

PSYCHOLOGY AND NEUROSCIENCE

At the undergraduate level, this department offers a major in psychology and a major and a certificate in neuroscience.

Psychology includes a set of interconnected disciplines that, together, seek to understand human cognition, emotion and behavior. Psychology also encompasses applied disciplines that seek to advance and apply psychological science to better understand mental health and improve lives and benefit society.

Neuroscience is the study of the mechanisms of nervous system—the brain, the spinal cord and networks of sensory nerve cells, or neurons. Neuroscientists work to describe how neural circuits transmit signals and process different types of information. The principles of neuroscience are derived from the application of methods from many scientific disciplines, including molecular and cellular biology, biochemistry, physiology, structure and computational modeling.

Students contemplating postgraduate education, either in professional or in graduate school, are encouraged to participate in the departmental honors program, which provides special opportunities for individualized attention.

CU Boulder's Department of Psychology and Neuroscience has been ranked by the National Academy of Sciences as one of the best in the country with respect to the quality of the faculty and their scholarly productivity. Moreover, the department offers undergraduates a wide range of opportunities for involvement in research.

Course codes for this program are **PSYC** and **NRSC**.

Bachelor's Degrees

- Neuroscience - Bachelor of Arts (BA) (<https://catalog.colorado.edu/undergraduate/colleges-schools/arts-sciences/programs-study/psychology-neuroscience/neuroscience-bachelor-arts-ba/>)
- Psychology - Bachelor of Arts (BA) (<https://catalog.colorado.edu/undergraduate/colleges-schools/arts-sciences/programs-study/psychology-neuroscience/psychology-bachelor-arts-ba/>)

Certificate

- Neurosciences - Certificate (<https://catalog.colorado.edu/undergraduate/colleges-schools/arts-sciences/programs-study/psychology-neuroscience/neurosciences-behavior-certificate/>)

Faculty

While many faculty teach both undergraduate and graduate students, some instruct students at the undergraduate level only. For more information, contact the faculty member's home department.

Allen, David (https://experts.colorado.edu/display/fisid_114466/)
Teaching Associate Professor; PhD, University of California, Los Angeles

Alpern, Herbert P.
Professor Emeritus

Arch, Joanna (https://experts.colorado.edu/display/fisid_147415/)
Professor; PhD, University of California, Los Angeles

Bachtell, Ryan (https://experts.colorado.edu/display/fisid_146084/)
Associate Professor; PhD, Oregon Health Science University

Banich, Marie (https://experts.colorado.edu/display/fisid_120646/)
Professor; PhD, University of Chicago

Baratta, Michael V. (https://experts.colorado.edu/display/fisid_149599/)
Assistant Professor; PhD, University of Colorado Boulder

Barth, Daniel
Professor Emeritus

Benoit, Roland
Associate Professor; PhD, University College London

Bidwell, Cinnamon (https://experts.colorado.edu/display/fisid_155117/)
Associate Professor; PhD, University of Colorado Boulder

Blair, Irene (https://experts.colorado.edu/display/fisid_107261/)
Professor; PhD, Yale University

Blechman, Elaine A.
Professor Emerita

Bourne, Lyle E. Jr.
Professor Emeritus

Bryan, Angela (https://experts.colorado.edu/display/fisid_115216/)
Professor; PhD, Arizona State University

Campeau, Serge (https://experts.colorado.edu/display/fisid_115395/)
Professor; PhD, Yale University

Carter Carston, Ronald McKell (https://experts.colorado.edu/display/fisid_154921/)
Assistant Professor; PhD, California Institute of Technology

Cartwright, Desmond S.
Professor Emeritus

Collins, Allan C.
Professor Emeritus

Colunga, Eliana (https://experts.colorado.edu/display/fisid_129477/)
Associate Professor; PhD, Indiana University Bloomington

Correll, Joshua (https://experts.colorado.edu/display/fisid_151728/)
Associate Professor; PhD, University of Colorado Boulder

Cowell, Rosie
Associate Professor; PhD, University of Oxford

Cummings, Andrew (https://experts.colorado.edu/display/fisid_174362/)
Teaching Assistant Professor; PhD, University of Nevada Las Vegas

Curran, Timothy (https://experts.colorado.edu/display/fisid_118454/)
Professor Emeritus; PhD, University of Oregon

Curtis, Ryan (https://experts.colorado.edu/display/fisid_164483/)
Teaching Associate Professor; PhD, University of Maryland College Park Campus

Day, Heidi E.W. (https://experts.colorado.edu/display/fisid_116632/)
Teaching Professor of Distinction; PhD, University of Cambridge

Dimidjian, Sona (https://experts.colorado.edu/display/fisid_140084/)
Professor; PhD, University of Washington

Donaldson, Zoe (https://experts.colorado.edu/display/fisid_157087/)
Associate Professor; PhD, Emory University

Friedman, Naomi P. (https://experts.colorado.edu/display/fisid_109519/)
Associate Professor; PhD, University of Colorado Boulder

Grotzinger, Andrew (https://experts.colorado.edu/display/fisid_167222/)
Assistant Professor; PhD, University of Texas at Austin

Gruber, June L. (https://experts.colorado.edu/display/fisid_153634/)
Associate Professor; PhD, University of California, Berkeley

Harvey, Lewis Orvis (https://experts.colorado.edu/display/fisid_101173/)
Professor Emeritus

Healy, Alice F. (https://experts.colorado.edu/display/fisid_100418/)
Distinguished Professor Emeritus; PhD, The Rockefeller University

