PSYCHOLOGICAL AND BRAIN SCIENCES

http://pbs.jhu.edu/

The psychological and brain sciences are concerned with understanding the biological and psychological processes underlying animal and human 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 has a strong empirical focus and emphasizes research methodology.

The broad aim of the graduate program is to train students to become scientists rather than practitioners.

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, EEG, Transcranial Magnetic Stimulation, 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.

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Psychology Major Requirements

Also see Requirements for a Bachelor’s Degree. (http://e-catalog.jhu.edu/undergrad-students/academic-policies/requirements-for-a-bachelors-degree)

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:** AS.110.106 Calculus I (Biology and Social Sciences) or AS.110.108 Calculus I, EN.550.111 Statistical Analysis I, EN.550.112 Statistical Analysis II, and AS.200.207 Research Methods in Experimental Psychology. 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 must 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 (Biology and Social Sciences), 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). Consult with Academic Advising and your psychology major advisor 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 (Biology and Social Sciences) *</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.108</td>
<td>Calculus I</td>
<td></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>
<tr>
<td>Nine credits of additional N, Q, or E courses ***</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

* 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</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(Fall Offering)</td>
<td></td>
</tr>
</tbody>
</table>
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  
Research, internship, independent study, or a designated seminar course*  

Five additional psychology courses distributed as follows: **  
Two additional courses at the 200-400 level  
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:  

#### Freshman  
**Fall**  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.200.101</td>
<td>Introduction to Psychology (or another 100-level Psychology course)</td>
<td>3.00</td>
<td>AS.200.133</td>
<td>Introduction to Social Psychology (or another 100-level Psychology course)</td>
</tr>
<tr>
<td>AS.110.106</td>
<td>Calculus I (Biology and Social Sciences)</td>
<td>4</td>
<td>Electives to fulfill degree requirements</td>
<td>9</td>
</tr>
<tr>
<td>Electives to fulfill degree requirements</td>
<td>9</td>
<td>NQE elective for major</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

| Total Credits: 16 | 15 |

#### Sophomore  
**Fall**  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.550.111</td>
<td>Statistical Analysis I</td>
<td>4</td>
<td>EN.550.112</td>
<td>Statistical Analysis II</td>
</tr>
<tr>
<td>AS.200.141</td>
<td>Foundations of Brain, Behavior and Cognition (or another 100-level Psychology course)</td>
<td>3</td>
<td>AS.200.222</td>
<td>Positive Psychology (or another 200- or 300-level Psychology course)</td>
</tr>
</tbody>
</table>

| Electives to fulfill degree requirements | 9 | NQE elective for major | 3 |

| Total Credits: 16 | 15 |

#### Junior  
**Fall**  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.200.207</td>
<td>Research Methods in Experimental Psychology</td>
<td>3</td>
<td>AS.200.204</td>
<td>Human Sexuality (or another 200- or 300-level Psychology course)</td>
</tr>
<tr>
<td>AS.200.403</td>
<td>Careers in Psychology - Juniors</td>
<td>1</td>
<td>AS.200.512</td>
<td>Psychology Research - Juniors</td>
</tr>
<tr>
<td>AS.200.511</td>
<td>Psychological Research - Juniors</td>
<td>3</td>
<td>Electives to fulfill degree requirements</td>
<td>6</td>
</tr>
<tr>
<td>Electives to fulfill degree requirements</td>
<td>9</td>
<td>NQE elective for major</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

| Total Credits: 16 | 15 |

#### Senior  
**Fall**  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.200.333</td>
<td>Advanced Social Psychology (or another 200- or 300-level Psychology course)</td>
<td>3</td>
<td>AS.200.328</td>
<td>Theory Methods in Clinical Psychology (or another 200- or 300-level Psychology course)</td>
</tr>
<tr>
<td>AS.200.513</td>
<td>Psychological Research - Seniors</td>
<td>3</td>
<td>AS.200.376</td>
<td>Psychopharmacology (or another 200- or 300-level Psychology course)</td>
</tr>
<tr>
<td>Electives to fulfill degree requirements</td>
<td>9</td>
<td>AS.200.510</td>
<td>Psychology Internship</td>
<td>1</td>
</tr>
<tr>
<td>AS.200.540</td>
<td>Independent Study - Seniors</td>
<td>3</td>
<td>Electives to fulfill degree requirements</td>
<td>6</td>
</tr>
</tbody>
</table>

| Total Credits: 15 | 16 |

### Restrictions  
No courses taken during Intersession or through the School of Education and the Carey Business School may be counted toward the requirements for the B.A. degree in Psychological and Brain Sciences (although a limited number of such courses may be counted toward the 120 credits required for graduation).  

Most courses offered by Psychological & Brain Sciences (AS.200.XXX) through the Summer at Hopkins program will not count toward the Psychology major or minor. However, exceptions may include summer courses that are also offered and counted toward the major/minor during the Fall and Spring semesters. You may make an appointment with Dr. Stephen Drigotas, Director of Undergraduate Advising for Psychological &
Brain Sciences, to ensure that your enrollments will be considered toward your academic progress in the manner you intend.

**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 readings 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:

- Foundations of Brain, Behavior and Cognition
- Introduction to Psychology
- Introduction to Cognitive Psychology
- Introduction to Developmental Psychology
- Introduction to Social Psychology
- One psychology course at any level
- Two psychology courses at the 300-600 level

**Total Credits:** 18

* 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 sub-fields of psychology. Our core program for doctoral students emphasizes scientific methodology and provides rigorous research training. 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 graduate students will complete 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 offer an introduction to the fundamental principles and methods of the psychological & brain sciences. Students will read seminal and contemporary papers in topics
that cover the breadth of the field. In addition, students become versed in the careful consideration of data and in formulating written and oral arguments.

