Psychological & Brain Sciences

Phone: 314-935-6520
Website: https://psych.wustl.edu/graduate-program

Courses

PSYCH 5030 Seminar: Experimental Social Psychology
This course provides broad exposure to the theory and methods of modern social psychology. The focus of the course will be on current theoretical issues in major areas of the field, including social perception, social cognition, attitude change, self and identity, aggression, prosocial behavior, interpersonal relations, and group processes. PREREQ: Graduate standing.
Credit 3 units.

PSYCH 5098 Advanced Seminar in Human Memory
An advanced exploration into a selection of current research topics on human memory using psychological, functional neuroimaging, and neuropsychological methods. Topics include encoding and retrieval of episodic memory, autobiographical memory, episodic future thought, and related topics. PREREQ: Cognitive Proseminar or permission of instructor.
Credit 3 units.
Typical periods offered: Spring

PSYCH 5115 Clinical Science: Professional Issues
As the third in a series of three core clinical science courses, this course focuses on (a) ethical foundations of clinical practice; (b) knowledge of issues of diversity and their application in clinical practice; (c) skill building in essential empirically supported techniques; and (d) building knowledge in current issues and standards of clinical science. The latter course content is purposefully kept open so that this course can be adapted as needed to address the most crucial concerns in the field. Prerequisites: Graduate study in the clinical science program or permission of instructors
Credit 3 units.

PSYCH 5176 Applied Statistical Analysis With R
This course is designed to introduce R as both a means of applied statistical analysis as well as a window into data organization and programming. The goal of the course is to teach the tools needed to take a raw dataset and not only perform a statistical test in R, but alsoto learn how to arrangethe dataset to perform a variety of tests, to choose the appropriate test, and to visualize the results. Students will gain practical knowledge of how to use statistics in research. Please note that this is an introductory course and knowledge of R prior to enrollment is not expected.PREREQ: Psych 300; OR graduate standing by permission.
Credit 3 units. A&S IQ: NSM Art: NSM

PSYCH 5183 Perception, Thought, and Action
This course focuses on current topics in visual perception, visual attention, and the control of action. Readings consist of recent journal articles. Class meetings emphasize presentation and discussion of the material in the readings. Limited to 15 students. PREREQ: Psych 100B/1000 and one of the following: Psych 301/3010, Psych 330/3300, Psych 3401, Psych 344/3440, Psych 360/3600, Psych 361/3610, Psych 3604, Psych 380/3800, Psych 433/4330, or Psych 4604.
Credit 3 units. A&S IQ: NSM Art: NSM BU: BA

PSYCH 5190 Advanced Cognitive, Computational and Systems Neuroscience
This course will develop critical thinking and analysis skills with regard to topics in Cognitive, Computational and Systems Neuroscience. Course format will be a series of modules composed of intensive, faculty-led case studies on interdisciplinary topics at the intersection of psychology, computation and neuroscience. The goal will be to highlight the benefits of integrative, interdisciplinary approaches, by delving into a small set of topics from a variety of perspectives, rather than providing a survey-level introduction to a broader set of topic areas. Modules will involve a combination of lectures and student-led discussion groups, with students further expected to complete a multi-disciplinary integrative final review paper. Case-study topics will vary somewhat from year to year, but are likely to include some of the following: temporal coding as a mechanism for information processing, coordinate transformations in sensory-motor integration, mechanisms of cognitive control, motor control strategies including application to neural prosthetics, and memory systems in health and disease.
Credit 3 units.
Typical periods offered: Fall

PSYCH 5226 The Psychology of Social Stigma
This seminar aims to introduce students to theoretical and empirical social psychological research on prejudice and social stigma. The topics covered will include examinations of why individuals stigmatize by exploring cognitive, evolutionary, self and system justification explanations. The course will examine the effects of stigmatization for low-status groups (i.e., stereotype threat, dis-identification, compensation and health outcomes). We will explore the role of stigma in intergroup interactions and variations in the experience of stigma. Finally, we will examine high-status groups' perceptions of bias (e.g., perceptions of anti-white discrimination). Prerequisite: Graduate standing in Psychological & Brain Sciences or related field with permission of instructor.
Credit 3 units.
Typical periods offered: Spring

