the most common medical imaging modalities will be used. Projects and assignments will provide students experience working with actual medical imaging data.
Prerequisites: EN.520.432 OR EN.580.472 OR EN.550.310 OR EN.550.311
Instructor(s): J. Prince
Area: Engineering.

EN.520.435. Digital Signal Processing. 4 Credits.
Methods for processing discrete-time signals. Topics include signal and system representations, z-transforms, sampling, discrete Fourier transforms, fast Fourier transforms, digital filters.
Prerequisites: EN.520.214.
Instructor(s): H. Weinert
Area: Engineering.

EN.520.454. Control Systems Design. 3 Credits.
Classical and modern control systems design methods. Topics include formulation of design specifications, classical design of compensators, state variable and observer based feedback. Computers are used extensively for design, and laboratory experiments are included.
Instructor(s): P. Iglesias
Area: Engineering, Natural Sciences.

EN.520.448. Electronics Design Lab. 3 Credits.
An advanced laboratory course in which teams of students design, build, test and document application specific information processing microsystems. Semester long projects range from sensors/actuators, mixed signal electronics, embedded microcomputers, algorithms and robotics systems design. Demonstration and documentation of projects are important aspects of the evaluation process. Recommended: EN.600.333, EN.600.334, EN.520.349, EN.520.372, EN.520.490 or EN.520.491.
Prerequisites: EN.520.345 or equivalent
Recommended: EN.600.333, EN.600.334, EN.520.216, EN.520.349, EN.520.372, EN.520.490 or EN.520.491.
Instructor(s): P. Pouliquen.

EN.520.454. Control Systems Design. 3 Credits.
Classical and modern control systems design methods. Topics include formulation of design specifications, classical design of compensators, state variable and observer based feedback. Computers are used extensively for design, and laboratory experiments are included.
Instructor(s): P. Iglesias
Area: Engineering, Natural Sciences.

EN.520.483. Bio-Photonics Laboratory. 3 Credits.
This laboratory course involves designing a set of basic optical experiments to characterize and understand the optical properties of biological materials. The course is designed to introduce students to the basic optical techniques used in medicine, biology, chemistry and material sciences.
Instructor(s): J. Kang.

EN.520.491. CAD Design of Digital VLSI Systems I (Seniors/Grads). 3 Credits.
Seniors and Graduate Students Only
Instructor(s): R. Etienne Cummings
Area: Engineering.
EN.520.761. Large Scale Analog Compt.
Instructor(s): A. Andreou; R. Etienne Cummings.

EN.530.343. Design and Analysis of Dynamical Systems. 4 Credits.
Modeling and analysis of damped and undamped, forced and free vibrations in single and multiple degree-of-freedom linear dynamical systems. Introduction to stability and control of linear dynamical systems.
Prerequisites: Prereq: (110.108 and 110.109 and (110.202 or 110.211) and ((550.291) or (110.201 and 110.302) or ((110.201 and 110.306)), and C- or better or concurrent enrollment in 530.202 or 560.202. MechE Majors must also have taken 530.241
Instructor(s): S. Marra
Area: Engineering.

EN.530.414. Computer-Aided Design. 3 Credits.
The course outlines a modern design platform for 3D modeling, analysis, simulation, and manufacturing of mechanical systems using the “Pro/E” package by PTC. The package includes the following components:
• Pro/ENGINEER: is the kernel of the design process, spanning the entire product development, from creative concept through detailed product definition to serviceability.
• Pro/MECHANICA: is the main analysis and simulation component for kinematic, dynamic, structural, thermal and durability performance.
• Pro/NC: is a numeric-control manufacturing package. This component provides NC programming capabilities and tool libraries. It creates programs for a large variety of CNC machine tools.
Instructor(s): D. Stoianovici
Area: Engineering.

EN.530.420. Robot Sensors/Actuators. 4 Credits.
Introduction to modeling and use of actuators and sensors in mechatronic design. Topics include electric motors, solenoids, micro-actuators, position sensors, and proximity sensors.
Prerequisites: (171.101 and 171.102 or 530.103 and 530.104), and 110.108 and 110.109, and (110.202 or 110.211), and (EN.550.291 or AS.110.302) and (EN.530.241 or EN.520.345)
Instructor(s): D. Kraemer
Area: Engineering.

EN.530.424. Dynamics of Robots and Spacecraft. 3 Credits.
An introduction to Lagrangian mechanics with application to robot and spacecraft dynamics and control. Topics include rigid body kinematics, efficient formulation of equations of motion, stability theory, and Hamilton’s principle.
Instructor(s): G. Chirikjian
Area: Engineering.

EN.530.420. Robot Sensors/Actuators. 4 Credits.
Introduction to modeling and use of actuators and sensors in mechatronic design. Topics include electric motors, solenoids, micro-actuators, position sensors, and proximity sensors.
Prerequisites: (171.101 and 171.102 or 530.103 and 530.104), and 110.108 and 110.109, and (110.202 or 110.211), and (EN.550.291 or AS.110.302) and (EN.530.241 or EN.520.345)
Instructor(s): D. Kraemer
Area: Engineering.

EN.530.454. Manufacturing Engineering. 3 Credits.
An introduction to the various manufacturing processes used to produce metal and nonmetal components. Topics include casting, forming and shaping, and the various processes for material removal including computer-controlled machining. Simple joining processes and surface preparation are discussed. Economic and production aspects are considered throughout. Open only to seniors in Mechanical Engineering and Engineering Mechanics and other majors at all levels.
Instructor(s): Y. Ronzhes
Area: Engineering.

EN.530.495. Microfabrication Laboratory. 4 Credits.
This laboratory course is an introduction to the principles of microfabrication for microelectronics, sensors, MEMS, and other synthetic microsystems that have applications in medicine and biology. Course comprised of laboratory work and accompanying lectures that cover silicon oxidation, aluminum evaporation, photoresist deposition, photolithography, plating, etching, packaging, design and analysis CAD tools, and foundry services. Seniors only or Permission Required.
Instructor(s): A. Andreou; J. Wang
Area: Engineering, Natural Sciences.

EN.530.616. Introduction to Linear Systems.
This course examines linear, discrete- and continuous-time, and multi-input-output systems in control and related areas. Least squares and matrix perturbation problems are considered. Topics covered include linear time-invariant and time-varying input/output systems in control and related areas. Least squares and matrix perturbation problems are considered. Topics covered include state-space models, stability, controllability, observability, transfer function matrices, realization theory, feedback compensators, state feedback, optimal regulation, observers, observer-based compensators, measures of control performance, and robustness issues using singular values of transfer functions. ME EN.530.616 can be used to fulfill the requirement of BME EN.580.616 or ECE EN.520.601.

EN.530.646. Robot Devices, Kinematics, Dynamics, and Control.
Graduate-level introduction to the mechanics of robotic systems with emphasis on the mathematical tools for kinematics and dynamics of robot arms and mobile robots. Topics include the geometry and mathematical representation of rigid body motion, forward and inverse kinematics of articulated mechanical arms, trajectory generation, manipulator dynam-ics, actuation, and design issues, manipulator control, and additional special topics. Recommended course background: multivariable integral and differential calculus, classical physics, linear algebra, ordinary differential equations. Programming: Knowledge of the Matlab programming language including data input/output, 1-D and 2-D arrays, and user-defined function calls. Students with experience with these language elements in other programming languages (C, C++, Python, Java, etc.) should be able to self-tutor themselves in the Matlab language as part of the programming exercises.
Instructor(s): N. Cowan.
This course is a survey of group theory with an emphasis on applications in mechanical design research. In particular, the representation theory of finite groups, compact Lie groups, and certain noncompact unimodular groups is reviewed, and Fourier analysis on these groups is applied as a tool in design problems. The concentration is on applications in CAD, discrete and computational geometry, and robotics. Specific applications include modern interpolation, deformation of solid models, and pattern matching.
Instructor(s): G. Chirikjian.
Area: Engineering, Quantitative and Mathematical Sciences.

