

Psychology

PROFESSORS

Thomas D. Albright, Ph.D., *Adjunct*
Norman H. Anderson, Ph.D., *Emeritus*
Stuart M. Anstis, Ph.D.
Mark I. Appelbaum, Ph.D.
Richard C. Atkinson, Ph.D., *Emeritus*
Ursula Bellugi, Ph.D., *Adjunct*
Sandra A. Brown, Ph.D.
Nicholas Christenfeld, Ph.D.
Michael Cole, Ph.D.
Diana Deutsch, Ph.D., *Emerita*
J. Anthony Deutsch, D. Phil, *Emeritus*
Karen R. Dobkins, Ph.D.
Ebbe B. Ebbesen, Ph.D., *Emeritus*
Karen Emmorey, Ph.D., *Adjunct*
Edmund J. Fantino, Ph.D.
Michael R. Gorman, Ph.D.
Gail D. Heyman, Ph.D.
Vladimir J. Konecni, Ph.D.
George F. Koob, Ph.D., *Adjunct*
James A. Kulik, Ph.D.
Stephen Link, Ph.D., *Adjunct*
Donald I. A. MacLeod, Ph.D.
George Mandler, Ph.D., *Emeritus*
Craig R.M. McKenzie, Ph.D.
Don Norman, Ph.D., *Emeritus*
Harold E. Pashler, Ph.D.
John M. Polich, Ph.D., *Adjunct*
Vilayanur S. Ramachandran, Ph.D., M.B.B.S.
Keith Rayner, Ph.D.
Timothy C. Rickard, Ph.D.
Pamela A. Sample, Ph.D., *Adjunct*
Laura E. Schreibman, Ph.D.
Larry R. Squire, Ph.D.
Ben A. Williams, Ph.D., *Emeritus*
Piotr Winkielman, Ph.D.
John T. Wixted, Ph.D., *Chair*

ASSOCIATE PROFESSORS

Leslie J. Carver, Ph.D.
Victor S. Ferreira, Ph.D.
Christine R. Harris, Ph.D.

ASSISTANT PROFESSORS

Stephan Anagnostaras, Ph.D.
Adam R. Aron, Ph.D.
David A. Barner, Ph.D.
Timothy Q. Gentner, Ph.D.
David Huber, Ph.D.
David Liu, Ph.D.
Cory Miller, Ph.D.
John Serences, Ph.D.
Ed Vul, Ph.D.

STUDENT SERVICES OFFICE: 1533 Mandler Hall
<http://psychology.ucsd.edu>

THE UNDERGRADUATE PROGRAM

MAJOR PROGRAMS

The department offers three degree programs: bachelor of arts (B.A.), bachelor of science (B.S.), and the contiguous bachelor of science (B.S.)/master of arts (M.A.). We offer courses in all major areas of experimental psychology, with emphasis in behavior analysis, clinical psychology, cognitive psychology and cognitive neuropsychology, developmental psychology, human information processing, neuroscience and behavior, psychopathology, sensation and perception, and social psychology. The department emphasizes research in the experimental and theoretical analysis of human and animal behavior, and the study of the mind. Students who major in psychology can expect to develop a knowledge of a broad range of content areas, as well as basic skills in experimental and analytic procedures. Once a student has decided upon a major in psychology, he or she is highly encouraged to consult with the Psychology Student Affairs Office.

Majors must have departmental approval for electives taken outside the department. Of the required courses in the area of specialization (three regular upper-division courses and two research experiences), no more than two may be taken outside the department. We recommend consulting the department before enrolling in courses offered by other departments.

PREREQUISITES FOR THE B.A.

Experimental psychology uses the tools and knowledge of science: calculus, probability theory, computer science, chemistry, biology, physics, and statistics. Accordingly, students in upper-division courses must have an adequate background in these topics. Prerequisites for individual courses are specified in the catalog.

The prerequisites for the bachelor of arts degree in psychology are as follows:

1. Three lower-division, general-introductory natural science courses from the listing of the approved UC San Diego courses below or their equivalent. (The three courses can be distributed in any manner.)
 - Biology: 1, 2, 3, 10, 20, 24, 26
 - Chemistry: 4, 6A, 6B, 6C, 11, 12, 13
 - Physics: Any of the 1 and 2 series, 10, 11
2. Three formal skills courses, at least one of which must be calculus. The other two courses may consist of any combination of courses in calculus or logic. Acceptable calculus courses at UC San Diego include Mathematics 10A-B-C, 20A-B-C. Acceptable logic courses at UCSD include Philosophy 10 and 12.
3. One introduction to computer programming course. Acceptable courses at UCSD are CSE 3, CSE 5A, CSE 5B, CSE 8A, CSE 8B, CSE 11, CSE 12, MAE 5, MAE 9, MAE 10, or CogSci 18. Other courses will be considered by petition only if they are primarily concerned with programming in a high-level computer language.

All courses listed under 1–3 may be taken Pass/Not Pass.

4. One quarter of statistics. Acceptable courses at UCSD are Psychology 60, Economics 120A, Sociology 60, Mathematics 11, 181, or 183, BIEB 100, Cognitive Science 14, or equivalent. Statistics **MUST** be taken for a letter grade.

Students should complete these lower-division requirements by the end of the sophomore year.

MAJOR REQUIREMENTS FOR THE B.A.

A minimum of twelve upper-division courses in psychology is required. Five must be taken from the core courses (Psychology 101–106), and at least seven from the upper-division elective courses. A minimum of six upper-division psychology courses must be taken at UCSD. These courses must be taken for a letter grade; courses taken as Pass/Not Pass prior to declaring psychology as a major cannot be used to satisfy the major requirement. Excluded from credit toward the major are Psychology 199 (Special Studies); however, Psychology 195 (Undergraduate Instructional Apprentice) can be credited once. Majors must obtain departmental approval for electives taken outside the department. A grade-point average of at least 2.0 in the upper-division courses of the major is required for graduation.

PREREQUISITES FOR THE B.S.

In general, the lower-division courses required for the B.S. degree in psychology overlap with the B.A. major. However, to fulfill the formal skills, we require the mathematics sequence 20A-B-C.

MAJOR REQUIREMENTS FOR THE B.S.

A minimum of twelve upper-division courses is required. Five of these courses must come from the core courses (Psychology 101–106). The seven elective courses may be chosen from any of the upper-division courses listed for the psychology program at UCSD. B.S. students must choose an area of concentration (behavior analysis, clinical psychology, cognitive psychology, and cognitive neuropsychology, developmental psychology, neuroscience and behavior, sensation and perception, or social psychology), and three courses of the seven electives must be in the chosen area of concentration.

In addition to the twelve upper-division courses, all B.S. degree students must complete course(s) to fulfill the research experience requirement. Research experience courses may comprise either one laboratory course or two Psychology 199 courses (Independent Study). If two Psychology 199 courses are taken to fulfill this requirement, they must be directed by the faculty within the chosen area of concentration and culminate in a research paper approved by the advisor and submitted to the Psychology Student Affairs Office no later than the graduating quarter. The 199 sequence should be taken with the same faculty member.

UPPER-DIVISION COURSE REQUIREMENTS FOR THE B.S.

Core Courses, of which five have to be taken for any area of concentration:

- PSYC 101. Intro to Developmental Psychology
- PSYC 102. Intro to Sensation and Perception
- PSYC 103. Intro to Principles of Behavior
- PSYC 104. Intro to Social Psychology
- PSYC 105. Intro to Cognitive Psychology

PSYC 106. Intro to Physiological Psychology

Areas of concentration and their associated courses are listed in alphabetical order below.

(Subject to change—for additional qualifying courses, see the department's Student Affairs Office, 1533 Mandler Hall).

Concentration in Behavior Analysis

Behavior analysis is based on the principles of Pavlovian and operant conditioning, and other aspects of contemporary associative learning theory. It also includes the application of reinforcement principles and other behavior modification techniques in applied settings (applied behavior analysis).

Courses

- PSYC 109. Lab/Applied Behavior Analysis
- PSYC 120. Learning and Motivation*
- PSYC 121. Lab/Operant Psychology*
- *to be taken concurrently with PSYC 120
- PSYC 132. Hormones and Behavior
- PSYC 134. Eating Disorders
- PSYC 135. Evolutionary Principles/Animal Social Behavior
- PSYC 140. Lab/Human Behavior*
- *to be taken concurrently with PSYC 120
- PSYC 143. Control and Analysis of Human Behavior
- PSYC 154. Behavior Modification
- PSYC 168. Psychological Disorders of Childhood
- PSYC 171. Neurobiology Learning and Memory
- PSYC 184. Choice and Self Control
- PSYC 188. Impulse Control Disorders
- PSYC 199. Independent Study courses in this field must culminate in a research paper to fulfill lab requirement (but do not count as upper-division psychology courses towards the major).

