Psychological and Brain Sciences

Psychological and Brain Sciences are concerned with understanding the biological and psychological processes underlying animal and human behavior, and with the effects of environmental influences on behavior at all stages of development.

The undergraduate program leading to the baccalaureate degree is intended to provide students with a sound background in psychological and brain sciences and, at the same time, to prepare them for advanced study.

The program for doctoral students in psychological and brain sciences is scientifically oriented and emphasizes research methodology. The broad aims of the graduate program are to train students to become scientists rather than practitioners, and to provide them with the knowledge and skills they need to help solve the problems of contemporary society.

Facilities

The department's offices and laboratories contain dozens of desktop computers (PCs and Macintoshes) and UNIX workstations used for experimental control and for computational studies, simulation, data analysis, and manuscript preparation.

The F. M. Kirby Research Center for Functional Brain Imaging houses 3.0T and 7.0T Philips research-directed MRI scanners for fMRI studies of cognitive and psychological processes. These facilities and equipment are available to students, faculty, and other users.

The cognitive psychology and cognitive neuroscience laboratories contain a wide range of computer equipment and special-purpose research equipment, including image-processing and large-format graphics systems, eye-movement monitors, speech recognition and analysis systems, stereoscopic graphic systems, video equipment, and other stimulus-presentation and response-collection devices.

The biopsychology laboratories have all the facilities necessary to conduct modern behavioral neuroscience research, including equipment for behavioral and operant testing, electrophysiology, histology, surgery, neurochemistry, and systems for the analysis and synthesis of audio signals.

The courses in psychological and brain sciences have four purposes:

1. to acquaint all interested students with a sampling of topics through a variety of introductory and advanced courses;
2. to prepare majors for graduate work in psychology and related disciplines through a program that meets the admission requirements of the outstanding graduate departments in the United States;
3. to offer a distribution of courses for a minor concentration in psychology as well as several fields of concentration for area majors in the social and behavioral sciences; and
4. to provide an honors track designed for exceptional students who want training beyond that provided by the standard undergraduate curriculum.

Psychology Major Requirements

Also see Requirements for a Bachelor's Degree. (http://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 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 have to be at the 300-level. These are typically dispersed through Years 2-4.
- **Small Group Experience:** 3 credits of either research, internship, independent study or an additional 300-level psychology course with an enrollment cap of 19 students or less. Students who are interested in graduate work in psychology are encouraged to get involved in research/internship activity starting in Year 2 and to continue throughout their time at Hopkins.
- **9 NQE Credits:** Students must complete 9 additional NQE credits using courses not taught within the psychology department (AS.200.XXX) and not counting otherwise toward the psychology major (e.g., AS.110.106 Calculus I, AS.110.108 Calculus I, EN.550.111 Statistical Analysis I, EN.550.112 Statistical Analysis II, etc.).

Please note that not all courses offered by the Department of Psychological & Brain Sciences (AS.200.XXX) will fulfill the requirements of the Psychology Major/Minor (ex. AS.200.220 Discover Hopkins Health Studies: Application of Abnormal Psychology to Forensic Cases). Consult with your advisors to ensure appropriate progress toward degree completion.

I. Required Courses Outside the Department

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.110.106 Calculus I *</td>
<td>4</td>
</tr>
<tr>
<td>or AS.110.108 Calculus I</td>
<td></td>
</tr>
<tr>
<td>EN.550.111 Statistical Analysis I **</td>
<td>4</td>
</tr>
<tr>
<td>EN.550.112 Statistical Analysis II ***</td>
<td>4</td>
</tr>
<tr>
<td>Nine credits of additional N, Q, or E courses ***</td>
<td>9</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</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AS.200.207 Research Methods in Experimental Psychology (Fall Offering)</td>
<td>3</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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AS.200.101 Introduction to Psychology (or another 100-level Psychology course)</td>
<td>3</td>
</tr>
<tr>
<td>AS.110.106 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>4 Electives to fulfill degree requirements</td>
<td>9</td>
</tr>
<tr>
<td>Electives to fulfill degree requirements</td>
<td>9</td>
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</tbody>
</table>

<table>
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<tr>
<th>Credits</th>
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<tr>
<td>13</td>
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</table>

#### Sophomore

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN.550.111 Statistical Analysis I</td>
<td>4</td>
</tr>
<tr>
<td>AS.200.141 Foundations of Brain, Behavior and Cognition (or another 100-level Psychology course)</td>
<td>3</td>
</tr>
<tr>
<td>3 AS.200.222 Positive Psychology (or another 200- or 300-level Psychology course)</td>
<td>3</td>
</tr>
<tr>
<td>Electives to fulfill degree requirements</td>
<td>6</td>
</tr>
</tbody>
</table>

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<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>15</td>
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</table>

Electives to fulfill degree requirements:  
9 Electives to fulfill degree requirements  
9 NQE elective for major  

<table>
<thead>
<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>6</td>
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</table>

#### Junior

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AS.200.207 Research Methods in Experimental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>AS.200.403 Careers in Psychology - Juniors</td>
<td>1</td>
</tr>
<tr>
<td>3 Electives to fulfill degree requirements</td>
<td>3</td>
</tr>
<tr>
<td>Electives to fulfill degree requirements</td>
<td>9</td>
</tr>
<tr>
<td>9 NQE elective for major</td>
<td>3</td>
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</tbody>
</table>

