

Psychology

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Program of Study

The requirements of the B.A. in psychology, together with the department's broad range of course offerings, allow students to tailor programs to their own talents and goals. It may serve as preparation for graduate work in psychology or in related fields such as sociology, anthropology, linguistics, or the communication and information sciences. Psychology courses are also suitable for biological sciences concentrators interested in the relations between physiology, mind, and behavior, and for mathematics concentrators interested in the applications of quantitative methods. Those who foresee a profession in law, public health, urban planning, personnel management, social work, education, or journalism also find the program valuable. Psychology may interest students who are still focusing their goals and are considering the social sciences or a public service profession. Because research experience and contact with faculty are important requisites for professional development, students who plan a career in psychology are advised to contact a compatible faculty member by the end of their third year, with a view toward consultation and joint research.

Concentration Requirements

Fundamentals of Psychology (PSYC 20000). It is recommended that this required psychology course be the first course that students take for the concentration. It will be offered during the Autumn Quarter of each academic year.

Statistics/Methodology Sequence. A coordinated two-quarter sequence covering statistical methods (PSYC 20100) and methodological issues (PSYC 20200) in psychology is taught Winter and Spring Quarters. Students may take STAT 22000 or a more advanced statistics course instead of PSYC 20100. This sequence would typically be taken in the junior year.

Breadth Requirement. Students are required to take three of the following five courses, each of which will be offered every year:

- Biological Psychology (PSYC 20300)
- Cognitive Psychology (PSYC 20400)
- Developmental Psychology (PSYC 20500)
- Social Psychology (PSYC 20600)
- Sensation and Perception (PSYC 20700)

Additional Courses. At least five additional courses (for a concentration total of eleven) must be chosen from among the courses offered by the Department of Psychology. For students pursuing honors in psychology, one of the elective courses should be an Honors Seminar (PSYC 29800), which

is offered each winter. A maximum of three research courses can count toward the eleven courses required of a psychology major. Research courses can be taken *P/F* but all other courses must be taken for a quality grade. NOTE: Before registering for an elective, students should confirm they have met any prerequisites for the course.

Research Experience. Required research experience can be obtained by working on a research project under the guidance of a faculty member or by taking a course with a research component other than the Methodology course. (A list of such courses is available in Br 109.)

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

Summary of Requirements

General Education	MATH 13100-13200 or higher†
Concentration	1 PSYC 20000 (introductory survey) 2 PSYC 20100 (or STAT 22000† or above), and PSYC 20200 3 three courses chosen from the following five courses: PSYC 20300, 20400, 20500, 20600, or 20700 5 electives* + <hr style="width: 10%; margin-left: 0;"/> 11

† Credit may be granted by examination.

* A minimum of one of the five required additional psychology courses must have a research component. See “Research Experience” section.

+ Courses without a psychology number must be approved by the Curriculum Committee.

Honors. To qualify for honors in psychology, students must meet the following requirements: (1) Students must have a GPA of at least 3.0 overall, and a GPA of at least 3.5 in the concentration. (2) Students should arrange with a faculty sponsor to write an honors paper. Papers must represent a more substantial project than the average term paper. After the paper has been approved by the faculty sponsor, the paper must then be read and approved by a second faculty member. (3) Students are required to take an Honors Seminar (PSYC 29800) in Winter Quarter of their junior or senior year as one of the three possible research courses. It is expected that students will be actively working on the thesis project during the quarter they are taking the honors research seminar. (4) Students are required to present their findings in Spring Quarter of their senior year at an honors day celebration.

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

Double Concentrators. Students pursuing honors in more than one concentration should note that: (1) the student's thesis adviser for psychology cannot be the same person as his or her thesis adviser for the second concentration; and (2) the student must meet all the requirements listed in the preceding "Honors" section, including taking the Honors Seminar (PSYC 29800) and presenting at an honors day celebration.