Concentration in Neuroscience and Behavior

This area studies how the nervous system mediates behavioral effects in the realms of motivation, perception, learning and memory, and attention. It also includes human neurophysiology and aphasia.

Courses

- PSYC 107. Lab/Substance Abuse Research
- PSYC 114. Lab/Psychophysiological Perspectives on the Social Mind
- PSYC 125. Clinical Neuropsychology and Assessment
- PSYC 129. Logic of Perception
- PSYC 132. Hormones and Behavior
- PSYC 133. Circadian Rhythms—Biological Clocks
- PSYC 134. Eating Disorders
- PSYC 135. Evolutionary Principles/Animal Social Behavior
- PSYC 150. Cognitive Neuroscience of Vision
- PSYC 159. Physiological Basis of Perception
- PSYC 169. Brain Damage and Mental Function
- PSYC 170. Introduction to Cognitive Neuropsychology
- PSYC 171. Neurobiology Learning and Memory
- PSYC 179. Drugs, Addiction, and Mental Disorders
- PSYC 181. Drugs and Behavior
- PSYC 188. Impulse Control Disorders
- PSYC 189. Brain, Behavior, and Evolution
- PSYC 190. Parenting

PSYC 199. Independent Study courses in this field must culminate in a research paper to fulfill lab requirement (but do not count as upper-division psychology courses towards the major).

Concentration in Clinical Psychology

This area studies psychological and physiological causes of and treatments for mental illness in children and adults.

Courses

- PSYC 107. Lab/Substance Abuse Research
- PSYC 109. Lab/Applied Behavior Analysis
- PSYC 124. Intro to Clinical Psychology
- PSYC 125. Clinical Neuropsychology and Assessment
- PSYC 132. Hormones and Behavior
- PSYC 133. Circadian Rhythms—Biological Clocks
- PSYC 134. Eating Disorders
- PSYC 151. Test and Measurement
- PSYC 154. Behavior Modification
- PSYC 155. Social Psychology and Medicine
- PSYC 163. Abnormal Psychology
- PSYC 168. Psychological Disorders in Children
- PSYC 172. Human Sexuality
- PSYC 184. Choice and Self-Control
- PSYC 188. Impulse Control Disorders
- PSYC 190. Parenting
- PSYC 199. Independent Study courses in this field must culminate in a research paper to fulfill lab requirement (but do not count as upper-division psychology courses towards the major).

Concentration in Cognitive Psychology and Cognitive Neuropsychology

1. The cognitive area studies reasoning, thinking, language, judgment, and decision-making in adults and children (including attention, memory, and visual and auditory information processing).
2. The cognitive neuropsychology area studies cognitive processes and their implementation in the brain. Cognitive neuroscientists use methods drawn from brain damage, neuropsychology, cognitive psychology, functional neuroimaging, and computer modeling.

Courses

- PSYC 108. Introduction to Cognitive Neuroscience
- PSYC 114. Lab/Psychophysiological Perspectives on the Social Mind
- PSYC 115. Lab/Cognitive Psychology
- PSYC 118. Lab 118A-B/Language Processing
- PSYC 119. Lab/Psycholinguistics
- PSYC 128. Psychology of Reading
- PSYC 129. Logic of Perception
- PSYC 137. Social Cognition
- PSYC 141. Evolution and Human Nature
- PSYC 142. Psychology of Consciousness
- PSYC 144. Memory and Amnesia
- PSYC 145. Psychology of Language
- PSYC 146. Language and Conceptual Development
- PSYC 148. Psychology of Judgment and Decision
- PSYC 150. Cognitive Neuroscience of Vision
- PSYC 152. Concepts of Intelligence
- PSYC 156. Cognitive Development in Infancy
- PSYC 161. Introduction to Engineering Psychology

PSYC 170. Introduction to Cognitive Neuropsychology

- PSYC 171. Neurobiology Learning and Memory
- PSYC 187. Development of Social Cognition
- PSYC 191. Psychology of Sleep
- PSYC 199. Independent Study courses in this field must culminate in a research paper to fulfill lab requirement (but do not count as upper-division psychology courses towards the major).

Concentration in Developmental Psychology

This area studies all aspects of human development with emphasis on social and personality development, perceptual development, and language acquisition. Also includes the study of developmental psychopathology.

Courses

- PSYC 109. Lab/Applied Behavior Analysis
 - PSYC 114. Lab/Psychophysiological Perspectives on the Social Mind
 - PSYC 133. Circadian Rhythms—Biological Clocks
 - PSYC 135. Evolutionary Principles/Animal Social Behavior
 - PSYC 136. Cognitive Development
 - PSYC 141. Evolution and Human Nature
 - PSYC 145. Psychology of Language
 - PSYC 152. Concepts of Intelligence
 - PSYC 156. Cognitive Development in Infancy
 - PSYC 158. Interpersonal Relationships
 - PSYC 168. Psychological Disorder of Childhood
 - PSYC 172. Human Sexuality
 - PSYC 180. Adolescence
 - PSYC 185. Applied Developmental Psychology
 - PSYC 187. The Development of Social Cognition
 - PSYC 190. Parenting
 - PSYC 199. Independent Study courses in this field must culminate in a research paper to fulfill lab requirement (but do not count as upper-division psychology courses towards the major).
- (For additional qualifying courses, see the department's Student Affairs Office, 1533 Mandler Hall.)

Concentration in Sensation and Perception

This area studies how our sense organs and brain make it possible for us to construct our consciously experienced representation of the environment. Experiments using stimuli and computer control are used to test models of sensory or perceptual processes. Processes of particular interest include color vision, motion perception, and auditory illusions and paradox.

Courses

- PSYC 125. Clinical Neuropsychology and Assessment
- PSYC 128. Psychology of Reading
- PSYC 129. Logic of Perception
- PSYC 138. Sound and Music Perception
- PSYC 150. Cognitive Neuroscience of Vision
- PSYC 159. Physiological Basis of Perception
- PSYC 169. Brain Damage and Mental Functions
- PSYC 182. Allusions and the Brain

PSYC 199. Independent Study courses in this field must culminate in a research paper to fulfill lab requirement (but do not count as upper-division psychology courses towards the major).

Concentration in Social Psychology

This area studies human behavior in social situations, with specialization in such topics as emotion, aggression, social cognition, and aesthetics. It also encompasses applied social psychology, including psychology and the law and behavioral medicine.

Courses

PSYC 114. Lab/Psychophysiological Perspectives on the Social Mind

PSYC 127. Applied Social Psychology

PSYC 130. Delay of Gratification

PSYC 135. Evolutionary Principles/Animal Social Behavior

PSYC 137. Social Cognition

PSYC 139. Social Psychology of Sports

PSYC 141. Evolution and Human Nature

PSYC 149. Social Psychology of Theater

PSYC 152. Concepts of Intelligence

PSYC 153. Psychology of Emotion

PSYC 155. Social Psychology and Medicine

PSYC 157. Happiness

PSYC 158. Interpersonal Relationships

PSYC 160. Groups

PSYC 162. Psychology and the Law

PSYC 172. Human Sexuality

PSYC 175. Psychology and the Arts

PSYC 178. Industrial Organization Psychology

PSYC 186. Psychology and Social Policy

PSYC 187. Development of Social Cognition

PSYC 190. Parenting

PSYC 199. Independent Study courses in this field must culminate in a research paper to fulfill lab requirement (but do not count as upper-division psychology courses towards the major).

HONORS PROGRAM

Students are encouraged to participate in the department's honors program. It is strongly recommended for all students interested in graduate school. A minimum overall GPA of 3.3 (3.5 for transfer students, based on transfer GPA) is a prerequisite.

Admission is granted by application in the fall quarter of the junior year (Deadline: October 31). This program is composed of the following courses.

1. Junior Year

Winter:

- Junior Honors Research Seminar (PSYC 110)
- Advanced Statistics and Research Methods (PSYC 111A)

Spring:

- Advanced Statistics and Research Methods (PSYC 111B)

2. Senior Year: A year-long independent research project (PSYC 194-A-B-C) under the sponsorship of a faculty advisor. This research culminates in an honors thesis.

3. At least one laboratory course (Psychology 107, 109, 114, 115, 118A, 118B, 119, 120/121, 120/140, 127) or, upon petitioning, two Psychology 199 Independent Study courses culminating in a research paper accepted by the advisor (199s,

however, do not count as upper-division credit toward the major).

Successful completion of the Honors Program requires a grade of A- in the Psychology 194 series and a minimum GPA of 3.5 in the upper-division courses taken for the major.