PSYCH 5321 Advanced Developmental Psychology
This graduate course will provide an in-depth survey of the foundations, theories, and current research in developmental psychology. We will study the cognitive and social processes that underlie how humans develop, with an emphasis on the period from infancy to late childhood. Topics will include the development of perception, action, language, concepts, emotions, morality, and social cognition.
Credit 3 units.
Typical periods offered: Fall, Spring

PSYCH 5427 Social Gerontology
This course provides an introduction to aging and growing old, from an interdisciplinary perspective. Specific attention is paid to demographics, physical health and illness, mental health, interpersonal relations, work issues, living arrangements, ethics, and death and dying. PREREQ: Junior or Senior standing and completion of 6 advanced units in Psychology.

Credit 3 units. A&S IQ: SSC Art: SSC EN: S
Typical periods offered: Spring

PSYCH 5452 Clinical Science: Introduction to Intervention
This course aims to provide students with an introduction to basic concepts and theoretical views of psychotherapy. Topics covered include aspects of therapeutic processes, such as case conceptualization, ethics, diversity, and termination, as well as foundational exposure to various systems of psychotherapy.
Credit 3 units.
Typical periods offered: Fall, Spring

PSYCH 5454 Introduction to Affective Science
The complexity and significance of emotions make their study particularly exciting and challenging. Emotions both shape and are shaped by our subjective experiences, physiology, behaviors, cognitions, social interactions, and health. This course offers an overview of theory and research on emotion with content stretching across psychological disciplines, including personality, social, clinical, developmental, and neuropsychology. Course content will include definitions of emotion, physiological changes associated with emotion, and individual differences in emotional experience. The course will also examine how culture, cognitions, and relationships affect and are affected by emotion and how emotion is related to physical and mental health. PREREQ: Graduate standing.
Credit 3 units.
Typical periods offered: Fall

PSYCH 5526 Neuropsychological Assessment
This course will provide an overview of clinical measures used in assessing neurocognitive function. Assessment of a broad range of abilities will be discussed, primarily within the domains of memory, attention, language, motor, and visuospatial function. The foci of the course will be test administration, test interpretation, communication of results, and discussion of the clinical features of selected neuropsychological syndromes. Prerequisite: Open to clinical graduate students in Psychological & Brain Sciences and other advanced graduate students with permisison of the instructor.
Credit 3 units.
Typical periods offered: Fall, Spring

PSYCH 5591 The Development of Social Cognition
Credit 3 units.

PSYCH 5594 Psychology of the Good Life
What is the good life, and how can people achieve it? This discussion-based seminar class explores two aspects of the good life: (1) good for oneself (living a personally fulfilled life), and (2) good for others (living an ethical life, being a good person). We will consider how psychological science can be used to conceptualize, uncover the causes of, and promote well-being for oneself and for others. There will be a particular focus on the ways in which these two aspects of the good life are in alignment or in conflict with each other. Classes will focus on critically evaluating research and integrating and connecting the weekly readings to students' personal research interests and lives, primarily through student-led discussions. PRE-REQ: Graduate Standing
Credit 3 units.
Typical periods offered: Spring

PSYCH 5598 Human Evolutionary Psychology
How did evolution by natural selection shape the way human beings think and behave? Does evolution explain human cooperation and friendship, human morality, reproductive decisions and social interactions? What sex differences in cognition or behavior are caused by evolution? This course introduces the concepts and findings of evolutionary psychology, mostly through reading of primary sources--articles from psychology and biology journals--and discussion and presentation of empirical cases. PREREQ: At least 6 units of upper-level, home-based Psychology coursework, OR Anthro 3383.
Credit 3 units. A&S IQ: SSC Art: SSC EN: S

PSYCH 5611 Readings in Psychology
Prerequisite: Permission of the department.
Credit 3 units.
Typical periods offered: Fall

PSYCH 5620 Readings in Psychology
Credit 3 units.
Typical periods offered: Spring

