

Population Biology

College of Natural and Agricultural Sciences

The interdepartmental Ph.D. program in Population Biology is not currently accepting new students. For further information call (800) 735-0717 or (951) 827-5621.

Psychology

Subject abbreviation: PSYC College of Humanities, Arts, and Social Sciences

B. Glenn Stanley, Ph.D., Chair
Department Office, 1111 Psychology
Psychology; (951) 827-7792

Undergraduate Advising Office
1112 Psychology
(951) 827-5386; psych.ucr.edu

Professors

- G. John Andersen, Ph.D.
- Curt Burgess, Ph.D.
- Christine Chiarello, Ph.D.
- Steven E. Clark, Ph.D.
- M. Robin DiMatteo, Ph.D.
- Howard S. Friedman, Ph.D.
- David C. Funder, Ph.D.
- Mary Gauvain, Ph.D.
- Nancy G. Guerra, Ph.D.
- Sonja Lyubomirsky, Ph.D.
- Carolyn B. Murray, Ph.D.
- Lawrence D. Rosenblum, Ph.D.
- Robert Rosenthal, Ph.D.
- B. Glenn Stanley, Ph.D. (Psychology/Cell Biology and Neuroscience)
- Ellen A. Wartella, Ph.D.

Professors Emeriti

- Arlo K. Myers, Ph.D.
- Marvin Nachman, Ph.D.
- Lewis Petrinovich, Ph.D.
- Robert D. Singer, Ph.D.
- Sally E. Sperling, Ph.D.
- Ovid J.-L. Tzeng, Ph.D.
- David H. Warren, Ph.D.
- Richard E. Whalen, Ph.D.
- Paul D. Wilson, Ph.D.

Associate Professors

- Verónica Benet-Martínez, Ph.D.
- Ruth K. Chao, Ph.D.
- Peter W. Hickmott, Ph.D.
- Daniel J. Ozer, Ph.D.
- Chandra A. Reynolds-Gebelin, Ph.D.

Assistant Professors

- Dale J. Barr, Ph.D.
- Michael A. Erickson, Ph.D.
- Kelly Huffman, Ph.D.
- Edward Korzus, Ph.D.
- Misaka N. Natsuaki, Ph.D.
- Khaleel Razak, Ph.D.
- Rebekah Richert, Ph.D.
- Aaron Seitz, Ph.D.
- Kate Sweeny, Ph.D.
- Thomas Sy, Ph.D.
- Tuppet M. Yates, Ph.D.

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Cooperating Faculty

- Robert C. Calfee, Ph.D. Graduate School of Education

Majors and Career Opportunities

The major in Psychology is designed to give students a broad, general exposure to knowledge in the various areas of psychology and to the methods psychologists use to conduct research. The B.A. degree in Psychology is useful to those students seeking careers in probation and parole, corrections, personnel, industrial relations, mental health work, social work, or positions as trainees in a variety of executive training programs. The degree also prepares students for graduate school in psychology in either M.A. or Ph.D. programs. Such graduate programs prepare students for a variety of career possibilities. Careers include teaching and research positions in community and private colleges and state and other universities as well as career positions such as research psychologist, clinical psychologist, counseling psychologist, and industrial psychologist. For more information, see psych.ucr.edu.

The department offers a minor in Psychology and a major in Psychology/Law and Society.

University Requirements

See Undergraduate Studies section.

College Requirements

See College of Humanities, Arts, and Social Sciences, Colleges and Programs section.

The lower-division biological, physical sciences, and mathematics requirements for the Psychology major also count toward the college's Natural Sciences and Mathematics breadth requirement. Consult with a departmental advisor.

Major Requirements

Psychology Major

The Psychology major requires early, satisfactory completion of certain lower-division requirements. The lower-division requirements listed below must be completed by the end of the sophomore year, with an average grade of "C" or better, with no grade below a "C-", and before upper-division Psychology courses are taken. All courses must be taken for a letter grade. Transfer students and others entering the major after achieving sophomore standing must complete the requirements within one year by enrolling in applicable courses every quarter until the requirement is met. Students who do not complete the lower-division requirements in this timely fashion and with at least the minimum required grade average will not be permitted to continue in the Psychology major. Students must check course descriptions for prerequisite requirements.

The major requirements for the B.A. degree in Psychology are as follows:

1. Lower-division requirements (39 units)
 - a) One course in Mathematics, Statistics, or Computer Science

- b) One course in biological sciences chosen from BIOL 002 or both BIOL 005A and BIOL 05LA, BIOL 003 or BIOL 005B, BIOL 005C, BIOL 034

- c) One course in physical science chosen from
 - (1) CHEM 001A, CHEM 001B, CHEM 001C (and CHEM 011A, CHEM 011B, CHEM 011C), CHEM 003
 - (2) PHYS 002A, PHYS 002B, PHYS 002C, PHYS 007, PHYS 008, PHYS 020, PHYS 021, PHYS 040A, PHYS 040B, PHYS 040C
 - (3) Any Geosciences courses except for cultural geography courses
- d) Two additional courses from a), b), or c) above
- e) PSYC 001, PSYC 002, PSYC 011, PSYC 012

2. Upper-division requirements (36 units)

- a) PSYC 110 or CBNS 106
- b) PSYC 140, PSYC 150
- c) PSYC 132 or PSYC 134
- d) PSYC 160
- e) Four additional 4-unit, upper-division Psychology courses. Only EDUC 106/ PSYC 106, one 4- to 5-unit quarter of PSYC 198G, or one 4- to 8-unit quarter of PSYC 198I may be included. No 190-series courses other than PSYC 198G or PSYC 198I may be used.

Students planning for graduate school should take into consideration any specific graduate school requirements when choosing these elective Psychology courses.

Note Students who have taken general or introductory Psychology courses other than PSYC 001 and PSYC 002 must consult with a departmental advisor.

Sample Program

This sample program provides a curriculum for the Psychology student who does not need remedial English or remedial math, and does not need four quarters of a foreign language.

Freshman Year	Fall	Winter	Spring
ENGL 001A, ENGL 001B, ENGL 001C	4	4	4
PSYC 001, PSYC 002		4	4
Mathematics, Statistics, or Computer Science		4	
Physical Science			4
Social Sciences	4		
Humanities elective	4		
Total Units	12	12	12
Sophomore Year	Fall	Winter	Spring
PSYC 011, PSYC 012	5	6	
Biology	4		
Science course		4	4
Foreign Language 1, 2, 3	4	4	4
Social Science	4		4
Fine Art		4	
World History			4
Total Units	17	18	16

Junior Year	Fall	Winter	Spring
Foreign Language 4	4		
PSYC 110 or CBNS 106, PSYC 140, PSYC 150, PSYC 160	4	5	8
PSYC 132 or PSYC 134		4	
Political Science or Economics Literature, Philosophy, or Religious Studies	4	4	4
Electives	4	4	4
Total Units	16	17	16
Senior Year	Fall	Winter	Spring
Psychology Electives	8	8	
Electives	8	8	16
Total Units	16	16	16

Psychology/Law and Society Major

- All requirements for the B.A. in Psychology (39 lower-division units, which includes 16 units that are also used for college breadth requirements; 36 upper-division units)
- Requirements for Law and Society (36 units)
 - PHIL 007 or PHIL 007H
 - LWSO 100
 - One course chosen from ECON 111, POSC 114, PSYC 012, SOC 004 (or equivalent course in research methods)
 - Three courses chosen from ANTH 127, ECON 119, HISE 153, PHIL 165, POSC 167, PSYC 175, SOC 159
 - Two courses chosen from ENSC 174, HISA 120A, HISA 120B, HISE 123, LWSO 175 (E-Z), PHIL 164, POSC 111, POSC 166, POSC 168, POSC 186, SOC 147, SOC 149, SOC 180
 - LWSO 193, Senior Seminar

Note For sections 2.d) and 2.e) combined, not more than two courses may be taken from the same department. In fulfilling requirements of two or more majors, students may not count more than two courses toward both parts of their total requirements. For this major, PSYC 012 fulfills a requirement in both Psychology and Law and Society.