EN.530.653. Advanced Systems Modeling.
This course covers the following topics at an advanced level: Newton’s laws and kinematics of systems of particles and rigid bodies; Lagrange’s equations for single- and multi-degree-of-freedom systems composed of point masses; normal mode analysis and forced linear systems with damping, the matrix exponential and stability theory for linear systems; nonlinear equations of motion: structure, passivity, PD control, noise models and stochastic equations of motion; manipulator dynamics: Newton-Euler formulation, Langrange, Kane’s formulation of dynamics, computing torques with O(n) recursive manipulator dynamics; Luh-Walker-Paul, Hollerbach, O(n) dynamic simulation: Rodrigues-Jain-Kreutz, Saha, Fixman. There is also an individual course project that each student must do which related the topics of this course to his or her research.
Instructor(s): G. Chirikjian.
Area: Engineering, Quantitative and Mathematical Sciences.

EN.530.660. Computational Analysis of Stochastic Processes.
This class will cover stochastic processes (including both discrete and continuous time, and including both discrete and continuous state), leading to a rigorous treatment of stochastic differential equations and filtering, emphasizing computation. The class will draw from examples relevant to engineering, such as the Kalman filter. The course will comprehensively, but rapidly review all needed material in probability and statistics.
Prerequisites: 580.616 or 530.616 Linear Dynamical Systems.

EN.530.661. Applied Mathematics for Engineering.
This course presents a broad survey of the basic mathematical methods used in the solution of ordinary and partial differential equations: linear algebra, vector calculus, power series, Fourier series, separation of variables, integral transforms.
Instructor(s): M. Hilpert.
Area: Engineering, Quantitative and Mathematical Sciences.

EN.530.676. Locomotion in Mechanical and Biological Systems.
Advanced graduate course on the mechanics of locomotion in animals and machines, and neural control of locomotion. Terrestrial, aquatic, and aerial locomotion modes are considered. Topics include dynamical systems theory, linear and nonlinear differential equations, Poincaré and Floquet theory, and system identification techniques. Recommended Course Background: graduate course in robotics, controls, or dynamical systems theory, and a basic understanding of probability theory; or permission of instructor.
Instructor(s): N. Cowan.
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.291. Linear Algebra and Differential Equations. 4 Credits.
An introduction to the basic concepts of linear algebra, matrix theory, and differential equations that are used widely in modern engineering and science. Intended for engineering and science majors whose program does not permit taking both AS.110.201 and AS.110.302.
Prerequisites: ( AS.110.106 OR AS.110.108 ) AND ( AS.110.107 OR AS.110.109 )
Instructor(s): W. Hacker
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.437. Statistical Learning With Applications. 3 Credits.
Statistical modeling and inference, inductive learning and information theory together provide a cohesive framework for machine perception, which amounts to building a data-description machine converting physical measurements (images, molecular counts, etc.) to interpretations or descriptions. Recurring themes include quantifying uncertainty, estimating generalization error, Occam’s razor, the bias/variance dilemma and small-sample learning. Various problems in computational vision and computational biology will be analyzed in this context, including visual tracking, object recognition, cancer diagnosis, neural decoding and learning molecular networks.
Instructor(s): E. Younes
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.457. Topics in Operations Research: Supply Chains: Models and Analyses. 3 Credits.
Sports provide interesting topics for a variety of mathematical analyses (optimization, statistical, etc.) The course will discuss a number of these applications.
Prerequisites: EN.550.361 and general mathematical maturity
Area: Engineering, Quantitative and Mathematical Sciences.

EN.550.493. Mathematical Image Analysis. 3 Credits.
Prerequisites: ( AS.110.202 or AS.110.211 ) AND ( AS.110.201 or EN.550.291 )
Instructor(s): E. Younes
Area: Engineering, Quantitative and Mathematical Sciences.

Design and analysis of mainstream algorithms for solving optimal control, statistical/machine learning, financial engineering, compressed sensing, robust principal component analysis, sparse optimization, and structural engineering problems. Algorithms may include: sequential quadratic programming methods, interior-point methods, stochastic gradient descent algorithm, dual averaging algorithm, limited memory quasi-Newton methods, fast iterative shrinkage-thresholding algorithm, Pegasos, alternating linearization augmented Lagrangian methods, the support vector machine, Bender’s Algorithm, and the method of moving asymptotes. However, other algorithms may be covered depending on the interests of the students. The goals of the course include (i) understanding the algorithms, why they work, and when they should be used; (ii) recognizing the strengths and weaknesses of each algorithm; and (iii) motivating/discussing open research questions.
Instructor(s): D. Robinson.

EN.580.471. Principles of Design of BME Instrumentation. 4 Credits.
This core design course will cover lectures and hands-on labs. The material covered will include fundamentals of biomedical sensors and instrumentation, FDA regulations, designing with electronics, biopotentials and ECG amplifier design, recording from heart, muscle, brain, etc., diagnostic and therapeutic devices (including pacemakers and defibrillators), applications in prosthetics and rehabilitation, and safety. The course includes extensive laboratory work involving circuits, electronics, sensor design and interface, and building complete biomedical instrumentation. The students will also carry out design challenge projects, individually or in teams (examples include “smart cane for blind,” “computer interface for quadriplegic”). Students satisfying the design requirement must also register for EN.580.571.
Lab Fee: $150. Recommended Course Background: EN.520.345
Instructor(s): E. Younes
Area: Engineering, Natural Sciences.
EN.580.472. Medical Imaging Systems. 3 Credits.  
An introduction to the physics, instrumentation, and signal processing methods used in general radiography, X-ray computed tomography, ultrasound imaging, magnetic resonance imaging, and nuclear medicine. The primary focus is on the methods required to reconstruct images within each modality, with emphasis on the resolution, contrast, and signal-to-noise ratio of the resulting images. Cross-listed with Neuroscience and Electrical and Computer Engineering (EN.520.432).  
**Prerequisites:** EN.580.222 OR EN.520.214  
Instructor(s): J. Prince  
Area: Engineering.  
EN.600.120. Intermediate Programming. 4 Credits.  
This course teaches intermediate to advanced programming, using C and C++. (Prior knowledge of these languages is not expected.) We will cover low-level programming techniques, as well as object-oriented class design, and the use of class libraries. Specific topics include pointers, dynamic memory allocation, polymorphism, overloading, inheritance, templates, collections, exceptions, and others as time permits. Students are expected to learn syntax and some language specific features independently. Course work involves significant programming projects in both languages. Recommended Course Background: EN.600.107 or EN.600.226, EN.600.111/EN.600.112 or equivalent.  
Instructor(s): A. Teichert; J. Selinski; S. Smith  
Area: Engineering.  
This class will cover machine learning techniques for modeling and segmentation of multivariate mixed data. Topics will include subspace learning (PCA, Probabilistic PCA, Robust PCA, Sparse representation, Rank minimization), manifold learning (Kernel PCA, LLE, Isomap), subspace clustering (K-subspaces, Mixtures of PPCAs, Generalized PCA, Sparse subspace clustering), and manifold clustering (LLMC). These methods will be applied to several problems in computer vision, biomedical imaging, neuroscience, and computational biology.  
EN.600.226. Data Structures. 4 Credits.  
This course covers the design and implementation of data structures including collections, sequences, trees, and graphs. Other topics include sorting, searching, and hashing. Course work involves both written homework and Java programming assignments. Recommended Course Background: EN.600.107 or EN.600.120 or equivalent.  
Instructor(s): S. More  
Area: Engineering, Quantitative and Mathematical Sciences.  
EN.600.435. Artificial Intelligence. 3 Credits.  
Students may receive credit for EN.600.335 or EN.600.435, not both. Graduate level version of EN.600.335 [Applications]. Prerequisite: EN.600.226, EN.550.171; Recommended: linear algebra, prob/stat.  
Instructor(s): B. Mitchell  
Area: Engineering.  
EN.600.436. Algorithms for Sensor-Based Robotics. 3 Credits.  
This course surveys the development of robotic systems for navigating in an environment from an algorithmic perspective. It will cover basic kinematics, configuration space concepts, motion planning, and localization and mapping. It will describe these concepts in the context of the ROS software system, and will present examples relevant to mobile platforms, manipulation, robotics surgery, and human-machine systems. [Analysis] Formerly EN.600.336. Students may receive credit for only one of EN.600.336, EN.600.436 and EN.600.636.  
**Prerequisites:** EN.600.226 and Linear Algebra and Probability  
Instructor(s): G. Hager  
Area: Engineering.  
This course focuses on computer-based techniques, systems, and applications exploiting quantitative information from medical images and sensors to assist clinicians in all phases of treatment from diagnosis to preoperative planning, execution, and follow-up. It emphasizes the relationship between problem definition, computer-based technology, and clinical application and includes a number of guest lectures given by surgeons and other experts on requirements and opportunities in particular clinical areas. Required Course Background: AS.110.201 or permission of instructor. Recommended Course Background: EN.600.120, EN.600.457, EN.600.461, image processing.  
**Prerequisites:** EN.600.226  
Instructor(s): R. Taylor  
Area: Engineering.  
EN.600.446. Computer Integrated Surgery II. 3 Credits.  
This weekly lecture/seminar course addresses similar material to EN.600.445, but covers selected topics in greater depth. In addition to material covered in lectures/seminars by the instructor and other faculty, students are expected to read and provide critical analysis/presentations of selected papers in recitation sessions. Students taking this course are required to undertake and report on a significant term project under the supervision of the instructor and clinical end users. Typically, this project is an extension of the term project from EN.600.445, although it does not have to be. Grades are based both on the project and on classroom recitations. Students wishing to attend the weekly lectures as a 1-credit seminar should sign up for EN.600.452. Students may also take this course as EN.600.464. The only difference between EN.600.446 and EN.600.646 is the level of project undertaken. Typically, EN.600.646 projects require a greater degree of mathematical, image processing, or modeling background. Prospective students should consult with the instructor as to which course number is appropriate. [Applications] Students may receive credit for EN.600.446 or EN.600.646, but not both.  
**Prerequisites:** Prereq for EN.600.446: EN.600.445 or permission  
Instructor(s): R. Taylor  
Area: Engineering.
EN.600.461. Computer Vision. 3 Credits.
This course gives an overview of fundamental methods in computer vision from a computational perspective. Methods studied include: camera systems and their modelling, computation of 3-D geometry from binocular stereo, motion, and photometric stereo; and object recognition. Edge detection and color perception are covered as well. Elements of machine vision and biological vision are also included. Students may receive credit for at most one of EN.600.361 or EN.600.461 or EN.600.661. [Applications] Prerequisites (soft): intro programming, linear algebra, and prob/stat. 
Prerequisites: If you have completed EN.600.361 OR EN.600.461 you cannot enroll in EN.600.461.
Instructor(s): R. Vidal
Area: Engineering, Quantitative and Mathematical Sciences.

