

# PSYCHOLOGY (PSYC)

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## **PSYC 3020 Adolescence (4 Credits)**

This course examines development during the adolescent years exploring biological, cognitive, and social transitions central to this developmental stage. It considers key contexts in which adolescents develop: families, peer groups, schools, work, leisure, and the mass media. Special attention is given to the importance of diverse social and cultural experiences and its impact on adolescent behavior and cognition. Prerequisites: PSYC2070 and PSYC3050, must be major or minor in psychology, must have junior or senior standing.

## **PSYC 3029 Imaging the Mind (4 Credits)**

Imaging the Mind is an introductory course to the basic theory and data analysis techniques used in functional magnetic resonance imaging (fMRI). It will cover basic brain anatomy, the basic physics of MRI, experimental design, data processing and the issues associated with data processing, and interpretation of fMRI data. Students in this course will receive hands-on experience in processing a data set from start to finish. They will apply different image preprocessing techniques, statistical design parameters, and statistical models to determine how these factors influence the outcome of the data and how these factors influence the interpretation of that data. In this manner, each student will be exposed individually to the decision issues and interpretation pitfalls involved in fMRI data analysis. Cross listed with PSYC 4255. Prerequisites: PSYC 2031 and PSYC 3050, must be major or minor in psychology, must have junior standing. Permission of the instructor required.

## **PSYC 3032 Introduction to Neural Networks (4 Credits)**

Introduction to basic principles and computational methods in artificial neural network modeling; neural models of cognitive and psychological processes examined and evaluated. Cross listed with PSYC 4254. Prerequisite: PSYC 1001 and PSYC 3050. Must be major or minor in psychology. Must have junior standing. Permission of instructor required.

## **PSYC 3035 Seminar: Cognitive Neuroscience (2 Credits)**

This seminar is for students in the cognitive neuroscience specialization, a joint program with Biological Sciences. The goal of the seminar is to provide an opportunity for senior-level cognitive neuroscience majors to apply the knowledge and skills they have acquired in other courses to current cutting-edge topics in the field. Prerequisites: PSYC 2031 and PSYC 3050, must have cognitive neuroscience concentration, must have senior standing.

## **PSYC 3150 Senior Honors Research Seminar (1-5 Credits)**

In conjunction with senior research thesis. Prerequisites: PSYC 2750, PSYC 2751 and PSYC 2752.

## **PSYC 3151 Senior Honors Research Seminar (1-5 Credits)**

In conjunction with senior research thesis. Prerequisites: PSYC 2750, PSYC 2751 and PSYC 2752.

## **PSYC 3152 Senior Honors Research Seminar (1-5 Credits)**

In conjunction with senior research thesis. Prerequisites: PSYC 2750, PSYC 2751 and PSYC 2752.

## **PSYC 3350 Cultural Psychology (4 Credits)**

This seminar examines how people's sociocultural context shapes their thoughts, feelings, and behaviors. To approach this question, we read and discuss classic as well as recent theoretical and empirical articles from the field of cultural psychology. Topics include defining culture; dimensions of cultural variation; culture-biology interactions; methodological considerations; cultural influences on cognition, emotion, the self, moral judgment, and health; cultural neuroscience; cultural approaches to race and ethnicity; and mechanisms of cultural influence. Throughout, this course emphasizes sociocultural diversity in psychological processes. Students are encouraged to develop empirically tractable ways of asking and answering questions relating to cultural psychology and to apply concepts of cultural psychology to their own research. Prerequisite: PSYC 2740 and PSYC 3050; must be a major or minor in psychology, must have junior standing.

## **PSYC 3666 Brain Development & Cognition (4 Credits)**

Examines what the brain tells us about development and what development tells us about the brain. Topics include subcortical and cortical developments to the acquisition of language and drawing. Prerequisites: PSYC 2070 and PSYC 3050; must be major or minor in psychology, must have junior standing.

## **PSYC 3701 Topics in Psychology (1-4 Credits)**

Prerequisites: PSYC 1001 and PSYC 3050; must be major or minor in psychology, must have junior standing.