Minor

Prerequisites for the minor in Psychology are PSYC 001, PSYC 002, PSYC 011, and PSYC 012, with an average grade of "C" or better, with no grade below a "C-".

Requirements for the Psychology minor are as follows (21 units):

- Twenty-one (21) upper-division Psychology units
 - PSYC 110 or CBNS 106
 - PSYC 132 or PSYC 134
 - PSYC 140 and PSYC 150
 - PSYC 160

See Minors under the College of Humanities, Arts, and Social Sciences in the Colleges and Programs section of this catalog for additional information on minors.

Psychology Undergraduate Honors Program

The Psychology Undergraduate Honors Program has been discontinued. For more information please contact the Undergraduate Advising Office, 1331 Olmstead, (951) 827-5386.

Education Abroad Program

The EAP is an excellent opportunity to travel and learn more about another country and its culture while taking courses to earn units toward graduation. Students should plan study abroad well in advance to ensure that the courses taken fit with their overall program at UCR. Consult the departmental student affairs officer for assistance. For further details visit UCR's International Education Center at internationalcenter.ucr.edu or call (951) 827-4113.

See Education Abroad Program under International Education Center in the Student Services section of this catalog. A list of participating countries is found under Education Abroad Program in the Programs and Courses section. Search for programs by specific areas at eap.ucop.edu/programwizard.

Graduate Program

The Department of Psychology offers the M.A. and Ph.D. degrees in Psychology; however, applications are not accepted from students wishing to work towards the master's degree only.

Graduate training in Psychology is offered in four major areas: Cognitive, Social/Personality, Developmental, and Systems Neuroscience.

Admission Students are normally expected to have completed the equivalent of an undergraduate major in Psychology at the UC, with background preparation in basic science and mathematics. Applicants for graduate status must provide scores for the GRE General Test (verbal and quantitative) prior to admission.

The Ph.D. degree is a research degree. Students must demonstrate the ability to complete rigorous empirical research and must be active in research throughout their graduate career. The course requirements in the Ph.D. program are directed toward establishing a foundation for critical evaluation of research literature and designing conceptually important empirical research.

Doctoral Degree

Course Work The courses normally required during the first two years include the following:

- PSYC 211, PSYC 212, PSYC 213 (Systems Neuroscience students take two of the three, as directed by the student's advisor.)
- The appropriate area core:
 - Cognitive: PSYC 203A, PSYC 203B, PSYC 203C, PSYC 233
 - Developmental: PSYC 207A, PSYC 207B, PSYC 207C, PSYC 208

Social/Personality: PSYC 225, PSYC 226, PSYC 227

Neuroscience: NRSC 200A/PSYC 200A, NRSC 200B/PSYC 200B, NRSC 200C/PSYC 200C

- Four additional courses or seminars outside the student's area of specialization to acquire breadth. The breadth requirement is flexible in order to provide a choice of courses suitable for students in the different specialization areas within the department. Courses can be in the Department of Psychology or in another department. They must be regular 3- or 4-unit courses or seminars, and at least one of the four courses must be a departmental core course (listed in 2, above) outside the student's area of specialization. Psychology courses in the student's area of specialization offered by other departments will typically not be approved.

For a course to satisfy the breadth requirement, approval prior to enrollment must be obtained from all the faculty in the student's area of specialization or from a three-member advisory committee in the student's area. Exceptions to the "prior approval" rule are granted to students who have completed graduate-level course work prior to entering the UCR program. Students may request that specific courses be accepted toward satisfaction of the breadth requirement. This request is reviewed by the student's area faculty, who use procedures and standards typically applied to the preapproval of breadth courses.

- PSYC 301: Required of all graduate students prior to or concurrent with the first teaching assistant appointment unless waived by petition due to previous experience

The Psychology Department requires that each student earn a "B" average in the PSYC 211, PSYC 212, and PSYC 213 sequence and in the student's area core courses, with no grade lower than a "B-".

In addition, students must be enrolled in the appropriate area of Proseminar every quarter until advancement to candidacy:

Cognitive: PSYC 283

Developmental: PSYC 284

Social/Personality: PSYC 285

Neuroscience: PSYC 263 or PSYC 287 or PSYC 289

Progress in the program is formally evaluated in June of each year and informally on a continuing basis by noting participation in class and in research.

All students in the graduate program are held to these requirements whether or not they have taken graduate work at, or hold an M.A. from, another institution. The only exception may be for previously-taken graduate-level course work which is thought to be equivalent to one or more of PSYC 211, PSYC 212, or PSYC 213.

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If a grade of "B" or better was received, and with the approval of the advisor, the student may be tested by a departmental instructor of the course(s) in question. On the basis of the results of the test, the instructor decides if the course can be waived.

Master's Degree Although there is not a separate terminal master's program, students may apply for the master's degree at the beginning of the quarter in which they expect to complete the statistical sequence, the appropriate area core, two of the four breadth courses, PSYC 301 (see 1, 2, 3, and 4 above), and a minimum of 36 units in graduate status (of which at least 18 must be in graduate course work) and pass an oral comprehensive examination administered by the Psychology Department.

Teaching Experience Each student must gain experience in a teaching capacity for the equivalent of at least three full quarters. Teaching assistants assist a faculty member in an undergraduate course by preparing and grading examinations, reading papers, lecturing, and conducting discussion and laboratory sections.

Written and Oral Qualifying Examinations The qualifying examination should be taken during the third year of full-time graduate study. It consists of a written component and an oral examination, and focuses on the subject matter in the student's chosen area of concentration.

A qualifying committee should be nominated early in the third year, and all core and breadth requirements must be completed no later than the quarter in which the qualifying examination is taken.

On the basis of this examination (and completion of the core and breadth requirements), the student may pass and be advanced to candidacy for the Ph.D.; fail, and be permitted one retake; be awarded the M.A. (if not previously awarded) but not be advanced to candidacy for the Ph.D.; or not be awarded the M.A. and not be advanced to candidacy for the Ph.D.

Upon successful completion of 1, 2, 3, and 4, passing the qualifying examination, and nomination of the dissertation committee, the Graduate Division sends the student an application for advancement to candidacy.

Dissertation and Final Oral Examination Students must complete a dissertation on a subject chosen by the candidate, bearing on the principal area of concentration and showing the student's ability in independent investigation. The dissertation committee guides the student in preparing the dissertation and examines the student during the defense of the dissertation.

Each of the four major areas may have additional requirements. Occasionally, a change in courses used to satisfy specific requirements may be justifiable. For a complete description of the program, visit psych.ucr.edu.

Normative Time to Degree 15 quarters

Minor in Quantitative Psychology

In addition to pursuing a doctoral degree in one of the core areas of psychology, graduate students may qualify, under the direction of the committee in charge of the quantitative minor, for a minor in Quantitative Psychology by completing the following:

1. PSYC 211, PSYC 212, and PSYC 213, with a grade of "A-" or better in each course, or passing an examination covering the three courses
2. Three advanced quantitative courses: PSYC 259 (with different subtitles) or other courses specifically approved by the committee in charge
3. Three quarters of PSYC 270
4. Successful completion of an oral qualifying examination based upon a paper written by the student on a quantitative topic.

A three-person faculty qualifying committee, approved by the chair of the committee in charge, must grant prior approval of the topic of the paper and conduct the oral examination. The candidate and the committee determine the format of the oral exam; a presentation in PSYC 270 based on the paper satisfies the oral examination requirement.

Opportunities for Graduate Study in Neuroscience

Faculty from the Department of Psychology participate in a unique graduate specialization in Neuroscience which draws on the strengths of distinguished scientists from several units. For further information concerning work in this area, see Neuroscience Graduate Program in the Programs and Courses section of this catalog.