EN.600.475. Introduction to Machine Learning. 3 Credits.
This course takes an application driven approach to current topics in machine learning. The course covers supervised learning (classification/structured prediction/regression/ranking), unsupervised learning (dimensionality reduction, bayesian modeling, clustering) and semi-supervised learning. Additional topics may include reinforcement learning and learning theory. The course will also consider challenges resulting from learning applications, such as transfer learning, multi-task learning and large datasets. We will cover popular algorithms (naive Bayes, SVM, perceptron, HMM, winnow, LDA, k-means, maximum entropy) and will focus on how statistical learning algorithms are applied to real world applications. Students in the course will implement several learning algorithms and develop a learning system for a final project. [Applications] Recommended Course Background: multivariate calculus.
Instructor(s): M. Dredze
Area: Engineering.

Graduate level version of EN.600.436 (see description above). Formerly EN.600.436. Students may receive credit for only one of EN.600.336, EN.600.436 or EN.600.636. Recommended Course Background: EN.600.226, AS.110.106, and Prob/Stat. 
Prerequisites: Students may receive credit for only one of EN.600.336, EN.600.436 and EN.600.636.
Instructor(s): G. Hager.

EN.600.646. Computer Integrated Surgery II. 
Students may receive credit for EN.600.446 or EN.600.646, but not both. Advanced version of EN.600.446. [Applications] 
Prerequisites: EN.600.445 OR PERMISSION OF INSTRUCTOR
Instructor(s): R. Taylor.

EN.600.660. FFT in Graphics & Vision.
In this course, we will study the Fourier Transform from the perspective of representation theory. We will begin by considering the standard transform defined by the commutative group of rotations in 2D and translations in two- and three-dimensions, and will proceed to the Fourier Transform of the non-commutative group of 3D rotations. Subjects covered will include correlation of images, shape matching, computation of invariances, and symmetry detection. Recommended Course Background: AS.110.201 and comfort with mathematical derivations.
Instructor(s): M. Kazhdan.

EN.600.661. Computer Vision. 
Graduate version of EN.600.461. Students may receive credit for at most one of EN.600.361 or EN.600.461 or EN.600.661. [Applications] Prerequisites (soft): intro programming, linear algebra, and prob/stat. 
Prerequisites: If you have completed EN.600.361 OR EN.600.461 you cannot enroll for EN.600.661.
Instructor(s): R. Vidal

EN.600.735. Seminar in Machine Learning. 
This seminar course will look at research in machine learning. Topics will be selected from those of mutual interest between students and the instructor. Sample topics include reinforcement learning, kernel methods, experimental methods in machine learning, computational learning theory, lazy learning, evolutionary computation, and neural networks. Students are expected to select papers and lead discussion. 
Instructor(s): J. Sheppard.
For current faculty and contact information go to https://www.lcsr.jhu.edu/Faculty

Faculty
Professors
Gregory Chirikjian

Ralph Etienne-Cummings
Professor (Electrical and Computer Engineering): Neuromorphic Computational Sensing and Integrated Microsystems; Courses: CAD Design of Digital VLSI Systems, Electronics Design Laboratory, Product Design Laboratory, Large Scale Analog Computation.

Gregory Hager
Professor (Computer Science): Computer Vision, Human-Machine Systems, Medical Applications; Courses: Computer Vision, Artificial Intelligence, Algorithms for sensor-based robotics.

Nassir Navab
Professor (Computer Science): Robotics, Vision and Graphics Group

Jerry Prince
Professor (Electrical and Computer Engineering): Medical Imaging and Computer Vision; Courses: Medical Imaging Systems.

Dan Stoianovici
Robotics Faculty with Secondary Appointments in the Whiting School of Engineering: Professor (Urology, Mechanical Engineering, Neurosurgery): Medical Robotics; Mechanical Design; Courses: Computer Aided Design.

Russell Taylor
Professor (Computer Science): Medical Robotics and Computer-Integrated Interventional Systems, Medical Imaging and Modeling; Courses: Computer Integrated Surgery I & II.

Louis Whitcomb

Associate Professors
Mehran Armand
Robotics Faculty with Secondary Appointments in the Whiting School of Engineering: Associate Research Professor (Applied Physics Laboratory): Medical Robotics and Computer-Integrated Interventional Systems; Biomechanics; Courses: Kinematics and Dynamics of Robots, Robot Control.

Noah Cowan
Associate Professor (Mechanical Engineering): Robotics, Dynamics, Controls, Locomotion, System Identification.

Rene Vidal
Associate Professor (Biomedical Engineering): Biomedical Imaging, Computer Vision and Machine Intelligence; Courses: Introduction to Linear Systems, Advanced Topics in Computer Vision, Advanced Topic in Machine Learning.

Assistant Professors

Emad Boctor
Robotics Faculty with Secondary Appointments in the Whiting School of Engineering: Assistant Professor (Radiology): Interventional Ultrasound.

Dennice Gayme
Assistant Professor (Mechanical Engineering): Dynamics and control of nonlinear, networked and spatially distributed systems. Applications include: the electric power grid, wall turbulence and wind farms. Courses: Nonlinear Dynamical Systems, Energy Systems Analysis.

Suchi Saria
Assistant Professor (Computer Science): Computational healthcare; machine learning; probabilistic graphical models; human-centric dynamical systems.

Assistant Research Professor

Iulian Iordachita
Assistant Research Professor (Mechanical Engineering): Medical Robotics; Mechanical Design

Marin Kobilarov
Assistant Professor (Mechanical Engineering): Computational Dynamical Systems, Robot Control and Motion Planning; Courses: Nonlinear control and planning in robotics.

Austin Reiter
Assistant Professor (Computer Science)

Associate Research Professor

Peter Kazanzides
Associate Research Professor (Computer Science): Medical Robotics; Space Robots; Software Systems and Architectures; Robot Control Systems.
Faculty Listings

Select the school faculty tab for a complete listing of Johns Hopkins University faculty on the Homewood campus.

In listing the members of the teaching staff of the School of Arts and Sciences, the date in parentheses indicates the year of original appointment. Joint appointments or directorships are listed last.

