Psychology

Department Website: http://psychology.uchicago.edu

Program of Study

Psychology is the study of the mental states and processes that give rise to behavior. It seeks to understand the basic mechanisms and functions of perception, cognition, emotion, and attitudes in guiding behavior. Although it focuses on the level of the individual, individual behavior depends on the social relationships and structures in which people are embedded and the biological systems of which we are comprised. Thus, psychological study encompasses a broad set of topics that overlap with a number of disciplines across the social and biological sciences. The requirements of the major are designed to acquaint students with the research methods psychologists use and to provide a foundation of core knowledge covering the major areas of psychology. This broad foundation allows students to pursue a more advanced understanding of subfields related to their own particular interests and goals for the major. The program may serve as preparation for graduate work in psychology or related fields (e.g., neuroscience, education), as well as for students interested in careers in social work, public policy, business, or medicine. Students are encouraged to become actively engaged in research in the department and should consult with the director of undergraduate research about their interests as early as possible.

Program Requirements

Although no special application is required for admission to the major, majors are required to:

1. Inform the Department of Psychology by completing an enrollment form available from the department student affairs administrator in Beecher 109 and inform their College adviser.
2. Subscribe to the Psychology Majors Listhost at https://lists.uchicago.edu/web/info/psychology-majors. The listhost is the primary means of communication between the program and its majors or students interested in being majors. We use it to notify students of events relevant to psychology majors, such as research opportunities, job postings, fellowship announcements, and any changes in the course schedule, or curriculum updates.

NOTE: The following revised requirements are in effect for students who matriculated September 2014 and after. Students who matriculated prior to September 2014 should consult the College Catalog archives for the requirements that pertain to them.

NOTE: When planning your course schedule, please consult Class Search at registrar.uchicago.edu/classes and the Courses section (http://psychology.uchicago.edu/content/courses-2017-18) of the Psychology Department Undergraduate Program website for any changes in the course offerings.

Statistics/Methodology Sequence

By the end of their third year, psychology majors are required to complete PSYC 20200 Psychological Research Methods and one of the following courses: PSYC 20250 Introduction to Statistical Concepts and Methods, STAT 22000 Statistical Methods and Applications, or PSYC 20100 Psychological Statistics (if taken Autumn Quarter 2018 or earlier). It is strongly recommended that these courses be taken as early as possible as they provide foundational concepts that facilitate understanding of subject area courses. These two courses cover the conceptual and methodological issues (PSYC 20200) and the statistical methods (PSYC 20250, STAT 22000, or PSYC 20100) used in psychological science and are typically taught in Autumn and Winter Quarters. We advise students to take PSYC 20200 Psychological Research Methods prior to taking statistics, but either order is acceptable.

Beginning with the Class of 2019, students with AP examination credit for STAT 22000 Statistical Methods and Applications may not count that credit toward the major and should instead replace that requirement with a higher-level statistics course or an additional psychology elective. Students interested in graduate programs in psychology or other empirical sciences are strongly encouraged to take a higher level statistics course.

Breadth Requirement

Students are required to take four of the following five courses, each of which will be offered every year:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 20300</td>
<td>Biological Psychology</td>
<td>100</td>
</tr>
<tr>
<td>PSYC 20400</td>
<td>Cognitive Psychology</td>
<td>100</td>
</tr>
<tr>
<td>PSYC 20500</td>
<td>Developmental Psychology</td>
<td>100</td>
</tr>
<tr>
<td>PSYC 20600</td>
<td>Social Psychology</td>
<td>100</td>
</tr>
<tr>
<td>PSYC 20700</td>
<td>Sensation and Perception</td>
<td>100</td>
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Additional Courses

At least six additional courses (for a total of twelve in the major) must be chosen from among the courses offered by the Department of Psychology. Courses without a PSYC number must be approved by the Curriculum Committee; petitions must be submitted to the undergraduate program chair. Only one independent study course can count toward the twelve courses required of students who are majoring in psychology (PSYC 29200 Undergrad Rdgs: Psychology or PSYC 29700 Undergraduate Research in Psychology). In addition to the six electives, students pursuing honors in psychology must also take the PSYC 29800 Honors Seminar: Psychology. Independent study courses can be taken for P/F grading, but all other
Psychology courses must be taken for a quality grade. NOTE: Before registering for an elective, students should confirm that they have met any prerequisites for the course.

Research

Students are required to take PSYC 20200 Psychological Research Methods. Students are encouraged to gain additional experience by working on a research project under the guidance of a faculty member.

Calculus

Students are required to take two quarters of calculus as part of the College general education requirements.

NOTE: For psychology students, a maximum of three courses can be transferred into the major from outside the University of Chicago.