Lower-Division Courses

PSYC 001. Introductory Psychology (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): none; enrollment priority is given to Psychology majors and Social Relations majors. An introduction to psychology as an experimental science. Emphasizes topics in cognitive (including learning, memory, sensation, perception), comparative, and physiological psychology.

PSYC 002. Introductory Psychology (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): none; enrollment priority is given to Psychology majors and Social Relations majors. Emphasizes topics in developmental psychology, tests and measurements, social psychology, personality, and abnormal behavior.

PSYC 011. Psychological Methods: Statistical Procedures (5) Lecture, 3 hours; discussion, 2 hours. Prerequisite(s): MATH 004 or MATH 005 or MATH 008A with a grade of "C-" or better; PSYC 001 and PSYC 002 with grades of "C-" or better; enrollment priority is given to Psychology majors. Covers descriptive and inferential statistics, measures of central tendency, variability, and correlation. Introduces sampling distributions, statistical inference, and hypothesis testing.

PSYC 012. Psychological Methods: Research Procedures (6) Lecture, 3 hours; laboratory, 3 hours; outside research, 3 hours; extra reading, 2 hours; term paper, 1 hour. Prerequisite(s): PSYC 001,

PSYC 002, PSYC 011 with grades of "C-" or better; ENGL 001C or equivalent with a grade of "C" or better; consent of instructor is required for students repeating the course; enrollment priority is given to Psychology majors. A systematic survey of research methodologies in psychology. Laboratory assignments include evaluating and testing psychological theories, assessing methodologies and research designs, designing and implementing research, collecting data and analyzing statistics, writing research reports, and discussing ethical issues in science.

PSYC 013. Skepticism and Pseudoscience in Psychology (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): a grade of "C-" or better in ENGL 001A or consent of instructor. Studies topics at the borderland of psychology (e.g., extra-sensory perception, repressed memory, pseudoscientific beliefs, parapsychology, psychic phenomena, faith healing, mass hysteria). Explores the relationship among skepticism, cynicism, and "gullibility" and the rhetoric of extraordinary claims. Stresses the development of scientific literacy, critical thinking skills, hypothesis testing, and understanding psychology as an empirical science.

PSYC 049. Topics in Psychology (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): none. Explores a topic of general interest in psychology. Debate and dialog are the distinguishing features of this course. Topics are announced in the *Schedule of Classes*. Course is repeatable as topics change to a maximum of 16 units.

PSYC 096. Research for Lower-Division Students (1-2) scheduled research, 3-6 hours. Prerequisite(s): freshman or sophomore standing and consent of instructor. An introduction to research in psychology. Emphasis upon aspects of library and laboratory research within the content of ongoing faculty research programs. Graded Satisfactory (S) or No Credit (NC). Course is repeatable to a maximum of 6 units.

Upper-Division Courses

PSYC 109. Advanced Research Methods (4) Lecture, 3 hours; laboratory, 3 hours. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012, each with a grade of "B-" or better; or equivalents; or consent of instructor. Advanced theory and practice of planning, conducting, reporting, and evaluating research in the social and behavioral sciences. Students conduct original research that, if desired, can lead to (and become part of) a senior honors thesis or other senior-level research project. Satisfactory (S) or No Credit (NC) grading is not available.

PSYC 110. The Brain and Behavior (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): BIOL 002 or BIOL 003 or BIOL 005A or BIOL 034 with a grade of "C-" or better, or equivalents, or consent of instructor. Explores the principles of neuroanatomy and neurophysiology and their relationship to brain function. Topics include sensory and perceptual processes, biological aspects of learning and memory, motivation, emotion, language, and abnormal behavior. Credit is awarded for only one of CBNS 120/PSYC 120 or PSYC 110.

PSYC 112. Neural Mechanisms of Animal Behavior (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): CBNS 106 with a grade of "C-" or better or PSYC 110 with a grade of "C-" or better or consent of instructor. Studies how the nervous systems of vertebrates and invertebrates contribute to and control their behavior. Focuses on aspects of sensory physiology with a brief orientation to the structure and function of nervous

systems. Emphasizes a top-down approach to neurobiology, with specific behaviors providing guidelines for an examination of neural mechanisms.

PSYC 115. Drugs and Behavior (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): CBNS 106 with a grade of "C-" or better or PSYC 110 with a grade of "C-" or better or consent of instructor. Describes both legal and illegal drugs. Analyzes drug-nervous system interactions and how the use of various drugs (particularly drugs of abuse) affects behavior and psychological well-being.

PSYC 117. Cognitive Neuroscience of Memory and Consciousness (4) Seminar, 3 hours; extra reading, 3 hours. Prerequisite(s): CBNS 106 with a grade of "C-" or better or PSYC 110 with a grade of "C-" or better. Surveys the neural basis of mental processes, focusing on memory and consciousness and their behavioral manifestations. Emphasizes current research literature.

PSYC 120. Cellular Neuroscience: Membrane and Synaptic Phenomena (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): CBNS 106 or consent of instructor. An examination of cellular and molecular mechanisms of nervous system function using concepts drawn from the study of vertebrates and invertebrates with emphasis on mammalian systems. Cross-listed with CBNS 120.

PSYC 120L. Neuroscience Laboratory (2) Lecture, 1 hour; laboratory, 3 hours. Prerequisite(s): CBNS 120/PSYC 120 or concurrent enrollment. Laboratory experiments using anatomical, chemical, and physiological research methods fundamental to understanding neurons and neural systems. Cross-listed with CBNS 120L.

PSYC 121. Developmental Neuroscience (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): CBNS 106 or consent of instructor. A study of the development of nervous systems. Examines the cellular and molecular mechanisms of neural development and the determinants of cell birth and death, axonal pathfinding, neuronal connections, and development of neural systems underlying behavior. Cross-listed with CBNS 121.

PSYC 124. Systems Neuroscience (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): CBNS 106 or PSYC 110 or consent of instructor. Study of the structure and function of motor and sensory systems in vertebrate and invertebrate nervous systems. Cross-listed with CBNS 124.

PSYC 125. Neuropharmacology (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): CBNS 120/PSYC 120; previous or concurrent enrollment in CBNS 120L/PSYC 120L and CBNS 124/PSYC 124 recommended. Examines synaptic neurotransmitter systems, mechanisms, and pharmacological agents and effects, which are fundamental to neural information processing. Cross-listed with CBNS 125.

PSYC 126. Neuroscience of Learning and Memory (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): CBNS 106 or PSYC 110 or consent of instructor. Covers mechanisms of learning and memory across levels of analysis, including genetic, neuronal, systems and theory. Topics include the multiple memory systems, memory consolidation, working memory, emotional memory, recognition memory, spatial memory, and human amnesia. Cross-listed with CBNS 126.

PSYC 127. Behavioral Control Systems (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): CBNS 120/PSYC 120; CBNS 124/PSYC 124 strongly recommended. An analysis of the principles of nervous system operation from the processing of sensory inputs for object recognition and localization to the organiza-

tion of central patterns of generation of sequenced motor output. Cross-listed with CBNS 127.

PSYC 129. Human Neuropsychology (4) Lecture, 3 hours; discussion, 1.5 hours. Prerequisite(s): a grade of "C-" or better in one of the following courses or consent of instructor: CBNS 106, PSYC 110, PSYC 132, PSYC 134, PSYC 135. Surveys how high psychological functions (e.g., perception, memory, language) are organized in the human brain. Special emphasis is on behavioral and cognitive impairments due to brain injury and how they may inform our view of normal cognitive functions.

PSYC 130. Fundamentals of Learning and Conditioning (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012 with grades of "C-" or better; or equivalents; or consent of instructor. A survey course that includes both historical and current models of human learning, conditioning, and memory. Provides a good foundation for research or future study in learning and memory by covering fundamental theories established by Pavlov and Skinner while incorporating new theories of human behavioral control.