Faculty

B. Bertenthal, R. D. Bock, A. Bookstein, N. M. Bradburn, D. Bradley, R. A. Butler, J. Cacioppo, B. Cohler, S. Duncan, S. Goldin-Meadow, W. Goldstein, S. Grossman, E. Hamp, L. Hedges, J. Huttenlocher, P. W. Jackson, L. Kay, B. Keysar, S. C. Levine, J. Levy, F. F. Lighthall, J. Lucy, V. Maljkovic, D. Margoliash, M. McClintock, D. McNeill, H. Moltz, H. Nusbaum, C. Pickett, J. M. Pokorny, T. Regier, M. J. Rosenberg, S. K. Shevell, R. A. Shweder, M. Silverstein, V. C. Smith, N. L. Stein, T. Trabasso, P. Visser, A. Woodward, B. D. Wright

Courses: Psychology (PSYC)

20000. Fundamentals of Psychology. This course is an introduction to the basic concepts and research in the study of behavior. Principal topics are sensation, perception, cognition, learning, motivation, and personality theories. *J. Cacioppo. Autumn.*

20100. Psychological Statistics. Psychological research typically involves the use of quantitative (statistical) methods. The purpose of this course is to introduce the methods of quantitative inquiry that are most commonly used in psychology and related social sciences. PSYC 20100 and 20200 form a two-quarter sequence that is conceived as an integrated introduction to psychological research methods. PSYC 20100 introduces explanatory data analysis, models in the quantitative psychology, concept of probability, elementary statistical methods for estimation and hypothesis testing, and sampling theory. PSYC 20200 builds on the foundation of PSYC 20100 and considers the logic of psychological inquiry and the analysis and criticism of psychological research. *L. Hedges. Winter.*

20200. Psychological Research Methods. *PQ: PSYC 20100 or STAT 22000, or consent of instructor.* This course is an introduction to the concepts and methods used in behavioral research. The major topics are the nature of behavioral research, testing of research ideas, quantitative and qualitative techniques of data collection, artifacts in behavioral research, analyzing and interpreting research data, and ethical considerations in research. *T. Trabasso. Spring.*

20300/30300. Biological Psychology. (=HUDV 21900/30400) What are the relations between mind and brain? How do brains regulate mental, behavioral, and hormonal processes; and how do these influence brain organization and activity? This course introduces the anatomy, physiology, and chemistry of the brain; their changes in response to the experiential and sociocultural environment; and their relation to perception, attention, behavioral action, motivation, and emotion. *L. Kay. Winter.*

20400/30400. Cognitive Psychology. Viewing the brain globally as an information processing or computational system has revolutionized the study and understanding of intelligence. This course introduces the theory, methods, and empirical results that underlie this approach to psychology. Topics include categorization, attention, memory, knowledge, language, and thought. *V. Maljkovic. Winter.*

20500/30500. Developmental Psychology. (=HUDV 25900/30700) This course is an introduction to developmental psychology that stresses the development and integration of cognitive, social, and perceptual skills. *Discussion section required. S. Goldin-Meadow, S. Hans. Autumn.*

20600/30600. Social Psychology. (=HUDV 26000) *PQ: PSYC 20000 recommended.* This course examines social psychological theory and research based on both classic and contemporary contributions. Among the major topics examined are conformity and deviance, the attitude-change process, social role and personality, social cognition, and political psychology. *N. Stein, T. Trabasso. Autumn.*

20700/30700. Sensation and Perception. This course centers on visual and auditory phenomena. Aside from the basic sensory discriminations (i.e., acuity, brightness, loudness, color, pitch), more complex perceptual events (e.g., movement, space) are discussed. The biological underpinnings of these several phenomena are considered, as well as the role of learning in perception. *D. Bradley. Autumn.*

21202. Emotion. This course is designed to provide a broad overview of the field of emotion from many levels of analysis. Historical and current readings cover theoretical and empirical approaches to the study of emotion and include social, cognition, physiological, and biological perspectives. The readings are meant to be the skeleton of the course, creating a common background that students think deeply about, question, and use as a springboard to form new ideas and theories. Primarily, this course is intended to be a dialog. *C. Norris. Autumn.*

21402. Non-verbal Communication. This course explores the relationship between language and communication in both humans and non-humans. Topics include American Sign Language, body language and facial expression, gesture, and communication systems in a variety of non-human species including primates. Through lectures, readings, and discussions, students learn to synthesize and analyze the research in the field of non-verbal communication. *A. Hammond. Winter.*

21502. Second Language Acquisition. This course is a general introduction to theories of second language acquisition (SLA) that outlines nativist, environmental, interactionist, and cognitive perspectives on SLA and discusses factors that influence L2 learning process such as age, L1, attitude and motivation. *A. Franklin. Spring.*

21700/31700. Developmental Biopsychology. (=HUDV 22001/32000) *PQ: PSYC 20000 or completion of the general education requirement in biology.* This course is an introduction to biological and physiological analysis of behavior and to principles of neural and endocrine integration. We use a developmental emphasis, with experimental and clinical literature. *M. McClintock. Spring.*