First-Year Research Report
During the first year, the student, together with the faculty advisor, identifies a research project that will provide extended research experience. Normally, the student designs a study as part of a larger ongoing project. A project proposal must be submitted by April 15 of the first year; this proposal introduces the nature of the scientific problem, reviews the relevant literature, and describes the proposed study in detail, together with the anticipated data, means of analysis, and interpretations. A final written version of this report must be submitted by December 15 of the student’s second year; ideally, this “first year project” report includes all the information that would be appropriate for submission to a scientific journal.

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 written and oral portions of the advanced examination offer the student an opportunity to demonstrate both in-depth, focused knowledge in their specialty area of study, and also a breadth of knowledge outside of their area of expertise. The student must pass the advanced examination by the beginning of the third year of study.

Advanced Study
Each student, in collaboration with a faculty advisor, plans a course of study consisting of intermediate and advanced topical and research seminars.

Topical Seminars
The Department of Psychological and Brain Sciences offers topical seminars in which one or more faculty members leads seminars on topics of special interest, such as memory, cognitive development, neurophysiological aspects of behavior, vision sciences, and decision making. Through participation in these seminars, student are exposed to findings in subfields of psychology. 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
Graduate students serve as teaching assistants (TAs) to members of the department’s faculty. All graduate students are expected to TA a total of four semesters. Although there is some flexibility in TA assignments, students typically TA during the second semester of their first year, both semesters of their second year, and one semester of their third year. The Director of Graduate Students, along with a committee of graduate student representatives, assigns these teaching duties.

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
Students complete a written literature review in preparation of the completion of their dissertation. The literature review is modeled on articles appearing in professional journals. Typically the review provides a background for the thesis plan, but for some students it may be prepared on a topic other than the one selected for the thesis. The literature review is evaluated by the same committee that will evaluate the thesis plan.

Thesis Plan
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 culminating piece of scholarly work. It establishes the start of 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 the Academic Program Coordinator for the Department of Psychological and Brain Sciences.

For current faculty and contact information go to http://pbs.jhu.edu/ directory/

Faculty
Chair
Susan Courtney
Professor: cognitive neuroscience, functional neuroimaging, working memory, attention

Professors
Howard Egeth
perception & cognition, attention & attentional selectivity, memory, eyewitness testimony, psychology & law

Lisa Feigenson
cognitive development, numerical cognition

Michela Gallagher
Krieger-Eisenhower Professor: learning & memory, neurobiology of aging

Justin Halberda
cognitive & developmental psychology, reasoning, language acquisition

Peter Holland
Krieger-Eisenhower Professor: mechanisms of behavior, learning, memory, motivation, behavioral ecology

Patricia Janak
Bloomberg Distinguished Professor: behavioral & neurobiological mechanisms of associative learning, addiction

Cynthia Moss
auditory information processing, spatial attention & perception, learning & memory, memory & sensorimotor integration

Assistant Professors
Marina Bedny
brain development & plasticity, cognitive neuroscience, concepts
Janice Chen
real-world memory, cognitive neuroscience, temporal structure in cognition
Chaz Firestone
perception, attention, visual cognition, foundations of cognitive science
Jason Fischer
visual scene understanding using fMRI, psychophysics, computational modeling
Jonathan Flombaum
visual perception, attention, cognition
Christopher Honey
cognitive neuroscience, computational neuroscience, memory in neural circuits
Shreesh Mysore
neural circuits for behavior (attention, decision-making, etc), computational neuroscience, comparative approach to the design of neural circuits

Associate Faculty
Richard Allen
Associate Professor; School of Medicine (Neurology): clinical & medical psychology
Kirsten (Kisi) Bohn
Assistant Research Professor: acoustic communication, vocal production, social behavior, neuroethology, evolution of vocal complexity
Stephen Drigotas
Teaching Professor & Undergraduate Advisor: social psychology, interpersonal relationships, friendship networks, intergroup behavior, social dilemmas
David H. Edwin
Associate Professor; School of Medicine (Psychiatry & Behavioral Sciences): clinical & medical psychology
Heather Roberts Fox
Senior Lecturer: industrial/organizational psychology
Linda Gorman
Teaching Professor: neuroscience
Paul J. Hofer
Adjunct Associate Professor; U.S. Sentencing Commission (Washington, D.C.): law & psychology
Chelsea Howe
Lecturer: forensics, abnormal psychology, dual diagnosis, therapy, assessment

Ann Jarema
Junior Lecturer: clinical psychology
Chris Kraft
Psychologist & Instructor; School of Medicine (Psychiatry & Behavioral Sciences, Center for Marital & Sexual Health); Senior Lecturer: human sexuality & behaviors
Meghan McGlaughlin
Junior Lecturer: clinical psychology
Alison Papadakis
Associate Teaching Professor: clinical & adolescent psychology, developmental psychopathology of depression in adolescence
Lawrence Raifman
Adjunct Assistant Professor; Private Practice & Director of Forensic Services (Springfield Hospital Center): forensic psychology, law & decision-making, clinical applications of psychology & the law, behavioral finance
Veit Stuphorn
Associate Professor; School of Medicine (Neuroscience): neurophysiological studies of decision-making
Jason Trageser
Lecturer: neuroscience