Summary of Requirements

GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>MATH 13100-13200</td>
<td>Elementary Functions and Calculus I-II (or higher) †</td>
<td>200</td>
</tr>
</tbody>
</table>

Total Units 200

MAJOR

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 20200</td>
<td>Psychological Research Methods (by end of third year)</td>
<td>100</td>
</tr>
<tr>
<td>One of the following (by end of third year): *</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>PSYC 20250</td>
<td>Introduction to Statistical Concepts and Methods</td>
<td></td>
</tr>
<tr>
<td>STAT 22000</td>
<td>Statistical Methods and Applications</td>
<td></td>
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<tr>
<td>PSYC 20100</td>
<td>Psychological Statistics</td>
<td></td>
</tr>
<tr>
<td>Four of the following:</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>PSYC 20300</td>
<td>Biological Psychology</td>
<td></td>
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<tr>
<td>PSYC 20400</td>
<td>Cognitive Psychology</td>
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<td>Social Psychology</td>
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<tr>
<td>PSYC 20700</td>
<td>Sensation and Perception</td>
<td></td>
</tr>
<tr>
<td>Six electives *</td>
<td>600</td>
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</table>

Total Units 1200

† Credit may be granted by examination.

* Examination credit for PSYC 20250 Introduction to Statistical Concepts and Methods, PSYC 20100 Psychological Statistics, or STAT 22000 Statistical Methods and Applications will not count toward the requirements for the major. Students with credit for PSYC 20250, PSYC 20100, or STAT 22000 should replace that requirement with a higher level Statistics course or an additional psychology elective.

+ Courses without a PSYC number must be approved by the Curriculum Committee; petitions must be submitted to the undergraduate program chair.

Grading

All courses in the major must be taken for quality grades except for the independent study course, which is available for either a quality grade or for P/F grading.

Honors

To qualify for honors, students must meet the following requirements:

1. Students must have a GPA of at least 3.0 overall, and a GPA of at least 3.5 in the major by the beginning of the quarter in which they intend to graduate.

2. Students should arrange to write an honors paper with a faculty advisor from the Department of Psychology. Papers must represent a more substantial research project than the average term paper. After the paper has been approved by the faculty sponsor, the paper must then be read and approved by a second faculty member.

3. Students are required to take PSYC 29800 Honors Seminar: Psychology in Winter Quarter of their third or fourth year. This is in addition to the twelve required courses for the major. It is expected that students will be actively working on the thesis project during the quarter they are taking the honors research seminar.

4. Students are required to present their findings in Spring Quarter of their fourth year at an honors day celebration. For details, visit psychology.uchicago.edu.

Specialized Courses of Study

Faculty members (or the undergraduate program chair) are available to help individual students design a specialized course of study within psychology. For example, particular course sequences within and outside of psychology may be designed for students who wish to pursue specializations in particular areas. These areas include, but are not limited
to, cognitive neuroscience, language and communication, computational psychology, behavioral neuroscience and endocrinology, sensation and perception, and cultural psychology.

Double Majors
Students pursuing honors in more than one major should note that:

1. The student's thesis adviser for psychology cannot be the same person as his or her thesis adviser for the second major.
2. The student must meet all the requirements listed in the preceding Honors section, including taking the Honors Seminar and presenting at an honors day celebration.

Earl R. Franklin Research Fellowship
The Earl R. Franklin Research Fellowship is awarded to select third-year students who are majoring in psychology. It provides financial support during the summer before his or her fourth year to carry out psychological research that will be continued as a senior honors project. Applications, which are submitted at the beginning of Spring Quarter, include a research proposal, personal statement, transcript, and letter of recommendation.

Psychology Courses

**PSYC 20000. Fundamentals of Psychology. 100 Units.**
This course introduces basic concepts and research in the study of behavior. Principal topics are sensation, perception, cognition, learning, motivation, and personality theories.
Instructor(s): K. O'Doherty Terms Offered: Spring

**PSYC 20200. Psychological Research Methods. 100 Units.**
This course introduces concepts and methods used in behavioral research. Topics include the nature of behavioral research, testing of research ideas, quantitative and qualitative techniques of data collection, artifacts in behavioral research, analyzing and interpreting research data, and ethical considerations in research.
Instructor(s): K. Ledoux Terms Offered: Autumn

**PSYC 20209. Adolescent Development. 100 Units.**
Adolescence represents a period of unusually rapid growth and development. At the same time, under the best of social circumstances and contextual conditions, the teenage years represent a challenging period. The period also affords unparalleled opportunities with appropriate levels of support. Thus, the approach taken acknowledges the challenges and untoward outcomes, while also speculates about the predictors of resiliency and the sources of positive youth development.
Instructor(s): M. Spencer Terms Offered: Autumn
Prerequisite(s): Students will have previously taken one other course in CHDV
Note(s): CHDV Distribution: B, D
Equivalent Course(s): CHDV 20209

**PSYC 20300. Biological Psychology. 100 Units.**
What are the relations between mind and brain? How do brains regulate mental, behavioral, and hormonal processes; and how do these influence brain organization and activity? This course introduces the anatomy, physiology, and chemistry of the brain; their changes in response to the experiential and sociocultural environment; and their relation to perception, attention, behavioral action, motivation, and emotion.
Instructor(s): S. London, G. Norman Terms Offered: Winter
Prerequisite(s): Some background in biology and psychology.
Note(s): This course does not meet requirements for the Biological Sciences Major.
Equivalent Course(s): BIOS 29300, CHDV 20300