## **PSYC 3702 Topics in Psychology (4 Credits)**

Prerequisites: PSYC 1001 and PSYC 3050; must be major or minor in psychology, must have junior standing.

## **PSYC 3760 Field Experiences in Psychology (1-2 Credits)**

Students meet weekly with professor and complete an unpaid internship at a community organization. Prerequisites: PSYC 2500 or equivalent, 21 years old by October 1, must be major in psychology, must have junior standing. Permission of the instructor required. Corequisite: PSYC 3759.

## **PSYC 3761 Field Experiences in Psychology (3-5 Credits)**

Students meet weekly with professor and complete an unpaid internship at a community organization. This class has a service learning component. Prerequisites: PSYC 2500 or equivalent, PSYC 3759, PSYC 3760, 21 years old by October 1, must be major in psychology, must have junior standing. Permission of the instructor required.

**PSYC 3762 Field Experiences in Psychology (1-5 Credits)**

Students meet weekly with professor and complete an unpaid internship at a community organization. This class has a service learning component. Prerequisites: PSYC 2500 or equivalent, PSYC 3759, PSYC 3760, PSYC 3761, 21 years old by October 1, must be major in psychology, must have junior standing. Permission of the instructor required.

**PSYC 3991 Independent Study (1-10 Credits)**

Maximum of 5 hours per quarter not to exceed a total of 10 quarter hours.

**PSYC 3999 Psychology Senior Assessment (0 Credits)**

This course involves a required assessment of graduating psychology majors' knowledge of the discipline based on coursework taken one quarter prior to graduation. Prerequisites: at least any four of the following courses required for the major: PSYC 1001 or equivalent, PSYC 2300, 3050, PSYC 2500, PSYC 2070, PSYC 2031, PSYC 2740, and at least 163 total credit hours or at least 30 credits of psychology hours.

**PSYC 4002 Prosem in Memory and Cognition (4 Credits)**

Theory/research on thinking, problem solving, language, creative thought, other aspects of knowing process.

**PSYC 4011 Proseminar in Emotion (4 Credits)**

Social/physiological aspects of emotions, including motivation, physiological processes, basic emotions, cognitive appraisal, cross-cultural issues, empathy, effects of emotions.

**PSYC 4015 Nonverbal Behavior (4 Credits)**

This course will be cross-listed with Psyc 3015 (undergraduate students in 3015 and graduate students in 4015 will be seated in the same classroom but will have different requirements). Most humans speak for a very small portion of their day (by most estimates, an hour or less) but during every waking moment of your life, you display nonverbal behaviors. These behaviors include facial expressions, eye gaze, posture, head movements, movement toward and away from things, gestures, distance from other people, vocal intonation, and many other subtle bodily actions. In this class, we will survey an enormous scientific literature regarding the causes and consequences of nonverbal behaviors. Our focus will be on nonverbal behavior in humans, but we will also review the role of nonverbal behavior in the social life of human and non-human animals alike. Topics include, but are not limited to questions such as: What methods should scientists use to examine the causes and consequences of nonverbal behavior? Do nonverbal behaviors reveal emotions and other psychological states or do nonverbal behaviors instead function for the purpose of social influence? What is the role of nonverbal behavior in deception and the detection of deception? Do people non-consciously process the social meaning of others' nonverbal behaviors?.

**PSYC 4020 Proseminar in Personality (4 Credits)**

Personality structure/dynamics, theory and findings, interrelationships between personality and socio-cultural determinants of behavior.

**PSYC 4021 Prosem in Social Psychology (4 Credits)**

Major theoretical issues and empirical research in social psychology; topics include cultural, social structure, cognitive consistency, social neuroscience, social cognition, person perception, the self, social influence, attitudes, relationships, emotion, coping.

**PSYC 4025 Intergroup Relations (4 Credits)**

This course is intended to provide a foundation in understanding how individuals and groups relate to each other within a social structure. Social groups can take many forms, ranging from classic social groups (e.g., race, gender, ethnicity, religion, sexual orientation) to minimal groups where membership is arbitrary. This course will explore foundational principles in classic and contemporary research on intergroup relations.