PSYCH 5631 Introduction to Computational Cognitive Science
How does the mind work? Over the last few decades, cognitive psychologists have become increasingly interested in using computational models. These models are designed to describe cognitive processes and the behavior that is produced by them. This computational approach has several advantages. Computational theories of cognition are more specific than verbal theories. Therefore, they do not only afford precisely quantifying certain aspects of cognition, but they also make it possible to simulate cognitive processes. This course provides an introduction to several leading computational methods for understanding cognition, including model fitting and comparison, reinforcement learning, neural networks and Bayesian modeling. These methods will be applied to a wide range of cognitive phenomena, such as short-term memory, reinforcement learning, decision making, cognitive control, concept learning and visual perception. Prerequisites: Psych 100B and Psych 301/3011.
Credit 3 units. A&S IQ: NSM Art: NSM BU: BA

PSYCH 5640 Practicum in Psychotherapy
Ten hours per week supervised training in psychotherapy and behavior change in an applied clinical setting. PREREQ: Open to clinical graduate students in Psychological & Brain Sciences only.
Credit 1 unit.
Typical periods offered: Fall, Spring

PSYCH 5650 Teaching of Psychology
This course has three major objectives. First, it will provide guidance on the skills and tactics necessary for effective teaching. Topics to be covered range from the mundane (syllabus preparation) to the mystical (teaching style). We'll discuss how each plays an important role in effective teaching. Second, the course will alert students to the vast literature on teaching so that those wishing to further hone their skills will have resources at their fingertips when they later need them. Finally, the course will provide a forum for discussion of issues and problems arising in the students' teaching experiences. Learning from your colleagues is a valuable part of your development as a teacher and this course will encourage you to start that dialogue.
Credit 2 units.
Typical periods offered: Summer

PSYCH 5665 The Science of Behavior
The primary function of nervous systems is to control behavior. Understanding the links between brain and behavior requires an understanding of cognition-the computations performed by the brain, as well as the algorithms underlying those computations and the physical substrates that implement those algorithms. The goal of this course is to introduce students to the tools, concepts, and techniques for the experimental study of cognition and behavior in humans and nonhuman animals. We will focus on cognitive capacities that are well-developed in humans and can be compared with those of other species, to develop an understanding of how evolution shapes cognition and behavior. Students who complete this course will be able to ask questions and form hypotheses about the computations and algorithms underlying cognition and behavior, and to design experiments that test these hypotheses. PREREQ: Graduate standing or permission of the instructor
Credit 3 units.
Typical periods offered: Fall

PSYCH 5765 Inside the Disordered Brain: Neural Systems of Behavior and Psychopathology
How do subtle disturbances in brain circuits lead to abnormal behavior and psychopathology? This course provides students with a working knowledge of our rapidly evolving understanding of brain circuits that create order in our social, emotional and cognitive worlds, and how disorder within these circuits leads to a broad range of psychopathology including depression, anxiety, phobias, PTSD, OCD, addiction, schizophrenia, psychopathy and violence. PREREQ: Psych 100B and one of the following: Biological Psychology (Psych 3401), Abnormal Psych (Psych 354), or a basic Biology/Neuroscience course.
Credit 3 units.
Typical periods offered: Fall

PSYCH 5870 Clinical Psychology of Aging
Methods of assessing cognitive functioning and personality in older adults. Understanding of the application of the techniques of assessment to older adults not the development of testing skills, is the goal of this course. PREREQ: PSYCH 426 or permission of Instructor.
Credit 3 units.
Typical periods offered: Spring

PSYCH 5883 Psychology of Aging
Study of both theory and empirical findings about the processes of aging in terms of brain structure and function, sensation, perception, cognition including learning and memory, intelligence, language, and related topics. PREREQ: Graduate students only.
Credit 3 units.
Typical periods offered: Fall, Spring

PSYCH 5884 Project Building in Aging
The goal of this course is to help students with an interest in aging research develop the critical thinking skills necessary to develop and implement high quality, interdisciplinary research projects.
Credit 3 units.
Typical periods offered: Spring

PSYCH 5886 Intervention With Older Adults
Individual, group, marital, family, and systems interventions as applicable to older adults. Emphasis is on the implementation and evaluation of these interventions in both clinical and research contexts. PREREQ: Graduate standing.
Credit 3 units.
Typical periods offered: Spring

PSYCH 5910 Research in Psychology
Prerequisite: Permission of the department.
Credit 9 units.
Typical periods offered: Fall

PSYCH 5920 Research in Psychology
Credit 3 units.
Typical periods offered: Spring