MINOR PROGRAM

The minor in psychology consists of seven four-unit courses from the Department of Psychology course offerings, of which at least twenty units (five four-unit courses) must be upper-division. At least four upper-division courses must be taken at UCSD for a letter grade. PSYC 199 (Independent Study) may count for one upper-division course towards the minor.

If Psychology 60 (Statistics) is chosen as one of the lower-division courses, it, too, has to be taken for a letter grade. The application for a minor can be obtained from your college. A grade-point average of at least 2.0 is required for graduation.

EDUCATION ABROAD

Students are often able to participate in the UC Education Abroad Program (EAP) and UCSD's Opportunities Abroad Program (OAP) while still making progress toward the major. Students considering this option should discuss their plans with the Psychology Student Affairs Office before going abroad, and courses taken abroad must be approved by the department. Students may only receive credit for up to two core courses (PSYC 101-106) from their courses taken abroad. Information on EAP/OAP is detailed in the Education Abroad Program of the UC San Diego General Catalog. Interested students should contact the Program Abroad Office in the International Center.

TRANSFER CREDIT

In general, all introductory courses in experimental psychology are accepted for lower-division credit toward a psychology minor. Lower-division courses covering special topics in psychology (e.g., personal adjustment, human sexuality) will be accepted only if: 1) the student had a general introductory course as a prerequisite, and 2) the student had satisfied this prerequisite before taking the special topics course. Upper-division psychology courses will be evaluated for transfer credit on a course by course basis.

THE GRADUATE PROGRAM

The Department of Psychology provides broad training in experimental psychology. Increased specialization and the general burgeoning of knowledge make it impossible to provide training in depth in every aspect of experimental psychology, but most aspects are represented in departmental research.

PREPARATION

Apart from the general university requirements, the department generally expects adequate undergraduate preparation in psychology. A major in the subject, or at least a strong minor, is normally a prerequisite, but applicants with good backgrounds in such fields as biology and mathematics are also acceptable.

LANGUAGE REQUIREMENTS

There is no foreign language requirement.

GRADUATE CURRICULUM

Students must fulfill all course requirements (stated below) while registered as graduate students in psychology at UC San Diego. There may occasionally be exceptions granted to this rule. Requests for exception should be in the form of petitions from students and their advisors to the Committee on Graduate Affairs. It is in the best interest of the student if these petitions are forthcoming at the time of admission to the graduate program. In this way, the committee, the students, and their advisors will all be aware of the course requirements before any of them are taken.

PROGRAM OF STUDY

Courses are divided into six areas: *behavior analysis* (including basic and applied), *neuroscience and behavior* (including neuropsychology and neurophysiology), *cognitive* (including attention, language, and perception), *developmental* (including language acquisition), *sensation and perception* (including vision and audition), and *social* (including health and law). The Graduate Affairs Committee provides an approved list of courses from these areas. In the first year of study, each student must fulfill the following four requirements:

1. Each student must fulfill a quantitative methods requirement, either by taking two quantitative methods courses approved by the Graduate Affairs Committee (currently 201A and 201B), or by showing a satisfactory knowledge of these courses through an examination.
2. In addition to the quantitative methods requirement, each student is expected to take four proseminars and four approved courses from the list prepared by the Graduate Affairs Committee. All course work must be completed by the end of the third year.
3. Each first-year graduate student is required to submit a research paper on the research project (Psychology 270ABC). The paper should be comparable in style, length, and quality to papers published in the normal, refereed journals of the student's research area. (The publication manual of the American Psychological Association, fourth edition, 1995, gives an acceptable format.)

The research paper will be read and evaluated by the student's research advisor and by at least two other readers appointed by the graduate advisor.

The research paper is presented orally at a research meeting held at the end of the spring quarter. Attendance at this meeting is a requirement for the department's graduate students and faculty. Typically, each student is allowed ten minutes to present the paper, with a five-minute question period following the presentation.

4. A teaching requirement must be met. (See below.)

All students are evaluated by the entire faculty at the end of the academic year. The normal

minimum standards for allowing a student to continue beyond the first year are

- a. Satisfactory completion of the first-year research project (including oral presentation)
- b. At least a B average in the courses which fulfill the area requirements
- c. Having a faculty advisor in the Department of Psychology

Any student whose needs cannot be reasonably met with courses conforming to these guidelines may petition the Graduate Affairs Committee. The petition should contain a specific list of courses and a statement of justification and must be approved by the student's advisor.

ADVANCING TO CANDIDACY

In order to advance to Ph.D. candidacy a student must

1. Complete all first-year requirements
2. Complete an additional four elective courses from the list prepared by the Graduate Affairs Committee
3. Complete the qualifying examination for the Ph.D.

The qualifying examination is divided into two sections to be taken separately by all students. Part I of the qualifying exam consists of a paper written by the student that is modeled after those published in *Psychological Bulletin* or *Psychological Review*. Ideally, the paper would consist of a detailed review and theoretical synthesis of a coherent body of research. The paper should demonstrate independent and original thinking on the part of the student, and should either take a theoretical stance or recommend experiments designed to resolve theoretical ambiguities (i.e., the paper should not merely review published research).

Students form a qualifying committee in much the same way that they form a dissertation committee. The same rules apply, except that members from outside the department need not be included (although up to two may be). Once the committee is formed, the student should prepare a brief (e.g., three pages) proposal defining the area of research and the theoretical issues that will be addressed in the paper. A proposal meeting is then arranged (usually in spring quarter of the student's second year), and committee members may at that time recommend changes in the scope of the paper and define their expectations.

The paper does not have a prescribed length, although low-end and high-end limits of thirty and fifty pages, respectively, seem reasonable. An oral defense of the paper is required (and should be completed by the end of the student's third year).

Part II of the qualifying examination is the defense of the dissertation proposal. This will normally follow *Part I* of the qualifying examination and will be an oral examination including outside examiners.

TEACHING

In order to acquire adequate teaching experience, all students are required to participate in the teaching activities of the department for at least four years (one quarter for the first year and two quarters the second through the fourth year).

RESIDENCY

Each student must complete the requirements for qualification for candidacy for the Ph.D. degree by the end of the third year of residence. Any student failing to qualify by this time will be placed on probation. A student who fails to qualify by the end of the spring quarter of the fourth year of residence will automatically be terminated from the department.

No students may allow more than eight calendar years to elapse between starting the graduate program and completing the requirements for the Ph.D. Degree students will automatically be terminated from the program at the end of the spring quarter of their eighth calendar year in the department.

RESEARCH

In each year of graduate study, students enroll in a research practicum (Psychology 270 in the first year; Psychology 296 or 299 in subsequent years). Students are assigned to current research projects in the department and receive the personal supervision of a member of the staff.

DEPARTMENTAL PH.D. TIME LIMIT POLICIES

Students must be advanced to candidacy by the end of four years. Total university support cannot exceed eight years. Total registered time at UCSD cannot exceed eight years.

SPECIALIZATION IN ANTHROPOGENY

This is a transdisciplinary graduate specialization in anthropogeny with the aim of providing graduate students the opportunity to specialize in research and education on explaining the origins of the human phenomenon. The aim is to rectify the absence of existing training programs that provide such a broad and explicitly transdisciplinary approach—spanning the social and natural sciences—and focusing on one of the oldest questions known to humankind, namely, the origins of humans and humanity. This specialization is not a stand-alone program, but aims at providing graduate students who have just embarked on their graduate careers with the opportunity to interact and communicate with peers in radically different disciplines throughout the duration of their Ph.D. projects. Such communication across disciplines from the outset is key to fostering a capacity for interdisciplinary "language" skills and conceptual flexibility

ADMISSION TO THE SPECIALIZATION

The psychology graduate program will advertise the specialization to those students in our programs who have an interest in human origins. Qualifying applicants will have the opportunity to enroll for the specialization.

SPECIALIZATION REQUIREMENTS

Students pursuing this specialization will be required to take a series of courses in addition to research rounds over four years of study. It is advised that students begin their course work in their second year.

- Course work: Introduction to Anthropogeny (BIOM 225) and Advanced Anthropogeny (BIOM

229) are each taken once, in the winter and spring of the students' second year. Current Topics in Anthropogeny (BIOM 218) is to be taken every quarter for four years.

- Research Rounds: Monthly seminars during which all participating students talk about their respective research.

QUALIFYING EXAMINATION

Psychology students in the anthropogeny specialization must meet the departmental requirement for advancement to candidacy, including the qualifying paper and dissertation proposal. In addition, students must meet internal deadlines, mentoring provisions, and proposal standards of the anthropogeny specialization track.

DISSERTATION

Ph.D. students must complete a dissertation, which meets all requirements of the home program. In addition, it is expected that the Ph.D. dissertation is broadly related to human origins and will be interdisciplinary in nature.