Emeritus Faculty

Professors Emeriti

John Baldwin, Ph.D.
Charles Homer Haskins Professor Emeritus History

Charles Albro Barker, Ph.D.
American History

Stephen Barker, Ph.D.
Philosophy

John Barth, M.A.
The Writing Seminars

Michael Beer, Ph.D.
Biophysics

Maurice Bessman, Ph.D.
Biology

John Boardman, Ph.D.
Mathematics

Luigi Burzio, Ph.D.
Cognitive Science

Chih Yung Chien, Ph.D.
Physics and Astronomy

Carl F. Christ, Ph.D.
Economics

Jerrold Cooper, Ph.D.
W.W. Spence Professor Emeritus of Semitic Languages Near Eastern Studies

Joseph Cooper, Ph.D.
Political Science

Matthew Crenson, Ph.D.
Political Science

Charles Dempsey, Ph.D.
History of Art

Marcel Detienne, Ph.D.
Classics

Gabor Domokos, Ph.D.
Physics and Astronomy

Doris Entwisle, Ph.D.
Sociology

Douglas Fambrough, Ph.D.
Biology

Frances Ferguson, Ph.D.
English

George Fisher, Ph.D.
Earth and Planetary Sciences

Richard Flathman, Ph.D.
Political Science

Robert Forster, Ph.D.
History

Thomas Fulton, Ph.D.
Physics and Astronomy

Hans Goedicke, Ph.D.
Near Eastern Studies

Richard Goldthwaite, Ph.D.
History

Bert Green, Ph.D.
Psychological and Brain Sciences

Jack Greene, Ph.D.
History

Allen Grossman, Ph.D.
English

Joel Grossman, Ph.D.
English

Bruce Hamilton, Ph.D.
Economics

Neil Hertz, M.A.
Humanities Center; English

John Holland, Ph.D.
Social Relations

J. Woodford Howard, Ph.D.
Thomas P. Stran Professor Emeritus
Political Science

Jun-ichi Igusa, Ph.D.
Mathematics

Brian R. Judd, Ph.D.
Gerhard H. Dieke Professor Emeritus
Physics and Astronomy

Herbert L. Kessler, M.F.A.
History of Art

Chung Kim, Ph.D.
Physics and Astronomy

Melvin Kohn, Ph.D.
Sociology

Susan Kovesi-Domokos, Ph.D.
Physics and Astronomy
Faculty Listings

Lieselotte E. Kurth, Ph.D.
German

Yung K. Lee, Ph.D.
Physics and Astronomy

Vernon Liptke, Ph.D.
History

Warner Love, Ph.D.
Biophysics

Georg Luck, Ph.D.
Classics

Richard Macksey, Ph.D.
Humanities Center

Henry Maguire, Ph.D.
History of Art

Richard E. McCarty, Ph.D.
William D. Gill Professor Emeritus of Biology

James B. Knapp Dean Emeritus
Zanvyl Krieger School of Arts and Sciences

Edward L. McDill, Ph.D.
Sociology

Jean-Pierre Meyer, Ph.D.
Mathematics

Sidney Mintz, Ph.D.
William L. Strauss Professor Emeritus
Anthropology

Brown L. Murr, Ph.D.
Chemistry

Stephen Nichols, Ph.D.
James M. Beall Professor Emeritus
German and Romance Languages and Literatures

Alex Nickon, Ph.D.
Chemistry

Paul R. Olson, Ph.D.
Hispanic and Italian Studies

Takashi Ono, Ph.D.
Mathematics

Thomas Osborn, Ph.D.
Earth and Planetary Sciences

Ronald Paulson, Ph.D.
English

Aihud Pevsner, Ph.D.
Jacob L. Hain Professor Emeritus
Physics and Astronomy

John G. A. Pocock, Ph.D.
Harry C. Black Professor Emeritus
History

Orest Ranum, Ph.D.
History

Pamela Reynolds, Ph.D.
Anthropology

Dean W. Robinson, Ph.D.
Chemistry

Willie Lee Rose, Ph.D.
History

Dorothy Ross, Ph.D.
Arthur O. Lovejoy Professor Emerita of History

Jerome Schneewind, Ph.D.
Philosophy

Allen Shearn, Ph.D.
Biology

Nancy Struever, Ph.D.
Humanities Center and History

James C. Walker, Ph.D.
Physics and Astronomy

Mack Walker, Ph.D.
History

H. Peyton Young, Ph.D.
Scott and Barbara Black Professor Emeritus
Economics

Larzer Ziff, Ph.D.
Caroline Donovan Professor of English Literature Emeritus
English

Professors

Peter Achinstein (1962)
Professor, Philosophy

Sharon Achinstein (2014)
Professor, English
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A.B. 1992, Dartmouth University
M.Phil, M.A. 1992, Columbia University, Ph.D. 1998

Judith Walkowitz (1989)
Professor, History
A.B. 1967, University of Rochester, M.A. 1968, Ph.D. 1974
Ronald Walters (1970)
Professor, History
A.B. 1963, Stanford
M.A. 1965, UC Berkeley, Ph.D. 1971
Darryn W. Waugh (1997)
Professor, Earth and Planetary Sciences
B.S. 1985, University of Waikato; M.S. 1987
Ph.D. 1991, University of Cambridge
Hal Weaver (2006)
Research Professor, Physics and Astronomy
Kimberly Weaver (1998)
Adjunct Professor, Physics and Astronomy
Bernadette Wegenstein (2006)
Research Professor, German and Romance Languages and Literatures
David Weishampel (2006)
Adjunct Professor, Biology
Beverly R. Wendland (1998)
Professor and Chair, Biology; Biophysics
B.S. 1986, UC San Diego; Ph.D. 1994, Stanford
Meredith Williams (2000)
Professor, Philosophy
B.A. 1969, New York University
M.A. 1970, University of Chicago
Ph.D. 1974, New York University
Michael Williams (2000)
Professor and Chair, Philosophy
Krieger-Eisenhower Professor
B.A. 1968, Oxford University
Ph.D. 1973, Princeton
Robert Williams (11/1993)
Adjunct Professor, Physics and Astronomy
Associate Professor, Cognitive Science
B.A. 1995, University of Colorado
Ph.D. 2000, Johns Hopkins University
W. Stephen Wilson (1977)
Professor, Mathematics
Nathaniel Winstead (2010)
Assistant Research Professor, Earth and Planetary Sciences
Sarah Woodson (3/1999)
Professor, Biophysics; Biology
Thomas C. Jenkins Professor of Biophysics
B.A. 1982, Kalamazoo College
Ph.D. 1987, Yale
Jonathan Wright (2008)
Professor, Economics
B.A. 1990, Trinity College, Dublin
M.Sc. 1992, London School of Economics
A.M. 1995, Harvard University, Ph.D. 1997
Rosemary Wyse (1987)
Professor, Physics and Astronomy
B.Sc. 1978, University of London
Ph.D. 1982, University of Cambridge
Steven Yantis (1986)
Professor and Chair, Psychological and Brain Sciences
Cognitive Science B.S. 1978, University of Washington
Ph.D. 1985, University of Michigan
David R. Yarkony (1977)
Professor, Chemistry
D. Mead Johnson Professor of Chemistry
B.A. 1971, SUNY Stony Brook
Ph.D. 1975, UC Berkeley
Michael Yassa (2011)
Assistant Professor, Psychological and Brain Sciences
B.A. 2002; M.A. 2007, Johns Hopkins University
Ph.D. 2010, University of California, Irvine
Dimitrios Yatromanolakis (2003)
Associate Professor, Classics; Anthropology
Humanities Center
B.A. 1992, University of Athens
M.St. 1993, D.Phil. 1998, University of Oxford
David Yezzi (2014)
Associate Professor, The Writing Seminars
H. Peyton Young (2009)
Research Professor, Economics
Emily Zackin (2013)
Assistant Professor, Political Science
B.A. 2002, Swarthmore College
M.A. 2004, Columbia; Ph.D. 2010, Princeton
Benjamin Zaitchik (2008)
Assistant Professor, Earth and Planetary Sciences
A.B. 1998, Harvard University
M.S. 2001, Cornell University
Ph.D. 2006, Yale University
Nadia Zakamska (2010)
Assistant Professor, Physics and Astronomy
B.Sc. 1999; M.Sc. 2001, Moscow Institute of Physics and Technology
Ph.D. 2005, Princeton University
Alessandro Zannirato (2005)
Associate Teaching Professor, German and Romance Languages and Literatures
David Zappulla (2008)
Assistant Professor, Biology
B.A. 1995, Middlebury College
Ph.D. 2002, Stony Brook University
Melinda Zeder (2001)
Adjunct Professor, Near Eastern Studies
Haiqing Zhao (2002)
Associate Professor, Biology
B.S. 1985, Beijing University, M.S. 1988
Ph.D. 1997, Yale University