21950/31900. Language, Culture, and Thought. (=ANTH 27605/37605, HUDV 21901/31900) This course is a survey of research on the interrelation of language, culture, and thought from the evolutionary, developmental, historical, and culture-comparative perspectives with special emphasis on the mediating methodological implications for the social sciences. *J. Lucy. Autumn.*

23000/33000. Cultural Psychology. (=HUDV 21000/31000) At the heart of the discipline of cultural psychology is the tenet of psychological pluralism, which states that the study of “normal” psychology is the study of multiple psychologies. Research findings in cultural psychology thus raise provocative questions about the integrity and value of alternative forms of subjectivity across cultural groups. In this course we analyze the concept of “culture” and examine ethnic and cross-cultural variations in mental functioning with special attention to the cultural psychology of emotions, self, moral judgment, categorization, and reasoning. *Autumn.*

23100. Introduction to Developmental Neuropsychology. This course focuses on research that examines the nature of developmental change by integrating information on the cognitive and neural levels of analysis. A broad range of approaches is considered, including studies of normal children, studies of children with focal brain damage and various learning disabilities, and studies that use modeling to simulate brain/behavior relations during development. *S. Levine. Winter.*

23500. Introduction to Interaction Research. There have been three main interests in recent research on interaction: (1) the expression of emotion, (2) the process of interaction itself (how it is that participants are able to accomplish interactions), and (3) the use of behaviors observed in interaction as indices of the participants’ enduring characteristics or transient states. Selected examples of these major types of research are considered in terms of their conceptual framework and their approach to studying the phenomenon in question. The discussion focuses on the nature of interaction and on approaches to studying it. *S. Duncan. Autumn.*

23901-23902-23903. Political Psychology I, II, III. *Credit (100 units) is granted to students in Spring Quarter after attending all three quarters.* This course explores the psychological processes that underlie political thought and behavior. Over the course of the year, we review the contributions of social and cognitive psychology to the understanding of political judgments, decisions, and behavior. We consider a broad array of topics, including political socialization, the development and maintenance of belief systems and attitudes, the role of self-interest in political preferences, the role of values and the impact of value-conflict, political cognition and candidate appraisal, social identity and inter-group conflict, race and politics, the role of affect and emotion in political judgments and behavior, and the psychology of political atrocities. *P. Visser. Autumn, Winter, Spring.*

24000/31200. Systems Neuroscience. (=BIOS 24205) *PQ: BIOS 24204 or 24236, or consent of instructor.* Students are introduced to vertebrate and invertebrate systems neuroscience with a focus on the anatomy, physiology, and development of sensory and motor control systems. The neural bases of form and motion perception, locomotion, memory and other forms of neural plasticity are examined in detail. We also discuss clinical aspects of neurological disorders. Labs are devoted to mammalian neuroanatomy and electrophysiological recordings from neural circuits in model systems. *J. Ramirez, C. Ragsdale. Autumn.*

24300/39300. Qualitative Methods in the Social Sciences. (=HUDV 24300, SOSC 20600) This seminar explores the variety of qualitative methods used in social science study. Perspectives surveyed include field study, including the Chicago studies of social disorganization. We also discuss “Grounded Theory,” ethnography and study of culture, and narrative and life-story approaches to study of person and social life. Attention is devoted to issues of method such as reliability and validity, implications for philosophy of social science study, portrayal of both person and context or setting. We focus on the complex interplay of observer and observed, and we also examine “reflexivity” in the human sciences. *B. Cohler. Winter.*

24400. Observation of Child Behavior in Natural Settings. (=HUDV 24400) This course explores ways that children behave in a variety of settings, including preschools, schools, playgrounds, hospitals, grocery stores, and other public venues. Behavior is examined with a developmental perspective as well as an ecological one. The course consists of readings that explore how to conduct observational studies, findings from developmental research, and fieldwork. Students observe children throughout the quarter and systematically collect data for a course project. *S. Stodolsky. Spring.*

24700/34700. Social Cognition. This course is designed to introduce students to the field of social cognition. Social cognition is a branch of social psychology that deals with how social and environmental factors influence how we attend to, encode, and process information and how these mental processes affect subsequent judgments, and behavior. Topics include heuristics and biases, memory, processes, mood and cognition, prejudice and stereotyping, automaticity, and culture and cognition. *C. Pickett. Autumn.*