PSYC 131. Computational and Mathematical Models in Cognitive Science (4) Lecture, 3 hours; extra reading, 1.5 hours; written work, 1.5 hours. Prerequisite(s): a grade of "C-" or better in PSYC 001, PSYC 002, PSYC 011, PSYC 012 or consent of instructor. Introduces students to the technical and theoretical issues involved in using models to understand behavior.

Involves analysis of model predictions and simulation of behavioral data. Course is repeatable to a maximum of 12 units if taken with different instructors.

PSYC 132. Perception (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012 with grades of "C-" or better; or equivalents; or consent of instructor. An analysis of the role played by sensory mechanisms, experiences, expectations, and needs in recognizing objects in the environment.

PSYC 133. Human Factors (4) Lecture, 3 hours; extra reading, 2 hours; term paper, 1 hour. Prerequisite(s): a grade of "C-" or better in one of the following courses or consent of instructor: PSYC 132 or PSYC 134. Provides an overview of the human capabilities and limitations considered in the design of person-machine systems. Evaluates factors critical to performance in person-machine systems, including attention, decision making, motor performance, and memory. **Andersen**

PSYC 134. Cognitive Processes (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012 with grades of "C-" or better; or equivalents; or consent of instructor. Empirical and theoretical research in several subareas within contemporary cognitive psychology. These subareas include attention, mental representation, information organization and retrieval from memory, psycholinguistics, problem solving, decision making, thinking, and artificial intelligence and computer simulation of cognitive processes.

PSYC 135. Psycholinguistics (4) Lecture, 3 hours; extra reading, 3 hours. Prerequisite(s): a grade of "C-" or better in the following courses or consent of instructor: PSYC 001, PSYC 002, PSYC 011, PSYC 012. Introduction to psycholinguistics emphasizing the psychological implications of linguistic theory, including the effect of syntactic structure on the comprehension, production, and retention of speech; the course of language acquisition; and models of the adult language user.

PSYC 136. Topics in Cognitive Neuroscience (4)

Seminar, 3 hours; extra reading, 1.5 hours; written work, 1.5 hours. Prerequisite(s): a grade of "C-" or better in one of the following courses or consent of instructor: CBNS 106, PSYC 110, PSYC 129, PSYC 132, PSYC 134, PSYC 135. Intensive study of selected topics in cognitive neuroscience. Stresses the methodology and interpretation of current research topics. Course is repeatable as topics change to a maximum of 12 units.

PSYC 138. Sensory Exotica: The Secret Perceptual Skills of Animals and Humans. (4)

Lecture, 3 hours; extra reading, 3 hours. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012, and PSYC 132 with grades of "C-" or better. Surveys lesser-known sensory mechanisms and perceptual abilities of animals and humans. Topics include echolocation abilities of bats and porpoises; bionavigation in birds; electroreception in fish; pheromones in insects; and echolocation, lipreading, and pheromone sensitivity in humans.

Emphasis is on cognitive, neurophysiological, and philosophical implications.

PSYC 139. Topics in Cognitive Psychology (4)

Seminar, 3 hours; extra reading, 1.5 hours; written work, 1.5 hours. Prerequisite(s): a grade of "C-" or better in the following courses or consent of instructor: PSYC 001, PSYC 002, PSYC 011, PSYC 012; PSYC 132 or PSYC 134 or PSYC 135. Intensive study in cognitive psychology. Stresses literature, methodology, and experimental design and analysis. Course is repeatable as topics change to a maximum of 16 units.

PSYC 140. Social Psychology (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012 with grades of "C-" or better; or equivalents; or consent of instructor. The relationship between the individual and the group, including such topics as conformity and deviance, attraction and prejudice, altruism and aggression, and the social nature of attitudes.

PSYC 142. Industrial/Organizational Psychology (4)

Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): PSYC 002. Introduction to the field of industrial/organizational psychology covering fundamental theory and research in personnel and organizations. Topics include employee selection and training, performance appraisal, motivation, organizational dynamics, leadership, and job satisfaction.

PSYC 146. Primate Social Behavior (4) Lecture, 3 hours; extra reading, 3 hours. Prerequisite(s): ANTH 002 or PSYC 002. Considers social organization and behavior in monkeys and apes, with emphasis on the adaptive aspects of social patterns and the relevance of primate studies to human evolution. Cross-listed with ANTH 146.

PSYC 148. Topics in Social Psychology (4)

Lecture, 3 hours; extra reading or term paper, 3 hours. Prerequisite(s): a grade of "C-" or better in the following courses or consent of instructor: PSYC 001, PSYC 002, PSYC 011, PSYC 012, PSYC 140. Intensive study of selected topics in social psychology such as race relations, attitude formation and change, biases of social science researchers, and the application of psychological principles in community organization. Emphasis is on the study of these areas in natural settings. Specific course content varies. Course is repeatable to a maximum of 16 units.

PSYC 150. Personality (4)

Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012 with grades of "C-" or better; or equivalents; or consent of instructor. A survey of the principal theories of personality with attention to the experimental methods and findings on which they are based.

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PSYC 152. Abnormal Psychology (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012 with grades of "C-" or better; or equivalents; or consent of instructor. An introduction to the research and theories regarding the major types of abnormal behavior, including the neuroses, schizophrenia, psychosomatic disorders, sexual disorders, drug and stress induced states, and organic disorders.

PSYC 153. Introduction to Clinical Psychology (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): a grade of "C-" or better in the following courses or consent of instructor: PSYC 001, PSYC 002, PSYC 011, PSYC 012, PSYC 150, PSYC 152. Introduction to the field of clinical psychology with an emphasis on the application and evaluation of techniques of individual and group counseling and therapy and the application and evaluation of psychological tests in the assessment of psychological problems.

PSYC 155. Personality Assessment (4) Lecture, 3 hours; extra reading, 3 hours. Prerequisite(s): a grade of "C-" or better in the following courses or consent of instructor: PSYC 001, PSYC 002, PSYC 011, PSYC 012, PSYC 150. Covers the assessment of personality through self-report tests, projective tests, and systematic observations. Also entails descriptions of the psychometrics of testing as it applies to the problems in studying personality.

PSYC 158. Person Perception (4) Lecture, 3 hours; term paper, 3 hours. Prerequisite(s): a grade of "C-" or better in the following courses or consent of instructor: PSYC 001, PSYC 002, PSYC 011, PSYC 012; PSYC 140 or PSYC 150 (preferably both). Explores "person perception" from the viewpoints of both personality psychology and social psychology. Examines how individuals perceive and judge their own personalities and those of others. Focuses on the processes used in daily life to judge personality and the ways such judgments are erroneous and accurate.

PSYC 160. Life Span Development (5) Lecture, 3 hours; discussion, 1 hour; term paper, 3 hours. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012 with grades of "C-" or better; or equivalents; or consent of instructor. Introduces the biological, social, and cognitive processes that influence development from the prenatal period through late adulthood. Topics include development in physical, motor, perceptual, cognitive, emotional, and social areas. Includes discussion of issues related to intellectual functioning, personality, social roles and relationships, coping and adjustment, and aging.

PSYC 161. Socioemotional and Personality Development (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012 with grades of "C-" or better; or equivalents; or consent of instructor. Study of the development of human personality from birth through late adolescence. Emphasis is on the impact of interpersonal relationships on the acquisition of human traits, emotional reactions, and patterns of adjustment.

PSYC 162. Biological Issues in Development (4) Lecture, 3 hours; term paper, 3 hours. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012, and PSYC 160 with grades of "C-" or better; or equivalents; or consent of instructor. Examines biological processes that influence behavior and development across the life span. Discusses contemporary theoretical approaches to the study of biological, genetic, and environmental influences on development. Topics include behavioral genetics, developmental neuroscience, and the impact of early environments and stress on adaptation and resilience.

PSYC 163. Cognitive Development (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012, and PSYC 160 with grades of "C-" or better; or equivalents; or consent of instructor. An analysis of intellectual development from birth through maturity and into stages of aging. Discusses historical and contemporary theoretical and experimental approaches to studying the mechanisms of intellectual growth and development.