Yixian Zheng (1999)
Adjunct Professor, Biology

Larzer Ziff (1/2000)
Research Professor, English

Steven Zucker (1984)
Professor, Mathematics

Other Faculty Appointments

Lecturers

Fadel Abdallah, M.S.
Center for Language Education-Arabic 2007

Muhammed Alan, Ph.D.
Mathematics 2009

Bruce Anderson Alan, Ph.D.
Senior Lecturer
German and Romance Languages and Literatures 2010

Austin Allen, M.F.A
Lecturer
The Writing Seminars 2014

Emily Anderson, Ph.D.
Classics 2010

Catherine R. Arthur, M.A.
History 2008

Flavia Azeredo Cerqueira, Ph.D.
Lecturer
German and Romance Languages and Literatures 2014

Sanchita Balachandran, M.A.
Senior Lecturer, Near Eastern Studies
Curator JH Archaeological Museum

Carl Bausch, J.D.
Earth and Planetary Sciences

Turgay Bayraktar, Ph.D.
Mathematics 2011

Donald Berger, M.A.
Lecturer
Expository Writing Program in the Department of English

Glenn Blake, M.A.
Senior Lecturer
The Writing Seminars 2006; 2008

Anne Elizabeth Brodsky, Ph.D.
English (EWP) 2007

Richard Brown, Ph.D.
Senior Lecturer
Mathematics 2009

Lucy Bucknell, M.A.
Senior Lecturer
The Writing Seminars 2000; 2008

Jerry Burgess, Ph.D.
Lecturer
Earth and Planetary Sciences 2014

Beatrice Caplan, Ph.D.
German and Romance Languages and Literatures 2006

Amanda Charrier, Ph.D
Lecturer
Earth and Planetary Sciences 2014

Aiguo Chen, M.A.
Center for Language Education-Chinese 2008

Xin Chen, Ph.D.

Joan Chen-Main, Ph.D.
Cognitive Science 2012

Clay Cogswell, M.F.A.
The Writing Seminars 2010

Zri Y. Cohen, Ph.D.
Center for Language Education-Hebrew 2011

Kristin Cook-Gailloud, Ph.D.
Senior Lecturer
German and Romance Languages and Literatures 2009

Tristan Davies, M.A.
Senior Lecturer
The Writing Seminars 1987; 1997

Lisa DeLeonardis, Ph.D.
Senior Lecturer, History of Art 2004

Linda DeLibero, M.A.
Senior Lecturer, Writing Seminars 2001
Director, Film and Media Studies

Margaret Denithorne
The Writing Seminars
(Program in Theater Arts and Studies) 2007

Larissa D'Souza, Ph.D.
Senior Lecturer, Chemistry 2012

William Evans, M.F.A., M.A.
Senior Lecturer, English 2005

Emily Fisher, Ph.D.
Biology 2008

Carolyn Fitch, Ph.D.
Senior Lecturer, Biophysics 2012

Patrick Fleming, Ph.D.
Senior Lecturer
Biophysics 2004; 2007

Robert Ford, M.A.
Lecturer
Political Science 2014
Heather Roberts Fox, Ph.D.
Psychological and Brain Sciences 2011

Robert Freedman, Ph.D.
Adjunct Professor
Political Science 2006

Paula Gefaell-Borras
German and Romance Languages and Literatures 2008

James Glossman
The Writing Seminars
(Program in Theater Arts and Studies) 2004

Aaron Goodfellow, Ph.D.
Senior Lecturer, Anthropology 2012

Aaron Goodfellow, Ph.D.
Senior Lecturer, Anthropology 2010

James D. Goodyear, Ph.D.
Senior Lecturer
Associate Director, Public Health Studies Program 2000

John Grasser, M.F.A.
Lecturer
The Writing Seminars 2014

Stuart Gray, Ph.D.
Lecturer
Political Science 2014

Jane Greco, Ph.D.
Senior Lecturer, Chemistry 2006

Nishanth Gudapati, Ph.D.
Visiting Lecturer, Mathematics 2014

Claude Guillemand, D.E.A.
Senior Lecturer
German and Romance Languages and Literatures 1991

Stephen Harris, J.D.
Sociology 1/1993 (part-time)

Floyd Hayes, Ph.D.
Senior Lecturer
Center for Africana Studies 2004
Coordinator, Programs in Africana Studies

Julia Heney, M.F.A.
Lecturer
The Writing Seminars, 2014

Robert Horner, Ph.D.
Senior Lecturer
Biology 1989

Audrey Huang, Ph.D.
Biology 2005

Aranzazu M. Hubbard, M.A.
German and Romance Languages and Literatures 2010

Ann Jarema, M.S.

Psychological and Brain Sciences 2007

Veronika Jicinska, Ph.D.
German and Romance Languages and Literatures 2010

Fumiko Joo, Ph.D.
Lecturer
East Asian Studies Program 2014

Gregory Kane
Lecturer
The Writing Seminars 2008 (part-time)

Choonwon Kang, Ph.D.
Center for Language Education-Korean 1990

Satoko Katagiri, M.A.
Center for Language Education-Japanese 2003

Kjerstin Kauffman, M.F.A.
Lecturer
The Writing Seminars 2014

Jian Kong, Ph.D.
Senior Lecturer
Mathematics 2004

Chris Kraft, Ph.D.
Psychological and Brain Sciences 2002

Huei-ying Kup, Ph.D.
Senior Lecturer, Sociology 2011

Senior Lecturer, The Writing Seminars

Lu Li, M.A.
Center for Language Education-Chinese 2010

Zhan Li, Ph.D.
Visiting Lecturer, Mathematics 2014

Limian Lievens, B.A.
Center for Language Education-Chinese 1996

Farrah Madison, Ph.D.
Psychological and Brain Sciences 2011

Sarah Manekin, B.A.
English 2008

John Mann, Ed.D.
Senior Lecturer
The Writing Seminars 2004; 2008

Joseph H. Martin, Ph.D.
The Writing Seminars
(Program in Theater Arts and Studies) 2007

Naiara Martinez-Velez, M.A.
German and Romance Languages and Literatures 2011

Laura Mason, Ph.D.
Senior Lecturer
History 2011

Don Mathis, Ph.D.
Cognitive Science 2012
Nathan McNamara, M.F.A.
Lecturer
The Writing Seminars 2014

David McNeal, M.A.
Center for Language Education-Chinese 2011

Robert Mintz, Ph.D.
Program in Museums and Society 2010

Arthur Molella, Ph.D.
Senior Lecturer
History of Science and Technology 2014

Alexios Monopolis, Ph.D.
Earth and Planetary Sciences 2012

Barbara Morgan, Ph.D.
Senior Lecturer
Economics 2006

Susan Morris, Ph.D.
Lecturer
History of Science and Technology 2014

Matthew Morton, M.F.A
Lecturer
The Writing Seminars 2014

Anne-Elizabeth Murdy Brodsky, Ph.D.
English 2007

Makiko Nakao, M.A.
Center for Language Education-Japanese 1994

Carolyn Norris, Ph.D
Senior Lecturer
Biology 2000

Marie Theresa O'Connor, Ph.D.
English 2010

Sakiko Olsen, Ph.D.
Senior Lecturer
Earth and Planetary Sciences 1996

George Oppel, Ph.D.
English 2010

Louise Pasternack, Ph.D.
Senior Lecturer
Chemistry 2001

Rebecca Pearlman, Ph.D.
Senior Lecturer
Biology 2001

Sergio Ruiz Perez, M.A.
German and Romance Languages and Literatures 2011

Martin Perschler, Ph.D.
History of Art 2009

Matthew Porterfield

The Writing Seminars (Film and Media Studies) 2008

Maria del Rosario Ramos, Ph.D.
German and Romance Languages and Literatures 2008

Ellen Robbins, Ph.D.
Near Eastern Studies 1992

Christov Roberson, Ph.D.
Biology 2012

Shannon Robinson, Ph.D.
Lecturer
The Writing Seminars 2014

Jimmy J. Roche, M.F.A.
The Writing Seminars-Film and Media Studies 2010

William Roche
The Writing Seminars (Program in Theater Arts and Studies) 2004

Mark Rom, Ph.D.
Political Science 2010

Sara Romero, M.A.
German and Romance Languages and Literatures 2012

Suzanne Roos, Ph.D.
Senior Lecturer
German and Romance Languages and Literatures 1993