Joint Faculty
Marilyn Albert
Professor & Director (Division of Cognitive Neuroscience; School of Medicine): aging, cognition, memory
Arnold Bakker
Assistant Professor (Psychiatry; School of Medicine): psychiatric neuroimaging
Greg Ball
Research Professor: biopsychology, behavioral neuroendocrinology, neuroethology
Charles (Ed) Connor
Professor & Director (Mind/Brain Institute): neurophysiology of visual perception & object recognition
Barry Gordon
Professor (Therapeutic Cognitive Neuroscience, Neurology & Cognitive Science); Director (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): functional organization of primate visual system, primate functional neuroanatomy
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 & Lydia Todd Faculty Development Professor & Chair (Cognitive Science): language acquisition, cognitive development, spatial representation, acquisition of the lexicon
Hey-Kyoung Lee
Associate Professor (Mind/Brain Institute): cellular/molecular mechanisms of synaptic plasticity underlying memory formation
Michael E. McCloskey
Professor (Cognitive Science): language, vision, memory, cognitive neuropsychology, developmental cognitive deficits
Guy McKhann
Professor (Mind/Brain Institute): patterns of cognitive decline after coronary artery bypass grafting
Earnst Niebur
Associate Professor (Mind/Brain Institute): computational neuroscience
Brenda C. Rapp
Professor (Cognitive Science): cognitive neuropsychology, attention, reading & writing
Peter R. Rapp
Senior Investigative Chief (National Institute on Aging): Laboratory of Experimental Gerontology
Rudiger von der Heydt
Professor (Mind/Brain Institute): perceptual organization in visual cortex

Professor Emeritus
Bert F. Green Jr.
psychological measurement, quantitative methods, and computer methods

For current course information and registration go to https://sis.jhu.edu/classes/

Courses

**AS.200.101. Introduction to Psychology. 3.00 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.200.110. Introduction to Cognitive Psychology. 3.00 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.200.132. Introduction to Developmental Psychology. 3.00 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. 3.00 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. 3.00 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. Freshmen Seminar: Evolutionary Psychology. 1.00 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: Natural Sciences, Social and Behavioral Sciences.

**AS.200.161. Illusions, delusions, and other confusions: Why what you think you know about human nature is (largely) wrong. 1.00 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. 3.00 Credits.**
This is an online course. The class will meet for ten weeks from May 23 through July 29 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 Intellectual Disability. 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. 3.00 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: Social and Behavioral Sciences Writing Intensive.
AS.200.202. Forensic Psychology. 3.00 Credits.
The field of forensic psychology is focused on answering legal questions about the causes of human behavior. This survey course will explore the work that forensic psychologists do; their research, assessment, and clinical methods; and how their work influences lawyers, judges, and other legal practitioners. Specific topics will include mental capacity assessment, psychopathy, claims of mental distress, child custody evaluations, juvenile delinquency, forensic treatment, and forensic neuropsychological assessments.
Prerequisites: Students can only receive credit for AS.200.202 or AS.200.325, not both.
Instructor(s): L. Raifman
Area: Social and Behavioral Sciences.

AS.200.204. Human Sexuality. 3.00 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. Please note that the use of electronic devices is not permitted during this class, in order to promote the full interactive potential of this engaging seminar-style offering. Open to Seniors within the following majors/minors: Behavioral Biology; Biology; Cognitive Science; Medicine, Science & the Humanities; Molecular & Cellular Bio; Neuroscience; Psychology; Public Health; Sociology; Study of Women, Gender, & Sexuality.
Prerequisites: Students may enroll in both AS.200.204 and AS.290.420, but cannot do so in the same semester.
Instructor(s): C. Kraft
Area: Social and Behavioral Sciences Writing Intensive.

AS.200.205. Discover Hopkins: Psychological Profiling. 1.00 Credit.
“Psychological Profiling” focuses on strengths and limitations of psychological methods employed by forensic professionals who assist police in criminal investigations. Clinical cases of serial offenders, spree killers, disgruntled employees, police profiling, and terrorists will be studied. Legal and ethical issues will be explored, especially racial profiling controversies. We anticipate visits to the FBI Behavioral Sciences Unit at Quantico, Virginia; Baltimore County Forensic Crime Lab (with emphasis on crime scene analysis), and the Baltimore Police Profiling Program.
Instructor(s): L. Raifman
Area: Social and Behavioral Sciences.

AS.200.207. Research Methods in Experimental Psychology. 3.00 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: Pre-reqs: EN.550.111 (Statistical Analysis I) and 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. 3.00 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.
Prerequisites: Prereqs: AS.020.151
Instructor(s): K. Bohn
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.209. Personality. 3.00 Credits.
This is a survey course focused on theory and research on human personality. Topics include personality traits, motivation, unconscious processes, self-regulation, cognitive and behavioral aspects of personality, biological and evolutionary influences on personality, and dysfunctional manifestations of personality.
Instructor(s): C. Howe
Area: Social and Behavioral Sciences.

AS.200.211. Sensation & Perception. 3.00 Credits.
This course surveys how stimuli from the environment are transformed into neural signals, and how the brain processes those signals to interpret the objects and events in the world. A primary focus will be on the visual system, with additional coverage of hearing, touch, taste, and smell.
Instructor(s): J. Fischer
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.212. Abnormal Psychology. 3.00 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. Papadakis
Area: Social and Behavioral Sciences.