<table>
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<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>16</td>
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</table>

#### Senior

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.200.333 Advanced Social Psychology (or another 200- or 300-level Psychology course)</td>
<td>3</td>
</tr>
<tr>
<td>AS.200.513 Psychological Research - Seniors</td>
<td>3</td>
</tr>
<tr>
<td>AS.200.510 Psychology Internship</td>
<td>1</td>
</tr>
<tr>
<td>AS.200.540 Independent Study-Seniors</td>
<td>3</td>
</tr>
<tr>
<td>Electives to fulfill degree requirements</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>15</td>
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</table>

Total Credits: 119

#### 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.200.101</td>
<td>Introduction to Psychology</td>
</tr>
<tr>
<td>AS.200.110</td>
<td>Introduction to Cognitive Psychology</td>
</tr>
<tr>
<td>or AS.050.101</td>
<td>Cognition</td>
</tr>
<tr>
<td>AS.200.132</td>
<td>Introduction to Developmental Psychology</td>
</tr>
<tr>
<td>AS.200.133</td>
<td>Introduction to Social Psychology</td>
</tr>
<tr>
<td>AS.200.141</td>
<td>Foundations of Brain, Behavior and Cognition</td>
</tr>
</tbody>
</table>

One psychology course at any level: 3

Two psychology courses at the 300-600 level*: 6

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 fields of psychology. The core program for training doctoral students emphasizes scientific methodology and provides training in both pure research and research related to problems in the everyday world, with emphasis on the ways in which basic research methodology can be adapted to the study of applied problems. Each doctoral candidate is expected to become familiar with both a relatively narrowly defined area and a broad spectrum of knowledge related to the student’s topic of specialization.

In addition to general university requirements, the Department of Psychological and Brain Sciences has the following regulations:

### Statistics

Most students will take AS.200.314 Advanced Statistical Methods during the first semester and AS.200.318 Quantitative Methods for Brain Sciences during the second semester. Students with exceptional statistical training should take two more advanced courses by arrangement with the director of graduate studies.
Fundamentals and Core Topics in PBS

AS.200.613 Fundamentals of Psychological & Brain Sciences, AS.200.654 Psychological & Brain Sciences Core Topics A, and AS.200.655 Psychological & Brain Sciences Core Topics B will offer an introduction to the fundamental principles of cognitive and physiological psychology and psychological and brain sciences. Students will read seminal and contemporary papers in topics that cover the breadth of the field.

First-Year Research Report

During the first year, the student, together with the faculty advisor, chooses a research project that will provide extended research experience. Normally, the student designs a study as a larger ongoing project. A project proposal must be submitted by April 15 of the first year; this presents the nature of the problem, reviews the relevant literature, and describes the study in detail, together with the anticipated data, means of analysis, and interpretations. A final report must be submitted by December 15 of the second year; this includes all the information appropriate for published work.

Advanced Examination

Each student must pass an in-depth examination in his/her chosen area. This examination which includes both a written and oral part, is graded by a committee of at least two faculty members. The student must pass the advanced examination by the beginning of the third year.

Advanced Study

Each student with a faculty advisor plans a course of study consisting of intermediate and advanced topical and research seminars.

Topical Seminars

One or more faculty members lead seminars on topics of special interest, such as cognitive processes, developmental psycholinguistics, neuro-physiological aspects of behavior, mathematical psychology, and information processing. Through these seminars a student gets intensive knowledge in particular specialties. Topics vary from semester to semester and are determined by the interests of both faculty and graduate students.

Research Seminars

Students and faculty engaged or interested in research in particular areas organize these seminars. Participants discuss their own research and other current research in the area.

Teaching Requirement

Teaching requirements are fulfilled by graduate students serving as teaching assistants to members of the department’s faculty, in courses taught in the School of Arts and Sciences. All graduate students are expected to TA a total of four semesters, as follows: second semester–first year students; first and second semester–second year students; first semester–third year students. A committee composed of graduate student representatives participates each semester in the selection of teaching assignments.

Advanced students may apply for a Dean’s Teaching Fellowship. A course is proposed by the student and is sponsored by a faculty member. These are highly competitive and prestigious awards. For details please visit http://krieger.jhu.edu/teachingfellowship/.

Literature Review

The literature review should be modeled on articles appearing in professional journals. Ordinarily the review provides a background for the thesis plan, but it may be prepared on a topic other than the one selected for the thesis. It is a separate document and is evaluated by the same committee that evaluates the thesis plan.

Thesis Plan

By the end of the third year or at least one calendar year before receiving the Ph.D. degree, each doctoral candidate must develop a plan for the dissertation research and present the plan before a departmental committee. With the committee’s approval, the student then prepares a dissertation.

Dissertation

The dissertation represents the student’s finest piece of scholarly work. It establishes the pattern for a research career and the basis for postgraduate employment. The Graduate Board of the University administers the final oral examination, a defense of the thesis. The doctoral dissertation must be in a form suitable for and worthy of publication.

Financial Aid

Financial support packages are available to all doctoral students; 9-month stipends that are competitive with those of other universities. Financial support includes tuition remission. Summer research assistantships are available in the department.

For further information on graduate study in psychology, contact Academic Program Coordinator, Laura Dalrymple, Department of Psychological and Brain Sciences, 410-516-6175.