Uma Saini, M.A.
Senior Lecturer
Center for Language Education-Hindi 2000

Steve Scafidi, M.F.A.
The Writing Seminars 2008

Scott Schmidt, M.P.P.
Lecturer
Political Sciences 2014

Richard Shingles, Ph.D.
Biology, 2005

Joanne Simpson
The Writing Seminars 1999

Daniel Stintzi, M.F.A.
Lecturer
The Writing Seminars 2014

Khalil Tahrawi, Ph.D.
Center for Language Education-Arabic 2004

Alexandra Tan, Ph.D.
Biophysics 2012

Elizabeth Thompson, M.F.A
Lecturer
The Writing Seminars 2014

Kathryn Tifft, Ph.D.
Biology 2012

Michelle Tracy, M.A.
German and Romance Languages and Literatures 2007
Jason Trageser, Ph.D.
Psychological and Brain Sciences 2011
Tina Trapani, Ph.D.
Senior Lecturer
Chemistry 1999
Jason Tyler, B.A.
The Writing Seminars (Film and Media Studies) 2011
Sydney Van Morgan, Ph.D.
Senior Lecturer
Sociology 2014
Magda von der Heydt, Ph.D.
Senior Lecturer
Sociology 2006
Christine Waddail, M.A.
Center for Language Education 2007
Kathryn Wagner, Ph.D.
Senior Lecturer
Political Science 2010
Program Coordinator Aitchison Program
Meredith Ward, M.A.
The Writing Seminars (Film and Media Studies) 2008
Sue Waterman, M.L.S.
German and Romance Languages and Literatures 2003
Aliza Watters, Ph.D.
Lecturer
Expository Writing Program in the Department of English
Barry Weingarten, Ph.D.
Senior Lecturer
German and Romance Languages and Literatures 1999
Heidi Wheeler, M.A.
Senior Lecturer
German and Romance Languages and Literatures 1999
Greg Williamson, M.A.
Senior Lecturer
The Writing Seminars 1989
April Wunsch, Ph.D.
Senior Lecturer
German and Romance Languages and Literatures 2004
Coordinator, French Elements
Julia Yarmolinskaya, Ph.D.
Cognitive Science 2011
Center for Language Education 2007
Nan Zhao, M.Ed.
Center for Language Education 2012

**Military Science**
Paul Carroll
Lieutenant Colonel

**Director and Professor of Military Science**
Laurie Forand
Major
Training and Operations Officer
Matthew Dusablon
Captain
Executive Officer
Erik Mineo
Captain, Director for Scholarship and Enrollment

**Joint Appointments**
Marilyn Albert, Ph.D.
Professor (Medicine)
Psychological and Brain Sciences 2005
Mariam Alexander, M.D., M.P.H.
Assistant Professor (Public Health)
Public Health Studies Program 2010
Richard Allen, Ph.D.
Assistant Professor (Medicine)
Psychological and Brain Sciences 1997
Nan Marie Astone, Ph.D.
Associate Professor (Public Health)
Sociology 1989
Jay Baraban, Ph.D.
Professor (Medicine)
Psychological and Brain Sciences 2007
Stanley Becker, Ph.D.
Professor (Public Health)
Public Health Studies Program 2008
David Bishai, Ph.D.
Associate Professor (Public Health)
Economics 2006
Public Health Studies Program 2008
Amanda Blackford, Sc.M.
Biostatistician (Medicine)
Public Health Studies Program 2010
Dana F. Boatman
Associate Professor (Medicine)
Cognitive Science 5/1993
Lee Bone, M.P.H., R.N.
Associate Professor (Public Health)
Public Health Studies Program 2010
Lynda Burton, Sc.D.
Adjunct Associate Professor (Public Health)
Public Health Studies Program 2010
Shiyi Chen, Ph.D.
Professor (Engineering)
Physics and Astronomy 4/2006
Lawrence Cheskin, M.D.
Associate Professor (Public Health)
Public Health Studies Program 2011
Nathaniel Comfort, Ph.D.
Associate Professor (Medicine)
History of Science and Technology 2004
Charles Edward Connor, Ph.D.
Professor (Medicine)
Director, Krieger Mind/Brain Institute
Psychological and Brain Sciences 2006
Leslie Cope, Ph.D., M.S.E.
Assistant Professor (Medicine)
Public Health Studies Program 2010
Robert Dalrymple, Ph.D.
Professor (Engineering)
Earth and Planetary Sciences 1/2002
John Desmond, Ph.D.
Associate Professor (Medicine)
Cognitive Science 2007
William Eaton, Ph.D.
Professor (Public Health)
Sociology 1989
David Edwin, Ph.D.
Associate Professor (Medicine)
Psychological and Brain Sciences 1990; 1999
Jason Eisner, Ph.D.
Associate Professor (Engineering)
Cognitive Science 2002
Margaret Ensminger, Ph.D.
Professor (Public Health)
Sociology 1992
Joshua Epstein, Ph.D.
Professor (Medicine)
Economics 2010
Greg Eyink, Ph.D.
Professor (Engineering)
Mathematics 2004
Physics and Astronomy 4/2006
Ruth Faden, Ph.D.
Professor (Public Health)
Policy Studies Program, Institute for Policy Studies
Arts and Sciences 9/1992
Michael Falk, Ph.D.
Professor (Engineering)
Physics and Astronomy 2009
Mary Fissell, Ph.D.
Professor (Medicine)
History 1/2007
History of Science and Technology 1/1992
Carolyn Furr-Holden, Ph.D.
Assistant Professor (Public Health)
Public Health Studies Program 2011
Kelly Gebo, M.D., M.P.H.
Associate Professor (Medicine)
Sociology 2008
Director, Public Health Studies Program, KSAS
Barry Gordon, M.D.
Professor (Medicine)
Cognitive Science 1992
Seth Guikema, Ph.D.
Assistant Professor (Engineering)
Earth and Planetary Sciences 2011
Steve Hanke, Ph.D.
Professor (Engineering)
Economics 1971
Marta Hanson, Ph.D.
Assistant Professor (Medicine)
History of Science and Technology 2005
Ciaran Harman, Ph.D.
Assistant Professor (Engineering)
Earth and Planetary Sciences 2014
Kevin Hemker, Ph.D.
Professor (Engineering)
Stewart Hendry, Ph.D.
Professor (Medicine)
Krieger Mind/Brain Institute
Psychological and Brain Sciences 1/2002
Argye Hillis-Trupe, Ph.D.
Professor (Medicine)
Cognitive Science 1999
Markus Hilpert, Ph.D.
Associate Research Scientist (Public Health)
Earth and Planetary Sciences 2014
Pien-Chien Huang, Ph.D.
Professor (Public Health)
Biophysics 2004
Takeru Igusa, Ph.D.
Professor (Engineering)
Earth and Planetary Sciences 2011
Scott Kahan, M.D., M.P.H.
Instructor (Public Health)
Public Health Studies Program 2010
Alfredo Kirkwood, Ph.D.
Associate Professor (Medicine)
Krieger Mind/Brain Institute
Psychological and Brain Sciences 1/2002

Pravin Krishna, Ph.D.
Professor (SAIS)
Economics 2004

Thomas LaVeist, Ph.D.
Professor (Public Health)
Sociology 1992
Public Health Studies Program 2008

Philip Leaf, Ph.D.
Professor (Public Health)
Public Health Studies Program 2010

Lori Leonard, Ph.D.
Associate Professor (Public Health)
Sociology 2011

Harry Marks, Ph.D.
Associate Professor (Medicine)
Anthropology 2005
History 1/2007
History of Science and Technology 5/1989

Guy McKhann, M.D.
Professor (Medicine)
Krieger Mind/Brain Institute Cognitive Science
Psychological and Brain Sciences 1/2002