**PSYC 20400. Cognitive Psychology. 100 Units.**
Viewing the brain globally as an information processing or computational system has revolutionized the study and understanding of intelligence. This course introduces the theory, methods, and empirical results that underlie this approach to psychology. Topics include categorization, attention, memory, knowledge, language, and thought.
Instructor(s): M. Rosenberg Terms Offered: Spring
Equivalent Course(s): EDSO 20400

**PSYC 20500. Developmental Psychology. 100 Units.**
This is an introductory course in developmental psychology, with a focus on cognitive and social development in infancy through early childhood. Example topics include children's early thinking about number, morality, and social relationships, as well as how early environments inform children's social and cognitive development. Where appropriate, we make links to both philosophical inquiries into the nature of the human mind, and to practical inquiries concerning education and public policy.
Instructor(s): K. O'Doherty Terms Offered: Spring
Note(s): CHDV Distribution, B
Equivalent Course(s): CHDV 25900, EDSO 20500
PSYC 20600. Social Psychology. 100 Units.
This course examines social psychological theory and research that is based on both classic and contemporary contributions. Topics include conformity and deviance, the attitude-change process, social role and personality, social cognition, and political psychology.
Instructor(s): W. Goldstein Terms Offered: Autumn
Equivalent Course(s): CHDV 26000

PSYC 20700. Sensation and Perception. 100 Units.
What we see and hear depends on energy that enters the eyes and ears, but what we actually experience—perception—follows from human neural responses. This course focuses on visual and auditory phenomena, including basic percepts (for example, acuity, brightness, color, loudness, pitch) and also more complex percepts such as movement and object recognition. Biological underpinnings of perception are an integral part of the course.
Instructor(s): K. Ledoux Terms Offered: Spring
Equivalent Course(s): NSCI 20140

PSYC 20850. Introduction to Human Development. 100 Units.
This course introduces the study of lives in context. The nature of human development from infancy through old age is explored through theory and empirical findings from various disciplines. Readings and discussions emphasize the interrelations of biological, psychological, and sociocultural forces at different points of the life cycle.
Instructor(s): E. Raikhel Terms Offered: Autumn
Prerequisite(s): CHDV majors or intended majors.
Note(s): Required Course for Comparative Human Development Majors
Equivalent Course(s): CHDV 20000, HLTH 20000

PSYC 21100. Human Development Research Design. 100 Units.
The purpose of this course is to expose CHD majors in college to a broad range of methods in social sciences with a focus on human development research. The faculty in Comparative Human Development is engaged in interdisciplinary research encompassing anthropology, biology, psychology, sociology, and applied statistics. The types of data and methods used by faculty span the gamut of possible methodologies for addressing novel and important research questions. In this course, students will study how appropriate research methods are chosen and employed in influential research and will gain hands-on experience with data collection and data analysis. In general, the class will meet as a whole on Mondays and will have lab/discussion sections on Wednesdays. The lab/discussion sections are designed to review the key concepts, practice through applying some of the methods, and prepare students for the assignments. Students in each section will be assigned to small groups. Some of the assignments are group-based while others are individual-based.
Instructor(s): Hong, Guanglei Terms Offered: Spring
Note(s): Required Course for Comparative Human Development Majors
Equivalent Course(s): CHDV 20100, HLTH 20100

PSYC 21260. Psychology Research Incubator. 100 Units.
Answering questions about how minds work, how choices are made, or about the forces that shape behavior depends on understanding how to carry out research. This course guides you through the process of developing an original research project of your own design. Whether your questions come from research you are already working on in a lab or reflect independent interests of your own, this course will lead you through the process of designing an empirical study to address an issue that interests you. From the first stages of turning an idea into a study, you will work either individually or with a group to develop your research questions scientifically to address issues that can add new knowledge to psychological science. In this course you will learn to: (1) generate testable hypotheses that are informed by prior research, (2) design and implement methods for testing these hypotheses, and (3) write an IRB protocol in order to collect data. The course culminates with drafting a research grant proposal so you will be well positioned to take advantage of the increased funding opportunities available for undergraduate research.
Instructor(s): A. Henly Terms Offered: Winter
Prerequisite(s): PQ: PSYC 20200 Psychological Research Methods
Note(s): Open to second and third year students only.