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

Faculty

Chair

Susan Courtney
Professor: cognitive neuroscience, 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
Johns Hopkins University - 2015-2016

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

Jason Fischer
visual scene understanding using fMRI, psychophysics, computational modeling

Jonathan Flombaum
visual perception, attention, cognition

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
How does scientific psychology study aspects of human behavior that are seemingly unscientific, such as free will, consciousness, dreams, ESP, etc.? This course will provide a general overview of the recent work done by psychologists in all these topics. Students will read primary articles testing hypotheses about these “unscientific” domains and will discuss whether these can be studied as a science, and what the consequences are for science’s role in society.
Instructor(s): D. Odic
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

There will be 9 lecture topics related to reward mechanisms in the brain which include natural (e.g., food and maternal care) and non-natural (drugs of abuse) rewards. Reading materials will be given to students before each lecture, and will include literature in the field and peer-reviewed journal articles. Lecture topics will include: history and theory of the brain reward system, research models, drugs addiction, eating disorders, and mood disorders.
Instructor(s): A. Blouin; N. Liang
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.120. Your Lifestyle, Your Memory.
Variables affecting bodily function also affect brain function, one of the most critical being memory. The ability to form, store, and recall past events plays a critical role in guiding behavior in a complex and dynamic environment. Lifestyle choices involving diet, exercise, caffeine, stress and sleep processing related to memory function. This course will explore how these types of decisions affect the brain physiologically and the mind psychologically, specifically in regards to memory performance.
Area: Social and Behavioral Sciences.

AS.200.121. Moral Cognition.
How do we know what is good and what is evil? Do we have to learn right from wrong, or is it inborn? How does culture affect our moral sense? In this course, we’ll explore these questions through contemporary readings and class discussion. We’ll visit classic moral dilemmas and find out what people’s responses to these dilemmas can tell us about moral cognition.
Instructor(s): M. Kibbe
Area: Social and Behavioral Sciences.

AS.200.122. History of Evolutionary Thought.
This course will address century-old, and ongoing, controversies regarding the credibility and implications of evolutionary theory from two main perspectives: philosophy of science and biology. The first half of the course will focus on the oppositions encountered from the creationist movement. The second half of the course will discuss how much evolutionary biology can reveal about fundamental issues of human nature such as selfishness, altruism, free will, and foundations for ethical principles.
Instructor(s): O. Iyilikci
Area: Humanities, Social and Behavioral Sciences.

How do the senses of smell and taste play a role in daily life? The course will begin with the basic neurobiology of the olfactory and gustatory systems to understand how cues in the environment get sent as signals to the brain to produce behavior. Topics will include conditioned taste aversion, loss of senses, and how the chemical senses interact with learning and culture. Reading materials will include peer-review scientific publications that use both human and non-human animal models.
Instructor(s): Y. Treesukosol
Area: Natural Sciences, Social and Behavioral Sciences.

This course focuses on various psychological factors involved in war and genocide, examining the perspectives of all parties involved. Topics to be discussed include the psychology of killing, mental states of soldiers and prisoners of war, negotiation tactics and war strategies, post-genocide identity crises, using media as a tool of persuasion and war mongering, among others. Historical and current events will be used as case studies to put the material into context.
Area: Humanities, Social and Behavioral Sciences.
**AS.200.126. Origins of Social Cognition.**
Infants are remarkably social creatures, even from birth. This course will review and synthesize findings in the emerging field of social cognitive development. Topics include infants’ recognition of social agents, understanding others’ intentions, production of helping behavior, development of moral reasoning, etc. The ultimate goal of this course is to understand the development of social knowledge and behavior, focusing on the first two years of life.
Area: Social and Behavioral Sciences.

**AS.200.127. Introduction to Matlab & Psychtoolbox.**
This course is designed for psychology and cognitive science major students who are interested in programming for experimental tasks and data analysis. We will first cover some basic knowledge of Matlab, including matrix, arithmetic operations, conditional and iteration execution. Then we will cover some major functions of Psychtoolbox and start to develop full experimental tasks. Students will be able to independently realize experiment designs with Matlab Psychtoolbox. Students with different levels of programming background are welcome.
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.200.128. Altered Perceptions.**
We have learned a great deal about sensory processing and perception in healthy individuals through the neuropsychological study of special populations. This course will provide a survey of some conditions (i.e. phantom limbs, prosopagnosia, synesthesia, etc.) that have contributed to our understanding of human perception. Emphasis will be placed on the value of patient research for informing our understanding of difficult questions in cognitive psychology such as consciousness.
Area: Social and Behavioral Sciences.

**AS.200.129. Early Learning and Child Education.**
This course is ideal for those who are interested in psychology, education, policy making, and application of scientific findings. There will be two main parts of the course. The first part will learn about topics in developmental, social and education psychology, as well as diverse early education models. During the second part, students will read about current advances in psychology and they will have discussions about their implications for education.
Area: Natural Sciences, Social and Behavioral Sciences.