PSYCH 5921 Seminar: Theories of Social Psychology
This course provides broad exposure to the theory and methods of modern social psychology. The focus of the course will be on current theoretical issues in major areas of the field, including social perception, social cognition, attitude change, self and identity, aggression, prosocial behavior, interpersonal relations, and group processes.
Credit 3 units.
Typical periods offered: Fall

PSYCH 5940 Behavioral Psychology Readings Group
Credit 1 unit. A&S IQ: SSC Art: SSC EN: S

PSYCH 5958 Emotion Regulation
The purpose of this course is to provide an introduction to the field of emotion regulation. We will discuss theoretical and empirical work on emotion regulation from various areas of psychology, including social, personality, developmental, clinical, and neuroscience. Example topics include definitional issues, goals and strategies, personal and interpersonal consequences, sociocultural influences, life-span development, health and psychopathology. PREREQ: Psych 301.
Credit 3 units. A&S IQ: SSC Art: SSC EN: S
Typical periods offered: Spring

PSYCH 5991 Social Cognition
This seminar will focus on current theory and methods in social cognition, broadly defined. The goal of this course, much like the goal of research in social cognition is twofold: 1) to explore the cognitive underpinnings of social psychological phenomena, including person perception, stereotyping, attribution, emotion, automaticity, and self-construction, assessment, and regulation; and 2) to explore the social and contextualized nature of cognitive processes and content, including memory, judgment, and perception. Although the course draws primarily on readings from the social psychological literature, topics discussed are relevant to a variety of domains, including cognitive and clinical psychology. PREREQ, GRADUATE STANDING.
Credit 3 units.
Typical periods offered: Spring

PSYCH 5998 Recent Advances in Psychological Science Seminar Series
This is a regular seminar series offered in the department of Psychological & Brain Sciences that consists of outside speakers from around the world and country who present in the department colloquium series, as well as additional topics and speakers presented by faculty within the P&BS department. Attendance at this series is required for all graduate students in the department of Psychological & Brain Science. PREREQ: Graduate standing in P&BS.
Credit 1 unit.
Typical periods offered: Fall, Spring

PSYCH 7885 Masters Nonresident
Credit 0 units.
Typical periods offered: Fall

PSYCH 8003 First-Year Seminar for Graduate Students
This optional seminar for first-year students is intended to help orient the incoming graduate student to skills important for graduate school success. Topics covered include giving research talks, giving feedback to and receiving feedback from fellow students, and scientific writing. To help focus to these discussions, we will consider how to create a successful application for the National Science Foundation (NSF) Graduate Research Fellowship Program, and each student will write multiple drafts of the essays relevant to this program. PREREQ: First-year student in the Psychology graduate program or permission of instructor.
Credit 2 units.
Typical periods offered: Fall

PSYCH 8004 Scientific Writing for Graduate Students: Preparing an NSRA and Journal Manuscripts
This course is intended to provide students with an opportunity to learn about the basics of grant writing (based on NIH format) and preparing research manuscripts. The first two-thirds of the class will be spent discussing the different sections of NIH grants and how to write strong versions of each of these sections. The last third will be spent on discussing and writing the four main sections of a research manuscript.
Credit 3 units.

PSYCH 8011 Research Designs and Methods
This course provides graduate students with a broad-based exposure to conceptual and practical issues in planning, designing, executing and evaluating research in the behavioral sciences. Topics include Reliability and Validity, Experimental design, quasi-experimental design, single-case research, and passive observation designs. Prereq: Psych 406 and 407 or equivalent.
Credit 3 units.
Typical periods offered: Fall

PSYCH 8012 Selected Topics in Design and Statistics
This course will examine selected problems in the design and analysis of psychological research. Topics include the analysis of change, taxometric methods for investigating individual differences, bootstrapping, analysis methods, and common pitfalls in statistical inference. PREREQUISITE: graduate standing and psych 406, 407 and 5011.
Credit 3 units.
Typical periods offered: Fall

PSYCH 8015 The Psychology of Academia
This course will discuss the informal rules and practices of academia. The topics include how to succeed in graduate school, whether or not to take a postdoctoral fellowship before seeking a job, how to get hired, how to get tenure, how to mentor students, how to teach, how to plan your research career, and how to get grants. Other topics include issues of diversity in higher education and different prospects facing newly minted Ph.D.s who go into academia versus those who go into more applied settings. PREREQ: Graduate standing.
Credit 1 unit.
Typical periods offered: Fall

