

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. The program may serve as preparation for graduate work in psychology, in related fields (e.g., sociology, anthropology, linguistics), or in the communication and information sciences. Psychology courses are also suitable for biological sciences majors who are interested in the relations between physiology, mind, and behavior; as well as for mathematics majors who are interested in the applications of quantitative methods. Students 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.

Program Requirements

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. Students typically take this sequence in their third year.

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

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

Additional Courses. At least six additional courses (for a total of eleven in the major) 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 Quarter. 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 that 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 and on the departmental Web site.)

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

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

Summary of Requirements

<i>General Education</i>		MATH 13100-13200 or higher†
<i>Major</i>	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
	$\frac{6}{11}$	electives* +

† Credit may be granted by examination.

* A minimum of one of the six 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.

Grading. All courses in the major must be taken for quality grades except for research courses, which are available for either quality grades or for *P/F* grades.

Honors. To qualify for honors, students must meet the following requirements: (1) Students must have a GPA of at least 3.0 overall, and a GPA of at least 3.5 in the major. (2) Students should arrange to write an honors paper with a faculty sponsor. 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 third or fourth 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 fourth 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 Majors. Students pursuing honors in more than one major should note that: (1) the student's thesis adviser for psychology cannot be the same person as his or her thesis adviser for the second major; 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

S. Beilock, B. Bertenthal, R. D. Bock, A. Bookstein, N. M. Bradburn, D. Bradley, R. A. Butler, J. Cacioppo, B. Cohler, J. Correll, J. Decety, S. Duncan, D. Gallo, S. Goldin-Meadow, W. Goldstein, S. Grossman, E. Hamp, 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. Nusbaum, J. M. Pokorny, B. Prendergast, T. Regier, M. J. Rosenberg, S. K. Shevell, S. Small, R. A. Shweder, M. Silverstein, V. C. Smith, N. L. Stein, P. Visser, B. D. Wright

Courses: Psychology (PSYC)

2000. Fundamentals of Psychology. This course introduces basic concepts and research in the study of behavior. Principal topics are sensation, perception, cognition, learning, motivation, and personality theories. *J. Cacioppo. Winter.*

2010. 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 2010 and 20200 form a two-quarter sequence that is conceived as an integrated introduction to psychological research methods. PSYC 2010 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. *J. Correll. Winter.*

2020. Psychological Research Methods. *PQ: PSYC 20100 or STAT 22000, or consent of instructor.* This course introduces concepts and methods used in behavioral research. Topics include the nature of behavioral research, testing of

research ideas, quantitative and qualitative techniques of data collection, artifacts in behavioral research, analyzing and interpreting research data, and ethical considerations in research. *H. Nusbaum. Spring.*

20300/30300. Biological Psychology. 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. *B. Prendergast, 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. *S. Beilock. Autumn.*

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. Levine, C. Raver. Spring.*

20600/30600. Social Psychology. (=HUDV 26000/36000) *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. *W. Goldstein. 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. Winter.*

21100. Human Development/Research Designs in Social Science. (=HUDV 20100) For course description, see Comparative Human Development. *M. Keels. Winter.*

21105. Social-Cognitive Development in Infancy: Understanding Actions and Agents. This is an introductory course in the study of infant social-cognitive development from birth to approximately two years of age. We examine the ways in which infants come to recognize, understand, and learn from others in their social world. In the first half of the course we focus on how infants learn *about* other people, and in the second half of the course we focus on how infants learn *from* people. Throughout the course, we cover topics such as infants' understanding of

goals, attention, and preferences; and infants' imitation of actions, early language development, and pretending. *J. Buresh. Autumn, 2006.*

21205. Methodological Challenges to Cognitive Neuroscience. As cognitive neuroscience becomes increasingly influential, its often ambitiously stated claims of enlightening psychological concepts receive more critical attention from representatives of adjacent domains. In this course, we outline this ongoing debate and discuss potential consequences for neuroscientific endeavors. In particular, we receive the current state of affairs in a wide range of topics in terms of empirical findings, theoretical claims, and methodological challenges. Students learn to identify fundamental assumptions that are implicitly presupposed in common ways of interpreting data and concept building in cognitive neuroscience. *P. Wallisch. Winter, 2007.*

21305. Social Contact and Health: Psychoneuroendocrine Aspects. The constantly growing set of experimental measuring tools has led to great strides in understanding exactly how the way one thinks and feels is linked to health and disease processes. This course examines some of these links and focuses to a large extent on the neurohormone, oxytocin, which is widely implicated in many social behaviors. It is released during certain social interactions (e.g., breast feeding, gonadal orgasm) and is believed to be important in the emotional bonding process between mother and infant and between sexual partners. *E. Patterson. Spring, 2007.*