**AS.200.131. Powerful Unconscious Computations of Mind.**
Despite the rich contents of our awareness, most of the computations in our mind/brain are achieved unconsciously. This course will introduce some unconscious computations spanning from perception to social cognition, and introduce how scientists study these hidden computations. We will start by examining unconscious processing in visual awareness, as exhibited in phenomena such as continuous flash suppression and inattentional blindness. This will be is followed by more discussions about computations underlying different cognitive functions, such as language and math processing, decision-making, and social priming. We will talk about what is consciousness in the end, and discuss the how artificial intelligence affect the understanding of consciousness.
Instructor(s): F. Yang
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

**AS.200.132. Introduction to Developmental Psychology.**
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.**
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.200.134. YesPlus - Practice of Happiness and Leadership.**
In this 30 hour course students will discover the happiness as a direct experience and develop soft leadership skills through a special rhythmic breathing technique called Sudarshan Kriya Yoga (SKY), interactive work projects, games, subtle yoga, and meditation. SKY integrates mind, body and heart alleviating the effect of anxiety, anger, depression, impulsivity and stress. This program will benefit students achieving higher academic performance and improved well-being during their academic tenure and life.
Instructor(s): J. Stevenson; N. Goel
Area: Social and Behavioral Sciences.

**AS.200.137. Profiling Mentally Ill Mass Murderers.**
Mass Shootings by mentally ill are a scourge upon society. Factors like easy access to guns by dangerous mentally ill, inadequate commitment laws, the lack of treatment, the inability to predict dangerous behavior, and media frenzy, contribute to an increasing death toll. This course uses case studies to highlight the role played by diagnostic assessment (suicide by cop, psychopathic behavior, PTSD, major mental disorders), inadequate prevention civil and gun policy strategies, and stigmatization of the mentally ill as dangerous.
Instructor(s): L. Raifman.

**AS.200.141. Foundations of Brain, Behavior and Cognition.**
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.200.142. Profiling Mentally Ill Mass Murderers.**
Mass Shootings by mentally ill are a scourge upon society. Factors like easy access to guns by dangerous mentally ill, inadequate commitment laws, the inability to predict dangerous behavior, and media frenzy, contribute to an increasing death toll. This course uses case studies to highlight the role played by diagnostic assessment (suicide by cop, psychopathic behavior, PTSD, major mental disorders), inadequate prevention civil and gun policy strategies, and stigmatization of the mentally ill as dangerous. Pre-college students only.
Instructor(s): L. Raifman
Area: Humanities, Social and Behavioral Sciences.

**AS.200.159. Freshmen Seminar: Evolutionary Psychology.**
In this course we discuss evolutionary psychology, which is the idea that the mind can be understood as an adaptation to our ancestral environment by means of natural selection. Freshmen only.
Instructor(s): H. Egeth
Area: Social and Behavioral Sciences.
AS.200.161. Illusions, delusions, and other confusions: Why what you think you know about human nature is (largely) wrong.
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.
This is an online course. The class will meet for ten weeks from May 27 to August 1 and will follow the deadlines for Term I for add/drop/ withdraw and grade changes. This course examines the psychological disorders that are usually first diagnosed prior to adulthood. Some of the specific disorders that will be discussed are Attention-Deficit and Disruptive Behavior Disorders, Pervasive Developmental Disorders, Learning Disorders and Mental Retardation. Students will become familiar with various diagnoses, etiologies, and methods of treatment.
Instructor(s): A. Jarema
Area: Social and Behavioral Sciences.

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. Myers
Area: Natural Sciences.

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.
Course focuses on sexual development, sexuality across the lifespan, gender identity, sexual attraction and arousal, sexually transmitted disease, and the history of commercial sex workers and pornography. Juniors and seniors only within the following majors/minors: Behavioral Biology, Biology, Neuroscience, Psychological & Brain Sciences, Public Health, and the Study of Women, Gender, & Sexuality. All registration will be done during the normal registration period and you must meet all requirements to register. Formerly taught as AS.200.302.
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.

Formerly known as Lab in the Analysis of Psychological Data (LAPD), this course is an overview of research methods used in psychology, experimental designs, interpreting results in psychology, and research ethics. Each student will complete an individual research project on a topic of his/her choosing as part of the course training. The class is taught interactively through lectures and labs.
Prerequisites: EN.550.111 (Statistical Analysis I) or EN.550.112 (Statistical Analysis II)
Instructor(s): H. Egeth
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

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 AND ( AS.110.106 OR AS.110.108)
Instructor(s): K. Bohn
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.209. Personality.
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.
A survey of the psychological and neurophysiological basis of seeing, hearing, touching, tasting, and smelling.
Instructor(s): S. Hendry
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.212. Abnormal Psychology.
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.

This course examines popular “facts” about the brain and cognition, exploring the origins, how they are perpetuated in the media, and the empirical data that support or refute the claims. Recommended Course Background: One previous course in psychology or neuroscience.
Area: Natural Sciences, Social and Behavioral Sciences.
AS.200.218. Alcohol Use & Abuse: From Pub to Lab.
Alcohol is one of the oldest and most commonly used recreational drugs. This course will explore the use and abuse of alcohol, from societal implications to laboratory research designed to better understand the behavioral and neural processes underlying substance abuse. In particular, this course will focus on the roles of learning and motivation in alcohol-seeking, craving, and relapse. To this end, we will examine animal models used in alcohol research, connecting them to work done with human participants.
Instructor(s): J. Maddux
Area: Natural Sciences, Social and Behavioral Sciences.

This introductory course will examine the basic diagnostic psychology principles with special application to forensic psychology. The course 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): L. Raitman
Area: Social and Behavioral Sciences.

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-bullying & 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 analysis. Come prepared to analyze actual forensic cases.
Instructor(s): L. Raitman.