PSYC 164. Emotional and Behavioral Disorders of Childhood (4) Lecture, 3 hours; extra reading, 3 hours. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012, PSYC 152, and PSYC 160 with grades of "C-" or better; or equivalents; or consent of instructor. Provides an overview of behavioral and emotional disorders affecting children and adolescents within a developmental context. Examines disorders affecting youth in terms of prevalence, developmental course, and theories. Topics include theoretical models of child psychopathology; diagnostic, assessment, and treatment practices; and the descriptive psychopathology of major childhood disorders.

PSYC 165A. The Cultural Bases of Human Development (4) Lecture, 3 hours; extra reading, 3 hours. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, and PSYC 012 with grades of "C-" or better; or equivalents; or consent of instructor. Examines the social, emotional, and intellectual aspects of human development from a cultural perspective. Covers theory, research, and methods of studying the cultural bases of psychological growth. Topics include socialization practices, parenting, social relations, language and cognition, schooling and academic achievement, acculturation, and ethnicity.

PSYC 165B. The Development of Immigrant and Ethnic Minority Youth (4) Lecture, 3 hours; extra reading, 3 hours. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012, and PSYC 160 with grades of "C-" or better; or equivalents; or consent of instructor. Covers current theory and research on the development of immigrant and ethnic minority youth in the United States. Focuses on the social, cultural, and psychological processes influencing the biological, cognitive, and social development of youth from immigrant and ethnic minority families.

PSYC 166. Adolescence and Emerging Adulthood (4) Lecture, 3 hours; discussion, 1 hour; extra reading, 3 hours. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012, and PSYC 160 with grades of "C-" or better; or equivalents; or consent of instructor. Covers current theory and research on the periods of development referred to as adolescence and the transition to adulthood. Addresses the demographic, sociocultural, and historical changes that have defined these periods, and key features of these periods including pubertal changes and changes in cognitive and social development.

PSYC 167. Psychological Development of Black Children (4) Lecture, 3 hours; extra reading, 3 hours. Prerequisite(s): PSYC 002. This course will analyze both the traditional theoretical approaches to the study of Black children and innovative approaches that are currently being developed by Black psychologists. The course will cover topics in the areas of cognitive, social, and personality development. Cross-listed with ETST 167.

PSYC 168. Psychological Aspects of the Black Experience (4) Lecture, 3 hours; extra reading, 3 hours. Prerequisite(s): PSYC 002. This course examines the interdependence between personal characteristics, Afro-American culture, and the social conditions which foster the Black experience. Group

membership, life styles, role factors, and situational settings as social norms will be explored in order to understand the uniqueness of the Black experience. Cross-listed with ETST 168.

PSYC 169. Topics in Developmental Psychology (4) Lecture, 3 hours; extra reading, 3 hours. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012 with grades of "C-" or better, PSYC 160; or equivalents; or consent of instructor. Intensive study in developmental psychology. Stresses literature, methodology, and experimental design and analysis. Specific course content varies. Course is repeatable to a maximum of 16 units.

PSYC 171. Psychology of Gender (4) Seminar, 3 hours; term paper, 3 hours. Prerequisite(s): PSYC 012 with a grade of "C-" or better or consent of instructor. Examines psychological theory and research on gender, including ethnic and cultural variations in male and female experience. Topics include gender roles, gender development, gender differences and stereotypes, biological influences on gender, gender and health, gender and language, gender and achievement, and men and women in the workplace.

PSYC 175. Psychology and Law (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): LWSO 100 with a grade of "C-" or better or PSYC 001 and PSYC 002 with grades of "C-" or better. A study of psychological theory and empirical research as it relates to the law. Topics include jury decision making, eyewitness memory, child custody, criminal responsibility and intent, competence, rehabilitation and punishment, ethics and legal responsibilities in therapy, and psychological research.

PSYC 178. Health Psychology (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): HNPG 042K or PSYC 002 or SOC 001 or SOC 001H. An examination of the importance of interpersonal relationships to physical health and effective medical care. Applies social psychological perspectives to such topics as stress-related diseases, placebo effects, doctor-patient interactions, dying, and the hospital environment.

PSYC 179. Health and Behavior Change (4) Lecture, 3 hours; discussion, 1 hour; term paper, 1 hour. Prerequisite(s): a grade of "C-" or better in one of the following courses: HNPG 042K, PSYC 002, PSYC 178. Examines psychological constructs in health behavior change. Covers theories and research on preventive health behavior; adherence to medical treatment; health lifestyles; substance use and abuse; and anxiety and depression in medical illness. Also examines cognitive and behavioral techniques; helping skills; placebo effect; social support; effective therapeutic communication; medical care delivery; and ethical issues.

PSYC 180. Laboratory in Perception (4) Lecture, 3 hours; extra reading, 1.5 hours; written work, 1.5 hours. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, and PSYC 012 with grades of "C-" or better; concurrent enrollment in or completion of PSYC 132 with a grade of "C-" or better. Provides hands-on computer experience testing phenomena of sensory and perceptual psychology. Students perform experiments in vision, hearing, touch, taste, or smell, using computer software. Students also design, perform, and analyze a novel experiment of their choosing. Discusses the theoretical and practical relevance of all experiments.

PSYC 181. Laboratory in Cognitive Psychology (4) Lecture, 3 hours; outside research, 1.5 hours; extra reading, 1.5 hours. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, PSYC 012, and PSYC 134 with grades of "C-" or better. Integrates the conceptual

and theoretical foundations of cognitive psychology with the mechanics of conducting research. Students develop and design research studies and collect, analyze, and interpret data.

PSYC 182 (E-Z). Laboratory in Psychology (5) Lecture, 3 hours; outside research, 3 hours; term paper, 3 hours. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, and PSYC 012 with grades of "C" or better or consent of instructor; for PSYC 182E: PSYC 160 with a grade of "C" or better or consent of instructor; for PSYC 182F: PSYC 132 with a grade of "C" or better or consent of instructor. Provides the student hands-on experience in various research approaches in psychology. Involves in-class discussion of research design and methods, as well as outside data collection. E. Child Development; F. Sensation and Perception

PSYC 190. Special Studies (1-5) Prerequisite(s): upper-division standing with consent of instructor. Individual study under the direction of a faculty member. Course is repeatable to a maximum of 16 units.

PSYC 191A. Seminar in Developmental Psychology Research (2) Seminar, 2 hours. Prerequisite(s): consent of instructor. Discussion of selected topics of research in developmental psychology. Some combination of readings, short written assignments, and oral presentation is required. Graded Satisfactory (S) or No Credit (NC). Course is repeatable to a maximum of 12 units.

PSYC 191B. Seminar in Neuroscience Research (2) Seminar, 2 hours. Prerequisite(s): consent of instructor. Discussion of selected topics of research in neuroscience. Some combination of readings, short written assignments, and oral presentation is required. Graded Satisfactory (S) or No Credit (NC). Course is repeatable to a maximum of 12 units.

PSYC 191C. Seminar in Personality Psychology Research (2) Seminar, 2 hours. Prerequisite(s): consent of instructor. Discussion of selected topics of research in personality psychology. Some combination of readings, short written assignments, and oral presentation is required. Graded Satisfactory (S) or No Credit (NC). Course is repeatable to a maximum of 12 units.

PSYC 191D. Seminar in Social Psychology Research (2) Seminar, 2 hours. Prerequisite(s): consent of instructor. Discussion of selected topics of research in social psychology. Some combination of readings, short written assignments, and oral presentation is required. Graded Satisfactory (S) or No Credit (NC). Course is repeatable to a maximum of 12 units.

PSYC 191E. Seminar in Cognitive Psychology Research (2) Seminar, 2 hours. Prerequisite(s): consent of instructor. Discussion of selected topics of research in cognitive psychology. Some combination of readings, short written assignments, and oral presentation is required. Graded Satisfactory (S) or No Credit (NC). Course is repeatable to a maximum of 12 units.