Graham Mooney, Ph.D.
Assistant Professor (Medicine)
History of Science and Technology 2004

Vicente Navarro, Ph.D.
Professor (Public Health)
Sociology 1989
Policy Studies Program, Institute for Policy Studies
Arts and Sciences 9/1992

Sandra Newman, Ph.D.
Professor (Institute for Policy Studies, Director)
Sociology 2000

Jian Ni, Ph.D.
Assistant Professor (Business)
Economics 2011

Ernst Niebur, Ph.D.
Professor (Medicine)
Krieger Mind/Brain Institute
Psychological and Brain Sciences 1/2002

Mitsukuni Nishida, Ph.D.
Assistant Professor (Business)
Economics 2010

Catherine Norman, Ph.D.
Assistant Professor (Engineering)
Economics 2010

Randall Packard, Ph.D.
Professor (Medicine)
History 2003
History of Science and Technology 1/2002

Cindy Parker, M.D., M.P.H.
Assistant Professor (Public Health)
Earth and Planetary Sciences 2010

Elizabeth Patton
Senior Lecturer
Humanities Center 1999; 2014

Darcy Phelan, Ph.D.
Assistant Scientist (Public Health)
Public Health Studies Program 2011

Paula Pitha-Rowe, Ph.D.
Professor (Medicine)
Biology 2007

Gianna Pomata, Ph.D.
Professor (Medicine)
German and Romance Languages and Literatures 2010
History of Science and Technology 2008

Kenneth Rose, Ph.D.
Professor (Medicine)
Earth and Planetary Sciences 2011

Erica J. Schoenberger, Ph.D.
Professor (Engineering)
Anthropology 1989

Peter Searson, Ph.D.
Professor (Engineering)
Physics and Astronomy 2006

Robert Siliciano, M.D., Ph.D.
Professor (Medicine)
Biology 2007

Katherine Smith, Ph.D.
Associate Professor (Public Health)
Sociology 2005

Marc Stein, Ph.D.
Assistant Professor (Education)
Sociology 2012

Donald Steinwachs, Ph.D.
Professor (Public Health)
Public Health Studies Program 2010

Veit Stuphorn, Ph.D.
Professor (Medicine)
Psychological and Brain Sciences 2014

James Tielsch, Ph.D.
Professor (Public Health)
Public Health Studies Program 2010

Daniel Todes, Ph.D.
Professor (Medicine)
History of Science and Technology 1984

Michael Trush, M.P.H.
Professor (Public Health)
Public Health Studies Program 2010

Amy Ong Tsui, Ph.D.
Professor (Public Health)
Sociology 2002

Rudiger von der Heydt, Ph.D.
Professor (Medicine)
Krieger Mind/Brain Institute
Psychological and Brain Sciences 1/2002

David Weishample
Professor (Medicine)
Earth and Planetary Sciences 2012

Susan Weiss, Ph.D.
Chair/Faculty (Peabody)
German and Romance Languages and Literatures 2002

Peter Wilcock, Ph.D.
Professor (Engineering)
Earth and Planetary Sciences 2011

Michael Yu, Ph.D.
Associate Professor (Engineering)
Chemistry 2001

Scott Zeger, Ph.D.
Professor (Public Health)
Public Health Studies Program 2011

Barry Zirkin, M.P.H.
Professor (Public Health)
Public Health Studies Program 2010

In listing the members of the teaching staff of the School of Engineering, the date in parentheses indicates the year of original appointment. Any joint appointments or directorships are listed last.

Professors Emeriti

John Boland, Ph.D.
Geography and Environmental Engineering

Moise H. Goldstein Jr., D.Sc.
Electrical and Computer Engineering

Willis Gore
Electrical and Computer Engineering

Robert Green, Ph.D.
Materials Science and Engineering

Richard I. Joseph, Ph.D.
Electrical and Computer Engineering

Joseph L. Katz, Ph.D.
Chemical and Biomolecular Engineering

Jerome Kruger, Ph.D.
Materials Science and Engineering

C. Harvey Palmer Jr., Ph.D.
Electrical and Computer Engineering

Wilson J. Rugh, Ph.D.
Electrical and Computer Engineering

William Sharpe, PhD.
Mechanical Engineering

Eugene D. Shchukin, Ph.D.; Dr.Sc.
Research Professor Emeritus, Geography and Environmental Engineering

Charles (Roger) Westgate, Ph.D.
Electrical and Computer Engineering

Professors

Soumyadipta Acharya (2010)
Assistant Research Professor, Biomedical Engineering

Hedy Alavi (1997)
Associate Teaching Professor and Assistant Dean for International Programs
Geography and Environmental Engineering
B.S. 1972, Jundi Shapour University
M.B.A. 2006, The Johns Hopkins University; M.S. 1980, Ohio State University; Ph.D. 1983

Yair Amir (1995)
Professor, Computer Science
B.S. 1985, Technion, Haifa, M.S. 1990
Ph.D. 1995, Hebrew University of Jerusalem

Andreas Andreou (1987)
Professor, Electrical and Computer Engineering
B.S. 1978, Higher Technical Institute, Cyprus
M.S. 1982, Johns Hopkins University, Ph.D. 1986

Siamak Ardekani (2014)
Assistant Research Professor, Biomedical Engineering

Raman Arora (2014)
Assistant Professor, Computer Science
B.S. 2001, Netaji Subhas Institute of Technology
M.S. 2005, University of Wisconsin, Madison, Ph.D. 2009

Athreya Avanti (2011)
Assistant Research Professor, Applied Mathematics and Statistics

Joel Bader (2003)
Associate Professor, Biomedical Engineering
Computer Science
B.S. 1986, Lehigh University
Ph.D. 1989, UC Berkeley

William P. Ball (1992)
Professor, Geography and Environmental Engineering; Civil Engineering
B.S. 1976, University of Virginia
M.S. 1977, Stanford; Ph.D. 1990

Ishan Barman (2014)
Assistant Professor, Mechanical Engineering
B.S. 2005, Indian Institute of Technology
M.S. 2007, Massachusetts Institute foe Technology; Ph.D. 2011

Amitabh Basu (2013)
Assistant Professor, Applied Mathematics and Statistics
B.S. 2004, Indian Institute of Technology
M.S. 2006, Stony Brook University; Ph.D. 2010, Carnegie Mellon University

Alexis Battle (2014)
Assistant Professor, Computer Science
B.S. 2003, Stanford University; Ph.D. 2013

John Baty (2012)
Assistant Research Professor, Materials Science and Engineering

Michael J. Betenbaugh (1988)
Professor, Chemical and Biomolecular Engineering
B.S. 1981, University of Virginia
Ph.D. 1988, University of Delaware

Michael Bevan (2008)
Associate Professor, Chemical and Biomolecular Engineering
B.S. 1994, Lehigh University
Ph.D. 1999, Carnegie Mellon University

Edward J. Bouwer (1985)
Abel Wolman Professor and Chair, Geography and Environmental Engineering; Civil Engineering
B.S. 1977, Arizona State University
M.S. 1978, Stanford, Ph.D. 1982

Vladimir Braverman (2011)
B.S. 1998; M.S. 2004, Ben-Gurion University at Negev
Ph.D. 2011, University of California, Los Angeles

Grace S. Brush (1978)
Professor, Geography and Environmental Engineering
B.S. 1949, St. Francis Xavier University
M.S. 1951, University of Illinois
Ph.D. 1956, Harvard

Tamas Budavari (2014)
Assistant Professor, Applied Mathematics and Statistics
M.S. 1997, Eotvos Lorand University, Budapest; Ph.D. 2001

Randal Burns (2001)
Associate Professor, Computer Science
B.S. 1993, Stanford
M.S. 1997, UC Santa Cruz, Ph.D. 2000

Robert C. Cammarata (1987)
Professor, Materials Science and Engineering
Mechanical Engineering

Stephen Checkoway (2012)
Assistant Research Professor Computer Science

Kai Loon Chen (2008)
Assistant Professor, Geography and Environmental Engineering
B.E. 2001, University of Singapore; M. E. 2003, National University of Singapore
M.S. 2004, Yale University; Ph.D. 2008, Yale University.