AS.200.222. Positive Psychology.
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.
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. Raitman.
Area: Humanities, Natural Sciences, Social and Behavioral Sciences.

AS.200.226. Neurobiology of Food Intake and Overeating.
This course will examine the role of learning and its interaction in the regulation of body weight, food intake and overeating. Topics covered will include: the neurobiology of learning and motivation; the role of central and peripheral mechanisms in food intake; and biological and psychological factors that lead to overeating and obesity. In addition, students will be expected to complete a written exam.
Instructor(s): A. Johnson
Area: Humanities, Natural Sciences, Social and Behavioral Sciences.

AS.200.301. History Of Psychology.
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.

Area: Natural Sciences, Social and Behavioral Sciences.

This course will survey the neural mechanisms of decision-making. Current experimental research and theory concerning selection, control, and evaluation of actions are examined in humans and animals. Topics will range from simple perceptual judgements to complex social behavior. The course involves a weekly lecture about a specific topic followed by a student presentation of a current research paper. Cross-listed with Neuroscience.
Prerequisites: AS.080.305 OR AS.080.205 OR AS.200.141
Instructor(s): V. Stuphorn
Area: Natural Sciences.

AS.200.306. Psychology in the Workplace.
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.
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.

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.

This course examines the neural basis of “cognitive control”. What is happening in our brains that enables control our thoughts and behavior? What does it mean neurologically when we say someone has “lost control”? What contributions do the neural processes of attention, memory, habits and emotions make? This is a very active area of current research, and this upper-level seminar will make broad use of the primary cognitive and systems neuroscience literature.
Prerequisites: AS.080.203 OR AS.050.203 OR AS.200.141 OR AS.200.305
Instructor(s): S. Courtney-Faruqee
Area: Natural Sciences.

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

Topics in applied probability and statistical inference; analysis of variance; experimental design. Intended for graduate students in psychology. Recommended Course Background: one statistics course.
Prerequisites: Statistics Sequence restriction: students who have completed any of these courses may not register:
EN.550.211 OR EN.550.230 OR AS.280.345 OR AS.200.315 OR EN.550.310 OR EN.550.311 OR EN.560.435 OR EN.550.420 OR EN.550.430
Instructor(s): L. Jager
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

Second half of graduate statistics sequence, covering complex research design and analysis. Signature required for undergrad registration.
Prerequisites: AS.200.314 or equivalent
Instructor(s): A. Shelton
Area: Quantitative and Mathematical Sciences.

AS.200.316. Thought and Perception.
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.

AS.200.317. Interpersonal Relations.
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.

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.

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.
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.
A critical examination of the methods of observation, description, reasoning, inference, measurement and intervention that underlie the clinical practice of psychology and psychiatry. Crosslisted with Behavioral Biology. Open to Senior & Junior Behavioral Biology, Cognitive Science, Neuroscience, Psychology, and Public Health majors only OR with Instructor Approval.
Prerequisites: AS.200.212
Instructor(s): D. Edwin
Area: Social and Behavioral Sciences.

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. Ralfman
Area: Social and Behavioral Sciences.

AS.200.332. Counseling Psychology.
This course provides an introduction to the field of counseling psychology. Professional identity and development, history, theories and processes of counseling are surveyed, as are a variety of specializations and settings in which counseling is practiced. Discussions, demonstrations, and exercises will give students an opportunity to explore counseling psychology as a career path.
Recommended Course Background: AS.200.101
Instructor(s): C. Gasser
Area: Social and Behavioral Sciences.

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.

This is an advanced, discussion-based course covering the developmental, biological, environmental, and cultural bases of attentional, mood, psychotic, anxiety, trauma-based, eating, somatic, and personality disorders. Case formulations in class and review papers will be required.
Prerequisites: AS.200.212
Instructor(s): J. Neemann
Area: Social and Behavioral Sciences.

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.

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.
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.341. Positive Psychology.
THIS COURSE IS GRADED S/U AND DOES NOT COUNT TOWARD THE PSYCHOLOGY MAJOR. The course will review the growing field of positive psychology and will review the research on positive human attributes such as optimism, happiness, hope, resiliency, self-esteem, altruism, empathy, and forgiveness. This course will explore the research on how such positive attributes are developed and how they relate to psychological and physical well-being.
Instructor(s): J. Neemann
Area: Social and Behavioral Sciences.

AS.200.343. Motivation.
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.

An examination of the effects of hormones on behavior in non-human and human animals. Topics will include the effects of hormones on sexual differentiation, reproductive behavior, parental behavior, homeostasis and biological rhythms, regulation of body weight, learning and memory. Cross-listed with Behavioral Biology and Neuroscience.
Prerequisites: Prereqs: ( AS.200.141 OR AS.080.305 ) OR (AS.020.151 AND AS.020.152) OR ( AS.020.305 AND AS.020.306 ) OR instructor’s permission
Instructor(s): K. Bohn
Area: Natural Sciences, Social and Behavioral Sciences.

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.
Area: Social and Behavioral Sciences.
This course will apply insights from cognitive psychology decision-making research to the stock market. The course investigates whether investors can beat the market benchmarks by exploiting marketplace investor sentiment. Juniors and seniors only. Recommended Course Background: six credits of Psychology course work. 
Area: Social and Behavioral Sciences.

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.

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.