Hernandez, Theresa D. (https://experts.colorado.edu/display/fisid_102953/)
Professor; PhD, University of Texas at Austin

Hewitt, John K. (https://experts.colorado.edu/display/fisid_101035/)
Professor; PhD, University of London

Hill, Karl G. (https://experts.colorado.edu/individual/fisid_159803/)
Professor; PhD, Brandeis University

Huber, David
Professor; PhD, University of Indiana

Huibregtse Ketels, Brooke (https://experts.colorado.edu/display/fisid_159929/)
Teaching Assistant Professor; PhD, University of Colorado Boulder

Ito, Tiffany (https://experts.colorado.edu/display/fisid_113066/)
Professor; PhD, University of Southern California

Jessor, Richard
Professor Emeritus

Jones, Matthew (https://experts.colorado.edu/display/fisid_144611/)
Professor; PhD, University of Michigan Ann Arbor

Judd, Charles M.
Distinguished Professor Emeritus

Kaiser, Roselinde H. (https://experts.colorado.edu/display/fisid_164070/)
Associate Professor; PhD, University of Colorado Boulder

Kaufmann, Vyga G. (https://experts.colorado.edu/display/fisid_151089/)
Teaching Assistant Professor; PhD, University of Colorado Boulder

Keller, Matthew C. (https://experts.colorado.edu/display/fisid_144507/)
Professor; PhD, University of Michigan Ann Arbor

Kilimnik, Chelsea (https://experts.colorado.edu/display/fisid_169111/)
Assistant Professor; PhD, University of Texas at Austin

Kim, Albert E. (https://experts.colorado.edu/display/fisid_143740/)
Associate Professor; PhD, University of Pennsylvania

King, D. Brett (https://experts.colorado.edu/display/fisid_103815/)
Teaching Professor of Distinction; PhD, Colorado State University

Kintsch, Walter
Professor Emeritus

Knight, Erik (https://experts.colorado.edu/individual/fisid_167412/)
Assistant Professor; PhD, University of Oregon

Kodish, Tamar
Assistant Professor; PhD, University of California Los Angeles

Maier, Steven F.
Distinguished Professor; PhD, University of Pennsylvania

McClelland, Gary H.
Professor Emeritus

Miyake, Akira (https://experts.colorado.edu/display/fisid_107321/)
Professor; PhD, Carnegie Mellon University

Molas, Susanna
Assistant Professor; PhD, Pompeu Fabra University

Olson, Richard
Professor Emeritus

Park, Bernadette (https://experts.colorado.edu/display/fisid_103732/)
Professor Emeritus; PhD, Northwestern University

Pedersen, Eric (https://experts.colorado.edu/display/fisid_159278/)
Assistant Professor; PhD, University of Miami

Pierotti, Chelsea (https://experts.colorado.edu/individual/fisid_155551/)
Teaching Assistant Professor; PhD, University of Northern Colorado

Pietri, Evava
Associate Professor; PhD, Ohio State University

Pittman Wagers, Tina (https://experts.colorado.edu/display/fisid_117148/)
Emerita Teaching Professor of Distinction; PsyD, University of Denver

Polson, Peter G.
Professor Emeritus

Ramirez, Albert
Associate Professor Emeritus

Reynolds, Chandra
Professor; PhD, University of Southern California

Rhee, Soo H. (https://experts.colorado.edu/display/fisid_123401/)
Associate Professor; PhD, Emory University

Richardson, Emily (https://experts.colorado.edu/display/fisid_115007/)
Clinical Associate Professor; PhD, University of Iowa

Root, David H. (https://experts.colorado.edu/display/fisid_159444/)
Assistant Professor; PhD, Rutgers University

Rudy, Jerry W.
Professor Emeritus; PhD, University of Virginia

Saddoris, Michael Paul (https://experts.colorado.edu/display/fisid_152979/)
Assistant Professor; PhD, Johns Hopkins University

Smutzler, Natalie (https://experts.colorado.edu/individual/fisid_113933/)
Teaching Associate Professor; PhD, Indiana University Bloomington

Spencer, Robert L. (https://experts.colorado.edu/display/fisid_104362/)
Professor; PhD, University of Arizona

Stallings, Michael C. (https://experts.colorado.edu/display/fisid_108745/)
Professor; PhD, University of Southern California

Stratford, Jennifer M. (https://experts.colorado.edu/display/fisid_157880/)
Teaching Associate Professor; PhD, Florida State University

Taylor, Ronald G.
Professor Emeritus

Van Boven, Leaf D. (https://experts.colorado.edu/display/fisid_126291/)
Professor; PhD, Cornell University

Watkins, Linda R. (https://experts.colorado.edu/display/fisid_101513/)
Distinguished Professor; PhD, Virginia Commonwealth University

Wehner, Jeanne M.
Professor Emerita

Wertheimer, Michael
Professor Emeritus

Whisman, Mark (https://experts.colorado.edu/display/fisid_113391/)
Professor; PhD, University of Washington

Willcutt, Erik G. (https://experts.colorado.edu/display/fisid_113861/)
Professor; PhD, University of Denver

Wilson, James R.
Professor Emeritus

Yuan, Lei (https://experts.colorado.edu/individual/fisid_167699/)
Assistant Professor; PhD, Northwestern University

Courses

Neuroscience

NRSC 1020 (1) Exploring the Neuroscience Major

This course familiarizes students to the neuroscience major at CU Boulder, and helps students develop key skills needed for academic success. Students will learn about department and campus resources, and how to get involved in the wider neuroscience community, including clubs and research. An overview of select neuroscience-related topics, and possible career paths, helps students determine goodness of fit. This elective course is designed for first-year and other students exploring educational and career opportunities in this exciting field.