TIME LIMITS

It is expected that students will retain the same time to degree as students not pursuing this specialization. Additional course load consists only of two regular courses (two quarters twenty lectures each). The third proposed course takes place only three times a year from Friday noon to Saturday evening.

MAJOR REQUIREMENTS FOR THE CONTIGUOUS B.S./M.A.

A contiguous program leading to a bachelor of science degree and a master of arts degree in psychology is offered to those undergraduate students who are enrolled in the bachelor of science major offered in the Department of Psychology at UC San Diego. Qualified students are able to obtain the M.A. degree within one year following receipt of the B.S. degree. Students interested in applying to this program must consult with the B.S./M.A. advisor in the Psychology Student Affairs Office fall quarter of their junior year.

The program is open only to UCSD undergraduates. The Department of Psychology does not have financial aid available for students enrolled in this program.

ELIGIBILITY AND ENROLLMENT

To be eligible, students must have completed the first two quarters of their junior year in residence at UCSD and must have an overall UCSD GPA of at least 3.0 and students' major GPA should be at least 3.3. It is the responsibility of the prospective student to select a faculty member who would be willing to serve as the student's advisor and in whose laboratory the student would complete at least twenty-four units of research over a two-year period. Twelve of the twenty-four units of research Psychology (194A-B-C or 196A-B-C) must be completed during the student's senior undergraduate year and must be taken *in addition* to the requirements for the bachelor of science degree. The remaining twelve units of research will be taken in their year of graduate study as part of their M.A.

There are two applications:

1. In fall quarter of the junior year, students apply to the contiguous B.S./M.A. track if they fulfill the above requirements.
2. In the spring quarter of their senior year, students apply to the M.A. program.

REQUIREMENTS FOR THE M.A.

For an M.A. in psychology, students must pick a concentration in one of six areas: Behavioral, Cognitive, Developmental, Neuroscience and Behavior, Sensation and Perception, and Social.

Students who have been approved (by both the Department of Psychology and UCSD Office of Graduate Studies) for the program must enroll in their graduate year in

- PSYC 201A-B. Quantitative Methods
- PSYC 270A-B-C. Introduction to Laboratory Experimentation
- Four psychology seminars, two of which are in their area of concentration. In addition, three of the four seminars must be pro-seminars, which include
- PSYC 217. Developmental Psychology
- PSYC 218. Cognitive Psychology
- PSYC 219. Behavioral Psychology
- PSYC 220. Social Psychology
- PSYC 221. Sensation and Perception
- PSYC 222. Behavioral Psychology
- One PSYC 500. Teaching Instruction

This amounts to forty units of graduate work.

All course work is to be approved by the advisors (forms available from the Psychology Student Affairs Office). Students are expected to meet the graduate requirements for the M.A. in *one year* (three consecutive, contiguous, academic quarters, beginning in the fall after graduation). Any deviation from this plan, such as a break in enrollment for one or more quarters, will cause the student to be dropped from the program.

All forms required for the program must be submitted and approved by the Psychology Student Affairs Office, including the Application for Candidacy. Students must pay fees and be officially enrolled at UCSD during the quarter that the master's degree is to be awarded. The thesis draft should be submitted to the Office of Graduate Studies for review before the final copy is officially submitted.

See the [Psychology Student Affairs Office](#) for further details.

COURSES

For course descriptions not found in the UC San Diego General Catalog, 2010–11, please contact the department for more information.

LOWER-DIVISION

EXPERIMENTAL REQUIREMENTS

Psychology at UCSD is a laboratory science. We are concerned with the scientific development of knowledge about human and animal behavior and thought. Accordingly, experience with experimental procedures plays an important role in the undergraduate and graduate training of students.

1. Psychology (4)

A comprehensive series of lectures covering the basic concepts of modern psychology in the areas of human information processing, learning and memory, motivation, developmental processes, language acquisition, social psychology, and personality.

2. General Psychology: Biological Foundations (4)

A survey of physiological and psychological mechanisms underlying selected areas of human behavior. Emphasis will be upon sensory processes, especially vision, with emphasis also given to the neuropsychology of motivation, memory, and attention.

3. General Psychology: Cognitive Foundations (4)

This course is an introduction to the basic concepts of cognitive psychology. The course surveys areas such as perception, attention, memory, language, and thought. The relation of cognitive psychology to cognitive science and to neuropsychology is also covered.

4. General Psychology: Behavioral Foundations (4)

This course will provide a basic introduction to behavioral psychology, covering such topics as classical conditioning, operant conditioning, animal learning and motivation, and behavior modification.

6. General Psychology: Social Foundations (4)

This course will provide a basic introduction to social psychology, covering such topics as emotion, aesthetics, behavioral medicine, person perception, attitudes and attitude change, and behavior in social organizations.

7. General Psychology: Developmental Foundations (4)

This course is an introduction to cognitive and social changes that take place over the course of a lifetime. This course introduces influential theories of child development, such as those of Freud or Piaget, together with recent criticisms of these theories.

60. Introduction to Statistics (4)

Introduction to the experimental method in psychology and to mathematical techniques necessary for experimental research. **Prerequisite:** one year mathematics or consent of instructor.

87. Freshmen Seminar (1)

The Freshman Seminar Program is designed to provide new students with the opportunity to explore an intellectual topic with a faculty member in a small seminar setting. Freshman seminars are offered in all campus departments and undergraduate colleges, and topics vary from quarter to quarter. Enrollment is limited to fifteen to twenty students, with preference given to entering freshmen. **Prerequisite:** none.

90. Undergraduate Seminar (1)

This seminar introduces the various subdisciplines in psychology and their research methods, and also explores career and graduate school opportunities. This includes informal presentations by faculty, graduate students, and other professionals.

99. Independent Study (2,4)

Independent study or research under direction of a member of the faculty. **Prerequisites:** lower-division standing, completion of at least thirty units of undergraduate study at UCSD with a minimum UCSD GPA of 3.0; completed and approved Special Studies form.

UPPER-DIVISION

101. Introduction to Developmental Psychology (4)

A lecture course on a variety of topics in the development of the child, including the development of perception, cognition, language, and sex differences. **Prerequisite:** upper-division standing; Psychology 60 or BIEB 100 or COGS 14 or Econ. 120A or Math. 11 or Math. 181A or Math. 183 or Soc/L 60.

102. Introduction to Sensation and Perception (4)

An introduction to problems and methods in the study of perception and cognitive processes. **Prerequisites:** upper-division standing; Psychology 60 or BIEB 100 or COGS 14 or Econ. 120A or Math. 11 or Math. 181A or Math. 183 or Soc/L 60.

103. Introduction to Principles of Behavior (4)

An example of the principles of conditioning and their application to the control and modification of human behavior. **Prerequisites:** upper-division standing; Psychology 60 or BIEB 100 or COGS 14 or Econ. 120A or Math. 11 or Math. 181A or Math. 183 or Soc/L 60.

104. Introduction to Social Psychology (4)

An intensive introduction and survey of current knowledge in social psychology. **Prerequisites:** upper-division standing; Psychology 60 or BIEB 100 or COGS 14 or Econ. 120A or Math. 11 or Math. 181A or Math. 183 or Soc/L 60.

105. Introduction to Cognitive Psychology (4)

Introduction to experimental study of higher mental processes. Topics to be covered include pattern recognition, perception, and comprehension of language, memory, and problem solving. **Prerequisites:** upper-division standing; Psychology 60 or BIEB 100 or COGS 14 or Econ. 120A or Math. 11 or Math. 181A or Math. 183 or Soc/L 60.

106. Introduction to Physiological Psychology (4)

Intensive introduction to current knowledge of physiological factors in learning, motivation, perception, and memory. **Prerequisites:** upper-division standing; Psychology 60 or BIEB 100 or COGS 14 or Econ. 120A or Math. 11 or Math. 181A or Math. 183 or Soc/L 60.

107. Lab/Substance Abuse Research (4)

This lab course examines theory and research design and methods for substance abuse in adolescent adult populations. This course serves as preparation for individual research topics culminating in a paper.

108. Introduction to Cognitive Neuroscience (4)

This course covers background history, neuroanatomy, methods, and results from neuroimaging and neuropsychological studies of behavior. Topics include attention, motor control, executive function, memory, learning, emotion, and language. **Prerequisites:** upper-division standing; Psychology 60 or BIEB 100 or COGS 14 or Econ. 120A or Math. 11 or Math. 181A or Math. 183 or Soc/L 60.

109. Lab/Applied Behavior Analysis (4)

This course will provide students with hands-on training in the application of behavioral research technology to a clinical population. Students will meet weekly for lecture, discussion, research article reviews, and specific technique training. In addition, students will work on a research project. **Prerequisite:** Psychology 199 in the Schreibman autism laboratory recommended.