PSYC 21510. Neuroscience of Communication. 100 Units.
We will read and discuss communication and how various kinds of communication are mediated by neural systems. The course will cover theories, methods, and empirical findings in communication neuroscience. Topics will include speech and language, emotional information, face perception, gesture, and music.
Instructor(s): H. Nusbaum Terms Offered: Spring
Equivalent Course(s): NSCI 22500, PSYC 31510

PSYC 21750. Biological Clocks and Behavior. 100 Units.
This course will address physiological and molecular biological aspects of circadian and seasonal rhythms in biology and behavior. The course will primarily emphasize biological and molecular mechanisms of CNS function, and will be taught at a molecular level of analysis from the beginning of the quarter. Those students without a strong biology background are unlikely to resonate with the course material.
Instructor(s): B. Prendergast Terms Offered: Autumn
Prerequisite(s): A quality grade in PSYC 20300 Introduction to Biological Psychology. Additional biology courses are desirable. Completion of Core biology will not suffice as a prerequisite.
Equivalent Course(s): BIOS 24248, HLTH 21750, NSCI 31510
PSYC 21910. Political Psychology: Rallies, Riots, & Revolutions. 100 Units.
The aim of this class is to introduce you to the trans-disciplinary study of political psychology and to challenge deeply held assumptions in light of the debates and discussions stimulated by the readings each week. Readings pull from across the social sciences with a particular focus on political, social, and cultural psychology; political science and sociology, and are chosen to provide a broad overview of the expansive literature on this topic. You will engage with the fundamental issues concerning political psychology, and will learn to think through historical and contemporary issues in relation to social change and social stasis with reference to the readings. More specifically, students will learn how to apply class concepts to better understand a broader range of issues concerning how social movements form, grow, and disperse; why people justify unfair or corrupt systems in which they live; police and protester interaction; the psychology of riots; the acceptance or rejection of economic inequality; and the psychology of democracies and dictatorships.
Instructor(s): S. Power Terms Offered: Winter
Note(s): CHDV Distribution: C
Equivalent Course(s): CHDV 21910

PSYC 21940. Methods That Matter in the Social Sciences. 100 Units.
Methods reveal and conceal. But multiple methods are needed if social science is to advance and deal with the pressing issues of both the present and the future. In this class, we will read classic and contemporary studies from across the social sciences to think about the scopes and limits of individual research methods. Students will learn how to combine various methods, at multiple levels of analysis, to understand social scientific phenomenon and how to make sense of sometimes contradictory evidence. Readings will draw from anthropology, sociology, and psychology and will cover a variety of methods from ethnographies, qualitative interviewing, field experiments, and cognitive experiments, in multiple socio-cultural contexts and in relation to a variety of social scientific issues. In conjunction to reading about research methods, students will also learn about multiple methods by actively conducting their own independent research project. Students are expected to work on this project weekly. This project will be informed by our readings each week, and, in turn, our a research projects will inform our understanding of the readings.
Instructor(s): S. Power Terms Offered: Winter
Note(s): CHDV Distribution: M
Equivalent Course(s): CHDV 21940

PSYC 21950. Language, Culture, and Thought. 100 Units.
Survey of research on the interrelation of language, culture, and thought from the evolutionary, developmental, historical, and culture-comparative perspectives with special emphasis on the mediating methodological implications for the social sciences.
Instructor(s): J. Lucy Terms Offered: Spring
Note(s): CHDV Distribution: B, C
Equivalent Course(s): LING 27605, LING 37605, ANTH 27605, CHDV 21901, ANTH 37605, PSYC 31900, CHDV 31901

PSYC 22350. Social Neuroscience. 100 Units.
Social species, by definition, create emergent organizations beyond the individual - structures ranging from dyads and families to groups and cultures. Social neuroscience is the interdisciplinary field devoted to the study of neural, hormonal, cellular, and genetic mechanisms, and to the study of the associations and influences between social and biological levels of organization. The course provides a valuable interdisciplinary framework for students in psychology, neuroscience, behavioral economics, and comparative human development. Many aspects of social cognition will be examined, including but not limited to attachment, attraction, altruism, contagion, cooperation, competition, dominance, empathy, isolation, morality, and social decision-making.
Instructor(s): J. Decety Terms Offered: Autumn
Equivalent Course(s): NSCI 21000, ECON 21830, HLTH 22350, BIOS 24137, CHDV 22350

PSYC 22580. Child Development in the Classroom. 100 Units.
This discussion-based, advanced seminar is designed to investigate how preschool and elementary students think, act, and learn, as well as examine developmentally appropriate practices and culturally responsive teaching in the classroom. This course emphasizes the application of theory and research from the field of psychology to the realm of teaching and learning in contemporary classrooms. Course concepts will be grounded in empirical research and activities geared towards understanding the nuances and complexities of topics such as cognitive development (memory, attention, language), early assessment systems, standardized testing, “mindset”, “grit”, exercise/nutrition, emotion regulation, and more.
Instructor(s): Kate O’Doherty Terms Offered: Winter
Equivalent Course(s): EDSO 22580, CHDV 22580, HLTH 22580
PSYC 23000. Cultural Psychology. 100 Units.
There is a substantial portion of the psychological nature of human beings that is neither homogeneous nor fixed across time and space. At the heart of the discipline of cultural psychology is the tenet of psychological pluralism, which states that the study of “normal” psychology is the study of multiple psychologies and not just the study of a single or uniform fundamental psychology for all peoples of the world. Research findings in cultural psychology thus raise provocative questions about the integrity and value of alternative forms of subjectivity across cultural groups. In this course we analyze the concept of “culture” and examine ethnic and cross-cultural variations in mental functioning with special attention to the cultural psychology of emotions, self, moral judgment, categorization, and reasoning.