NRSC 2100 (4) Introduction to Neuroscience

Provides an introduction to fundamental concepts in neuroscience. The goal of this first course is to provide a strong foundation in neurobiology-cell biology, physiology of the neuronal membrane, interneuronal communication, neurotransmission, gross anatomy, and how the brain develops. Students will also learn principles of sensory systems functions. Recitation will reinforce lecture concepts through discussion of current research.

Requisites: Requires prerequisite courses of MCDB 1111 or MCDB 1150 or EBIO 1210 (minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

NRSC 2101 (1-4) Topics in Neuroscience

Provides students with the opportunity to focus on a specific area of Neuroscience in depth.

Repeatable: Repeatable for up to 6.00 total credit hours. Allows multiple enrollment in term.

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

NRSC 2125 (4) Introduction to Neuroscience I: Foundations

Provides an introduction to fundamental knowledge and principles in neuroscience. The goal of this first semester of an Introduction to Neuroscience two semester sequence is to provide a strong foundation in neurobiology-cell biology, physiology of the neuronal membrane, synaptic neurotransmission, neurochemistry, gross anatomy and introduction to sensory perception. Recitation will reinforce lecture concepts.

Requisites: Requires prerequisite course of MCDB 1150 or EBIO 1210 (minimum grade C-).

NRSC 2150 (4) Introduction to Neuroscience II: Systems

Extends understanding of fundamental knowledge in neuroscience with a focus on systems function. The goal of this second semester of an Introduction to Neuroscience two semester sequence is to develop deeper understanding of neurobiological systems function. Featured is the neurophysiology, neuroanatomy and function of human sensory systems, motor systems, sensorimotor integration and higher level neurosystem function.

Requisites: Requires prerequisite course of NRSC 2100 or NRSC 2125 (minimum grade C-).

NRSC 2200 (2) Laboratory Techniques in Neuroscience

Introduces students to many basic and essential laboratory skills in neuroscience research. Students will learn experimental methods and perform experiments depicting principles in neurophysiology, neuroanatomy, neurochemistry, and the fundamentals of neuroimaging techniques.

Requisites: Requires a prerequisite course of NRSC 2100 or NRSC 2125 (minimum grade C-). Restricted to Neuroscience (NRSC) majors only.

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sci Lab
Arts Sci Gen Ed: Distribution-Natural Sciences

NRSC 4011 (1-3) Senior Thesis

Senior Thesis credits are available for students during the semester that they write and defend a departmental Honors Thesis. A neuroscience honors thesis must be based on an empirical research project that the student directs/participates in under guidance from a faculty member. Contact the neuroscience director for further information.

NRSC 4015 (3) Affective Neuroscience

Experiencing and learning from affect—emotional value—is a fundamental part of the human experience. When people started thinking of brains as computers, research on emotion fell by the wayside. Recently however, this has changed, and there is an explosion of work on the brain mechanisms of affective value. Covers recent advances in understanding the emotional brain.

Equivalent - Duplicate Degree Credit Not Granted: NRSC 5015

Requisites: Requires a prerequisite course of PSYC 2012 or NRSC 2100 or NRSC 2125 (minimum grade C-). Restricted to students with 57-180 credits (Juniors or Seniors).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

NRSC 4032 (3) Neurobiology of Learning and Memory

Provides a comprehensive treatment of how the brain acquires, stores, and retrieves memories. To do this we will consider (a) the methods used to address these issues, (b) what we know about how brain systems are organized to support memories of different types, and (c) the synaptic mechanisms that are involved.

Equivalent - Duplicate Degree Credit Not Granted: NRSC 5032

Requisites: Requires a prerequisite course of NRSC 2100 or NRSC 2150 (minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

NRSC 4062 (3) The Neurobiology of Stress

Provides an introduction to the concept of stress and the physiological systems involved. Factors modulating stress vulnerability versus resilience, and stress interactions with other systems with health relevance will be explored. Emphasis will be placed on current research on brain mechanisms. Formerly PSYC 4062.

Requisites: Requires a prerequisite course of NRSC 2100 or NRSC 2150 (minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

NRSC 4072 (3) Clinical Neuroscience: A Clinical and Pathological Perspective

Provides a review of the anatomy and physiology of the nervous system and then explores how alterations in these systems can result in neurologic or psychiatric disorders. Emphasizes pathological neuroanatomy, neurophysiology and neuropharmacology, which is essential for understanding problems related to health and disease.

Equivalent - Duplicate Degree Credit Not Granted: NRSC 5072

Requisites: Requires prereq of NRSC 2100 or NRSC 2150 and EBIO 2070 or MCDB 2150 (all min grade C-). Restricted to students with 57-180 credits (Junior or Senior).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

NRSC 4082 (3) Neural Circuits of Learning and Decision Making

Provides an in-depth survey of the neural mechanisms of learning, motivated behavior and decision making. Analysis will focus on the interaction of neural circuits underlying these processes with particular attention to the cellular, molecular and information-processing aspects of identified pathways and considered into the context learning-based and neuroeconomic models of choice.