110. Juniors Honors Research Seminars (4)

Meetings consist of research seminars by a range of departmental faculty, exposing students to contemporary research problems in all branches of experimental psychology. Class discussions will follow faculty presentations. Evaluation is based on assigned papers. **Prerequisites:** admission by application with a minimum UCSD GPA of 3.3. Department stamp required. Application forms are available from the Student Services Office and due by the end of October of each fall quarter.

111A. Research Methods I (6)

Designed to provide training in the applications of advanced statistical methods in the context of initial instruction in experimental design. Emphasis will be placed on the development of statistical problem-solving skills, practical computer applications, and scientific report writing. **Prerequisites:** minimum grade of B in Psychology 60 or

equivalent and junior standing. Open to honors students or consent of instructor. Department stamp required.

111B. Research Methods II (6)

Designed to extend the material of Psychology 111A. Focusing on the techniques developed previously. Participate in data collection, data organization, statistical analysis, and graphic displays, emphasis placed on developing scientific report writing, presentations, and critical thinking about experimental methods. **Prerequisite:** Psychology 111A or consent of instructor.

114. Laboratory in Psychophysiological Perspectives on the Social Mind (4)

Lab course on the use of psychophysiological methods to investigate "the social mind," or the cognitive and emotional processes involved in understanding and reacting to other people. Overview of major research topics and methods applying selected techniques in actual experiments. Students will engage in developing individual research questions to actively participate in designing and conducting the experiments. **Prerequisite:** upper-division standing.

115. Laboratory in Cognitive Psychology (4)

Lecture and laboratory work in human information processing. **Prerequisite:** upper-division standing or consent of instructor.

118A. Real-Time Examination of Language Processing (4)

This lab course examines the design and methods for the real-time examination of language processing in normal and disordered (aphasic, dyslexic, child language impaired, etc.) language populations. This course serves as preparation for individual research topics in Psychology 118B. **Prerequisite:** a course in language or cognition (see professor for exceptions).

118B. Real-Time Examination of Language Processing (4)

This lab is a continuation of Psychology 118A. The introduction to laboratory methods is now applied to individual research projects culminating in a lab presentation and paper. **Prerequisite:** Psychology 118A or consent of instructor.

119. Psycholinguistics/Cognition Laboratory (4)

Methods and practicum in experimental study of language, reading, and related cognitive processes (reasoning, problem solving) in young adult populations. **Prerequisites:** Psychology 118A-B or consent of instructor. Department stamp required.

120. Learning and Motivation (4)

Survey of research and theory in learning and motivation. Includes instincts, reinforcement, stimulus control, choice, aversive control, and human application. **Prerequisite:** upper-division standing. Must be taken concurrently with Psychology 121 or Psychology 140.

121. Laboratory in Operant Psychology (4)

Lecture and laboratory in operant psychology. **Prerequisite:** upper-division standing. May be taken concurrently with Psychology 120.

123. Cognitive Control and Frontal Lobe Function (4)

Cognitive control refers to the optimization of behavior according to one's goals. This class examines: anatomy; neuroscience methods; working memory, switching, and stopping; prefrontal pharmacology; ADHD and other neuropsychiatric disorders; addiction and emotion regulation; development, rehabilitation, and criminal responsibility. **Note:** Students may not enroll in Psychology 123 after receiving credit for Psychology 193 Cognitive Control and Frontal Lobe Function. **Prerequisite:** department stamp.

124. Introduction to Clinical Psychology (4)

Introduction to major concepts and models used in psychological assessment and psychotherapeutic intervention. Several modalities of psychotherapy (individual, group, and family) will be reviewed along with research on their efficacy. **Prerequisite:** Psychology 163.

125. Clinical Neuropsychology and Assessment (4)

A fundamental grounding in basic neuropsychological principles. Major topics include functional neuroanatomy

and physiology of the human brain, neurobehavioral presentations of common neurologic and psychiatric conditions, and an introduction to diagnostic neuropsychological assessment and methods. **Prerequisite:** Psychology 60.

127. Methods in Applied Social Psychology (4)

Emphasizes learning of experimental and quasi-experimental methodology applicable to social problems. Students carry out field research in areas such as the psychology of law (judicial decision-making), traffic-related behavior (risk taking), environmental psychology, and other areas of student interest. **Prerequisites:** Psychology 104 and 60.

128. Psychology of Reading (4)

Basic information about the nature of reading will be covered. Topics include word recognition, eye movements, inner speech, sentence processing, memory for text, learning to read, methods for teaching reading, reading disabilities and dyslexia, and speed reading. **Prerequisite:** Psychology 105 or Psychology 145 or consent of instructor.

129. Logic of Perception (4)

Lectures will cover three topics: 1) tradition of experimental work on perception that dates back to Hemholtz; 2) discussion and criticisms of theories of perception; 3) recent physiological work on the visual pathways that may give us insights into neural mechanisms underlying perception. **Prerequisite:** upper-division standing.

130. Delay of Gratification (4)

This course will review the research on delay of gratification. It will cover what makes it in general so tough, what situations make it possible, who can do it, and what the implications of this ability are. **Prerequisite:** upper-division standing.

132. Hormones and Behavior (4)

A survey of the effects of chemical signals (hormones, neurohormones and pheromones) on behavior as well as reciprocal effects of behavior on these chemical systems. Specific topics covered include aggression, sex and sexuality, feeding, learning, memory and mood. Animal studies will be emphasized. **Prerequisite:** Psychology 106 or consent of instructor.

133. Circadian Rhythms—Biological Clock (4)

Examples and fundamental properties of the daily biological clock in humans, animals and microbes. Experimental approaches employed to understand how organisms keep time and how this applies to human health. **Prerequisite:** Psychology 106 or BILD 1 or consent of instructor. This course is cross-listed with BIMM 116.

134. Eating Disorders (4)

This course will cover the biology and psychology of eating disorders such as anorexia nervosa, bulimia nervosa, and binge eating disorder. Abnormal, as well as normal eating will be discussed from various perspectives including endocrinological, neurobiological, psychological, sociological, and evolutionary. **Prerequisite:** upper-division standing.

135. Animal Behavior (4)

Mechanisms that regulate the behavior of animals, including neural, endocrine, genetic, and environmental mechanisms, with a strong emphasis on evolution (natural and sexual selection). Topics include communication, sociality, mating strategies, and parental behavior. **Prerequisites:** upper-division standing and consent of instructor.

136. Cognitive Development (4)

This course examines the foundations and growth of the mind, discussing the development of perception, imagery, concept formation, memory, and thinking. Emphasis is placed on the representation of knowledge in infancy and early childhood. (Credit may not be received for both PSYC 136 and COGS 113.) **Prerequisite:** PSYC 101 or PSYC 105.

137. Social Cognition (4)

Social cognition blends cognitive and social psychology to show how people make sense of the social world. Social perception, inference, memory, motivation, and affect, understanding of the self, stereotypes, and cultural cognition. **Prerequisite:** upper-division standing.

138. Sound and Music Perception (4)

Topics include the physiology of the auditory system, perception and pitch, loudness and timbre, localization

of sound in space, perception of melodic and temporal patterns, handedness correlates, and musical illusions and paradoxes. There will be a substantial number of sound demonstrations. **Prerequisites:** upper-division standing and consent of instructor.

139. Social Psychology of Sports (4)

This course focuses on the applications of social psychological principles and finding to the understanding of sports. Topics include the role of motivation, level of aspiration, competition, cooperation, social comparison, and optimal arousal, spectators' perspective, motivation and perceptions of success, streaks, etc. **Prerequisite:** upper-division standing or consent of instructor.

140. Lab/Human Behavior (4)

Laboratory on the principles of human behavior, including choice behavior, self-control, and reasoning. **Prerequisites:** 120 (may be taken concurrently); upper-division standing.

141. Evolution and Human Nature (4)

Can important aspects of human behavior be explained as a result of natural selection? Focus on sex differences, selfishness and altruism, homicide and violence, and context effects in human reasoning. **Prerequisites:** upper-division standing and consent of instructor.

142. Psychology of Consciousness (4)

This course will survey research on consciousness from an experimental psychology perspective. Special emphasis will be placed on cognitive, neuroimaging, and clinical/psychiatric investigative techniques, and on the scientific assessment of the mind-body problem. **Prerequisite:** upper-division standing.

143. Control and Analysis of Human Behavior (4)

An overview of the behavioral approach including basic principles, self-control, clinical applications, and the design of cultures. **Prerequisite:** upper-division psychology majors.

144. Memory and Amnesia (4)

This course will review basic research into the nature of memory. It begins with an examination of historical milestones in the study of memory and then considers research concerned with contemporary models of memory and amnesia. **Prerequisite:** upper-division standing.