Instructor(s): R. Shweder Terms Offered: Autumn
Prerequisite(s): Undergraduates must be in third or fourth year.
Note(s): CHDV Distribution: B, C
Equivalent Course(s): PSYC 33000, CHDV 21000, GNSE 31000, ANTH 35110, AMER 33000, ANTH 24320, CHDV 31000, GNSE 21001

PSYC 23165. Multidisciplinary Perspectives on Morality. 100 Units.
The past decade saw an explosion of empirical research in the study of morality. Among the most exciting and novel findings and theories, evolutionary biologists and comparative psychologists have shown that moral cognition has evolved to facilitate cooperation and smooth social interactions, and that certain components of morality are present in non-human animals. Developmental psychologists came up with ingenious paradigms, demonstrating that the elements that underpin morality are in place much earlier than we thought, and clearly in place before children turn two. Social neuroscientists have begun to map brain circuits implicated in moral decision-making and identify the contribution of neuropetides to moral sensitivity. Changes in the balance of brain chemistry, or in connectivity between regions can cause changes in moral behavior. The lesson from all this new knowledge is clear: human moral behavior cannot be separated from human biology, its development, and past evolutionary history. As our understanding of the human brain improves, society at large, and justice and the law in particular, are and will be increasingly challenged. Discoveries in neuroscience will soon impact our legal system in ways that hopefully lead to a more cost-effective, humane and flexible system than we have today. The intent of this class is to provide an overview of the current research on the morality, and examine this topic from a range of relevant interdisciplinary perspectives.

Instructor(s): J. Decety Terms Offered: Autumn
Equivalent Course(s): PSYC 33165

PSYC 23370. Bright and Dark Sides of Empathy. 100 Units.
This course invites students to critically explore the science of empathy by examining its scope and its limits. It delves into cutting-edge research from evolutionary theory, neurobiology, developmental and social psychology, social neuroscience, clinical neuroscience, and behavioral economics to illuminate the mechanisms behind feeling for and with others. Questions explored in this course include: What are the evolutionary roots of empathy? What are the neural and neuro-endocrinological mechanisms that facilitate empathy? How does empathy develop in young children? Is empathy a limited-capacity resource? How is empathy modulated by unconscious processing and implicit attitudes (e.g., group dynamics, social status)? Is empathy necessarily a good thing for social decision-making? Why empathy can make us act unfairly? Why do some individuals (i.e., psychopaths) lack empathy and concern for the well-being of others? How does empathy improve the overall effectiveness of medical care? This course introduces undergraduate students to current research and theories of empathy. The study of empathy serves as the basis for integrating a variety of perspectives including evolutionary biology, behavioral economics, affective neuroscience, developmental psychology, social psychology, behavioral neurology and psychiatry.

Instructor(s): J. Decety Terms Offered: Spring
Equivalent Course(s): CHDV 23370

PSYC 23800. Introduction to Learning and Memory. 100 Units.
This course examines basic questions in learning and memory. We discuss the historical separation and division of these two areas as well as the paradigmatic differences in studying learning and memory. We also discuss basic research methods for investigating learning and memory and survey established and recent research findings, as well as consider several different kinds of models and theories of learning and memory. Topics include skill acquisition, perceptual learning, statistical learning, working memory, implicit memory, semantic vs. episodic memory, and memory disorders.

Instructor(s): D. Gallo Terms Offered: Spring
Equivalent Course(s): HLTH 23800, EDSO 23800

PSYC 23820. Attention and Working Memory in the Mind and Brain. 100 Units.
This course will provide a broad overview of current work in psychology and neuroscience related to attention and working memory. We will discuss evidence for sharp capacity limits in an individual's ability to actively monitor and maintain information in an "online" mental state. Readings will be primarily based on original source articles from peer-reviewed journals, with a focus on behavioral and neural approaches for measuring and understanding these basic cognitive processes.

Instructor(s): E. Awh, E. Vogel Terms Offered: Winter
Prerequisite(s): PQ: NSCI 20110 (Fundamental Neuroscience) is required for Neuroscience majors only.
Equivalent Course(s): NSCI 21600
Psychology 7

PSYC 23860. Beyond Good and Evil: The Psychology of Morality. 100 Units.
Morality is a mysterious and possibly uniquely human capacity that influences how we make decisions in a number of domains. In this course we will explore how and why human beings have the moral intuitions that they do and also where these intuitions come from—what about our moral intuitions are built in and how are these intuitions shaped by experience? To achieve these goals, we will discuss literature from developmental, social, and evolutionary psychology, as well as some literature from behavioral economics and experimental philosophy. We will briefly review the history of moral psychology, but spend the bulk of our time discussing contemporary debates and findings from research on moral psychology.
Instructor(s): A. Shaw Terms Offered: Autumn