Equivalent - Duplicate Degree Credit Not Granted: NRSC 5082

Requisites: Requires a prerequisite course of NRSC 2100 or NRSC 2150 (minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

NRSC 4092 (3) Behavioral Neuroendocrinology

Provides an introduction to neuroendocrinology with a focus on the interaction between hormones on brain development and behaviorally relevant brain function, including reproductive behaviors, stress, biological rhythms and mood.

Equivalent - Duplicate Degree Credit Not Granted: NRSC 5092

Requisites: Requires a prerequisite course of NRSC 2100 or NRSC 2150 (minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

NRSC 4132 (3) Neuropharmacology

Study of drug action within the central nervous system. This course is designed to provide a fundamental understanding of the neurobiological and neurochemical mechanisms of drug action. Topics covered include the following: 1) principles of pharmacology; 2) brain neurotransmitter systems; 3) biochemical basis of psychiatric disorders and their pharmacological treatment.

Equivalent - Duplicate Degree Credit Not Granted: NRSC 5132

Requisites: Requires a prerequisite course of NRSC 2100 or NRSC 2150 (minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

NRSC 4155 (4) Cognitive Neuroscience/Neuropsychology

Introduction to cognitive neuroscience and neuropsychology. Provides a survey of the neuropsychological underpinnings for a wide range of cognitive functions: vision, object recognition, attention, language, memory and executive function. One lab per week.

Equivalent - Duplicate Degree Credit Not Granted: PSYC 4155

Requisites: Requires a prerequisite course of PSYC 2111 and PSYC 3111 and (PSYC 2012 or NRSC 2100 or NRSC 2125) (all minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sci Lab
Arts Sci Gen Ed: Distribution-Natural Sciences

NRSC 4420 (3) Genetics of Brain and Behavior

Examines the genetic underpinnings of animal behavior, including an examination of behavioral evolution and the use of genes as tools to examine neural architecture. We will cover topics including foraging, social behavior, personality, parental care and fear. We will explore these behaviors at multiple levels, including genomics, population genetics, molecular genetics, epigenetics, endocrinology and neurobiology. Fulfills MCDB scientific reasoning requirement.

Equivalent - Duplicate Degree Credit Not Granted: MCDB 4420

Requisites: Requires prerequisite courses of NRSC 2100 and EBIO 2070 or (MCDB 2150 and (MCDB 1161 or MCDB 1171 or MCDB 1181 or MCDB 2171)) (all minimum grade C).

Grading Basis: Letter Grade

NRSC 4542 (3) The Neurobiology of Mental Illness

Provides in depth study of what is known concerning the neurobiology of mental illnesses, with a focus on depression and anxiety. Consideration will be given to both animal models and human work, with neurochemical, circuitry level, and neuroinflammatory processes to be highlighted. There will be discussion of the intricacies of determining the effectiveness of pharmacological treatments, and what the implications of such treatments might be.

Requisites: Requires prerequisite courses of NRSC 2100 or NRSC 2150 (minimum grade C-). Restricted to students with 57-180 credits (Junior or Senior).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

NRSC 4545 (3) Neurobiology of Addiction

Covers an intensive survey and synthesis of recent findings contributing to our understanding of the neurobiological basis of addiction. Analysis of both drug and behavioral addictions will be made at the molecular, cellular and neurocircuitry levels and synthesized into models utilizing common themes between various addictions and contributing pathologies.

Equivalent - Duplicate Degree Credit Not Granted: NRSC 5545

Requisites: Requires prerequisite courses of NRSC 4132 (minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

NRSC 4561 (1-3) Special Topics in Neuroscience

Presents and analyzes special interest topics from the broad and interdisciplinary field of neuroscience. The instructor determines the content of a particular section. Repeatable for up to 6.00 total credit hours.

Repeatable: Repeatable for up to 6.00 total credit hours.

Requisites: Requires prerequisite course of NRSC 2100 (minimum grade C-). Restricted to Neuroscience (NRSC) majors only.

Grading Basis: Letter Grade

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

NRSC 4572 (3) Developmental Neurobiology

Examines the molecular and cellular processes that generate a functional nervous system. Topics covered include cell fate determination, neurogenesis and gliogenesis, cell migration, axon pathfinding, synapse formation and synapse refinement. Also explores how alterations in development can result in neurologic or psychiatric disorders. Formerly offered as a special topics course.

Requisites: Requires a prerequisite course of NRSC 2100 or NRSC 2150 (minimum grade C-).

Recommended: Prerequisite or corequisite MCDB 3135.

NRSC 4841 (1-3) Independent Study in Neuroscience

Repeatable: Repeatable for up to 8.00 total credit hours.

Requisites: Restricted to students with 57-180 credits (Junior or Senior) Neuroscience (NRSC) majors only.

Psychology**PSYC 1001 (3) General Psychology**

Provides a foundation for engaging with scientific research on human behavior, and surveys the basic principles and theories of psychology. Topics include biological and hereditary influences on behavior; human perception, attention, learning, and memory; social influences; personality; psychiatric disorders and treatments.

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences
MAPS Course: Social Science

PSYC 2012 (3) Biological Psychology

Surveys biological bases of learning, motivation, emotion, sensory processes and perception, movement, comparative animal behavior, sexual and reproductive activity, instinctual behavior, neurobiology of language and thought, and neurophysiology and neuroanatomy in relation to behavior.

Requisites: Requires prerequisite PSYC 1001 (minimum grade C-).