145. Psychology of Language (4)

Introduction to research on language comprehension and production. Focus on brain basis of language, language origin and universal structure, language disorders (aphasia, dyslexia), animal language, linguistic community differences, and the mental processes underlying normal language processing. **Prerequisite:** a course in language, cognition, or philosophy of mind recommended.

146. Language and Conceptual Development (4)

Introduction to research on language acquisition and how it relates to conceptual development. Focus on theoretical foundations (e.g., learning mechanisms, universal grammar, theories of concepts) and empirical case studies, including word learning, syntax and semantics, and language and thought. Recommend course in language/linguistics, cognition, or cognitive development. **Prerequisite:** upper-division standing or consent of instructor.

147. Gender (4)

This interactive undergraduate seminar will examine biological approaches to gender differences and sexuality. Do the biosciences further our understanding of these issues? How are biological claims embraced or rebutted by other disciplines? Students will read primary scientific literature and criticism. **Prerequisite:** upper-division standing.

148. Psychology of Judgment and Decision (4)

Broadly defined, the field of judgment and decision making examines preferences and subjective probability, and how they are combined to arrive at decisions. The course will cover history and current topics.

149. Social Psychology of Theater (4)

Exploration of the relationship between social psychology and drama, focusing on the use of psychological principles in plays (by playwrights) and their performance (by directors, actors, and choreographers). **Prerequisite:**

upper-division standing, major in psychology or theater, or consent of instructor.

150. Cognitive Neuroscience of Vision (4)

Cognitive neuroscience is an interdisciplinary field of research dedicated to understanding how the brain supports different cognitive abilities. This course will focus on the neural basis of visual experience, or how our brain creates what we see in the world around us. **Prerequisite:** Psychology 102 or Psychology 108.

151. Tests and Measurement (4)

This course provides an introduction to psychological testing presented in three components: 1) psychometrics and statistical methods of test construction; 2) application of psychological tests in industry, clinical practice, and other applied settings; and 3) controversies in the application of psychological tests. **Prerequisite:** Psychology 60.

152. Concepts of Intelligence (4)

This course will examine the concept of intelligence from several perspectives: its historical development, its measure in terms of IQ test, and its role in practical affairs. Also included will be its role in comparative psychology and attempts to analyze intelligence in terms of more fundamental cognitive processes. **Prerequisite:** Psychology 60 or consent of instructor.

153. Psychology of Emotion (4)

Past and current findings and theories on emotion. Facial expressions of emotions, psychophysiology, evolutionary perspectives, and specific emotions: anger, fear, and jealousy. **Prerequisite:** upper-division standing or consent of instructor.

154. Behavior Modification (4)

Extension of learning principles to human behavior, methods of applied behavior analysis, and applications of behavioral principles to clinical disorders and to normal behavior in various settings. **Prerequisite:** upper-division standing.

155. Social Psychology and Medicine (4)

Explores areas of health, illness, treatment, and delivery of treatment, and social psychological perspectives in the medical area. **Prerequisites:** Psychology 60 or equivalent and 104.

156. Cognitive Development in Infancy (4)

Examines perception and cognition in the first year of life. Different theories of cognitive change in infancy will be evaluated. **Prerequisite:** Psychology 60 and either Psychology 101 or HDP 1.

157. Happiness (4)

This course will address the psychology of happiness. The discussions and readings, consisting largely of original research articles. Will explore such questions as: what is happiness? How do we measure it, and how do we tell who has it? What is the biology of happiness and what is its evolutionary significance? What makes people happy—youth, fortune, marriage, chocolate? Is the pursuit of happiness pointless? **Prerequisite:** upper-division standing.

158. Interpersonal Relationships (4)

Seminar-style course to examine theories and empirical work pertaining to interpersonal relationships; attraction, jealousy, attachments, love. **Prerequisite:** upper-division standing.

159. Physiological Basis of Perception (4)

A survey of sensory and perceptual phenomena and the physiological mechanisms underlying them. **Prerequisite:** Psychology 102 or consent of instructor.

160. Groups (4)

Causes and consequences of gregariousness, stress, validating attitudes, improving efficiency, consolidating power, permitting loafing, rejecting deviates, and insulating group members from unpleasant outside influence. **Prerequisite:** upper-division standing.

161. Introduction to Engineering Psychology (4)

Surveys human perceptual and cognitive limitations and abilities important in designing "user-friendly" computers and devices, improving aviation and traffic safety, and other engineering challenges. Topics include human vision as it bears on display design (including virtual-reality),

short-term memory limitations, learning and practice, effects of noise and stress, causes of human error and their minimization. **Prerequisite:** upper-division standing.

162. Psychology and the Law (4)

Research dealing with psychological factors in the legal system will be surveyed. Particular emphasis will be placed on applying psychological theory and methods to the criminal justice system in an attempt to understand the behavior of its participants. **Prerequisite:** Psychology 60 and 104.

163. Abnormal Psychology (4)

Surveys origins, characteristics and causes of abnormal behavior and the biological and environmental causes of abnormality. **Prerequisite:** upper-division standing.

164. Criminology (4)

Focus is on the scientific study of law making and societal reaction to breaking of laws; major theories that account for criminal behavior; the relationship between drugs and crime; the effects penalties have on recidivism; and psychological effects of incarceration. **Note:** Students may not enroll in Psychology 164 after receiving credit for Psychology 193 Criminology. **Prerequisite:** department stamp.

166. History of Psychology (4)

Survey of the major trends and personalities in the development of psychological thought. Emphasis given to such selected topics as mind-body problem, nativism vs. empiricism, and genesis of behaviorism. Open to psychology majors with senior standing only.

168. Psychological Disorders of Childhood (4)

Explores different forms of psychological deviance in children (psychosis, neurosis, mental retardation, language disorders and other behavior problems). Emphasis on symptomatology, assessment, etiological factors, and various treatment modalities. **Prerequisite:** upper-division standing.

169. Brain Damage and Mental Functions (4)

Studies neural mechanisms underlying perception, memory, language, and other mental capacities. What happens to these capacities when different parts of the brain are damaged? What can we learn about the normal brain by studying patients? **Prerequisite:** upper-division standing.

170. Introduction to Cognitive Neuropsychology (4)

What are the neural mechanisms underlying mental phenomena such as perception, attention, and memory? The two disciplines, neuropsychology and psychology, both have a long history but until recently there has been very little interaction between them. This course will take students to the interface between these two fields and we will discuss a wide range of topics that are of current interest. **Prerequisite:** upper-division standing.

171. Neurobiology of Learning and Memory (4)

Studies the neurobiology of learning and memory, from cognitive to molecular neuroscience, including human, animal, and cellular; and molecular studies of memory. Topics include amnesia, mental retardation, exceptional intelligence, aging, and Alzheimer's disease. **Prerequisites:** Psychology 2 or 106 or 181, upper-division standing or consent of instructor.

172. The Psychology of Human Sexuality (4)

Important issues in human sexuality including sex and gender, sexual orientation, reproductive technology, and sexual dysfunction. **Prerequisite:** upper-division standing.

173. Psychology of Food and Behavior (4)

Reviews the psychology of food and behavior. Topics will include biological, psychological, and social influences; taste preferences and aversions and how they are learned; how culture influences food selection; and food-related behaviors across the lifespan. **Prerequisite:** upper-division standing or consent of instructor.

175. Psychology and the Arts (4)

An interdisciplinary course focusing on theoretical ideas and empirical research that relate contemporary psychology (social and cognitive, psychophysiology, motivation and emotion) to issues in various aesthetic and artistic domains, as visual arts, music, literature, criticism, and the performance arts. **Prerequisites:** upper-division standing;

major in psychology, music, visual arts, communication, theatre and dance, or literature, or consent of instructor.

176. Creativity (4)

The focus is on enhancing creativity in individuals, small groups, and organizations. Topics include how changes to individuals (e.g., gaining expertise, accepting more risk) and their environment (e.g., more diverse colleagues, more time for exploring) increase creativity. **Prerequisite:** upper-division standing.

178. Organizational Psychology (4)

Examines human behavior in industrial, business, and organizational settings; and psychological principles as applied to selection, placement, management, and training. The effectiveness of individuals and groups within organizations, including leadership and control, conflict and cooperation, motivation, and organizational structure and design, is examined. **Prerequisite:** upper-division standing.

179. Drugs, Addiction, and Mental Disorders (4)

Considers the use, abuse, liability, and psycho-therapeutic effects of drugs in humans. Lectures are supplemented by guest lecturers from clinical experts in psychology and psychiatry. **Prerequisite:** one lower-division psychology course (1, 2, 3, or 4) or upper-division standing.

180. Adolescence (4)

This course will adopt a multidisciplinary approach toward understanding the period of human adolescence. A strong focus on the neurobiological aspects of adolescence will be combined with psychological, anthropological, and sociological considerations. **Prerequisite:** upper-division standing.