25400. Rewriting the Past: Narrative, Ritual, and Monument. (=BPRO 26000, HUDV 27100) This course focuses on the manner in which we make use of the past, the personal past, the collective past, and the place of social and historical change in retelling and rewriting life-history and history. We discuss a number of topics including twentieth-century war memorials, the Vietnam Veterans Memorial, high school and college reunions, the Holocaust and its representation in contemporary European society, the construction of the Israeli notional tradition, and the construction of Abraham Lincoln as an American story of loss and renewal. *B. Cohler, P. Homans. Winter.*

25800. The Psychiatric Patient and the Life-World. (=HUDV 25800, SOSC 27900) *PQ: Consent of instructor.* This course provides students with an opportunity to work under the supervision of the instructors with psychiatrically ill adults living at Somerset House. This 405-bed “intermediate care facility” in the Uptown area of the North Side provides

residential services and treatment as an alternative to institutionalization. Additionally, students have the opportunity to participate in inpatient services in a public psychiatric hospital (Tinley Park). Clinical experience is integrated with readings and class discussion regarding origin, course, and intervention for major mental disorders. Additional consideration is given to public policy issues related to intervention among persistently troubled adults. *The course meets each Friday from 9 a.m. through late afternoon, with the last two hours of the day reserved for discussion of the day's events and assigned reading. B. Cohler. Autumn.*

26200/42200. Research Seminar in Research in Behavioral Endocrinology. (=EVOL 42200, HUDV 42200) *PQ: Consent of instructor.* Ongoing research in the lab of Professor McClintock is discussed. *M. McClintock. Winter.*

27000. Judgment and Decision Making. This course provides an overview of topics related to the psychology of decision making and judgment. Specific topics are drawn from three broad areas: the ends that people pursue (e.g., happiness, meaning), the means with which people pursue them (e.g., processes of self-regulation, strategies of management and coping, planning, problem-solving, evaluation, choice), and limitations of deliberative decision making (e.g., lack of self-knowledge, unconscious or emotional processes that are difficult to control, external constraints). *W. Goldstein. Winter.*

27500/37500. Psychology of Language. This course addresses major topics in psycholinguistics and language acquisition: how people speak, how people understand, and language systems. We consider issues such as speech production and perception, the concept of meaning, the development and organization of the mental lexicon, sentence processing, and conversational rules. *H. Nusbaum. Spring.*

27900. Self and Identity. (=HUDV 27900) This course introduces research and theory related to psychological aspects of self and identity. Specific topics are drawn from the following broad areas: development of self (e.g., origins of selfhood), self-knowledge (e.g., organization of self-knowledge, motivational influences on self-knowledge), self and subjective experience (e.g., esteem, self, emotion), self-regulation (e.g., processes of self-control, willpower), self and interpersonal processes (e.g., self-presentation, role models), and culture and self. *W. Goldstein. Autumn.*

28300/38300. Attention. This course covers basic topics in the area of attention including orienting responses, selective and divided attention, resource limitations, and cognitive load. We discuss basic research methods in attention, mathematical and computational models of attention, and neurophysiological research on attention. The course considers theoretical controversies and recent advances in our understanding of attention and its role in cognitive processing. *H. Nusbaum. Winter.*

28500/48500. Research Seminar in Social Neuroscience. *PQ: Consent of instructor.* Ongoing research in the lab of Professor Cacioppo is discussed. *J. Cacioppo. Autumn, Winter, Spring.*

28501. Freud and Psychoanalysis: The Lectures and Case Studies. (=FNDL 23302, HIPS 24401, HUDV 38900) This seminar focuses on the nature of the argument constructed by Freud in the *Introductory-New Introductory Series*, including three case studies (Dora, “Rat-Man,” Little Hans), and the role of this work for the emergence of psychoanalysis. Each of the major sections of the work is illustrated by study of one of Freud’s case reports. Much of the time is spent in a careful analysis of the text and in the writing of a paper that relates Freud’s ideas to topics of particular interest to students. *B. Cohler. Spring.*

28800/38800. Information Theory and Coding. (=CMSC 24000) *PQ: Knowledge of basic mathematics.* This course introduces students to the mathematical theory of information with emphasis on coding, especially the development of efficient codes. Topics include an introduction to coding, quantification of information and its properties, Huffman codes, arithmetic codes, L to Z, and other adaptive coding techniques and applications. *A. Bookstein. Winter.*

29200. Undergraduate Reading in Psychology. *PQ: Students are required to submit the College Reading and Research Course Form. Available for either quality grades or for P/F grades. This course may be taken for one or two quarters, depending on the size of the project. Autumn, Winter, Spring.*