PSYC 192H. Junior Honors Seminar (2) Seminar, 2 hours. Prerequisite(s): junior standing in Psychology and admission to the Psychology Department Undergraduate Honors Program. Presentations by individual faculty members of their research programs; discussions of readings provided by faculty members; discussion of research conceptualization, design, methodology, and statistics; discussion of the thesis-writing procedures; peer exchanges. Satisfactory (S) or No Credit (NC) grading is not available. Course is repeatable to a maximum of 6 units.

PSYC 193H. Senior Honors Seminar (2) Seminar, 2 hours. Prerequisite(s): senior standing in Psychology; admission to the Psychology Department Undergraduate Honors Program. Presentations by individual faculty members of their research programs; discussions of readings provided by faculty members; discussion of research conceptualization, design, methodology, and statistics; discussion of thesis-writing procedures; and peer exchanges. Satisfactory (S) or No Credit (NC) grading is not available. Course is repeatable to a maximum of 12 units.

PSYC 194. Independent Reading (1-4) Prerequisite(s): upper-division standing with consent of instructor. Individual reading under faculty direction. Course is repeatable to a maximum of 4 units.

PSYC 195. Senior Thesis (1-4) Thesis, 3-12 hours. Prerequisite(s): senior standing in Psychology; consent of instructor. The student works with a faculty member to prepare a thesis based on independent research. Course is repeatable to a maximum of 12 units.

PSYC 195H. Senior Honors Thesis (2) Term paper, 6 hours. Prerequisite(s): senior standing in Psychology and admission to the Psychology Department Undergraduate Honors Program. The student will work independently with a faculty member preparing a thesis as a final phase of participation in the program. Satisfactory (S) or No Credit (NC) grading is not available.

PSYC 197. Research for Undergraduates (1-4) individual research, 3-12 hours. Prerequisite(s): upper-division standing with consent of instructor. Directed original research. Graded Satisfactory (S) or No Credit (NC), but students may petition the instructor for a letter grade on the basis of assigned special projects. Course is repeatable.

PSYC 198G. Group Internship in Psychology (2-5) Lecture, 1 hour; internship, 4-10 hours; written assignments, 2-4 hours. Prerequisite(s): PSYC 002 or consent of instructor. Supervised clinical experience in community settings such as mental health clinics, hospitals, and group homes. A written assignment such as a short research paper or a weekly journal is required. Enrollment is for 4 units; a rare exception may be made, in writing, by the instructor for 2, 3, or 5 units. Graded Satisfactory (S) or No Credit (NC). Course is repeatable to a maximum of 12 units.

PSYC 198H. Junior Honors Research (2) Outside research, 6 hours. Prerequisite(s): junior standing in Psychology and admission to the Psychology Department Undergraduate Honors Program. Original research undertaken under the direction of individual faculty members. Satisfactory (S) or No Credit (NC) grading is not available. Course is repeatable to a maximum of 4 units.

PSYC 198-I. Individual Internship in Psychology (2-8) Internship, 4-16 hours; consultation, 1 hour; written work, 1-4 hours; individual study, 0-4 hours. Prerequisite(s): PSYC 001, PSYC 002, PSYC 011, and PSYC 012 with grades of "C-" or better; upper-division standing; consent of instructor. Individual internship in nonclinical psychology fieldwork. The student spends three hours per week in a prescribed combination of academic activities and internship for each unit of credit. Students keep a weekly log and write a summary of the internship experience. Students who complete additional assigned reading and submit a substantive term paper receive a letter grade; other students receive a Satisfactory (S) or No Credit (NC) grade. Course is repeatable to a maximum of 16 units.

PSYC 198T. Counseling Skills (1) Lecture, 1 hour. Prerequisite(s): PSYC 002 or consent of instructor. Focuses on helping skills as applied to the fields of clinical and counseling psychology. Designed for students involved in campus peer counselor settings and future residence hall advisors. Graded Satisfactory (S) or No Credit (NC).

PSYC 199H. Senior Honors Research (1-5) Outside research, 3-15 hours. Prerequisite(s): open to senior Psychology majors by invitation. Original research undertaken, by invitation of faculty, under the direction of individual faculty members. Psychology Department Undergraduate Honors Program participants must enroll for 2 units each quarter of their senior year except for the thesis-writing quarter. Satisfactory (S) or No Credit (NC) grading is not available for Honors Program participants; other students may choose Satisfactory (S) or No Credit (NC) grading. Course is repeatable to a maximum of 16 units.

Graduate Courses

PSYC 200A. Fundamentals of Neuroscience (3) Lecture, 3 hours. Prerequisite(s): graduate standing or consent of instructor. The fundamentals of neuroscience in molecular and cellular mechanisms, neural and hormonal systems, and neural control of behavior. Cross-listed with NRSC 200A.

PSYC 200B. Fundamentals of Neuroscience (3) Lecture, 3 hours. Prerequisite(s): graduate standing or consent of instructor; NRSC 200A/PSYC 200A. The fundamentals of neuroscience in molecular and cellular mechanisms, neural and hormonal systems, and neural control of behavior. Cross-listed with NRSC 200B.

PSYC 200C. Fundamentals of Neuroscience (3) Lecture, 3 hours. Prerequisite(s): graduate standing or consent of instructor; NRSC 200B/PSYC 200B. The fundamentals of neuroscience in molecular and cellular mechanisms, neural and hormonal systems, and neural control of behavior. Cross-listed with NRSC 200C.

PSYC 203A. Experimental Psychology (3) Lecture, 3 hours. Prerequisite(s): graduate standing or consent of instructor. Focuses on the history and philosophy of cognitive science. Covers the theories and models and gives an empirical overview of perception.

PSYC 203B. Experimental Psychology (3) Lecture, 3 hours. Prerequisite(s): graduate standing or consent of instructor. Covers the theories and models and gives an empirical overview of attention and memory.

PSYC 203C. Experimental Psychology (3) Lecture, 3 hours. Prerequisite(s): graduate standing or consent of instructor. Covers the theories and models and gives an empirical overview of higher level language and memory processes.

PSYC 207A. Theories in Developmental Psychology (3) Lecture, 3 hours. Prerequisite(s): consent of instructor. A consideration of major issues and theories in the area of developmental psychology. Theories to be covered include social learning theory, structural theories, sociobiology, and theories of personality development. Topics include life span models and plasticity of human behavior.

PSYC 207B. Social Development (3) Lecture, 3 hours. Prerequisite(s): consent of instructor. Theoretical and empirical consideration of various topics in social development, including attachment, aggression, dependency, cooperation, and competition. Students will also consider methodological issues appropriate to investigations of these phenomena.

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PSYC 207C. Processes of Cognitive Development (3) Lecture, 3 hours. Prerequisite(s): consent of instructor. Examines the cognitive changes in humans throughout the life cycle. Topics include Piagetian theory and memory, information processing, attention, and intelligence with a focus on the changes that occur in these skills.

PSYC 208. Research Methods in Development (3) Lecture, 3 hours. Prerequisite(s): PSYC 211; PSYC 212 or consent of instructor. Develops students' skills in evaluating current research methodologies to answer developmental questions and in critically evaluating a variety of research methodologies currently in use. Topics include measurement of developmental dimensions and methods for assessing interrelations among developmental dimensions.

PSYC 210. Preparing Research Proposals in Psychology (3) Seminar, 3 hours; written work, 2 hours. Prerequisite(s): second-year standing or above in the Psychology graduate program or consent of instructor. Designed for advanced graduate psychology students planning a research career. Focuses on funding opportunities for predoctoral research support. Topics include sources of grant support, mechanisms of grant support, and essentials of grant writing. Graded Satisfactory (S) or No Credit (NC).

PSYC 211. Statistical Inference (4) Lecture, 3 hours; discussion, 1 hour; laboratory, 2 hours. Prerequisite(s): graduate standing in Psychology or consent of instructor. Examines basic issues related to the application of statistical inference, effect size estimation, and significance tests to various research paradigms in psychology. Discusses aspects of psychological measurement and the appropriateness of particular statistical techniques to different types of psychological data.