181. Drugs and Behavior (4)

Develops basic principles in psychopharmacology while exploring the behavioral effects of psychoactive drugs and mechanisms of action of drugs. **Prerequisite:** psychology major or minor, or biology major or minor.

182. Illusions and the Brain (4)

This course explores the bases of illusions in terms of perceptual and cognitive principles, and the underlying brain mechanisms; extensive demonstrations are included. **Prerequisite:** upper-division standing.

184. Choice and Self-Control (4)

Experimental analysis of choice behavior, with an emphasis on the types of choice involved in self-control. Focus on conditions under which decision-making is optimal. **Prerequisite:** upper-division students in psychology, biology, economics, or consent of instructor.

185. Applied Developmental Psychology (4)

This seminar course deals with how developmental psychologists conduct scientific studies that have direct practical implications for children's well-being. Major issues to be discussed are: child witnesses, literacy, school violence, impact of media on child development, and developmental psychopathology. **Prerequisites:** upper-division standing and Psychology 101.

187. Development of Social Cognition (4)

This course will examine reasoning about people from a developmental perspective. Topics will include emotional understanding, achievement motivation, peer relations, social categories, and culture. **Prerequisite:** Psychology 101.

188. Impulse Control Disorders (4)

Problems of impulse control are important features of major psychiatric disorders but also of atypical impulse control disorder such as: pathological gambling, compulsive sex, eating, exercise, shopping. Focus: development, major common features, treatment, and neurobiological basis of impulse control disorders. **Prerequisite:** upper-division standing.

189. Brain, Behavior, and Evolution (4)

A survey of natural behaviors, including birdsong, prey capture, localization, electro-reception, and echo-location, and the neural systems that control them, emphasizing broad fundamental relationships between brain and behavior across species. **Prerequisites:** Psychology 103 and 106, or permission of instructor.

190. Parenting (4)

This course adopts an interdisciplinary approach to the complex construct of parenting. Parenting is explored with respect to history, culture, development, psychology, biology, etc. Controversial issues such as the influence of the media, family structure, and discipline strategies are analyzed. **Prerequisite:** upper-division standing.

191. Psychology of Sleep (4)

Topics include basic psychology, evolutionary models of the purpose of sleep, the role of sleep in learning/creativity, dreams, and sleep disorders. **Prerequisite:** upper-division standing.

193. Topics in Psychology (4)

Selected topics in the field of psychology. May be repeated for credit as topics vary. **Prerequisites:** upper-division standing and consent of instructor.

194A-B-C. Honors Thesis (4-4-4)

Students will take part in a weekly research seminar. In addition, they will plan and carry out a three-quarter research project under the guidance of a faculty member. The project will form the basis of the senior honors thesis. **Prerequisites:** acceptance to the Honors Program in the junior year (110A-B) (GPA 3.3), in addition one laboratory course (114-127) or two 199s which culminate in a research paper (by petition only) and Psychology 110, 111A-B and consent of instructor.

195. Instruction in Psychology (4)

Introduction to teaching a class section in a lower-division psychology course, hold office hours, assist with examinations and grading (P/NP grades only). This course counts only once towards the major. **Prerequisites:** junior or senior psychology major with GPA of 3.0 or an A in the course and consent of instructor.

196A-B-C. Research Seminar (4-4-4)

Weekly research seminar, three quarter research project under faculty guidance which culminates in a thesis. **Prerequisites:** one laboratory course, 3.3 GPA, and/or consent of instructor.

199. Independent Study (2 or 4)

Independent study or research under direction of a member of the faculty. **Prerequisites:** GPA 2.5 and ninety units completed. (P/NP grades only.) Not counted for credit toward the major. See section on 199 information.

GRADUATE**201A-B-C. Quantitative Methods in Psychology (4-4-4)**

An intensive course in statistical methods and the mathematical treatment of data, with special reference to research in psychology. **Prerequisite:** restricted to graduate students in psychology.

204. Neurobiology of Social Development (4)

The goal of this class is to acquaint students with research on the neurological underpinnings of social and social cognitive development. Students will be expected to become familiar with the existing research in the area, and to understand the neural structures that comprise the limbic system, and their developmental timecourse. Students will be expected to form hypotheses about the neural correlates of aspects of social development based upon an understanding of the development of structures involved in social behavior.

205. Emotion (4)

This seminar provides a selective overview of the scientific study of emotion. We will discuss various theoretical perspectives on emotion and will focus on specific topics such as emotion regulation, affect in social interactions, individual differences, and particular emotions (e.g., embarrassment, envy, and jealousy). **Prerequisite:** graduate standing.

206. Mathematical Modeling (4)

This course is designed to teach the basics of mathematical modeling. Topics include when, why, and how to use signal detection theory (an essential theory for anyone interested in attention, perception, memory, or decision making), how to analyze reaction time distributions (instead of simply

measuring mean RT), how to engage in the fine art of model comparison, and how to avoid creating models that are more complex than the data they seek to explain.

209. Topics in Judgment and Decision Making (3)

This seminar examines issues in the psychology of judgment and decision making. Topics include the heuristics and biases approach, over confidence, framing effects, intertemporal choice, and rationality.

210. Skill Acquisition and Development of Expertise (4)

The course examines the transition from novice to highly skilled performance and the transfer of that skill to novel problems and contexts. Emphasis will be on information processing accounts of learning and performance for relatively simple cognitive tasks.

211. The Development of Social Cognition (3)

This seminar will cover the development of concepts about people. Topics include emotional understanding, "theory of mind," trait thinking, social categories, psychological essentialism, achievement motivation, and social and cultural influences on person perception. **Prerequisite:** graduate standing.

212. Current Topics in Visual Science (3)

Each year a different topic in visual science is selected for in-depth review and discussion based on current readings. **Prerequisite:** consent of instructor.

213. Professional Procedures and Survival in Psychology (3)

This course provides a forum for presentation and discussion of the basic issues associated with surviving in a professional (particularly, academic) psychology environment. It covers such issues as: 1) how to get a job; 2) how to keep a job; 3) general issues in professional survival. The course will include the presence of a number of the psychology faculty in topic specific areas (e.g., journal editors from our faculty; faculty sitting on grant review panels, etc.). The issue of ethics will be examined and discussed relative to each topic raised.

214. Applied Developmental Psychology (4)

This seminar deals with how developmental psychologists conduct scientific studies that have direct practical implications for children's well-being. Major issues to be discussed are: child witnesses, literacy, school violence, impact of media on child development, and developmental psychopathology.

217A. Proseminar in Developmental Psychology I (3)

The course examines cognitive development through the school-age period. It begins with an examination of early neurological, sensory, motor, and perceptual functions and then focuses on issues in linguistic and cognitive development.

217B. Proseminar in Developmental Psychology II (3)

The course examines social and personality development from infancy through early adolescence. The class will first discuss general developmental theory and methods and then topics such as attachment, temperament, self-concept, aggression, family relations, play, and peers.

218A-B. Cognitive Psychology (3-3)

A two-quarter survey of basic principles and concepts of cognitive psychology. This course is intended to serve as the basic introduction for first-year students. Basic areas include knowledge, memory, thought, perception, and performance. The areas are taught by faculty members who work within the specialty. **Prerequisite:** graduate status in psychology or consent of instructor.

219. Proseminar in Learning and Motivation (3)

An overview of the experimental and applied analysis of behavior including topics such as the principles of operant and classical conditioning, stimulus control, choice, conditioned reinforcement, aversive control, biological and economic contexts, verbal behavior, and the modification of human behavior in a variety of applied settings.

220. Proseminar in Social Psychology (3)

An introduction to social psychology. Psychology and the law, health psychology, attitudes, emotions, person perception and aggression are some of the topics to be covered.

221. Proseminar in Sensation and Perception (3)

Fundamentals of vision, audition, and other senses. Emphasis will be upon psychophysical approaches to the study of these sensory modalities, as well as some essential aspects of their neurophysiological bases.

222. Biological Psychology (3)

A survey of the functional neuroanatomical, neurodevelopmental, neurophysiological, and pharmacological correlates of psychological phenomena.

223. Advanced Topics in Vision (4)

An in-depth analysis of empirical and theoretical issues in a specialized area of vision or visual perception. Emphasis most likely will be on a topic of ongoing vision research at UCSD. **Prerequisite:** Psychology 212 or special consent of instructor.

229. Happiness (4)

This course will address the psychology of happiness. The discussions and readings, consisting largely of original research articles, will explore such questions as: What is happiness? How do we measure it, and how do we tell who has it? What is the biology of happiness and what is its evolutionary significance? What makes people happy—youth, fortune, marriage, chocolate? Is the pursuit of happiness pointless?