PSYCH 8066 Quantitative Methods I
Introduction to the theoretical concepts underlying quantitative methods in psychology. Topics include set theory, probability theory including the basic probability density functions and their cumulative distributions, joint events and stochastic independence, sampling theory and sampling distributions (including the binomial, normal, t, chi-square and F distributions), parameter estimation, interval estimation, the t-test, hypothesis testing, power, and some nonparametric statistics. Prerequisite, Graduate standing.
Credit 3 units.
Typical periods offered: Fall

PSYCH 8067 Quantitative Methods II
This course is a continuation of Psych 5066. It provides an introduction to multiple regression/correlation analysis. Topics include bivariate and multiple correlation and regression, representation of nominal or qualitative variables, power and orthogonal polynomials, interactions, analysis of covariance, and repeated measures design. Prerequisite: Psych 5066.
Credit 3 units.
Typical periods offered: Spring

PSYCH 8068 Hierarchical Linear Models
Data in the social sciences are frequently organized hierarchically: students are enrolled in courses, which exist within separate schools, which are parts of different school systems; employees work within teams within different divisions of a company; the outcomes for participants or patients in different treatment groups are measured different numbers of times and include covariates that vary over time; partners, parents, and children are parts of family units that are parts of different communities. Hierarchical data contain dependencies that preclude traditional analyses (e.g., simple analysis of variance or multiple regression), requiring instead an approach that correctly estimates error sources and identifies systematic effects at their appropriate level of influence. This course provides an introduction to the analysis of hierarchical data with an emphasis on the correct identification of models, analysis of hierarchical data with current software, proper interpretation of results, and use of appropriate diagnostic tests for model adequacy. Prerequisites: Psych 5066 and Psych 5067.
Credit 3 units.
Typical periods offered: Spring

PSYCH 8087 Advanced Cognitive Psychology
This course provides an advanced introduction to core topics in cognitive psychology. Topics may include attention, memory, categorization, metacognition, and decision modeling. Prerequisite: Graduate standing.
Credit 3 units. EN: S
Typical periods offered: Spring

PSYCH 8112 Psychological Assessment I
An introduction to the theory, development, and evaluation of cognitive assessment techniques and tests is provided. Students also gain experience in the administration, scoring, and reporting of results from standard assessment tools. Less commonly used approaches such as observational methods will be discussed. Relevant research relating to the assessment of diverse populations will be examined. PREREQUISITE; OPEN TO CLINICAL PSYCHOLOGY GRADUATE STUDENTS AND OTHER ADVANCED GRADUATE STUDENTS WITH PERMISSION OF INSTRUCTOR.
Credit 3 units.
Typical periods offered: Fall

PSYCH 8113 Psychological Assessment II
This course is an introduction to the theory, development, and evaluation of personality and diagnostic assessment techniques and tests. Topics will include psychometric issues (e.g., reliability, validity) as well as appropriate usage and interpretation of instruments commonly used to assess personality, mood, and psychopathology. The course involves the practical application and interpretation of psychological assessments. Prerequisite: Graduate standing in Psychological & Brain Sciences.
Credit 3 units.
Typical periods offered: Fall, Spring

PSYCH 8160 Applied Multivariate Analysis
The purpose of this course is to provide students with a working knowledge of multivariate statistics including multivariate multiple regression, multivariate analysis of variance, discriminant analysis, factor analysis, and canonical correlation analysis. PREREQUISITE, PSYCH 5066 and 5067 or their equivalent.
Credit 3 units.
Typical periods offered: Fall

PSYCH 8165 Applied Longitudinal Data Analysis
This course covers modern methods of handling longitudinal, repeated measures. It will introduce the rationale of measuring change and stability over time to study phenomena as well as how within-person designs can increase statistical power and precision as compared with more traditional designs. Most the course will use multi-level models and latent (growth) curve models to specify patterns of change across time. Additional topics include visualization, measurement invariance, time-to-event models and power. Prerequisite: Familiarity with R and with MLM and/or structural equation models.
Credit 3 units.
Typical periods offered: Fall, Spring