Additional Information: GT Pathways: GT-SC2 -Natural Physicl Sci:Lec Crse w/o Req Lab

Arts Sci Core Curr: Natural Science Non-Sequence

Arts Sci Gen Ed: Distribution-Natural Sciences

PSYC 2111 (4) Psychological Science I: Statistics

Three hours of lecture and one two-hour lab per week. Introduces descriptive and inferential statistics and their roles in psychological research. Topics include correlation, regression, T-test, analysis of variance and selected nonparametric statistics.

Requisites: Requires prerequisite course of MATH 1011 or MATH 1150 or MATH 1212 or MATH 1300 or ECON 1078 or ECON 1088 (all minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sci Lab

Arts Sci Gen Ed: Distribution-Natural Sciences

PSYC 2145 (3) Introductory Cognitive Psychology

Introduces the study of human cognitive processes and covers perception, attention, memory, language, problem solving, reasoning, and decision making. Focuses on basic research and theory in cognitive psychology but also considers their implications for everyday applications such as effective learning and retention, multitasking, and eyewitness testimony.

Requisites: Requires a prerequisite course of PSYC 1001 (minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

PSYC 2606 (3) Social Psychology

Covers general psychological principles underlying social behavior. Analyzes major social psychological theories, methods, and topics, including attitudes, conformity, aggression, attraction, social perception, helping behavior, and group relations.

Requisites: Requires a prerequisite course of PSYC 1001 (minimum grade C-).

Additional Information: GT Pathways: GT-SS3 -Soc Behav Sci:Hmn Behav, Cult, Soc Frame

Arts Sci Core Curr: Contemporary Societies

Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 2700 (3) Psychology of Gender and Sexuality

Examines psychological research on gender and sexuality as they intersect with race, class and other social categories. Points of emphasis include differences in cognition, attitudes, personality and social behavior. Conceptual themes include research methodologies, implicit and explicit attitudes, stigma and stereotypes. These elucidate such areas as close relationships, leadership, career success and mental health and happiness.

Equivalent - Duplicate Degree Credit Not Granted: WGST 2700

Requisites: Requires a prerequisite course of PSYC 1001 or WGST 2000 (minimum grade C-).

Additional Information: Arts Sci Core Curr: Human Diversity

Arts Sci Gen Ed: Distribution-Social Sciences

Arts Sci Gen Ed: Diversity-U.S. Perspective

PSYC 3001 (4) Honors Research Methods Seminar

Focuses on research design. Each student prepares an original, detailed research proposal, which can become the honors thesis. Open only to students who have been accepted into the psychology departmental honors program. Instructor consent required.

Additional Information: Arts Sciences Honors Course

PSYC 3005 (3) Cognitive Science

Provides an introductory survey of influential models, theoretical approaches, and methods of cognitive science. Emphasizes and explains the convergence by work in multiple fields - including psychology and neuroscience, linguistics, computer science, and philosophy - on the idea that mental activity is a form of computation. Students from diverse backgrounds are introduced to a wide range of methods and approaches, including behavioral and neuroimaging experimental approaches, computational modeling and philosophical work. Department enforced prerequisites: two of the following CSCI 1300 or LING 2000 or PSYC 2145.

Equivalent - Duplicate Degree Credit Not Granted: CSCI 3702 and LING 3005 and PHIL 3310 and SLHS 3003

Additional Information: Arts Sci Gen Ed: Distribution-Arts Humanities

Arts Sci Gen Ed: Distribution-Natural Sciences

Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 3102 (3) Behavioral Genetics

Introduces the basic principles of genetics, covers how these principles can be used in the study of behavior, and evaluates the evidence for genetic influences on behavioral characteristics.

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

PSYC 3111 (4) Psychological Science 2: Research Methods in Psychology

Provides a foundation in research methodology to give students the ability to design, conduct, analyze, and present (both verbally and in writing) an empirical study in psychology. Allows students to be effective producers and consumers of research.

Requisites: Requires prerequisite courses of PSYC 1001 and PSYC 2111 (minimum grade C-).

Grading Basis: Letter Grade

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 3131 (3) Human Emotion

Introduces students to a diverse array of theoretical and empirical issues related to the study of human emotion. Evolutionary theories of anger, love and disgust; emotion and morality; cultural and gender differences; emotion and the brain; relation between emotion and thinking; development of emotion; and abnormal emotions in mental illness.

Requisites: Requires a prerequisite course of PSYC 1001 (minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 3303 (3) Clinical Psychology: Psychological Disorders

Examines etiological, theoretical, clinical, diagnostic, and experimental perspectives of major mental health disorders, with an emphasis on the main symptoms and diagnostic criteria associated with these disorders.

Requisites: Requires a prerequisite course of PSYC 1001 (minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

PSYC 3456 (3) Psychology of Personality

Offers a psychological study of structure, organization and development of the person as a whole. Analysis of major theories, methods and research, including topics such as emotion, motivation, temperament, inner experience, identity and the self, personality change and the influence of sociocultural context.

Requisites: Requires a prerequisite course of PSYC 1001 (minimum grade C-). Restricted to students with 57-180 credits (Juniors or Seniors).

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 3511 (3) History of Psychology

Includes outline of development of psychological theories since the Greek philosophers, the story of experimental psychology and its problems, and schools of psychological thinking. Students read original sources in English and English translations. Formerly PSYC 4511.

Requisites: Requires a prerequisite course of PSYC 1001 (minimum grade C-). Restricted to students with 57-180 credits (Juniors or Seniors).