PSYC 24133. Neuroscience of Seeing. 100 Units.
This course focuses on the neural basis of vision, in the context of the following two questions: 1. How does the brain transform visual stimuli into neuronal responses? 2. How does the brain use visual information to guide behavior? The course covers signal transformation throughout the visual pathway, from retina to thalamus to cortex, and includes biophysical, anatomical, and computational studies of the visual system, psychophysics, and quantitative models of visual processing. This course is designed as an advanced neuroscience course for undergraduate and graduate students. The students are expected to have a general background in neurophysiology and neuroanatomy.
Instructor(s): W. Wei, J. Maunsell, M. Sherman, S. Shevell Terms Offered: Autumn
Prerequisite(s): NSCI 20111 or BIOS 24110 or consent of instructor
Equivalent Course(s): BIOS 24133, NURB 34133, NSCI 22400, PSYC 34133, CPNS 34133

PSYC 24231. Methods in Computational Neuroscience. 100 Units.
Topics include (but are not limited to): Hodgkin-Huxley equations, Cable theory, Single neuron models, Information theory, Signal Detection theory, Reverse correlation, Relating neural responses to behavior, and Rate vs. temporal codes.
Instructor(s): S. Bensmaia Terms Offered: Winter.
Prerequisite(s): For Neuroscience Majors: NSCI 20130, BIOS 26210 and BIOS 26211 which must be taken concurrently, or consent of instructor.
Equivalent Course(s): NSCI 23700, BIOS 24231, CPNS 34231

PSYC 24380. The Immune System and Behavior. 100 Units.
Psychoneuroimmunology is a multidisciplinary field of study with connections to psychology, neuroscience, gastroenterology, chronobiology, and immunology. In this course, we will examine the bidirectional relationship between the immune system and the brain. Topics include inflammation and mental health, stress and immune function, and gut microbiota. The course emphasizes the study of integrative research and multilevel analysis, as well as critical evaluation of empirical research articles. Background in psychology and biology is recommended.
Instructor(s): K. Onishi Terms Offered: Spring
Prerequisite(s): PSYC 20300 Introduction to Biological Psychology or an equivalent course is recommended.

PSYC 24580. The Myth of Reality: Visual Perception of the Physical World. 100 Units.
Do we see the world exactly as it is? Does our perception match reality? The short answer: no. This course will delve into the distinction between the physical environment and our visual perception of it as humans, with a focus on striking examples of when this distinction is most evident and adaptive. Topics include a brief introduction to the visual system including its incredible capabilities and its limitations, followed by specific in-depth examples of how the visual system creates our experience that differs from what is present in the physical world. These examples include a detailed look at human color vision with a focus on color constancy, chromatic and achromatic adaption, depth perception, face and object perception, attentional effects, and visual ambiguity.
Instructor(s): E. Slezak Terms Offered: Winter
Prerequisite(s): It is strongly recommended, but not required, to have taken PSYC 20700 Sensation and Perception.

PSYC 25101. The Psychology of Decision Making. 100 Units.
We constantly make decisions, determine our preferences, and choose among alternatives. The importance of our decisions range from ordering a meal at a restaurant to choosing what college to attend. How do we make such decisions? What are the rules that guide us and the biases that shape our decisions? What determines our preferences? What impacts our willingness to take risks? In this course we consider how the way we go about gathering information affects our judgment, and how the way we frame problems affects our perceptions and shapes the solutions to problems. We learn what governs choice and the systematic way it deviates from normative rules. We consider how we think about the future and how we learn from the past. The course focuses on the psychology behind making decisions with implications for a wide range of areas such as public policy, law, and medicine.
Instructor(s): B. Keysar Terms Offered: Autumn
Prerequisite(s): Third- or fourth-year students only
PSYC 25120. Child Development and Public Policy. 100 Units.
The goal of this course is to introduce students to the literature on early child development and explore how an understanding of core developmental concepts can inform social policies. This goal will be addressed through an integrated, multidisciplinary approach. The course will emphasize research on the science of early child development from the prenatal period through school entry. The central debate about the role of early experience in development will provide a unifying strand for the course. Students will be introduced to research in neuroscience, psychology, economics, sociology, and public policy as it bears on questions about “what develops?”, critical periods in development, the nature vs. nurture debate, and the ways in which environmental contexts (e.g., parents, families, peers, schools, institutions, communities) affect early development and developmental trajectories. The first part of the course will introduce students to the major disciplinary streams in the developmental sciences and the enduring and new debates and perspectives within the field. The second part will examine the multiple contexts of early development to understand which aspects of young children's environments affect their development and how those impacts arise. Throughout the course, we will explore how the principles of early childhood development can guide the design of policies and practices that enhance the healthy development of young children, particularly for those living in adverse circumstances, and thereby build a strong foundation for promoting equality of opportunity, reducing social class disparities in life outcomes, building human capital, fostering economic prosperity, and generating positive social change. In doing so, we will critically examine the evidence on whether the contexts of children's development are amenable to public policy intervention and the costs and benefits of different policy approaches.