AS.200.220. Discover Hopkins Health Studies: Application of Abnormal Psychology to Forensic Cases. 1.00 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. As part of this course, students will visit with doctors and lawyers (including Judges), view and analyze video and movies about forensic cases, and participate in mock trial exercises.
Instructor(s): K. Hill; L. Raifman; L. Williams
Area: Social and Behavioral Sciences.
AS.200.221. Discover Hopkins: A Forensic Psychologist Confronts Criminality in the Internet Age. 1.00 Credit.
A Forensic Psychologist Confronts Criminality in the Internet Age: Profiling criminal behavior, assessing insanity, and counter-intuitive (self defeating) motivations for criminal acts typically occupy forensic psychologists who work in the criminal justice system. This course initially looks into traditional forensic psychologist pursuits, and then expands the inquiry to new forms of criminality profiling for “relational aggression” crimes like cyber-bulling & sexual harassment, computer assisted crimes, hate crimes, child pornographers, as well as those high profile (media attention catching) crimes, e.g., spree killing, murder suicide, or terrorism due to political extremism and/or religious fundamentalism. Students will study with a practicing forensic psychologist and police detectives, forensic crime lab professionals, newspaper reporters, SWAT team members, mental health doctors, computer cyber crime investigators. Finally, valuable excerpts from “The Wire,” and “Serial, the podcast” will supplement class discussion and come prepared to analyze actual forensic cases.
Instructor(s): L. Raifman.
Area: Social and Behavioral Sciences.

AS.200.222. Positive Psychology. 3.00 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.200.223. Psychotic at the White House. 1.00 Credit.
This introductory course focuses on the problem of delusional, morbidly depressed, and/or thought disordered persons who target federal officials or cites in Washington, DC. Contributing factors include: inadequate mental health commitment laws, an inability to successfully profile and prevent rarely occurring but potential dangerous behavior, pre-trial commitment challenges, the insanity defense, problems associated with easy access to Federal buildings and inter agency rivalries, as well as the inevitable frenzied media response that leads to problems of copy cat behavior. Forensic psychological case studies will be featured, including presidential attempted assassin John Hinckley, Secret Service “White House cases,” Miriam Carey’s death following a car chase ending at the US Capitol, the Beltway sniper case, and others. Finally, the need for increased sensitivity to the problem of stigmatization of mentally ill non-dangerous persons will be included.
Instructor(s): L. Raifman.
Area: Social and Behavioral Sciences.

AS.200.224. Behavioral Assessment of Animal Models of Cognition and Neuropsychiatric Disorders. 3.00 Credits.
This course will focus on procedures that are routinely used to study behavior in animal models of cognition and neuropsychiatric disorders. The procedures discussed will include assessments that fall into 3 broad functional domains: motor function, affective or emotional states, and cognition. Throughout the course, we will read and discuss original research articles to illustrate and compare some of the measures and results from the various procedures. Postdoc Teaching Fellowship. This is designed to be an upper level course.
Prerequisites: Pre-reqs: AS.200.141 OR ( AS.080.305 AND AS.080.306 ) or permission of the instructor.
Instructor(s): D. Smith
Area: Social and Behavioral Sciences.

AS.200.301. History Of Psychology. 3.00 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.200.302. Behavioral Assessment of Animal Models of Cognition and Neuropsychiatric Disorders. 3.00 Credits.
What does a rat exploring its environment tell us about memory? How can a mouse help us better understand schizophrenia? This course will focus on procedures that are routinely used to study behavior in animal models of cognition and neuropsychiatric disorders. The procedures discussed will include assessments that fall into 3 broad functional domains: motor function, affective or emotional states, and cognition. Throughout the course, we will read and discuss original research articles to illustrate and compare some of the measures and results from the various procedures. Postdoc Teaching Fellowship. This is designed to be an upper level course.
Prerequisites: Pre-reqs: AS.200.141 OR ( AS.080.305 AND AS.080.306 ) or permission of the instructor.
Instructor(s): D. Smith
Area: Social and Behavioral Sciences.

AS.200.303. Psychobiology of Drug Addiction. 3.00 Credits.
The goal of this course is to explore the psychobiological bases of drug addiction. The course will begin with a discussion of the evolving concepts and theories of addiction, as well as a review of the methods and animal models relevant for the study of drug addiction. Following this introductory discussion, students will learn 1) how drugs of abuse affect neural function and how this relates to their addictive potential, 2) how biological and behavioral phenotypes predispose certain individuals to addiction, and 3) how environmental factors (stress, social context, learning history, drug contingencies, etc.) contribute to the development of addiction. Special focus will be given on the complex interactions between these different factors and levels of analysis. The course will integrate a variety of approaches (molecular biology, systems neuroscience, and psychology). Based on this understanding of the psychobiological mechanisms of drug addiction, we will reflect and refine our views of addiction and examine potential ways to prevent and treat the disease.
Prerequisites: Pre-reqs: AS.200.141 OR ( AS.080.305 AND AS.080.306 ) OR (AS.020.312 AND AS.020.306).
Instructor(s): R. Keiflin
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.304. Neuroscience of Decision Making. 3.00 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.200.305. Advanced Seminar in Forensic Psychology. 3.00 Credits.
Forensic psychologists determine clinical diagnoses and offer expert opinions to assist court decision makers who must employ legal tests to make case determinations. This course will explore how forensic psychologists communicate with the courts via consultation, report writing, and expert testimony. Students will write forensic analyses on a variety of controversial, cutting edge forensic topics (e.g., for competence to stand trial, child abuse, civil commitment, compensation for mental injuries, sex offender commitment, insanity, fitness for duty, child custody).
Prerequisites: AS.200.212 AND (AS.200.202 OR AS.200.325)
Instructor(s): L. Raifman
Area: Natural Sciences, Social and Behavioral Sciences Writing Intensive.