230. Comparative Social Cognition (4)

This seminar will address the following questions: What do nonhuman animals know about the identity and characteristics of nonspecifics? How do they use this information to guide their actions? How do animals modify their behavior in relation to social context? What kinds of information are culturally transmitted? What are the brain mechanisms for social cognition in nonhumans, and how do they compare to ours? **Prerequisite:** graduate standing or consent of instructor.

231. Experimentation and Data Analysis Using Matlab (4)

Lecture and exercises will demonstrate the use of Matlab, its extensions in running psychological experiments and in analyzing experimental data. No prior programming knowledge assumed. Experimental topics include writing scripts to generate well-controlled visual or acoustic stimuli. Analytical topics include data plotting and statistics. **Prerequisite:** graduate standing or consent of instructor.

233A. Topics in Learning and Motivation (3)

Advanced topics in learning and motivation, with special emphasis on current research. **Prerequisite:** Psychology 210.

236. Substance Abuse (3)

Theory and research on the development, progression, and resolution of substance use and abuse will be reviewed and evaluated. Normal and abnormal patterns of substance involvement will be contrasted across the life span.

237. Human Rationality (4)

The traditional view of rationality is based upon abstract, content-independent rules for behavior. People sometimes violate these rules in a laboratory setting, but the violations are often systematic and appear to reflect adaptation to the environment outside the laboratory. Such findings raise questions about what it means to be rational. Readings will be empirically oriented and cover the areas of deductive reasoning, inductive reasoning, and choice.

240. The Primate Brain (4)

This course will explore the neural basis of perception, action and cognition in primate cortex. Drawing on recent findings in neuroscience, we will discuss the role of cortex in a range of topics including decision making, object perception and recognition, memory and communication. **Prerequisite:** graduate standing or consent of instructor.

242A-B-C. Research Topics in Developmental Psychology (4-4-4)

Advanced seminar concentrating on methods of research and current experimental literature. May be taken by undergraduate senior majors concurrently enrolled in Psychology 194. **Prerequisite:** consent of instructor. (S/U grades permitted.)

243. Sound and Music Perception (3)

This course will deal with anatomy and physiology of the ear, central auditory pathways, and neurological disorders of sound and music perception.

244. Special Topics in Psycholinguistics (4)

Discussion of the psychological reality of grammatical models, competence versus performance, learnability and innateness in theories of language acquisition, and questions of autonomy of "modularity" of grammatical versus semantic processing. In addition, graduate students are required to give oral presentations on articles. **Prerequisites:** Psychology 145, upper-division standing, or consent of instructor.

246. Emotion and Cognition (4)

This seminar focuses on the interplay between emotion and cognition. We will consider how emotion influences perception, reasoning, memory, and judgment, and how cognitive processes can have emotional consequences. We will also discuss physiological and neural underpinnings of an affective influence and debate more general issues such as emotion and rationality. **Prerequisite:** graduate standing or consent of instructor.

247. Neuroendocrinology of Social Variation (4)

Students will read and discuss primary literature on the general topic of how steroid and peptide hormones contribute to the production of social variation and diversity. This diversity includes seasonal variation, intersexual variation, and divergence between species in patterns of sociality and space use, pair-bonding and mating tactics, aggression, and use of communication signals.

249A-B-C. Advanced Topics in Applied Behavior Analysis (3-3-3)

Research and discussion on selected topics in applied behavior analysis.

250. Sleep, Learning and Thought (4)

The role of time and sleep in learning, memory, and thought will be covered. Topics include human procedural memory, declarative memory, inference, creativity, and problem solving. **Prerequisite:** graduate standing or consent of instructor.

251. Advanced Topics in Learning and Motivation (3)

Weekly meetings for graduate students actively engaged in research on conditioning. **Prerequisite:** consent of instructor.

252. Seminar on Cognitive Neuroscience (3)

This is a series of weekly seminars on current trends in neuropsychology. The seminars will deal with the concept of "localization" of function in different parts of the brain and the effects of damage to these parts on cognitive functions such as perception, memory and language. Active student participation will be encouraged in preparing these seminars.

253. Cognitive Psychology and Cognitive Neuroimaging (4)

This seminar in cognitive neuroscience focuses on modern approaches to cognitive psychology as revealed through cognitive neuroimaging. A major goal of the course is to evaluate what (if anything) neuroimaging evidence has added to classic cognitive models/evidence in major areas of cognition (working memory, categorization, executive processes, decision-making, emotion, and memory).

255A-B-C. Advanced Topics in Biological Psychology (3-3-3)

Research and discussion on selected topics in biological psychology.

256. Impulsivity (4)

This seminar will cover the following topics in relation to impulsivity: varieties of the construct; operationalization via behavioral tasks in nonhuman animals and humans; translation from genes through phenotypes; neuropsychiatric disorders; neuropharmacology; behavioral treatments; and implications for jurisprudence. **Prerequisite:** graduate standing or consent of instructor.

258. Delay of Gratification (3)

This course will review the research on delay of gratification. We will cover what makes it in general so tough, what

situations make it possible, who can do it, and what the implications of this ability are. We will draw from research in social, personality, and animal psychology as well as economics.

259. Social Psychology/Psycho-aesthetics (3)

This course will be an intensive examination of social psychology (legal decision-making, emotion, aggressive behavior) and the psychology of visual art and music (psycho-aesthetics).

261. Proseminar in History of Psychology (3)

This course will consider the intellectual context in the nineteenth century from which psychology developed as an independent discipline. Emphasis will be on early German psychology and evolutionary theory. The second part of the course will consider the histories of different areas of psychology (e.g., behavioral, cognitive).

262. Functional Construction of the Vertebrate Brain's Social Behavior Network (4)

The vertebrate brain contains a network of strongly interconnected structures that play essential roles in the regulation of social behavior. In this seminar we will read and discuss primary literature that details the structure and behavioral functions of this network.

264A-B-C. Advanced Topics in Language Processes (4-4-4)

Research and discussion on selected topics in language processes.

266. Psychology of Reading (4)

This seminar will cover aspects of reading, emphasizing cognitive processes involved in skilled reading. However, learning to read and methods to teach reading will also be discussed. Other topics include: eye movements and reading, word recognition, inner speech, context effects, discourse processing, sentence parsing, and dyslexia.

267A-B-C. Advanced Topics in Behavior Medicine (3-3-3)

Research and discussion on selected topics in behavior medicine.

269A-B-C. Advanced Topics in Sound and Music Perception (3-3-3)

Research and discussion on selected topics in sound and music perception.

270A-B-C. Introduction to Laboratory Experimentation (1-4)

A basic laboratory course, designed to introduce first-year graduate students to experimental methods in psychology. The student will select a research topic, do a thorough literature review of the area, design and carry out new, original studies of problems in the selected area, and prepare a final formal report of the study at the end of the spring quarter. This course is required of all first-year graduate students in the department. **Prerequisite:** first-year psychology graduate students only.

271. Neurobiology of Learning and Memory (4)

This seminar will span the study of learning and memory from an interdisciplinary neuroscience perspective: the goal will be to gain a broad perspective on memory. The course will also touch on dysfunctions of learning and memory such as in amnesia, mental retardation, aging, and Alzheimer's disease. The course will end with exciting developments in the field, including the possibility of genetic and pharmacological enhancement of memory and intelligence.

272. Selected Topics in Cognitive Psychology (3)

An in-depth analysis of selected empirical and theoretical topics in cognitive psychology. The course will focus on areas where notable progress appears to be taking place in contemporary research.

273. Selected Topics in Quantitative Methods in Psychology (4)

An in-depth analysis and discussion of selected advanced topics in quantitative methods in psychology.

280. Seminar in Communication and Information Processing (1)

(S/U grades only.)

282. Advanced Topics in Auditory Neuroscience (4)

An in-depth analysis of current theoretical and empirical issues in the neurobiological study of auditory perception and cognition. Example topics include auditory stream segregation, localization, natural stimulus coding, pattern recognition and communication in multiple species.

285. Consciousness, Computation, and Incompleteness (4)

This seminar will examine conceptual and empirical problems in the scientific study of consciousness. Recent models of consciousness from cognitive psychology and neuroscience will be reviewed, in the light of limits on self-knowledge established in mathematical logic and computation theory. **Prerequisite:** graduate standing or consent of instructor.

296. Research Practicum (1-12)

Research in psychology under supervision of individual staff members. (S/U grades only.) (F,W,S)

298. Library Research (1-12)

Reports and surveys of the literature on selected topics. **Prerequisite:** graduate students in psychology. (S/U grades only.) (F,W,S)

299. Independent Research (1-12)

Independent research and thesis research. (S/U grades only.) (F,W,S)

500. Apprentice Teaching (4)

Required teaching practicum for students enrolled in graduate program in psychology. One four-unit course per year for four years. (S/U grades only.)