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. Restricted to Junior & Senior Behavioral Biology, Cognitive Science & Psychology Majors.
Instructor(s): H. Roberts Fox
Area: Social and Behavioral Sciences.

How do nature and nurture shape the human mind? How does experience contribute to the development of visual perception, language and social reasoning? This course explores insights into these age-old questions from neuroscience and psychology. Studies of infant behavior reveal rich knowledge about objects and people in the first months of life. At the same time, experience has profound effects on behavior and neurobiology. For example, temporary absence of vision (i.e. blindness) during development permanently alters visual perception and the visual cortex. Key evidence also comes from studies of naturally occurring variation in human experience (e.g. blindness, deafness, socioeconomic and cultural differences). We will discuss what such studies of cognitive and neural function tell us about the origins of human cognition. This is a writing intensive course with weekly lectures and seminar style discussion of primary sources. Students will be required to write weekly responses to readings and a term paper.
Prerequisites: AS.200.141 OR AS.050.105 OR AS.080.105 OR AS.050.203 OR AS.020.312 OR AS.200.386 OR (AS.080.305 AND AS.080.306 ) OR AS.080.203
Instructor(s): M. Bedny
Area: Natural Sciences, Social and Behavioral Sciences.

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.

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.
Episodic memory, or autobiographical memory, has been said to be a capacity that is uniquely human. Consisting of the what, when, and where components of our experiences, episodic memory is what makes each of us who we are. This course will explore each of these components individually—the psychology and neural underpinnings of each component—before discussing them in combination as episodic memory. Finally, we will visit one of the greatest ongoing debates in the memory literature: whether or not this ability is truly "uniquely human" or if our nonhuman animal counterparts also have this capacity. Throughout the course, we will draw on evidence from empirical articles based on studies in a variety of species including rodents, primates, and birds.
Prerequisites: AS.200.101 OR AS.200.141 OR AS.080.105 OR (AS.080.305 AND AS.080.306) OR Permission required.
Instructor(s): J. Asem
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.368. Sleep, Dreams, and Altered States of Consciousness.
Sleep, dreaming, resting and arousal to waking represent very different states of consciousness which differ dramatically both psychologically and physiologically. This course focuses on cognitive, psychological, physiological, biological and genetic aspects characterizing each of these states with some reference to other altered states. The course includes a focus on the major pathologies affecting sleep-wake states. Clinical cases will be considered. These inform about both psychological and biological aspects of these states. The relative biological functions of each state will be evaluated with particular attention to the mystery of why we have and apparently need REM and NREM sleep. Actual physiological recordings of sleep states will be reviewed and the student will learn how these are obtained and how to evaluate these. The circadian rhythms, ontogeny and evolution of these sleep-wake states will also be covered. This will include a review of information learned from non-human animal sleep. The change from sleep to full awakening reflects change toward increasing brain organization supporting consciousness. Understanding of the neurobiology of these states will be used to explore some of the more modern and scientific concepts of human self-awareness or consciousness.
Prerequisites: AS.080.203 OR AS.050.203 OR AS.200.101 or permission required.
Instructor(s): R. Allen
Area: Natural Sciences, Social and Behavioral Sciences.

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.

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-Faruqee
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.372. The Aging Brain.
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.

AS.200.376. Psychopharmacology.
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.
Prerequisites: AS.200.141 OR (AS.020.312 AND AS.020.306) OR (AS.080.305 AND AS.080.306) or permission required.
Instructor(s): H. Adwanikar; L. Gorman
Area: Natural Sciences, Social and Behavioral Sciences.

A comparative and evolutionary approach to understanding the neural underpinnings of biologically relevant behaviors in vertebrate and invertebrate animals.
Prerequisites: AS.020.151 or equivalent
Instructor(s): C. Moss
Area: Natural Sciences.

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.
Prerequisites: AS.200.212
Instructor(s): A. Papadakis
Area: Social and Behavioral Sciences.
The complexity of human behavior surpasses even our closest primate relatives. Only humans communicate through language, build complex technology, devise legal system and wage war. What neurobiological capacities set humans apart from other animals? This course will explore the neurobiology of cognition, focusing on cognitive domains that are particularly developed in the human species: language, social cognition, number, executive function and concepts. The course format will consist of lectures and in class workshops.
Instructor(s): M. Bedny
Area: Natural Sciences, Social and Behavioral Sciences.

This course reviews the major models of psychotherapy, including psychodynamic, cognitive, behavioral, interpersonal, and family therapy, with a focus on modern and empirically supported treatments. The application of the models through the analysis of clinical case studies is emphasized. Restricted to Junior & Senior Psychology Majors & Minors.
Prerequisites: AS.200.212
Instructor(s): A. Papadakis
Area: Social and Behavioral Sciences.

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.
Prerequisites: AS.200.141 OR ( AS.080.305 AND AS.080.306) or equivalent.
Instructor(s): C. Moss
Area: Natural Sciences.

Examine relations between brain, mind, and behavior in nonhuman animals, focusing on topics such as learning, memory, attention, decision-making, navigation, communication, and awareness. We will take a variety of approaches, including behavioral, computational, evolutionary, neurobiological, and psychological perspectives.
Prerequisites: (AS.200.141 OR AS.200.208 OR AS.290.101) OR permission of instructor.
Instructor(s): P. Holland
Area: Social and Behavioral Sciences.