AS.200.306. Psychology in the Workplace. 3.00 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.200.308. Neurobiology of Learning and Memory. 3.00 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.200.311. Sensory Representations in the Brain: Maps, Modules, & Distributed Coding. 3.00 Credits.
In this course we will explore the ways in which information from vision, hearing, touch, smell, and taste is encoded in the brain. We will compare and contrast different representation schemes and their computational advantages in order to uncover some overarching organizing principles of sensory processing in the brain. Class meetings will consist of lectures plus group discussions of classic papers in cognitive neuroscience, computational modeling, and neurophysiology. Enrollment limited to Juniors & Seniors.
Prerequisites: AS.200.211 OR AS.080.203 OR AS.050.203 OR AS.200.141 OR AS.020.312
Instructor(s): J. Fischer
Area: Social and Behavioral Sciences.

AS.200.312. Imaging the Human Mind. 3.00 Credits.
Prerequisites: EN.550.111 AND (AS.080.203 OR AS.050.203)
Instructor(s): S. Courtney-Faruqee
Area: Natural Sciences, Social and Behavioral Sciences Writing Intensive.

AS.200.314. Advanced Statistical Methods. 3.00 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 EN.550.310 OR EN.550.311 OR EN.560.435 OR EN.550.420 OR EN.550.430 OR EN.560.348
Instructor(s): A. Papadakis; M. Uy
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

AS.200.315. Advanced Research Design and Analysis. 3.00 Credits.
Second half of graduate statistics sequence, covering complex research design and analysis. Recommended Course Background: AS.200.314. Enrollment limited to seniors by instructor approval and graduate students.
Instructor(s): C. Honey
Area: Quantitative and Mathematical Sciences.

AS.200.316. Thought and Perception. 3.00 Credits.
This year’s topic: Temporal Experience. Do we perceive time? If so, through what sense(s)? How long is the conscious now? Does the temporal order of our perceptions mirror the temporal order of what we perceive? Must the experience of a temporal duration itself be extended in time? What is the relation between the experience of time (for example, the experience of time’s passage) and memory? Does our experience of time accurately represent temporal features of reality, or is it actually illusory? How does attending to time’s passage affect its perceived rate of passage (and what is it to attend to time’s passage)? We will explore these and other questions through an examination of both psychological and philosophical work. [This course meets jointly with Professor Gross’s AS.150.476]
Instructor(s): J. Flombaum; S. Gross
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.200.307. Interpersonal Relations. 3.00 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. Drigotas
Area: Social and Behavioral Sciences.

AS.200.309. Evolutionary Mechanisms of Human Behavior. 3.00 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.200.312. Imaging the Human Mind. 3.00 Credits.
Prerequisites: EN.550.111 AND (AS.080.203 OR AS.050.203)
Instructor(s): S. Courtney-Faruqee
Area: Natural Sciences, Social and Behavioral Sciences Writing Intensive.

AS.200.314. Advanced Statistical Methods. 3.00 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 EN.550.310 OR EN.550.311 OR EN.560.435 OR EN.550.420 OR EN.550.430 OR EN.560.348
Instructor(s): A. Papadakis; M. Uy
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

AS.200.315. Advanced Research Design and Analysis. 3.00 Credits.
Second half of graduate statistics sequence, covering complex research design and analysis. Recommended Course Background: AS.200.314. Enrollment limited to seniors by instructor approval and graduate students.
Instructor(s): C. Honey
Area: Quantitative and Mathematical Sciences.

AS.200.316. Thought and Perception. 3.00 Credits.
This year’s topic: Temporal Experience. Do we perceive time? If so, through what sense(s)? How long is the conscious now? Does the temporal order of our perceptions mirror the temporal order of what we perceive? Must the experience of a temporal duration itself be extended in time? What is the relation between the experience of time (for example, the experience of time’s passage) and memory? Does our experience of time accurately represent temporal features of reality, or is it actually illusory? How does attending to time’s passage affect its perceived rate of passage (and what is it to attend to time’s passage)? We will explore these and other questions through an examination of both psychological and philosophical work. [This course meets jointly with Professor Gross’s AS.150.476]
Instructor(s): J. Flombaum; S. Gross
Area: Humanities, Social and Behavioral Sciences Writing Intensive.

AS.200.307. Interpersonal Relations. 3.00 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. Drigotas
Area: Social and Behavioral Sciences.
AS.200.318. Quantitative Methods for Brain Sciences. 3.00 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. Enrollment is limited to undergraduate seniors and graduate students with instructor approval. Recommended Course Background: Probability & Statistics.
Instructor(s): S. Mysore
Area: Quantitative and Mathematical Sciences.

AS.200.321. Child and Adolescent Psychopathology. 3.00 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
Instructor(s): A. Papadakis
Area: Social and Behavioral Sciences.

AS.200.325. Law Psychology: Clinical Application. 3.00 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. Raifman
Area: Social and Behavioral Sciences.

AS.200.326. Law, Psychology and Public Policy. 3.00 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. Recommended Course Background: Statistics & Regression Analysis
Instructor(s): P. Hofer
Area: Social and Behavioral Sciences

Writing Intensive.

AS.200.328. Theory & Methods in Clinical Psychology. 3.00 Credits.
A critical examination of the methods of observation, description, reasoning, inference, measurement and intervention that underlie the clinical practice of psychology and psychiatry. Enrollment limited to Behavioral Biology, Cognitive Science, Neuroscience, Psychology, and Public Health majors or by instructor approval. Recommended: Junior & Senior
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. Raifman
Area: Social and Behavioral Sciences.