29700. Undergraduate Research in Psychology. *PQ: Students are required to submit the College Reading and Research Course Form. Available for either quality grades or for P/F grades. Autumn, Winter, Spring.*

29800. Honors Seminar. *PQ: Open to students with third- or fourth-year standing who have begun their thesis project. Students who wish to pursue honors are required to take this honors seminar in Autumn or Winter Quarter of their senior year. This seminar counts as one of the three reading and research credits.* We read and discuss general papers on writing and research, and individual students present their own projects to the group. A literature review, data from ongoing or completed empirical projects, or portions of the thesis paper itself can be presented. Students are expected to give thoughtful feedback to others on their presentations and written work. *L. Kay, Autumn; C. Pickett, Winter.*

29900. Honors Paper Preparation in Psychology. *PQ: Students are required to submit the College Reading and Research Course Form. Available for either quality grades or for P/F grades. This course is not a requirement for doing an honors paper. This course may be taken for one or two quarters, depending on the size of the project. Autumn, Winter, Spring.*

31000. Perspectives in Drug Abuse. (=NPHP 32900) This course provides a broad overview of the major classes of abused drugs (e.g., epidemiology, pharmacology, etiological factors, short- and long-term effects). *H. de Wit. Spring.*

31100. Cellular Neurobiology. (=BIOS 24204) *PQ: Completion of the general education requirement for the biological sciences.* This course is identical to BIOS 24236 except that it has a lab, which focuses on electrophysiological techniques used in analysis of issues fundamental to

neural processing at the cellular level. These include monitoring membrane potential, carrying out voltage clamp of native and cloned ion channels, and investigating the control of synaptic transmission. *D. Hanck, P. Lloyd. Spring. L.*

31500. Neuroethology. (=BIOS 24211, CPNS 30100) *PQ: BIOS 24204 or consent of instructor. Prior or concurrent registration in PHYS 14200. Prior knowledge of basic cellular mechanisms of neurons and basic anatomy of the vertebrate central nervous system.* The design of this course considers the needs of advanced students who plan to pursue graduate work, particularly in neurobiology or experimental psychology. It covers topics in systems, computational, and behavioral neuroscience. There is a heavy emphasis on original literature, and oral and written scientific presentations. Labs include exposure to instrumentation and electronics, and involve work with live animals. *Labs meet once a week and may require time beyond the posted schedule. D. Margoliash. Winter. L.*

31600. Biopsychology of Sex Differences. (=HUDV30901) This course explores biopsychological approaches to human sex differences in psychology, morphology, and behavior. The class begins with a review and discussion of various theoretical explanations for sex differences, ranging from Darwinian sexual selection theory to various species of socialization theories. We then review evidence for psychological and behavioral sex differences. The course makes frequent use of research on nonhuman species as models for human biopsychological mechanisms. *J. Mateo. Autumn.*

32400. Attitudes and Persuasion. Attitudes are people's enduring evaluations of objects (e.g., our evaluations of other people, places, social groups, or other objects), and the study of attitudes has long been central to the field of social psychology. In this class we trace the rich history of attitude construct. We consider how attitudes are formed, and how they are changed. We explore the structure and function of attitudes, and we review some of the current controversies in the attitude literature. *P. Visser. Spring.*

33200. Introduction to Language Development. (=HUDV 31600, LING 31600) This course addresses the major issues involved in first-language acquisition. We deal with the child's production and perception of speech sounds (phonology), the acquisition of the lexicon (semantics), the comprehension and production of structured word combinations (syntax), and the ability to use language to communicate (pragmatics). *S. Goldin-Meadow. Winter.*

33700. Perception and Action. *PQ: Advanced standing.* This course is devoted to understanding the development and functioning of spatially coordinated behaviors in humans. This coordination is achieved through the dynamic coupling of perception and action in response to local changes in the environment. The history, theories, and methods, as well as recent research on fundamental behaviors (e.g., reaching, standing, walking) and more complex behaviors (e.g., writing, gesturing), are discussed. This course includes research from developmental psychology, neuroscience, psychophysics, biomechanics, robotics, and nonlinear dynamical systems. Tutorials on specific techniques, such as motion analysis, are also included. *B. Bertenthal. Autumn.*