Sang (Peter) Chin (2011)
Assistant Research Professor, Electrical and Computer Engineering

Gregory S. Chirikjian (1992)
Professor, Mechanical Engineering; Computer Science; Electrical and Computer Engineering;
Applied Mathematics and Statistics
B.S. 1988, Johns Hopkins University; M.S. 1988
Ph.D. 1992, California Institute of Technology

Noah Cowan (2003)
Associate Professor, Mechanical Engineering;
Computer Science
B.S. 1995, Ohio State, M.S., 1997
Ph.D. 2001 University of Michigan

Honggang Cui (2010)
Assistant Professor, Chemical & Biomolecular Engineering
B.S. 1999 Beijing University of Chemical Technology
M.S. 2002, Tsinghua University
Ph.D. 2007, University of Delaware

The Willard & Lillian Hackerman Professor,
Civil Engineering; Earth and Planetary Sciences in Arts and Sciences
A.B. 1967, Dartmouth
M.S. 1968, University of Hawaii
Ph.D. 1973, University of Florida

Nitin Daphalapurkar (2012)
Assistant Research Professor, Mechanical Engineering

Frederic M. Davidson (1970)
Professor, Electrical and Computer Engineering
B.S. 1964, Cornell
Ph.D. 1969, University of Rochester

Michael Dinitz (20141)
Assistant Professor, Computer Science
B.S. 2005, Princeton University
Ph.D. 2010, Carnegie Mellon University

Marc D. Donohue (1979)
Professor, Chemical and Biomolecular Engineering Director, Advanced Technology Lab
B.S. 1973, Clarkson College of Technology
Ph.D. 1977, UC Berkeley

Andrew S. Douglas (1983)
Professor, Mechanical Engineering; Biomedical Engineering
Vice Dean for Faculty, Whiting School of Engineering (2007)
B.S. 1975, University of Cape Town, M.S. 1977
Ph.D. 1982, Brown University

Jason Eisner (2000)
Associate Professor, Computer Science
B.S. 1990, Harvard; M.S. 1993, Cambridge University
Ph.D. 2001, University of Pennsylvania

Jafaar El-Awady (2010)
Assistant Professor, Mechanical Engineering
B.S. 2001 Cairo University M.S. 2003
Ph.D. 2008, University of California, Los Angeles

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Associate Professor, Electrical and Computer Engineering
B.S. 1998, Al Akhawayn University
M.S. 2003, University of Maryland; Ph.D. 2004
J. Hugh Ellis (1984)
Professor, Geography and Environmental Engineering; Chair, Civil Engineering
B.S. 1979, University of Waterloo, M.S. 1981, Ph.D. 1984

Jonah Erlebacher (2000)
Professor and Chair, Materials Science and Engineering
Chemical and Biomolecular Engineering
B.S. 1991, Yale; Ph.D. 1999, Harvard

Ralph R. Etienne-Cummings (1998)
Professor and Chair, Electrical and Computer Engineering
Associate Director of Education and Outreach Programs in the Engineering Research Center for Computer-Integrated Surgical Systems and Technology.
B.S. 1988, Lincoln University
Ph.D. 1995, University of Pennsylvania

Gregory Eyink (2002)
Professor, Applied Mathematics and Statistics; Mechanical Engineering: Mathematics (A&S)
B.S. 1981, Ohio State, Ph.D. 1987

Michael Falk (2008)
Professor, Materials Science and Engineering
B.A. 1990, Johns Hopkins University; M.S.E. 1991
Ph.D. 1998, University of California

James A. Fili (1988)
Professor, Applied Mathematics and Statistics
Computer Science
B.S. 1976, University of Illinois; M.S. 1979, University of Chicago, Ph.D. 1980

Donniell Fishkind (2001)
Associate Research Professor, Applied Mathematics and Statistics

Amy Foster (2010)
Assistant Professor, Electrical and Computer Engineering
B.S. 2003, State University of New York at Buffalo
M.S. 2007, Cornell University, Ph.D. 2009

Mark Foster (2010)
Assistant Professor, Electrical and Computer Engineering

Joëlle Fréchette (2006)
Associate Professor, Chemical and Biomolecular Engineering
B.E. 1998, Ecole Polytechnique de Montréal
M.A. 2000, Princeton University, Ph.D. 2003

Zachary Gagnon (2011)
Assistant Professor, Chemical and Biomolecular Engineering
B.S. 2003, University of Massachusetts
M.S. 2005, Notre Dame; Ph.D. 2009

Dennice Gayme (2012)
Assistant Professor, Mechanical Engineering
B.S. 1997, McMaster University
M.S. 1998, UC Berkeley
Pd.D. 2010, California Institute of Technology

Donald Geman (2001)
Professor, Applied Mathematics and Statistics
Electrical and Computer Engineering
B.S. 1965, University of Illinois
Ph.D. 1970, Northwestern

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B.A. 1994, Technion - Israel Institute of Technology;
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Ph.D. 1988, University of Michigan, Ann Arbor

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James K. Guest (2005)
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B.S.E. 1998, University of Pennsylvania
M.S.E. 2001; M.A. 2003 Princeton University
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Associate Professor, Geography and Environmental Engineering
B.S. 1997, Cornell University
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Gregory D. Hager (1999)
Professor and Chair, Computer Science; Electrical and Computer Engineering
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M.S. 2000, UC Berkeley, Ph.D. 2003

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Senior Lecturer, Center for Leadership Education, 2001

David Audley, Ph.D.
Senior Lecturer, Applied Mathematics and Statistics, 1997

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Beryl Castello, Ph.D.
Senior Lecturer, Applied Mathematics and Statistics, 2004

Xin Chen, Ph.D.
Lecturer, Civil Engineering, 2012

Thomas Coleman, Ph.D.
Geography and Environmental Engineering, 2014

Lise Dahuron, Ph.D.
Lecturer, Chemical and Biomolecular Engineering, 2007

Laura Davis, M.A.
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Lucas deMelo, Ph.D.
Lecturer, Civil Engineering, 2012

Marci De Vries, M.A.
Lecturer, Center for Leadership Education, 2011

Kevin Dungey, Ph.D.
Senior Lecturer, Center for Leadership Education, 1998

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Lecturer, Center for Leadership Education, 2001

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Senior Lecturer, Center for Leadership Education, 2000

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Senior Lecturer, Computer Science, 2005

Sean Furlong, M.A.
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Robert E. Glaser, Ph.D.
Lecturer, Electrical and Computer Engineering, 1987

An Goffin, Ph.D.
Lecturer, Chemical and Biomolecular Engineering, 2008

Robert Graham, M.S.
Lecturer, Center for Leadership Education, 2014

Daniel Gutman, J.D.
Lecturer, Geography and Environmental Engineering, 2012

Eileen Haase, Ph.D.
Lecturer, Biomedical Engineering, 2003

Wayne Hacker, M.S.
Lecturer, Applied Mathematics and Statistics, 2008

Margaret Hart, M.S.
Lecturer, Center for Leadership Education, 2014

Jason Heiserman, Ph.D.
Lecturer, Center for Leadership Education, 2009

Illysa Izenberg, MBA
Lecturer, Center for Leadership Education, 2010

Michael Jacobs
Lecturer, Computer Science, 1999

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Xiangyang Li, Ph.D.
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Denise Link-Farajali, Ed.M.
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Peng Liu, Ph.D.
Lecturer, Applied Mathematics and Statistics, 2013

Kimberly Manns, M.A.
Lecturer, Center for Leadership Education, 2014

William Marr, Ph.D.
Lecturer, Civil Engineering, 2013

Steven Marra, Ph.D.
Senior Lecturer, Mechanical Engineering, 2011

John Matteo, M.S.E.
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Timothy McGee, Ph.D.
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Seth Nielson, Ph.D.
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Sinan Ozdemir, M.A.
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Martin Ozimek, Ph.D.
Lecturer, Mechanical Engineering, 2011

Christopher Pappacena, Ph.D.
Lecturer, Computer Science, 2011
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Lecturer, Center for Leadership Education, 2012

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Justin Williams, Ph.D.
Senior Lecturer, Geography and Environmental Engineering, 1999

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Associate Professor, Orthopedic Surgery (Medicine)
Mechanical Engineering 2001

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Computer Science, 2009

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Electrical and Computer Engineering 2000

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Materials Science and Engineering, 2005

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Materials Science and Engineering, 2014

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Computer Science, 2013

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