AS.200.333. Advanced Social Psychology. 3.00 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.200.336. Foundations of Mind. 4.00 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. 3.00 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.200.343. Motivation. 3.00 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. 3.00 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.080.306 ) OR (AS.020.151 AND AS.020.152) OR ( AS.020.305 AND AS.020.306 ) or instructor's permission
Instructor(s): K. Bohn
Area: Natural Sciences, Social and Behavioral Sciences.
AS.200.354. Winners, losers, & market protectors-decision-making in the financial crisis. 3.00 Credits.
The recent world financial crisis has arguably been the most important event of the new millennium. The course will initially answer: "What happened?" "Why did it happen?" "How was the crisis temporarily fixed?" "Who was hurt?" "Who succeeded?" Thereafter, the focus shifts to an analysis of the quality of decisions made by the market protectors who chose to intervene with policies to protect markets, and a comparison of investors who made winning compared with losing investment decisions. The final segment considers whether behavioral economic/cognitive psychological research best explains those decisions, and ways to lessen the risk inherent in current volatile recovering financial markets. In sum, the course will review the recent financial crisis by evaluating strategic investment decisions of the market protectors, winners, and losers. Instructor(s): L. Raifman Area: Social and Behavioral Sciences.

AS.200.355. Psych of Decision Making. 3.00 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.
Instructor(s): L. Raifman Area: Social and Behavioral Sciences.

AS.200.356. Advanced Topics in Cognitive Development. 3.00 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.200.359. The Psychology of Financial Crisis. 3.00 Credits.
The 2007-8 financial crisis, considered the most severe of its kind since the Great Depression, is our primary focus. The course will initially answer two critical questions: "What happened to bring about the financial crisis?" "Who was hurt and who succeeded well?" We will then study specific crisis decisions to determine if a behavioral finance analysis contributes to a better understanding of decision making under conditions of uncertainty. 
Instructor(s): L. Raifman Area: Social and Behavioral Sciences.

AS.200.360. Forensic Psychology Soup to Nuts. 2.00 Credits.
The course is based upon an integrative strategy that focuses upon: (1) scientific research underlying forensic psychology expertise, (2) the formulation of expert opinions, and (3) the presentation of expert witness testimony court cases. The course syllabus identifies examples from insanity defense that raises research questions answered by studies from psychology that focus on: battered spouse syndrome, sleep disorders/criminal behavior, pedophilia, settled psychosis, and the application of death penalty to juveniles or mentally ill persons.
Instructor(s): L. Raifman Area: Social and Behavioral Sciences.

AS.200.361. Tests & Measurements. 3.00 Credits.
Psychological tests and measures are used in several settings including research, clinical, business, forensic, school and other applied settings. This course will consider the methodological and practical issues involved in test construction, the evaluation of instruments, and the uses of psychological tests across settings and for different purposes. Examples of assessments that may be discussed are: aptitude and achievement tests; personality and behavioral inventories; neuropsychological tests, observations and interviews; and tests for employment and forensic use. Enrollment limited to Junior & Senior Cognitive Science & Psychology Majors, or instructor approval.
Instructor(s): H. Roberts Fox Area: Social and Behavioral Sciences.

AS.200.363. Mind, Brain & Experience. 3.00 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: Pre-reqs: 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. Neuroscience of Motivation: Sex, Drugs and the Brain. 3.00 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. 3.00 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.080.305 AND AS.080.306) OR Permission required.
Instructor(s): J. Asem
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.368. Sleep, Dreams, and Altered States of Consciousness. 3.00 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. Recommended Course Background: AS.200.101 OR AS.080.203 OR AS.050.203
Instructor(s): R. Allen
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.369. Neuroscience of Motivation & Reward. 3.00 Credits.
This course will explore the neurobiological bases of motivated behavior, including eating, drinking, and reproduction, tracing the history of our understanding from early neuroscientific studies to the modern day, with a focus on mammalian model systems. We will discuss innate motivated behaviors, and well as how learning can guide the expression of these behaviors. Neural mediation of processes such as reward and aversion will be considered in depth, as will applications of these findings to the understanding of addiction and other behavioral disorders. The course will be a mixed lecture/seminar format; we will read original research articles and scholarly reviews.
Prerequisites: AS.200.366. Exclude students who have taken AS.200.366; AS.200.141 OR (AS.080.305 AND AS.080.306)
Instructor(s): P. Janak
Area: Natural Sciences.

AS.200.370. Functional Human Neuroanatomy. 3.00 Credits.
This course examines the general organizing principles of the anatomy of the human central nervous system and how this anatomical organization relates to function, from the level of neural circuits, to systems, to behavior. Students will learn to identify neuroanatomical structures and pathways in dissections and MRI images through computerized exercises. Readings and lectures will emphasize general structure-function relationships and an understanding of the functional roles of particular structures in sensory, motor, and cognitive systems.
Prerequisites: AS.080.250 OR AS.080.305
Instructor(s): S. Courtney-Faruquee
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.372. The Aging Brain. 3.00 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. 3.00 Credits.
Designed to provide information about how drugs affect the brain and behavior. The course focuses on biological concepts underlying structures and functions of the brain that relate to mental disorders. An introduction to neurobiology and brain function is presented as it applies to 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. Enrollment limited to juniors and seniors.
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
Area: Natural Sciences, Social and Behavioral Sciences
Writing Intensive.