Additional Information: Arts Sci Gen Ed: Distribution-Arts Humanities

PSYC 3684 (3) Developmental Psychology

In-depth consideration of human developmental processes across the life span. Includes coverage of the major topics in human development, such as physical, cognitive, social, emotional, and moral development.

Requisites: Requires prerequisite of PSYC 1001 (minimum grade C-). Restricted to students with 57-180 credits (Juniors or Seniors).

Recommended: Prerequisites PSYC 2111 and PSYC 3111 (Both require minimum grade of C-).

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences
Departmental Category: Developmental

PSYC 4001 (3) Honors Seminar 2

Surveys contemporary issues, explores current controversies, and examines in detail selected topics in psychology. Open to juniors and seniors pursuing departmental honors.

Additional Information: Arts Sciences Honors Course

PSYC 4011 (1-3) Senior Thesis

Critically reviews some aspect of psychological literature, scholarly analysis of a major psychological issue, and/or empirical research project. See the psychology honors director for further information.

Additional Information: Departmental Category: General

PSYC 4021 (3) Psychology and Neuroscience of Exercise

Explores social, cognitive, psychobiological and behavioral aspects of exercise and other forms of physical activity. Examines how psychological and neuroscience research have been used to study how participation in regular physical activity affects mental health and how psychological and other variables influence participation in, adherence to, enjoyment of, and consequences of exercise and physical activity.

Requisites: Requires a prerequisite course of PSYC 2012 or NRSC 2100 or NRSC 2125 (minimum grade C-). Restricted to students with 57-180 credits (Juniors or Seniors).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

PSYC 4031 (3) Sport Psychology

Explores the role psychological factors play in the participation in, performance in, and enjoyment of sport. Topics include the role of motivation, attention, arousal, psychological skills training, leadership, and teamwork in sport performance; the psychological variables influencing exercise addiction, overtraining, burnout, body image, and susceptibility to, and recovery from, athletic injuries; and competition, cooperation aggression, and moral behavior in sport.

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences
Departmental Category: General

PSYC 4101 (3) Honors Thesis 1

Completing an Honors Thesis under the direction of the course instructor will be the focus of this course. Students will each conduct an original, empirical research project, including developing the research idea, collecting and analyzing data, and writing their thesis, as well as practice their oral defense. Students will additionally acquire applied experience in research methods, statistics, and data analysis.

Repeatable: Repeatable for up to 6.00 total credit hours.

Requisites: Requires prerequisite courses of PSYC 2111 and PSYC 3111 (minimum grade C-). Restricted to students with 3.3 GPA or higher.

Grading Basis: Letter Grade

PSYC 4114 (3) Adolescent Development and Learning for Teachers

Examines current theory and research about adolescent learning and development and explore implications for secondary teaching. Topics include human diversity as a resource for learning, adversity and agency, connecting instruction to students' everyday lives, and the role of belonging and relationships in positive youth development. This course is appropriate for masters degree students.

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 4136 (4) Judgment and Decision Making

Introduces the study of judgment and decision making processes (estimation, prediction and diagnosis, choice under certainty, and risky decision making) and the methods that have been developed to improve these processes (statistical modeling, decision analysis, and expert systems).

Requisites: Requires prerequisite courses of PSYC 1001 and PSYC 2606 and PSYC 2111 and PSYC 3111 (all minimum grade C-). Restricted to students with 57-180 credits (Junior or Senior) Psychology (PSYC) majors only.

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 4142 (3) Brain Injury, Plasticity and Recovery: From Neuron to Behavior

Traumatic brain injury is prevalent in all aspects of society, with incidence rates varying according to age, gender, military affiliation and participation in certain sports. Delves into the full spectrum of consequences following injury, beginning with the individual neural cells in the brain through to the behaving individual. Covers strategies to improve functional recovery.

Requisites: Requires a prerequisite course of PSYC 2012 or NRSC 2100 or NRSC 2125 (minimum grade C-). Restricted to students with 57-180 credits (Junior or Senior) majors only.

Recommended: Prerequisite NRSC 4132.

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

PSYC 4145 (4) Advanced Cognitive Psychology

Advanced course in human cognitive processes. Covers key aspects of cognition, such as perception, attention, learning, memory, language and thinking. Discusses major theories and ideas in terms of the research they have inspired. Emphasis varies with instructor. One lab per week and a research project is required.

Equivalent - Duplicate Degree Credit Not Granted: PSYC 5145

Requisites: Requires prerequisite courses of PSYC 1001 and PSYC 2145 and PSYC 2111 and PSYC 3111 (all minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

PSYC 4152 (4) Research Methods in Behavioral Genetics

Advanced course in behavioral genetics. Focuses on current methods used in quantitative and statistical genetics, emphasizing practical application and interpretation. Students review primary-source research and reviews. Students learn and apply technological skills by exploring genome wide data in laboratory practicals and demonstrate applied and theoretical knowledge in a cumulative paper.

Requisites: Requires prerequisite courses of PSYC 3111 and (EBIO 2070 or MCDB 2150 or PSYC 3102) (all minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences
Arts Sci Gen Ed: Distribution-Natural Sci Lab

PSYC 4155 (4) Cognitive Neuroscience/Neuropsychology

Introduction to cognitive neuroscience and neuropsychology. Provides a survey of the neuropsychological underpinnings for a wide range of cognitive functions: vision, object recognition, attention, language, memory and executive function. One lab per week.