**PSYC 4028 Social Cognition (4 Credits)**

Social cognition describes how people make sense of themselves and others. The emphasis on "how" is important—social cognition research focuses on perceptual, cognitive, and affective processes that help people think about themselves and others. You will learn about the theories, findings, and methods in a specific area of study.

**PSYC 4032 Developmental Proseminar: Social-Emotional (4 Credits)**

Problems/theories in developmental psychology including Piagetian theory, language, emotional, perceptual, personality development, learning, biological bases of behavior, genetic influences.

**PSYC 4033 Devel Proseminar: Biological (4 Credits)**

This course provides an overview of major biological processes during development and their effects on physical, cognitive, and social development. Specific topics will include: history, concepts, and central themes of developmental psychology; theoretical and biological models of human development (e.g., developmental psychobiological systems view); brain development and plasticity; behavioral genetics; sleep and circadian rhythms; sexual differentiation and hormonal influences on behavior; stress and the HPA axis; effects of nutrition and toxic substances.

**PSYC 4045 The Developing Brain (4 Credits)**

This course presents an overview of current research and methods in the field of developmental cognitive/affective/social neuroscience. The course examines what the brain tells us about development and what development tells us about the brain. Topics include sensitive periods for neuroplasticity, pediatric neuroimaging methods, attention, language, affective and social development. Cross-listed with course 3045. Prerequisite: Instructor permission.

**PSYC 4055 The Neuroscience and Psychology of Parenthood and Parent-Child Relationships (4 Credits)**

This course explores the theory, research and issues relevant to parenthood and parent-child relationships. The course overviews the evolutionary, neurobiological, and psychological perspective of parent-child relationships with a focus on the understanding of recent advances in neuroscience research. Topics include neuroplasticity of parental brain, maternal vs. paternal biology for parenting, and social and biological determinants of parent-child relationships. Emphasis is placed on discussion of current research, evaluation of the findings, and proposals and ideas of new research in the field. The goal is not to memorize facts but rather to learn to think like a developmental cognitive/social neuroscientist. Cross-listed with course PSYC 3055. Prerequisite: Instructor permission.

**PSYC 4085 Stress & Health (4 Credits)**

This course will serve as an introduction to the field of psychoneuroimmunology, with a focus on stress and development. The first section of the course will review basic immunology including immune system components and functions, and relations between the immune system and other systems. The later portion of the course will focus on effects of stress for different disease mechanisms (infection, allergy, cancer etc). Instructor approval required.

**PSYC 4235 Teaching Psychology (1-5 Credits)**

Experiential approach to learning techniques for teaching psychology.

**PSYC 4241 Seminar-Discourse Processes (4 Credits)****PSYC 4254 Intro to Neural Network Models (4 Credits)**

Cross listed with PSYC 3032.

**PSYC 4255 Imaging the Mind (4 Credits)**

Imaging Cognition is an introductory course to the basic theory and data analysis techniques used in functional magnetic resonance imaging (fMRI). It will cover basic brain anatomy, the basic physics of MRI, experimental design, data processing and the issues associated with data processing, and interpretation of fMRI data. Students in this course will receive hands-on experience in processing a data set from start to finish. They will apply different image preprocessing techniques, statistical design parameters, and statistical models to determine how these factors influence the outcome of the data and how these factors influence the interpretation of that data. In this manner, each student will be exposed individually to the decision issues and interpretation pitfalls involved in fMRI data analysis. Cross listed with PSYC 3029.

**PSYC 4256 Seminar:Cognitive Neuroscience (4 Credits)**

Neural systems underlying human perception, memory, language, pathological syndromes that result from damage to these systems.

**PSYC 4257 Psychophys & Neuroscience Lab (4 Credits)****PSYC 4258 Social Neuroscience (4 Credits)****PSYC 4262 Affective Neuroscience (4 Credits)**

Affective neuroscience is the study of emotions in the brain. In this course, we explore how new frontiers in emotion research, from brain scans to psychoactive drugs to monkey colonies, have changed the way we think about emotions and moods. We aim to learn how scientists ask these new questions: how and what can we learn about emotion from animal models, patient studies, genetic studies, brain scans, and drugs? We learn and debate different theories about what emotions are: when are emotions helpful and harmful? Why do we have them? How many are there? Can we control how we feel? Finally, we learn how to think about emotions scientifically: What kind of evidence matters? How do emotion scholars talk about their work? What kind of questions can we ask, and what kind can we hope to answer?.