PSYCH 8167 Applied Bayesian Statistics for Psychologists
Bayesian parameter estimation and hypothesis testing offer a useful alternative to the classic frequentist paradigm within psychological science. This class will cover the foundations of Bayesian inference and hypothesis testing with the primary emphasis on fitting multiple regression and multi-level models common within psychology. A variety of response distributions will be discussed: Gaussian, binary and count, ordinal, survival, probability, and zero-inflated models, among others. Topics include: model calibration, regularization, prior and posterior predictions, Bayes factors, missing data, Bayesian power, cross-validation, Bayesian meta-analysis, distributional models, and multivariate response models. Models will be fit using the R package brms, which relies on the more general Stan language.
Credit 3 units.
Typical periods offered: Fall, Spring

PSYCH 8245 Graduate Research Seminar
This course consists of weekly seminars on different topics of research in psychological science. Students are expected to participate through attendance, questions, and occasional presentation of their own research. Credit for this course is restricted to graduate students in the department of Psychological & Brain Sciences. Prerequisite: Graduate standing in Psychological & Brain Sciences.
Credit 1 unit.
Typical periods offered: Fall, Spring

PSYCH 8352 Theories of Personality Psychology
This course is intended to provide a comprehensive review of major theories in personality psychology. Across the semester, students will be introduced to historical and contemporary theories in personality science, capturing four major research areas: definitions of personality, personality trait taxonomies, personality development across the lifespan, and goals and motives. Each week, students will be assigned chapters from the Handbook of Personality that provide broad overviews of the topic, in addition to empirical papers related to the week's topic. Students will be expected to engage in and lead class discussions, as well as complete a semester-long paper project that will entail applying the theoretical frameworks mentioned in class to the student's personal research area. PREREQ: Graduate Standing
Credit 3 units.
Typical periods offered: Fall, Spring

PSYCH 8370 Advanced Psychopathology
This is an advanced course in psychopathology, or the scientific study of mental disorders. It will focus on conceptual foundations for the study and treatment of major mental disorders as well as the methodological and clinical issues that follow from their consideration. The overall goal of the course is to promote critical thinking and to foster the development of clinical scientists who will discover new knowledge regarding psychopathology. The course is composed of five sections that are concerned with: (1) the history or psychopathology and training in psychological clinical science, (2) causal models regarding the development of mental disorders, (3) the definition and classification of mental disorders, (4) epidemiology (including considerations regarding culture and gender), (5) descriptive psychopathology (i.e., the phenomenology of perception and cognition, emotion, volition, and personality). Prerequisite: Open only to doctoral students in clinical psychology or by permission of instructor.
Credit 3 units.
Typical periods offered: Spring

PSYCH 8373 Neural Systems of Behavior and Psychopathology
This course provides students with a working knowledge of our rapidly evolving understanding of the brain circuits that create order in our social, emotional and cognitive worlds and how disorder within these circuits is associated with a broad range of psychopathology, including depression, anxiety, phobias, PTSD, OCD, addiction, autism, schizophrenia, psychopathy and violence. Prerequisite: Graduate standing in Psychological & Brain Sciences. This course is the graduate level equivalent of 4765: Inside the Disordered Brain.
Credit 3 units.
Typical periods offered: Spring

PSYCH 8405 Seminar in Research Ethics
This is an in-depth review and discussion of common ethical concerns encountered in research, including the use of human and animal participants; informed consent; the Belmont report; the role of the Institutional Review Board; protection of special populations; deception in research; duty to refer; various forms of conflict of interest; issues of data ownership and sharing; bias and fraud in data collection, analysis, and reporting; conflicts surrounding authorship; concerns about duplicate or fragmented publication; understanding and preventing plagiarism; and the reporting of the misconduct of others. Prerequisite: Graduate standing in Psychological & Brain Sciences.
Credit 1 unit.
Typical periods offered: Fall

PSYCH 8440 Empirically Supported Treatment in the Clinic
Intro to emotional disorders and their effective treatment in adults. This course combines didactic materials, practice sessions in class, and examples from supervision of some members of the class. The student will learn to assess and treat common problems in the outpatient clinic with empirically supported procedures, understand the theories behind these procedures, and be exposed to the process of applying the procedures in the clinic. PREREQ: Graduate standing in Psychological & Brain Sciences; completion of an introductory course in psychotherapy or permission of instructor.
Credit 3 units.
Typical periods offered: Fall