Equivalent - Duplicate Degree Credit Not Granted: NRSC 4155

Requisites: Requires a prerequisite course of PSYC 2111 and PSYC 3111 and (PSYC 2012 or NRSC 2100 or NRSC 2125) (all minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sci Lab
Arts Sci Gen Ed: Distribution-Natural Sciences

PSYC 4165 (4) Psychology of Perception

One lab, three lect. per week. Analyzes peripheral and central mechanisms involved in the transduction and interpretation of experience. Gives special attention to vision and audition; major theories in these areas are discussed in terms of research they have inspired.

Requisites: Requires a prerequisite course of PSYC 1001 and PSYC 2111 and PSYC 3111 (all minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sci Lab
Arts Sci Gen Ed: Distribution-Natural Sciences

PSYC 4175 (4) Computational Cognitive Neuroscience

Introduction to cognitive neuroscience (how the brain gives rise to thought) using computer simulations based on the neural networks of the brain. Covers a full range of cognitive phenomena including perception and attention, learning and memory, language, and higher-level cognition based on both large-scale cortical neuroanatomy and detailed properties of cortical neural networks. One lab per week.

Equivalent - Duplicate Degree Credit Not Granted: PSYC 5175

Requisites: Requires prereq of PSYC 1001 and (PSYC 2012 or NRSC 2100 or NRSC 2125) and PSYC 2111 and PSYC 3111 (minimum grade of C-).

Restricted to PSYC or NRSC majors.

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sci Lab
Arts Sci Gen Ed: Distribution-Natural Sciences

PSYC 4201 (3) Honors Thesis 2

Completing an Honors Thesis under the direction of the instructor will be the focus of this course. Students will each conduct an original, empirical research project, including developing the research idea, collecting and analyzing data, and writing their thesis, as well as practice their oral defense. Students will additionally acquire applied experience in research methods, statistics and data analysis.

Repeatable: Repeatable for up to 6.00 total credit hours.

Requisites: Requires prerequisite courses of PSYC 2111 and PSYC 3111 (minimum grade C-). Restricted to students with GPA of 3.3 or higher.

Grading Basis: Letter Grade

PSYC 4220 (3) Language and Mind

Studies topics such as speech perception, word recognition, sentence comprehension, language acquisition, bilingualism, reading and writing. Examines the role of language as a product and producer of the mind, studying interactions between language and cognition from an interdisciplinary perspective. Students will become familiar with the methods of psycholinguistics and design and conduct a psycholinguistic experiment on their own.

Equivalent - Duplicate Degree Credit Not Granted: LING 4220

Recommended: Prerequisites PSYC 1001 and LING 2000.

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 4225 (4) Interdisciplinary Research Methods in Child Language Acquisition

Explores fundamental issues in language acquisition cross-culturally, combining methods from Linguistics, Anthropology, Psychology and Computer Science. Students will explore theoretical issue using a hands-on approach that involves acquiring skills such as designing and conducting experiments, investigating corpus data, and computational modeling.

Equivalent - Duplicate Degree Credit Not Granted: LING 4225

Requisites: Requires a prerequisite course of PSYC 1001 or LING 2000 (minimum grade C).

Grading Basis: Letter Grade

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 4263 (3) Psychological Treatment: An Evidence-Based Approach

Provides an intensive introduction to behavioral interventions for common mental health problems and the framework of evidence-based practice in psychology, including helping students to acquire, critically evaluate and communicate about clinical psychological science intervention research and become familiar with applied skills that are relevant to a broad range of clinical settings.

Requisites: Requires prerequisite courses of PSYC 2111 and PSYC 3111 and PSYC 3303 (all minimum grade C-)

Grading Basis: Letter Grade

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 4332 (1) Found in Translation: TBI From Bench to Bedside to Community

Traumatic Brain Injury (TBI) is prevalent in all aspects of society. Delves into all aspects of TBI, with particular emphasis on translational clinical neuroscience. That is, the movement of knowledge from bench, to bedside, to community. All of this knowledge resulting in better treatment of and outcome for those with TBI.

Requisites: Requires prerequisite courses of PSYC 2012 or NRSC 2100 or NRSC 2125 (minimum grade C-). Restricted to students with 57-180 units (Juniors or Seniors).

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

PSYC 4376 (4) Research Methods in Social Psychology

Introduces the study of social psychological processes, emphasizing the social cognition perspective (e.g., stereotyping, person perception, theory of planned behavior) and the methods utilized in studying these processes. Students will complete research projects as part of the course.

Requisites: Requires prerequisite courses of PSYC 2606 and PSYC 2111 and PSYC 3111 (all minimum grade C-). Restricted to students with 57-180 credits (Junior or Senior) Psychology (PSYC) majors only.

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 4443 (4) Research Methods in Clinical Psychology

Learn to evaluate research methods as they relate to etiology, assessment, and intervention of psychological disorders. Emphasizes the importance of using sound methodological strategies in both research and clinical settings.

Requisites: Requires prerequisite courses of PSYC 2111 and PSYC 3111 and PSYC 3303 (all minimum grade C-). Restricted to students with 57-180 credits (Junior or Senior) only.

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 4526 (3) Social Neuroscience

Develops greater knowledge of the general psychological principles underlying social behavior by using methods and theories from neuroscience. Students learn about common methods in human neuroscience and how they can be applied to better understand social behavior.