We tend to feel that we are thinking the hardest in social situations. In contrast, we barely feel the complicated processing that produces our vivid and salient visual experiences; in fact, we cannot even access most of this processing directly. This course will explore the relationship between visual perception and social cognition, especially the ways that the visual system supplies crucial raw materials for more elaborate social processing, and the ways that our social agendas may, in turn, influence vision. Topics will include what we find physically attractive in mates (and why); the quick formation of social impressions; the neural, cognitive, and evolutionary basis of aesthetic perception; and the extent to which perception might be socially constructed (i.e. whether vision can be influenced from the 'top-down'). All readings will come from primary scientific literature, and students should have some experience reading this kind of material. Limited to juniors, seniors, and graduate students.

AS.200.388. Occupational Health Psychology.
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.

This course is designed to address the increasing gap in our knowledge on sex differences in the brain and cognitive abilities and how hormones play a pivotal role. Dean's Teaching Fellowship. Recommended Course Background: AS.200.101 or AS.020.151
Area: Natural Sciences, Social and Behavioral Sciences.

AS.200.401. Careers in Psychology - Freshmen.
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.

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.

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Instructor(s): J. Halberda
Area: Social and Behavioral Sciences.

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.
S/U grading only.
Instructor(s): Staff.

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

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

AS.200.504. Psychology Research-Sophomores.
Grading Satisfactory/ Unsatisfactory only.
Instructor(s): Staff.
AS.200.505. Psych Readings - Fr.
Instructor(s): Staff.

Instructor(s): Staff.

Instructor(s): Staff.

AS.200.509. Internship-Psychology.
S/U grading only.
Instructor(s): Staff.

AS.200.510. Psychology Internship.
Grading Satisfactory/ Unsatisfactory only.
Instructor(s): Staff.

S/U grading only.
Instructor(s): Staff.

AS.200.512. Psychology Research-Juniors.
Grading Satisfactory/ Unsatisfactory only.
Instructor(s): Staff.

AS.200.513. Psychological Research - Seniors.
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. Psychology Research-Seniors.
Instructor(s): Staff.

AS.200.517. Psych Readings - Srs.
Instructor(s): Staff.

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

AS.200.520. Seniors Honors Research.
Instructor(s): Staff.

AS.200.538. Indep Study - Sophomores.
Instructor(s): Staff.

AS.200.539. Indep Study - Juniors.
Instructor(s): Staff.

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

Instructor(s): Staff.

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

AS.200.570. Independent Study.
Instructor(s): L. Raifman; S. Drigotas.

AS.200.572. Research-Intersession.
Instructor(s): A. Shelton; H. Egeth; P. Holland; S. Drigotas.

AS.200.574. Psychology Internship.
Instructor(s): H. Egeth; S. Drigotas.

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

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

AS.200.599. Independent Study.
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.

AS.200.606. The Semantics & Psychology.

Graduate course designed to address the increasing gap in our knowledge on sex differences in the brain and cognitive abilities, and how hormones play a pivotal role. Advanced undergraduates may attend with permission.

This graduate seminar will survey recent theory and research concerning the functional organization of prefrontal cortex for working memory, decision making, and cognitive control. Graduate students only.

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

Graduate students only or permission required.
Instructor(s): 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.

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): L. Feigenson.

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

**AS.200.631. Tpcs: Spatial Cognition.**
Instructor(s): A. Shelton.

**AS.200.632. Topics: Spatial Cognition.**
Graduate students only.
Instructor(s): A. Shelton.

**AS.200.640. Review of Recent Literature in Biopsychology.**
Instructor’s approval required.
Instructor(s): G. Ball.

**AS.200.643. Motivation.**
Current biological, behavioral, and cognitive research and theory concerning the motivation of behavior are examined. Both human and non-human animal research is reviewed. Topics include the role of genetics, arousal, biological regulatory systems, incentives, expectancies, attributions, social processes and self-actualization in the general of behavior. Course will meet with AS.200.343.
Instructor(s): H. Petri.

**AS.200.648. Aging, Cognition, and Neurodegenerative Disorders I.**
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 & 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): S. Courtney-Faruqee.

**AS.200.664. Advanced Topics in Cognitive Development.**
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.

**AS.200.670. Advanced Seminar in Vision.**
This seminar will cover advanced topics in vision from the perspectives of several disciplines. Topics include human visual psychophysics, perception and cognition, and computational vision. Graduate students only. Cross-listed with Neuroscience.
Instructor(s): H. Egeth; J. Flombaum; J. Halberda.

**AS.200.680. Psychological & Brain Sciences Seminar.**
Instructor(s): S. Courtney-Faruqee.

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.200.701. Graduate Seminar: fMRI.**
Instructor(s): Staff.

**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): S. Courtney-Faruqee; 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.

Graduate students only.  
Instructor(s): F. Madison; G. Ball.

Graduate students only.  
Instructor(s): E. Fortune.

Graduate students only.  
Instructor(s): C. Moss; M. Gallagher; P. Holland; P. Janak.

Graduate Students Only.  
Instructor(s): M. Bedny.

Graduate only.  
Instructor(s): S. Yantis.

Graduate Students Only  
Instructor(s): S. Mysore.

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

Graduate Students Only.  
Instructor(s): C. Moss.

Graduate Students Only.  
Instructor(s): P. Janak.

Graduate students only. Permission Required.  
Instructor(s): S. Courtney-Faruqee.