AS.200.377. Neuroethology. 3.00 Credits.
A comparative and evolutionary approach to understanding the neural underpinnings of biologically relevant behaviors in vertebrate and invertebrate animals. Enrollment limited to Sophomores, Juniors, Seniors or by instructor approval. Recommended Course Background: AS.200.141
Instructor(s): C. Moss
Area: Natural Sciences.

AS.200.379. Research Seminar in Clinical Psychology. 3.00 Credits.
A small group exploration of current issues in clinical psychology, aimed at developing students' empirical research skills. Following critical analysis of the empirical literature, students develop research proposals for novel research and/or conduct research and author research reports. Topics vary by semester. In the current offering, the topic will be stress, coping, emotion-regulation, peer relationships, and psychopathology among adolescents and emerging adults. Recommended Course Background: AS.200.212 Abnormal Psychology AND EN.550.111 Statistical Analysis I AND EN.550.112 Statistical Analysis II AND AS.200.207 Research Methods in Experimental Psychology. Enrollment limited to Junior & Senior Psychology majors & minors by instructor approval.
Prerequisites: AS.200.212
Instructor(s): A. Papadakis
Area: Social and Behavioral Sciences
Writing Intensive.
AS.200.388. Occupational Health Psychology. 3.00 Credits.
Occupational Health Psychology (OHP) concerns the application of psychology to improving the quality of work life, and to protecting and promoting the safety, satisfaction, health, and well-being of workers. This course will consider a broad range of topics in OHP including the role of work on well-being, job stress and burnout, diversity and work, safety climate, work-family balance, conflict, and counterproductive work behaviors. The emphasis will be on drawing connections between OHP theory and OHP practice and at the relationship between individual and organizational health and well-being. This class should be of interest to students interested in industrial/organizational psychology, social psychology, health psychology, clinical psychology, human factors, public health, preventive medicine, and industrial engineering.
Instructor(s): H. Roberts Fox
Area: Social and Behavioral Sciences.

AS.200.401. Careers in Psychology - Freshmen. 1.00 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. 1.00 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.200.403. Careers in Psychology - Juniors. 1.00 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.200.404. Careers in Psychology - Seniors. 1.00 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.200.501. Psychological Research - Freshmen. 3.00 Credits.
S/U grading only.
Instructor(s): Staff.

AS.200.502. Psychology Research-Freshmen. 0.00 - 3.00 Credits.
Instructor(s): Staff.

AS.200.503. Psychological Research - Sophomores. 3.00 Credits.
S/U grading only
Instructor(s): Staff.

AS.200.504. Psychology Research-Sophomores. 0.00 - 3.00 Credits.
Grading Satisfactory/ Unsatisfactory only.
Instructor(s): Staff.

AS.200.506. Psychological Readings. 0.00 - 3.00 Credits.
S/U grading only.
Instructor(s): Staff.

AS.200.509. Internship-Psychology. 1.00 Credit.
S/U grading only.
AS.200.510. Psychology Internship. 0.00 - 3.00 Credits.
  Grading Satisfactory/ Unsatisfactory only.
  Instructor(s): Staff.

AS.200.511. Psychological Research - Juniors. 3.00 Credits.
  S/U grading only.
  Instructor(s): Staff.

AS.200.512. Psychological Research - Juniors. 0.00 - 4.00 Credits.
  Grading Satisfactory/ Unsatisfactory only.
  Instructor(s): Staff.

AS.200.513. Psychological Research - Seniors. 3.00 Credits.
  The student chooses some research problem with the advice and
  approval of a faculty member. S/U grading only.
  Instructor(s): Staff.

AS.200.514. Psychological Research - Seniors. 0.00 - 4.00 Credits.
  Instructor(s): Staff.

AS.200.519. Seniors Honors Research. 3.00 Credits.
  Seniors working on the honors thesis enroll with the approval of the
  undergraduate coordinator.
  Instructor(s): Staff.

AS.200.520. Seniors Honors Research. 0.00 - 3.00 Credits.
  Instructor(s): Staff.

AS.200.540. Independent Study - Seniors. 3.00 Credits.
  Instructor(s): Staff.

AS.200.541. Independent Study - Juniors. 3.00 Credits.
  Instructor(s): Staff.

AS.200.542. Independent Study - Sophomores. 3.00 Credits.
  Instructor(s): Staff.

AS.200.595. Internship. 1.00 Credit.
  Instructor(s): Staff.

AS.200.597. Psychology Research. 3.00 Credits.
  Instructor(s): Staff.

AS.200.599. Independent Study. 1.00 - 3.00 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.200.605. Topics in Attention and Cognition.
  Instructor(s): J. Flombaum.

AS.200.606. The Semantics & Psychology.
  Instructor(s): J. Halberda.

  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.
  Instructor(s): S. Courtney-Faruqee; S. Yantis; V. Stuphorn.

  An introduction to the fundamental principles of cognitive and
  physiological psychology. Required course of first-year graduate
  students. Graduate students only.
  Instructor(s): P. Janak; S. Mysore
  Area: Natural Sciences, Social and Behavioral Sciences.

  Graduate students only or permission required.
  Instructor(s): B. Anderson; K. Blacker.

  Graduate student only.
  Instructor(s): K. Blacker.