Requisites: Requires prerequisite courses of (PSYC 2012 or NRSC 2100 or NRSC 2125) and PSYC 2111 and PSYC 2606 and PSYC 3111 (all minimum grade C-). Restricted to students with 57-180 credits (junior or senior) Psychology (PSYC) or Neuroscience (NRSC) majors only.

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences
Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 4541 (3) Special Topics in Psychology - Social Science

Examines individual or social dimensions of human behavior. Students will develop expertise in basic theories, as well as in measurement techniques and data interpretation regarding issues of societal significance. Students will consider applications of that knowledge, ranging from the development of new theory to solving problems.

Particular section content is determined by instructor. PSYC 4541 and/or PSYC 4551 may be taken 3 times with different topics, for a total of 9 credits

Repeatable: Repeatable for up to 9.00 total credit hours. Allows multiple enrollment in term.

Requisites: Requires prerequisite courses of PSYC 1001 and PSYC 2111 and PSYC 3111 (all minimum grade C-). Restricted to students with 57-180 credits (Junior or Senior) Psychology (PSYC) majors only.

PSYC 4543 (3) Clinical Neuropsychological Disorders

Neuropsychological disorders are behavioral and cognitive expressions of underlying brain diseases or injury. The course will provide in-depth coverage from clinical perspectives of wide range of disorders caused by stroke, traumatic brain injury, degenerative diseases, and inflammatory diseases. Students will learn the various neurologic, neuroimaging and neuropsychological methods for assessing and diagnosing these disorders and will review specific illustrative cases.

Requisites: Requires prerequisite PSYC 1001 and (PSYC 2012 or NRSC 2100 or NRSC 2125) (all minimum grade C-). Restricted to students with 27-180 credits (Sophomores, Juniors or Seniors) only.

Additional Information: Arts Sci Gen Ed: Distribution-Natural Sciences

PSYC 4553 (3) Women's Mental Health: A Biopsychosocial Approach

Provides a broad overview of current research and theory related to women's mental health, emphasizing topics and problems that are prevalent among or particularly relevant to women. Teaches students to develop a critical and integrative understanding women's mental health, including historical, social, cultural, biological, behavioral, cognitive and emotional factors.

Requisites: Requires a prerequisite course of PSYC 3303 (minimum grade C-). Restricted to students with 57-180 credits (Junior or Senior) Psychology (PSYC) majors only.

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 4560 (3) Language Development

Covers the development of language in childhood and into adult life, emphasizing the role of environment and biological endowment in learning to communicate with words, sentences, and narratives.

Equivalent - Duplicate Degree Credit Not Granted: LING 4560 and SLHS 4560

Requisites: Restricted to Psychology (PSYC) or Neuroscience (NRSC) majors only.

Recommended: Prerequisite PSYC 1001 and LING 2000.

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 4606 (3) Advanced Topics in Social Psychology

In-depth study of selected topics in social psychology. Particular section content each semester is determined by the instructor. May be repeated for a maximum of 6 credit hours, provided the topics vary.

Repeatable: Repeatable for up to 6.00 total credit hours.

Requisites: Requires prerequisite courses of PSYC 1001 and PSYC 2606 and PSYC 2111 and PSYC 3111 (minimum grade C-). Restricted to students with 57-180 credits (Junior or Senior) Psychology (PSYC) majors only.

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 4713 (3) Survey of Clinical Psychology

Covers theories and practices relating to problems of ability and maladjustment. Diagnostic procedures and treatment methods with children and adults.

Requisites: Requires a prerequisite course of PSYC 3303 (minimum grade C-). Restricted to students with 57-180 credits (Junior or Senior) Psychology (PSYC) majors only.

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 4733 (4) Psychological Testing and Assessment

Provides an overview of issues central to testing and assessment of psychological constructs, including types of evaluation instruments currently in use in the field, their applications and design.

Requisites: Requires prerequisite courses of PSYC 1001 and PSYC 2111 and 3111 (all minimum grade C-).

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 4744 (4) Methods in Developmental Psychology

Learn to critically read and form hypotheses from studies in the developmental literature, gain hands-on experience in testing children and in the design of methods to test children, evaluate experimental data and relate them to hypotheses, previous results and theory, and write so others can understand.

Requisites: Requires prerequisite courses of PSYC 1001 and PSYC 2111 and PSYC 3111 and PSYC 3684 (all minimum grade C-). Restricted to students with 57-180 credits (Junior or Senior) Psychology (PSYC) majors only.

Grading Basis: Letter Grade

Additional Information: Arts Sci Gen Ed: Distribution-Social Sciences

PSYC 4841 (1-6) Independent Study (Upper Division)

Repeatable: Repeatable for up to 8.00 total credit hours. Allows multiple enrollment in term.

Requisites: Restricted to students with 57-180 credits (Junior or Senior) Psychology (PSYC) majors only.

PSYC 4911 (3) Teaching of Psychology

Students receive concrete experience in teaching general psychology under supervision of a psychology faculty member. Alternative pedagogical strategies are discussed. Students must submit an application to the undergraduate advising center.

Additional Information: Departmental Category: General

PSYC 4931 (1-6) Field Placement Internship

Offers valuable volunteer experience through a supervised field placement. Provides hands-on insight into the decisions and issues that confront professionals in psychology and related fields.

Repeatable: Repeatable for up to 12.00 total credit hours. Allows multiple enrollment in term.

Requisites: Restricted to Psychology (PSYC) majors only.

Recommended: Prerequisite completion of 15 or more hours of psychology course work.

Additional Information: Departmental Category: General