21800. Adolescence and Youth. (=HUDV 20201/30001) For course description, see Comparative Human Development. *B. Cobler. Autumn, 2006.*

21900/32000. Color Vision. (=CPNS 30500, OPTH 32000) *PQ: PSYC 20700 or consent of instructor.* This course examines mechanisms and theories of color vision. Topics include the basic psychological mechanisms underlying color vision, neural coding of color information and results from human psychological experiments that relate to quantitative descriptions, and theories of color perception. *S. Shevell. Winter, 2007.*

22500. Cognitive Development. This course examines the intellectual development of the child. Topics include the growth of the child's understanding of the physical and social world, as well as the development of memory and thought processes. *J. Huttenlocher. Spring, 2008.*

22650. Problems in the Study of Sexuality. (=ENGL 10300, GNDR 10200, HUMA 22900, SOSC 28300) This course focuses on histories and theories of sexuality: gay, lesbian, heterosexual, and otherwise. This exploration involves looking at a range of materials from anthropology to the law and from practices of sex to practices of science. *B. Cobler. Winter.*

23000/33000. Cultural Psychology. (=HDCP 41060, HUDV 23000/31000) For course description, see Comparative Human Development. *R. Shweder. Autumn.*

23200. Introduction to Language Development. (=HUDV 23900/31600, LING 21600/31600) 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). *M. Rowe. Winter.*

23249. Animal Behavior. (=BIOS 23249, HDCP 41050, HUDV 23249) *PQ: Completion of the general education requirement for the biological sciences.* For course description, see Human Development. *This course is offered in odd years. J. Mateo. Winter.*

23300/33300. Social Neuroscience of Empathy. How do we understand each other? Why and how do we care about others? If we put ourselves into the mental shoes of another person, how closely do we really feel what she feels? What cognitive and neural mechanisms account for a sense of self and other? These are some of the questions that will be addressed through an interdisciplinary approach, including developmental science, social psychology, and cognitive neuroscience. *J. Decety. Winter, 2007.*

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.*

23800. Introduction to Learning and Memory. This course examines basic questions in learning and memory. We discuss the historical separation and division of these two areas as well as the paradigmatic differences in studying learning and memory. We also discuss basic research methods for investigating learning and memory and survey established and recent research findings, as well as consider several different kinds of models and theories of learning and memory. Topics include skill acquisition, perceptual learning, statistical learning, working memory, implicit memory semantic vs. episodic memory, and memory disorders. *H. Nusbaum. Winter, 2007.*

24000/31200. Systems Neuroscience. (=BIOS 24205) *PQ: BIOS 24204 or 24236, or consent of instructor.* For course description, see Biological Sciences. *J. Ramirez, R. McCrea, M. Osadjan. Spring. L.*

24150. Psychoneuroimmunology: Links between the Nervous and Immune Systems. (=BIOS 02370, BPRO 24200) *PQ: Third- or fourth-year standing, and BIOS 20180s or 20190s.* For course description, see Biological Sciences. *M. McClintock, J. Quintans. Spring, 2007.*

24701/34701. The Development of Emotional and Social Understanding. (=HUDV 24701/34700) The focus of this course is on the development of emotional and social understanding from infancy through adolescence. Topics include: How do we conceptualize and define emotional understanding? How are emotions linked to thinking, body expression, and language? How are moods and emotions related to each other? Are there stable temperamental differences that predispose individuals to be continually angry, depressed, panicked, or happy? How good is emotional memory? Do young children have the capabilities to remember emotional events accurately? What is the role of emotional understanding and expressiveness in young children as they develop memory and theory of the mind? How does emotional understanding reflect children's understanding of themselves and other people? Are emotional expressions accurate predictors of behavior in subsequent situations? *N. Stein. Autumn, 2006.*

24800/34800. Cognitive Development, Complex Language Acquisition, and Schooling. *N. Stein. Spring, 2007.*

25000/35000. Physiology of Vision. (=BIOS 22248) *PQ: Prior physics and calculus courses, and one of the following: BIOS 24236 or 24204, or PSYC 28000.* For course description, see Biological Sciences. *D. Bradley. Spring, 2008.*

25100. Decision Making and Communication. We constantly make decisions in life by determining our preferences and choosing among alternatives. How do we make decisions? What are the rules that guide us? How do we negotiate? We consider how the way we gather information affects our judgment, and how the way we frame problems affects our perceptions and the solutions to the problems. We also consider intuitive predictions and consider the way we learn from our experience. While this course focuses on individual decision making and communication, we also learn about the negotiation of a joint outcome and how the biases of an individual affect the process. *B. Keysar. Autumn, 2006.*