PSYC 212. Multiple Regression and Correlation Analysis (4) Lecture, 3 hours; discussion, 1 hour; laboratory, 1 hour. Prerequisite(s): graduate standing in Psychology, PSYC 211; or consent of instructor. Multiple regression, the general linear model, their relationship to analysis of variance, and extensions to multivariate analysis. The use of assorted computer statistical packages.

PSYC 213. Experimental Design and Analysis of Variance (4) Lecture, 3 hours; discussion, 2 hours. Prerequisite(s): graduate standing in Psychology, PSYC 211; or consent of instructor. Experimental design and analysis of variance including repeated measures and mixed designs, with special attention to exploratory data analysis, nested designs, interactions, and contrasts.

PSYC 225. Theories and Concepts of Social Psychology (3) Lecture, 3 hours. Prerequisite(s): consent of instructor. Advanced theories and concepts of social psychology. Special attention is given to the history and development of the major concepts of the field. Required of all social-personality graduate students.

PSYC 226. Theories and Concepts of Personality Psychology (3) Lecture, 3 hours. Prerequisite(s): consent of instructor. Advanced critical review of the theories, assessment techniques, and empirical literature in personality psychology. Special attention is given to the interactionist perspective. Required of all social-personality graduate students.

PSYC 227. Research Methods in Social and Personality Psychology (3) Lecture, 3 hours. Prerequisite(s): consent of instructor. Covers laboratory and field research methods, personality and dependent variable

measurement, research design, bias and artifacts, and meta-analysis. Also addresses interview and surveys, focus groups, research publication, and ethics.

PSYC 231. Mathematical and Computational Models in Cognitive Science (3) Lecture, 3 hours; extra reading, 1.5 hours; written work, 1.5 hours. Prerequisite(s): graduate standing or consent of instructor. Introduces the technical and theoretical issues involved in using models to understand behavior. Emphasis is on hands-on analysis of model predictions and simulation of behavioral data. Graded Satisfactory (S) or No Credit (NC). Course is repeatable to a maximum of 9 units if taken with different instructors.

PSYC 233. Research Methods in Cognitive Science (3) Lecture, 3 hours. Prerequisite(s): graduate standing or consent of instructor. Develops skills in research methodologies currently available to cognitive scientists such as eye-tracking, computational modeling, signal detection, neuroimaging, and event-related potential techniques. Emphasis is on critically examining assumptions of methods and current research utilizing each method, and on how each is being utilized to address theoretical and empirical questions. May be taken Satisfactory (S) or No Credit (NC) with consent of instructor and graduate advisor. Course is repeatable to a maximum of 9 units if taken with different instructors.

PSYC 234. Data Analysis in Cognitive Sciences (3) Lecture, 3 hours. Prerequisite(s): graduate standing in Psychology or consent of instructor. Focuses on the analysis of cognitive psychological data obtained using specialized methodologies particularly relevant to cognitive psychology research including computer simulation, online experimentation, and eye tracking. Topics include real-time data analysis, signal detecting theory, Fourier analysis, and reaction time data. Course is repeatable to a maximum of 9 units if taken with different instructors.

PSYC 243. Multivariate Statistics (3) Lecture, 3 hours; laboratory, 1 hour. Prerequisite(s): PSYC 211, PSYC 212, PSYC 213. Introduces students to multivariate statistical methods, including multivariate analysis of variance, analysis of covariance, repeated measures analysis of variance, cluster analysis, discriminant function analysis, multivariate regression, principal components analysis, exploratory factor analysis, and confirmatory factor analysis. Focuses on the theoretical and practical applications of each method. Graded Satisfactory (S) or No Credit (NC).

PSYC 251. Seminar in Cognitive Neuroscience. (3) Seminar, 3 hours. Prerequisite(s): graduate standing or consent of instructor. Consists of seminars, oral reports, and discussions by students, faculty, and visiting scholars on current trends in cognitive neuroscience. Focuses on a memory phenomenon. Graded Satisfactory (S) or No Credit (NC). Course is repeatable.

PSYC 255. Seminar in Social Psychology (3) Seminar, 3 hours. Prerequisite(s): consent of instructor. Selected advanced topics in social psychology. The contents of these courses will vary. Graded Satisfactory (S) or No Credit (NC). Course is repeatable.

PSYC 256. Seminar in Perception (3) Seminar, 3 hours. Prerequisite(s): consent of instructor. Study and discussion of experimental papers in relation to the theory of perceptual processes. Graded Satisfactory (S) or No Credit (NC). May be repeated.

PSYC 257. Seminar in Personality Psychology (3) Seminar, 3 hours. Prerequisite(s): consent of instructor. Selected advanced topics in personality with an emphasis on experimental findings and theoretical interpretations. Graded Satisfactory (S) or No Credit (NC). May be repeated.

PSYC 258. Seminar in Developmental Psychology (3) Seminar, 3 hours. Prerequisite(s): consent of instructor. Selected advanced topics in developmental psychology. Graded Satisfactory (S) or No Credit (NC). May be repeated.

PSYC 259. Topics in Quantitative Methods (3) Lecture, 3 hours. Prerequisite(s): graduate standing in Psychology or consent of instructor. A study of selected advanced topics in quantitative methods specifically for behavioral research, especially multivariate analysis. Graded Satisfactory (S) or No Credit (NC). Course is repeatable as topics change.

PSYC 262. Developmental Biopsychology (3) Lecture, 3 hours. Prerequisite(s): graduate standing or consent of instructor. Covers basic processes of brain development and plasticity from conception to adulthood. Emphasis is on relationships between biological and psychological phenomena such as sensation, perception, and learning. Students who submit a term paper receive a letter grade; other students receive a Satisfactory (S) or No Credit (NC) grade.

PSYC 263. Seminar in Physiological Psychology (3) Seminar, 3 hours. Prerequisite(s): graduate standing or consent of instructor. Readings, oral reports, and discussions by students, faculty, and visiting scholars of selected areas in physiological psychology. Graded Satisfactory (S) or No Credit (NC). Course is repeatable to a maximum of 36 units.

PSYC 270. Current Research in Quantitative Psychology (2) Seminar, 2 hours. Prerequisite(s): graduate standing or consent of instructor. Discussion of selected research topics in quantitative psychology. Emphasis on contemporary research design and quantitative problems relevant to the on-going research areas of graduate students and faculty. Graded Satisfactory (S) or No Credit (NC). Course is repeatable to a maximum of 16 units.

PSYC 271. Current Issues in Cognition (3) Seminar, 3 hours. Prerequisite(s): consent of instructor. Current issues in memory, learning, and psycholinguistics. Emphasis is on recent and important experimental findings and on theoretical development. Graded Satisfactory (S) or No Credit (NC). May be repeated.

PSYC 283. Proseminar on Current Research in Cognitive Psychology (1) Seminar, 1 hour; written work, 4 hours per quarter; extra reading, 1-3 hours. Prerequisite(s): graduate standing or consent of instructor. Presentations by students, departmental faculty, or visiting scholars describing current research in cognitive psychology. Graded Satisfactory (S) or No Credit (NC). Course is repeatable to a maximum of 15 units.

PSYC 284. Proseminar on Current Research in Developmental Psychology (1) Seminar, 1 hour; written work, 4 hours per quarter; extra reading, 1-3 hours. Prerequisite(s): graduate standing or consent of instructor. Presentations by students, departmental faculty, and visiting scholars describing current research in developmental psychology. Graded Satisfactory (S) or No Credit (NC). Course is repeatable to a maximum of 15 units.

PSYC 285. Proseminar on Current Research in Social/Personality Psychology (1) Seminar, 1 hour; written work, 4 hours per quarter; extra reading, 1-3 hours. Prerequisite(s): graduate standing or consent of instructor. Presentations by students, departmental faculty, and visiting scholars describing current research in social/personality psychology. Graded Satisfactory (S) or No Credit (NC). Course is repeatable to a maximum of 15 units.