34214. Cognitive Neuroscience. (=BIOS 24214, CPNS 30200) *PQ: One year of college-level calculus and prior course in systems neuroscience.* This course is concerned with the relationship of the nervous system to higher order behaviors such as perception, action, attention and learning and memory. Modern methods of imaging neural activity are introduced. Mathematical and statistical methods including dynamical systems theory, information theory, and pattern recognition for studying neural encoding in individual neurons and populations of neurons are discussed. *N. Hatsopoulos. Spring. L.*

34237. Biological Rhythms and Sleep. (=BIOS 24237) *PQ: Completion of the general education requirement for the biological sciences, including a course in neuroscience.* This course considers oscillatory process in human physiology and behavior and discusses their functional implications. The focus is on circadian rhythms (i.e., those with a near twenty-four hour period) and includes a consideration of molecular and genetic controls and their neuroanatomical basis. Sleep-wake homeostasis, reproducibility of diurnal variations in hormonal release, metabolism, cardiovascular function, cognitive function, and mood are discussed. This course includes an overview of sleep disorders and alterations of biological rhythms in aging, blindness, and effective illness, as well as a consideration of current therapies (e.g., melatonin, hypnotic drugs). *E. Van Cauter. Winter.*

34300. Early Socialization. This course focuses on the relationship between the child's interaction with others and various aspects of socialization with an emphasis on natural interactions during the first two years. Among the topics considered are the process of interaction itself, the nature of the child's early interaction abilities, conflict, discipline, peer interaction, self-regulation, emotion, gender issues, moral development, and problematic parent-child interaction. Research methods and conceptual foundations of readings are analyzed in class discussion. *S. Duncan. Winter.*

34400. Computational Neuroscience III: Language. (=BIOS 24223, ORGB 34600) *PQ: Consent of instructor.* This course discusses computational approaches to human language. It examines the learning, production, and comprehension of language, through neural network modeling of human linguistic behavior, and through brain imaging. *T. Regier, Staff. Spring. L.*

36100. Developmental Cognitive Neuroscience. This course is concerned with the development of brain and cognition during infancy and early childhood. How does the brain constrain behavior and how does behavior shape the brain? Recent theories and research investigating the dynamic interplay between brain and behavior are reviewed. Special attention is given to the plasticity of the nervous system and its implications for early and later learning. An introduction to traditional and new methods for studying the brain is included. *B. Bertenthal. Spring.*

36200. Models of Word-learning. *PQ: Background in language acquisition and familiarity with computational modeling.* This course reviews computational models of word-learning in children. We examine associative, symbolic, and probabilistic accounts of a variety of word-learning phenomena, with a view to explaining such phenomena in terms of independently motivated mechanisms, where possible. *T. Regier. Winter.*

37000-37100-37200. Mind and Biology Proseminar. (=HUDV 38000-38100-38200) *Credit is granted only in Spring Quarter after successful completion of the year's work. The seminar series meets three to four times a quarter. L. Kay, J. Cacioppo, D. Maestripieri, M. McClintock. Autumn, Winter, Spring.*

37300. Experimental Design I: Experience. *Must be taken in sequence with PSYC 37900.* This course covers topics in research design and analysis. They include multifactor, completely randomized procedures and techniques for analyzing data sets with unequal cell frequencies. Our emphasis is on principles, not algorithms, for experimental design and analysis. *S. Shevell. Winter.*

37900. Experimental Design II. *Must be taken in sequence with PSYC 37300.* This course covers more complex ANOVA models than in the previous course, including split-plot (repeated-measures) designs and unbalanced designs. It also covers analysis of qualitative data, including logistic regression, multinomial logit models, and log linear models. An introduction to certain advanced techniques useful in the analysis of longitudinal data, such as hierarchical linear models (HLM), also is provided. *S. Shevell, Staff. Spring.*

38500. Cognitive Neuropsychology. This course is a seminar examining a broad range of research methods and issues in cognitive neuropsychology including brain imaging and connectionism. *H. Nusbaum. Autumn.*

39000. Vision. The visual process is analyzed with emphasis on psychophysical data. Where appropriate, these data are correlated with the anatomy, photochemistry, and electrophysiology of the visual system. Topics include psychophysical methodology, dark adaptation, spatial factors, temporal factors, and color vision. *J. Pokorny, V. Smith. Winter.*

39700-39800-39900. Topics in Experimental Social Psychology. (=HUDV 39400-39500-39600) *Credit is granted only in Spring Quarter after successful completion of the year's work.* This course is offered as a speaker series that discusses readings and issues in social psychology. *J. Cacioppo. Autumn, Winter, Spring.*