25450. Memory, Commemoration, and Mourning. (=AASR 30001, BPRO 26050, FNDL 23312, HUDV 27102, RLST 28102) *PQ: Third- or fourth-year standing.* For course description, see Big Problems. *B. Cobler, P. Homans. Spring, 2007.*

25601/35601. Population Coding and the Perceptual Brain. *D. Bradley. Spring, 2007.*

25700. The Psychology of Negotiation. The goal of this course is to understand the structure of different negotiations and the psychology that governs the processes and outcomes of a negotiation. We observe how trust, reciprocity, fairness, cooperation, and competition can affect our ability to benefit from an

exchange or contribute to the escalation of conflict. To better understand the psychology behind the negotiation process, students learn through engaging in negotiation and relating these experiences to research findings. *B. Keysar. Spring, 2007.*

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. Autumn, Winter, Spring.*

26550/36550. Emotion, Learning, and Behavior. *N. Stein. Winter, 2007. L.*

27000. Judgment and Decision Making. (=HUDV 27000) 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, 2007.*

27500/37500. Introduction to the 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. *T. Regier. Winter, 2007.*

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.*

28800/38800. Information Theory and Coding. (=CMSC 27000) *PQ: Consent of instructor.* For course description, see Computer Science. *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 fourth year. This seminar counts as one of the three reading and research credits. Available for either*

quality grades or for P/F grades. 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. *D. Gallo, Autumn, 2006; B. Keysar, Winter, 2007; Staff, Autumn, 2007; Staff, Winter, 2008.*

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.*

31100. Cellular Neurobiology. (=BIOS 24204) *PQ: Completion of the general education requirement for the biological sciences.* For course description, see Biological Sciences. *P. Lloyd. Autumn. L.*

32500. Topics in Cognitive Development. This course examines the intellectual development of the child. Topics include the growth of the child's understanding of the physical and social world, and the development of memory and thought processes. *J. Huttenlocher. Winter, 2007.*

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. Topics include 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. Spring, 2007.*

34400. Computational Neuroscience III: Cognitive Neuroscience. (=BIOS 24223, CPNS 33200, ORGB 34600) *PQ: Consent of instructor.* For course description, see Biological Sciences. *N. Hatsopoulos. Spring. L.*

35300. Intuitive Thinking. *B. Keysar. Spring, 2007.*

35350. Seminar: Word Learning and Semantic Development. *J. Huttenlocher, M. Abelev. Autumn, 2006.*

35950. Stereotyping and Prejudice. *PQ: Advanced standing and consent of instructor.* This seminar reviews experimental social psychological research and theory concerning stereotyping and prejudice. We discuss selected perspectives, both classic and contemporary, and follow their evolution over time. Topics include the functions of stereotyping/prejudice, their formation and maintenance, motivations for and against bias, and the distinction between implicit and explicit intergroup attitudes. *J. Correll. Spring, 2007.*

36100. Developmental Cognitive Neuroscience. *B. Bertenthal. Autumn, 2006.*

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.* Topics relate to mind and biology. *The seminar series meets three to four times a quarter.* *D. Gallo, L. Kay, D. Maestripietri, M. McClintock. Autumn, Winter, Spring.*

37300. Experimental Design I. *PQ: 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, 2008.*

37400. Human Memory. *PQ: Consent of instructor.* This course surveys the scientific study of human memory, emphasizing both theory and applications. Lectures cover current research and methods in cognitive psychology and cognitive neuroscience, as well as historical precursors and classic studies. Topics include consciousness and nonconscious processes, corresponding neural systems, and various phenomena (e.g., amnesia, memory distortion, mnemonics, metacognition). *D. Gallo. Winter, 2007.*

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. Spring, 2008.*

38202. Analysis of Eye-to-Eye Interaction. *S. Duncan. Winter, 2007.*

38600. Processing of Environmental Information. *B. Prendergast. Spring, 2007.*

39200. MRI Research Methods. This is a didactic fMRI methods course. There are faculty lecturers at each meeting that include a number of outside lecturers. *Class meets for three hours each week.* *S. Small. Winter.*

39700-39800-39900. Topics in Experimental Social Psychology. *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.*

47001. Language in Culture I, II. (=ANTH 37201-37202, ISHU 35400, LING 31100-31200) *PQ: Consent of instructor. Must be taken in sequence.* For course description, see Anthropology. *M. Silverstein, Autumn; S. Gal, Winter.*