PSYC 287. Colloquium in Neuroscience (1)

Colloquium, 1 hour. Prerequisite(s): graduate standing or consent of instructor. Involves oral presentations on current research topics in neuroscience by visiting scholars, faculty, and students. Graded Satisfactory (S) or No Credit (NC). Course is repeatable. Cross-listed with NRSC 287.

PSYC 289. Special Topics in Neuroscience (2)

Seminar, 2 hours. Prerequisite(s): graduate standing or consent of instructor. An interdisciplinary seminar consisting of student presentations and discussion of selected topics in neuroscience. Content and instructor(s) vary each time course is offered. Students who present a seminar receive a letter grade; other students receive a Satisfactory (S) or No Credit (NC) grade. Course is repeatable. Cross-listed with BCH 289, BIOL 289, CHEM 289, ENTM 289, and NRSC 289.

PSYC 290. Directed Studies (1-6) Prerequisite(s): consent of instructor. Graded Satisfactory (S) or No Credit (NC). Course is repeatable.

PSYC 291. Individual Study in Coordinated Areas (1-6)

Outside research, 3-18 hours. Prerequisite(s): graduate standing. A program of study designed to advise and assist candidates who are preparing for doctoral examinations. Graded Satisfactory (S) or No Credit (NC). May be repeated to a total of 18 units; units do not count toward the Master's Degree.

PSYC 292. Concurrent Analytical Studies (1-4) Outside research, 2-8 hours. Prerequisite(s): consent of instructor. Each 292 course will be taken concurrently with some 100-series course, but on an individual basis. It will be devoted to specific additional projects related to the 100-series course. Faculty guidance and evaluation will be provided through the quarter. Graded Satisfactory (S) or No Credit (NC). May be repeated for credit.

PSYC 296. Research Tutorial (3) scheduled research, 3 hours; outside research, 3 hours; reading (extra), 3 hours; extra writing, 3 hours. Prerequisite(s): graduate standing in Psychology or consent of instructor. Research performed under the supervision of a faculty advisor. Course is repeatable to a maximum of 18 units.

PSYC 297. Directed Research (1-6) Prerequisite(s): consent of instructor. Minor research studies or exploratory work toward the development of the dissertation problem. Graded Satisfactory (S) or No Credit (NC). Course is repeatable.

PSYC 299. Research for Thesis or Dissertation (1-12) Prerequisite(s): consent of instructor and department. Graded Satisfactory (S) or No Credit (NC). Course is repeatable.

Professional Courses

PSYC 301. Teaching Psychology at the College Level (2)

Seminar, 1 hour; practicum, 3 hours. Prerequisite(s): admission to graduate standing in Psychology. Teaching Assistant Development Program offered by the Teaching Assistant Development Office of the Graduate Division. Required prior to or concurrent with the student's first teaching assistant appointment. May be waived by petition based on previous experience. Graded Satisfactory (S) or No Credit (NC). Course is repeatable.

PSYC 309. Professional Development and Research Ethics (3)

Seminar, 3 hours. Prerequisite(s): graduate standing in Psychology. Designed for advanced graduate students planning a teaching and/or research career in psychology. Covers teaching; conducting

research and research ethics; professional ethics; interviewing, writing, and oral presentation skills; the academic job market and the job application process; and nonacademic careers. Graded Satisfactory (S) or No Credit (NC).

Public Policy

Subject abbreviation: PBPL
College of Humanities, Arts, and Social Sciences

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Committee in Charge

Amalia Cabezas, Ph.D. (Women's Studies)
Christopher Chase-Dunn, Ph.D. (Sociology)
John Cioffi, Ph.D. (Political Science)
Keith C. Knapp, Ph.D. (Environmental Sciences)
Mindy Marks, Ph.D. (Economics)
Toby Miller, Ph.D. (English/Sociology/
Women's Studies)
Kathleen Montgomery, Ph.D. (Management and Marketing)
Kathick Ramakrishnan, Ph.D. (Political Science)
Robert K. Ream, Ph.D. (Education)
Ellen Reese, Ph.D. (Sociology)
Dylan Rodriguez, Ph.D. (Ethnic Studies)
Georgia Warnke, Ph.D. (Philosophy)
Stephen E. Cullenberg, Ph.D.

Dean, College of Humanities, Arts, and Social Sciences, ex officio

Major

Public policy analysis is the use of decision-making theory and evidence-based methods to the study of substantive public policy problems. The objective of public policy analysis is to improve the quality of public policy-making by critically examining the design and relevance of public policies, their implementation and execution, and their impact on households, communities, and the society at large. By its very nature, policy analysis is multidisciplinary. For instance, policies to address health problems in society must draw on developments in philosophy, economics, political science, medicine, and ethics (among other disciplines).

University Requirements

See Undergraduate Studies section.

College Requirements

See College of Humanities, Arts, and Social Sciences, Colleges and Programs section.

Major Requirements

The program offers the B.A. degree in Public Policy.

- Lower-division requirements (six courses [at least 24 units])
 - PBPL 001
 - POSC 010 or POSC 015
 - ECON 003

d) PHIL 002 or PHIL 003

e) HIST 017B or HIST 020

f) One course chosen from ECON 005, PSYC 011, SOC 005, STAT 040

- Upper-division requirements (10 courses chosen from two tracks, with no more than seven courses from one track.

Track 1: Health and Population Policy

ANTH 147/WMST 140, ANTH 160, ECON 129, ECON 156, ECON 183, ENSC 141/SWSC 141/MCBL 141, ETST 116/HISA 147, POSC 180, PSYC 178, PSYC 179, SOC 137, WMST 140/ANTH 147

Track 2: Social, Cultural, and Family Policy

ANTH 109/WMST 109, ANTH 148/WMST 150, ECON 122E, ECON 155/WMST 155, ECON 159, EDUC 114, EDUC 132/POSC 132, ETST 126, ETST 139, ETST 146/EDUC 146, ETST 156, MCS 133/SOC 138, MCS 139/SOC 139, MCS 171/SPN 171, PHIL 168/WMST 141, PHIL 108/WMST 108, POSC 146, PSYC 165, PSYC 167/ETST 167, PSYC 168/ETST 168, SOC 120, SOC 122, SOC 130, SOC 138/MCS 133, SOC 139/MCS 139, SOC 143/URST 143, SOC 144, SOC 160, SOC 161, SOC 183P, WMST 109/ANTH 109, WMST 150/ANTH 148, WMST 155/ECON 155, WMST 164/ANTH 164

Track 3: Economic Policy

ECON 132, ECON 135, ECON 117/PHIL 119, ECON 118, ECON 152/BUS 152, ECON 153/BUS 153, ECON 160/BUS 160, ETST 109F, PHIL 116, POSC 164, POSC 182, POSC 186

Track 4: Urban/Environmental Policy

ECON 121F, ECON 143A/ENSC 143A, ECON 143B/ENSC 143B, ECON 146/URST 146, ENSC 101, ENSC 141, ENSC 143C/ECON 143C, LWSO 175J, PHIL 117, POSC 127, POSC 172/URST 172, SOC 182/URST 182, SOC 184

Track 5: Policy Institutions and Processes

ECON 116, ECON 119, ANTH 104, HIST 111, HISA 120B, LWSO 100, LWSO 193, PHIL 165, POSC 101, POSC 146, POSC 150, POSC 167, POSC 168, POSC 170, POSC 173, POSC 186, PSYC 175, RLST 174, RLST 175, SOC 150, SOC 151, SOC 159

Track 6: International and Foreign Policy

ECON 187/LNST 187, POSC 120, POSC 125, POSC 126, POSC 127, POSC 129, POSC 154, POSC 158/LNST 148, POSC 159, POSC 160, POSC 162/LNST 142, POSC 169, RLST 173/POSC 109, SOC 135, SOC 181