AS.200.616. Thought and Perception.
  This year's topic: Temporal Experience. Do we perceive time? If so,
  through what sense(s)? How long is the conscious now? Does the
  temporal order of our perceptions mirror the temporal order of what we
  perceive? Must the experience of a temporal duration itself be extended
  in time? What is the relation between the experience of time (for example,
  the experience of time's passage) and memory? Does our experience of
  time accurately represent temporal features of reality, or is it actually
  illusory? How does attending to time's passage affect its perceived rate
  of passage (and what is it to attend to time's passage)? We will explore
  these and other questions through an examination of both psychological
  and philosophical work. [This course meets jointly with Professor Gross's
  AS.150.476]
  Instructor(s): J. Flombaum; S. Gross
  Writing Intensive.

  This is a required course for all first year PhD students in the Department
  of Psychological and Brain Sciences. The course covers foundational
  concepts and methods in cognition.
  Instructor(s): J. Flombaum.

AS.200.621. The Interface of Psychology & Semantics: Procedural
  Matters.
  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): J. Halberda.

AS.200.627. Graduate Seminar: Memory.
  Instructor(s): S. Courtney-Faruqee.

  Instructor(s): A. Shelton.

AS.200.632. Topics: Spatial Cognition.
  Instructor(s): A. Shelton.

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, expectations,
  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.  
Instructor(s): M. Albert; M. Gallagher.

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; M. Gallagher.

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): L. Feigenson.

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): L. Feigenson.

AS.200.662. Psychological and Brain Sciences: Career Development.  
Instructor(s): L. Feigenson.

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.  
Instructor(s): H. Egeth; J. Flombaum; J. Halberda.

Instructor(s): L. Feigenson.

A cross-disciplinary investigation of space representation and navigation in a broad range of animal species. Topics will include sonar orientation, landmark use, the role of dead reckoning, spatial memory, long-distance migration, and map-making. Contact instructor for enrollment approval.  
Instructor(s): C. Moss.

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.

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.  
Instructor(s): R. Haberman.

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): L. Feigenson.

Instructor(s): V. Stuphorn.

Instructor(s): J. Halberda.

Guided independent readings and research in special fields. Graduate Students only.  
Instructor(s): Staff.
AS.200.821. Research Seminar: Behavioral Neuroscience.  Graduate students only. Instructor(s): F. Madison; G. Ball.

AS.200.825. Research Seminar: Psychobiology.  Graduate students only. Instructor(s): C. Moss; M. Gallagher; P. Janak.


AS.200.830. Readings In Psychology.  Graduate students only. Instructor(s): J. Flombaum; J. Halberda.


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): L. Feigenson.

AS.200.850. Advanced Teaching Practicum.  Instructor(s): J. Halberda; L. Feigenson.

AS.200.899. Psychology Internship/Practicum.  The Ph.D. program in Psychological & Brain Sciences trains students in psychological science through general and advanced seminars in the various subdisciplines of psychology and by active engagement in research. Registration in this course will be accompanied by the student's participation in an internship/practicum experience. Instructor(s): L. Feigenson.

Cross Listed Courses

Cognitive Science

AS.050.102. Language and Mind. 3.00 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. Cross-listed with Neuroscience and Psychology. Instructor(s): J. Yarmolinskaya

Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.312. Cognitive Neuroimaging Methods in High-Level Vision. 3.00 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.


Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.319. Visual Cognition. 3.00 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. 3.00 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.050.375. Probabilistic Models of the Visual Cortex. 3.00 Credits.
The course gives an introduction to computational models of the mammalian visual cortex. It covers topics in low-, mid-, and high-level vision. It briefly discusses the relevant evidence from anatomy, electrophysiology, imaging (e.g., fMRI), and psychophysics. It concentrates on mathematical modeling of these phenomena taking into account recent progress in probabilistic models of computer vision and developments in machine learning, such as deep networks. Co-listed with Computer Science as EN.600.485.
Prerequisites: Pre-reqs: AS.110.106 OR AS.110.108
Instructor(s): A. Yuille
Area: Quantitative and Mathematical Sciences.

Instructor’s permission required. (Also offered as AS.050.312.)
Instructor(s): S. Park
Area: Natural Sciences, Social and Behavioral Sciences.

The course gives an introduction to computational models of the mammalian visual cortex. It covers topics in low-, mid-, and high-level vision. It briefly discusses the relevant evidence from anatomy, electrophysiology, imaging (e.g., fMRI), and psychophysics. It concentrates on mathematical modelling of these phenomena taking into account recent progress in probabilistic models of computer vision and developments in machine learning, such as deep networks. Also offered as AS.050.375. Co-listed with Computer Science as EN.600.485
Instructor(s): A. Yuille.

Neuroscience
AS.080.330. Brain Injury & Recovery. 3.00 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.

AS.080.348. Neuroeducation. 3.00 Credits.
Can what we know about the brain guide how we teach in our schools? This seminar course is designed to address this question. Various universities throughout the country have “Science of Learning” or “Neuroeducation” initiatives. But, do we know enough about the way the brain works to make substantial changes in our educational system? To find out we will look at these various initiatives and look at the literature.
Prerequisites: Pre-reqs: AS.080.306 OR AS.200.141
Instructor(s): L. Gorman
Area: Natural Sciences, Social and Behavioral Sciences
Writing Intensive.

Behavioral Biology
AS.290.420. Human Sexual Orientation. 3.00 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. Open to Seniors in the Biology, Behavioral Biology, Cognitive Sciences, Neuroscience, Psychology, Public Health, Studies of Women, Gender & Sexuality, Medicine, Science & the Humanities, Sociology, and Molecular and Cellular Biology majors.
Prerequisites: Students may enroll in both AS.200.204 and AS.290.420, but cannot do so in the same semester.
Instructor(s): C. Kraft
Area: Social and Behavioral Sciences
Writing Intensive.