Instructor(s): S. Courtney-Faruqee.

AS.200.848. Current Advances in Psychological and Brain Sciences.  
Introduces advanced research topics to graduate students (as well as faculty) through a series of speakers and discussions.  
Instructor(s): J. Flombaum.

AS.200.849. Teaching Practicum.  
All candidates are required to obtain special experience in various aspects of undergraduate teaching. Graduate students only.  
Instructor(s): Staff.

AS.200.850. Advanced Teaching Practicum.  
Instructor(s): 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 Credits.  
Introductory course dealing with theory, methods, and current research topics in the study of language as a component of the mind. What it is to “know” a language: components of linguistic knowledge (phonetics, phonology, morphology, syntax, semantics) and the course of language acquisition. How linguistic knowledge is put to use: language and the brain and linguistic processing in various domains. This course is restricted to freshmen and sophomores. Juniors and seniors must seek instructor approval to enroll. Cross-listed with Neuroscience and Psychology.

Instructor(s): A. Omaki

Area: Natural Sciences, Social and Behavioral Sciences.

AS.050.204. Visual Cognition.  
Vision is central to our daily interactions with the world: we can effortlessly navigate through a city, comprehend fast movie trailers, and find a friend in a crowd. While we take the visual experience for granted, visual perception involves a series of complicated cognitive processes beyond just opening our eyes. The goal of this course is to provide an introduction to visual cognition, including existing theoretical frameworks and recent research findings. We will explore questions such as: How do we see the stable world when our eyes are constantly moving? What is the relationship between seeing and knowing? Do Infants see the world the same way as adults do? What are the neural mechanisms underlying visual perception?  
Instructor(s): S. Park

Area: Natural Sciences, Social and Behavioral Sciences.
This course is an advanced seminar and research practicum course. It will provide the opportunity to learn about fMRI methods used in the field of vision science and for students to have hands-on experience to develop, design and analyze a research study on topics in the cognitive neuroscience field of high-level vision. In the first part of the course students will read recent fMRI journal papers and learn about common fMRI designs and analysis methods; in the second part of the course students will conduct a research study as a group to address a research question developed from readings. Students are expected to write a paper in a journal article format at the end of the course and to present their results in front of the class. Research topics will vary but with special focus on topics in object, scene and space recognition. Cross-listed with Neuroscience and Psychology, instructor’s permission required.
Prerequisites: AS.050.240(C) OR AS.050.319(C) OR AS.050.105(C) OR AS.200.312(C) OR AS.200.110(C) OR AS.050.203(C) OR AS.080.203(C)
Instructor(s): S. Park
Area: Natural Sciences, Social and Behavioral Sciences.

Vision is central to our daily interactions with the world: we can effortlessly navigate through a city, comprehend fast movie trailers, and find a friend in a crowd. While we take the visual experience for granted, visual perception involves a series of complicated cognitive processes beyond just opening our eyes. The goal of this course is to introduce students to the field of visual cognition, including existing theoretical frameworks and recent research findings. We will explore questions such as: How do we see the visual world? Do we see and remember correctly what’s in the physical world? How many items can we keep track of and remember at a time? How is the visual system structured and what are the neural mechanisms underlying visual perception? Meets with AS.050.619.
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.

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 thematically, 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.

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

This course will examine the historical and current theories of sexual orientation and sexual variation development by examining the biological, psychological and social contributing factors that influence the development of sexual orientations and variations along with treatment and modification of problematic sexual behaviors. Limited to Juniors and Seniors with PBS, Neuroscience, Public Health, Behavioral Biology, and Biology majors, or Juniors and Seniors with PBS or Women’s Studies minors.
Prerequisites: Students may enroll in both AS.200.204 and AS.290.420, but cannot do so in the same semester.
Instructor(s): A. Jarema; C. Kraft
Area: Social and Behavioral Sciences.

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.

AS.230.302. Class Stratification & Personality.
230 302 ($) CLASS, STRATIFICATION, AND PERSONALITY (3) Kohn Limit 30 Juniors/Seniors only or instructor’s consent An intensive examination of the research literature, much of it based on survey research carried out by the instructor and his international collaborators, on the relationships of social class and social stratification with personality. The course will examine the links between people’s positions in the class structure and the stratification hierarchy of their society and their more proximate conditions of life, particularly their job conditions, and how these conditions, in turn, affect (and are affected by) such basic dimensions of personality as intellectual flexibility, self-directedness of orientation, and feelings of well-being or distress. The research has been conducted principally in the United States, Japan, Poland when it was socialist, Poland and Ukraine during their transitions from socialism to nascent capitalism, and (in the instructor’s current research) China during its very different transformation. Cross-listed with Psychological & Brain Sciences
Instructor(s): M. Kohn
Area: Social and Behavioral Sciences.

This course will examine the historical and current theories of sexual orientation and sexual variation development by examining the biological, psychological and social contributing factors that influence the development of sexual orientations and variations along with treatment and modification of problematic sexual behaviors. Limited to Juniors and Seniors with PBS, Neuroscience, Public Health, Behavioral Biology, and Biology majors, or Juniors and Seniors with PBS or Women’s Studies minors.
Prerequisites: Students may enroll in both AS.200.204 and AS.290.420, but cannot do so in the same semester.
Instructor(s): A. Jarema; C. Kraft
Area: Social and Behavioral Sciences.