Instructor(s): A. Kalil
Terms Offered: Winter
Prerequisite(s): Attendance on the first day of class is required or registration will be dropped.
Equivalent Course(s): EDSO 25120, PBPL 25120, CHDV 25120

PSYC 25750. The Psychology and Neurobiology of Stress. 100 Units.
This course explores the topic of stress and its influence on behavior and neurobiology. Specifically, the course will discuss how factors such as age, gender, and social context interact to influence how we respond to stressors both physiologically and behaviorally. The course will also explore how stress influences mental and physical health.

Instructor(s): G. Norman
Terms Offered: Autumn
Note(s): This course does not meet the requirements for the Biological Sciences Major.
Equivalent Course(s): BIOS 29271

PSYC 25790. Psychology of Race, Ethnicity, and Social Class: Perspectives and Impact. 100 Units.
This course will explore contemporary theories, findings, and social issues concerning the study of race, ethnicity, and social class as they relate to human behavior from the perspective of the individual in various social contexts. Drawing from disciplines such as cognitive, developmental, and social psychology, this course will also incorporate perspectives from social epidemiology, health disparities research, and critical race theory. Therefore, this course will be guided by a critical analysis lens that recognizes the intersection of gender, race/ethnicity, and social class, using the United States as a "case study" to evaluate the complexities of social inequality. Learning will take place through a series of lectures, in-class activities, and weekly readings, and will emphasize interdisciplinary research, multilevel analysis, and critical evaluation of empirical research articles.

Instructor(s): C. Cardenas-Iniguez
Terms Offered: Winter
Prerequisite(s): PSYC 20200. Third or fourth-year standing.
Equivalent Course(s): CRES 25790

PSYC 25990. Stereotype Effects on Cognition. 100 Units.
This course introduces the concept of stereotypes and how stereotypes about group difference affect members of stigmatized groups in terms of their physical and mental health, self-esteem, memory, and cognitive performance. We also discuss research methods for investigating stereotype effects and recent research findings, as well as consider several different kinds of models and theories of stereotype effect. We will cover different stereotypes, including race, gender, aging, mental illness, disabilities, sexual orientation, and social class.

Instructor(s): Y. Chen
Terms Offered: Spring
Equivalent Course(s): GNSE 25990, CRES 25990

PSYC 27010. Psycholinguistics. 100 Units.
This is a survey course in the psychology of language. We will focus on issues related to language comprehension, language production, and language acquisition. The course will also train students on how to read primary literature and conduct original research studies.

Instructor(s): Staff
Terms Offered: Autumn
Equivalent Course(s): LING 27010

PSYC 27950. Evolution and Economics of Human Behavior. 100 Units.
This course explores how evolutionary biology and behavioral economics explain many different aspects of human behavior. Specific topics include evolutionary theory, natural and sexual selection, game theory, cost-benefit analyses of behavior from an evolutionary and a behavioral economics perspective, aggression, power and dominance, cooperation and competition, biological markets, parental investment, life history and risk-taking, love and mating, physical attractiveness and the market, emotion and motivation, sex and consumer behavior, cognitive biases in decision-making, and personality and psychopathology.

Instructor(s): D. Maestripieri
Terms Offered: Winter
Note(s): CHDV Distribution, A
Equivalent Course(s): CHDV 37950, ECON 14810, BIOS 29265, PSYC 37950, CHDV 27950
PSYC 28401. Gender in the Classroom. 100 Units.
No inherent difference in general intelligence or academic ability have been found between males and females, despite extensive research on the topic. However, gendered patterns of learning and achievement persist. In the US, girls outperform boys on tests of reading and literacy, earn better grades, and are more likely to graduate high school and enroll in college. At the same time, while boys and girls now perform similarly on most tests of math and science achievement, boys are still more likely than girls to take Advanced Placement tests in STEM-related fields during high school, and ultimately to pursue STEM Careers. This course focuses on the ways in which gender shapes student's classroom experiences, and how these gendered interactions may contribute to the persistence of gendered patterns of achievement outcomes, within the context of US K-12 classrooms. We will draw on perspectives from several disciplines, including Psychology, Anthropology and Sociology. Because this course provides a context for students to explore and critically reflect on the ways in which gender shapes student experiences within the context of US K-12 classrooms, the course may hold particular appeal for undergraduates considering pursuing careers as educators, and for those who desire a space to explore and reflect on the role of gender in shaping their own educational experiences thus far.
Instructor(s): E. Lyons Terms Offered: Autumn
Prerequisite(s): N/A
Note(s): CHDV Distribution: B, C
Equivalent Course(s): GNSE 28401, CHDV 28400, PBPL 28401

PSYC 28610. Neuroendocrine Mechanisms of Human Behavior. 100 Units.
This course aims to explore the role hormones play in the study of human behavior and development across various stages in the life course. We will explore how biological mechanisms take part in explaining many different aspects of human behavior, and how these explanations fit into discourse from the fields of evolutionary biology, psychology, and behavioral economics.
Instructor(s): N. Nickels Terms Offered: Spring
Prerequisite(s): N/A
Note(s): CHDV Distribution: A
Equivalent Course(s): CHDV 28600

PSYC 28791. Behavioral Science and Public Policy. 100 Units.
Many policies are aimed at influencing people’s behavior. The most well-intentioned policies can fail, however, if they are not designed to be compatible with the way people actually think and make decisions. This course will draw from the fields of cognitive, social, and environmental psychology to (1) examine the ways in which human behavior deviates from the standard rational actor model typically assumed by economics, and (2) provide strategies for improving the design, implementation, and evaluation of public-facing policies. The basic premise of this course is that a foundational understanding of human behavior can lead not only to more effective policies, but enhanced decision-making and well-being.
Instructor(s): K. Wolske Terms Offered: Spring
Equivalent Course(s): PBPL 28791

PSYC 28850. The Biological Nature of Psychological Problems. 100 Units.
This course is based on the strong assumption that psychology is a biological science, albeit with elements of the social sciences. The course uses a combination of lectures and classroom discussion of primary and secondary source readings assigned for each class meeting. It presents a strong biological science perspective on individual differences in emotions, motivations, and cognitions that cause distress or interfere with adaptive life functioning, but does so in a non-stigmatizing manner. The course begins with a description and discussion of the nature of psychological problems. The course will survey what is known about the genetic, environmental, and epigenetic bases of such problems and the methods used to study genetic influences and gene-environment interactions. Next, students will review what is currently known about the neural and other biological mechanisms involved in maladaptive individual difference in emotion, motivation, and cognitive processes, with discussion of the methods of studying such mechanisms in humans and nonhumans. The pros and cons of the medical model of 'mental illness' will be discussed as the major contrast with the natural science view advocated by the instructor.
Instructor(s): B. Lahey Terms Offered: Spring
Prerequisite(s): BIOS 10130. NO BIOLOGICAL SCIENCES MAJORS OR NON-MAJOR PRE-MED STUDENTS, except by petition.
Equivalent Course(s): BIOS 16120

PSYC 29200. Undergrad Rdgs: Psychology. 100 Units.
Students are required to submit the College Reading and Research Course Form. Available for either quality grades or for P/F grading. Only one independent study course may count toward the twelve courses required of students majoring in psychology.
Terms Offered: Autumn, Spring, Winter

PSYC 29700. Undergraduate Research in Psychology. 100 Units.
Students are required to submit the College Reading and Research Course Form. Available for either quality grades or for P/F grading. Only one independent study course may count toward the twelve courses required of students majoring in psychology.
Terms Offered: Autumn, Spring, Winter
**PSYC 29800. Honors Seminar: Psychology. 100 Units.**
This course is a reading and discussion of general papers on writing and research, and individual students present their own projects to the group. A literature review, data from ongoing or completed empirical projects, or portions of the thesis paper itself can be presented. Students are expected to give thoughtful feedback to others on their presentations and written work.
Instructor(s): S. Levine Terms Offered: Winter
Note(s): Open to third- or fourth-year students who are majoring in psychology and have begun their thesis project. Available for either quality grades or for P/F grading.

**PSYC 29941. XCAP: The Experimental Capstone - The Affect System. 100 Units.**
The Affect system in Medicine and the Political Science is a multidisciplinary course that aims to explore the concept of "affect" from different angles and unique perspectives. Drawing broadly from Medicine, philosophy and the political science, this course seeks to understand the affect system in different cultures and environments. The term "affect" typically refers to feelings beyond those of the traditional senses, with an emphasis on the experience of emotions and variations in hedonic tone. The structure and processes underlying mental contents are not readily apparent, however, and most cognitive processes occur non-consciously with only selected outcomes reaching awareness. Over millions of years of evolution, efficient and manifold mechanisms have evolved for differentiating hostile from hospitable stimuli and for organizing adaptive responses to these stimuli. These are critically important functions for the evolution of mammals, and the integrated set of mechanisms that serve these functions can be thought of as an "affect system." It is this affect system - its architecture and operating characteristics, as viewed from neural, psychological, social, and political perspectives, that is the focus of the course.
Instructor(s): Stephanie Cacioppo and Eric Oliver Terms Offered: Winter
Note(s): This course is one of three offered in The Experimental Capstone (XCAP) in the 2019-20 academic year. Enrollment in this course is restricted to 3rd and 4th year undergraduates in the College. For more information about XCAP, visit [https://sifik.uchicago.edu/courses/xcap/](https://sifik.uchicago.edu/courses/xcap/)
Equivalent Course(s): KNOW 29941
Font Notice

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

- Times was used instead of Trajan.
- Times was used instead of Palatino.

The editor may contact Leepfrog for a draft with the correct fonts in place.