**PSYC 4295 Research Design & Inference (4 Credits)****PSYC 4300 Correlation and Regression (4 Credits)**

The course reviews the logic of statistical inference before introducing the procedures of correlation and regression. We begin with simple bivariate relationships before moving on to multivariate relationships for both categorical and continuous independent variables. Topics in regression include multicollinearity, variable selection, and curvilinear relationships. The course emphasizes the (stringent) requirements needed to be able to interpret correlational data in terms of cause and effect. The course also emphasizes the assessment of interactions in regression analysis for both categorical and continuous independent variables. Also included is basic coverage of logistic regression and regression assumptions. Prerequisite: PSYC 4295.

**PSYC 4330 Analysis of Variance (4 Credits)**

Complex analysis of variance, other quantitative methodologies. Prerequisite: PSYC 4300 or instructor's permission.

**PSYC 4350 Structural Equation Modeling for the Social Sciences (4 Credits)**

This advanced course covers the basics of structural equation modeling and how this flexible approach to statistical analysis can be applied in the social sciences. Specific techniques that will be covered will include testing for mediation, path analysis, confirmatory factor analysis, and the analysis of longitudinal data, as well as other related topics. There will be an emphasis on applying these techniques to students' own research through hands-on demonstrations and homework assignments and an emphasis on interpreting and critiquing structural equation models in published research. A course on correlational methods and regression is a pre/co-requisite.

**PSYC 4355 Multilevel Modeling for the Psychological Sciences: Theory and Applications (4 Credits)**

This advanced course covers the basics of multilevel (hierarchical) linear modeling and how this flexible approach to statistical analysis can be applied to theory and data in the psychological sciences. Specific techniques that will be covered include the analysis of nested data, family and dyadic data, and longitudinal data as well as mediation and moderation. There will be an emphasis on applying these techniques to students' own research through hands-on demonstrations and homework assignments. There will also be an emphasis on interpreting and critiquing multilevel modeling analyses in published research. Courses on analysis of variance as well as correlational methods and regression are pre/corequisites.

**PSYC 4360 Programming Psychology: Experiment Building with Python (4 Credits)**

This graduate-level course provides an introduction to computer programming. The goal of the course is to help psychology students develop practical coding skills in Python that will allow them to design and create complex, computer-based experiments. Students will also learn to analyze and plot data. No previous experience with programming is required (or expected). The course begins with an introduction to basic principles of programming with Python. From there, students learn to code by solving challenges specific to the design/construction of a psychological/vision-based experiment. The class is highly interactive— each class includes a mixture of lecture, group-based problem solving, and coding in teams or individually. This class is highly recommended for students who wish to improve their programming proficiency before enrolling in PSYC 4365, although it is not a prerequisite.

**PSYC 4365 Programming Psychology: Model-Fitting and Analysis (4 Credits)**

An introduction to creating, fitting, and performing statistical inference using computational models with an emphasis on binary choice data. The aims of this course include familiarizing students with the mathematical basis of model-fitting, learning the value of taking a variety of approaches to fitting trial-by-trial data, and giving students practical hands-on experience with maximum likelihood fitting methods. This course will use both MATLAB and R. Though not a prerequisite, this course is intended to follow Programming Psychology: Experiment Building in MATLAB (PSYC 4360), and so will assume students already have a basic knowledge of coding in MATLAB (including debugging, scripts, functions, loops, and plotting). This course is open to graduate students outside of the Department of Psychology.

**PSYC 4411 Assessment-Cognition (4 Credits)**

This course will provide students with a graduate level overview of theory, research, and practice in the measurement of cognitive functioning. Students will gain practical skills in administering standardized measures of cognitive and academic functioning. They will also develop skills in interpreting cognitive test results and recognizing patterns in cognitive profiles related to specific learning and developmental disorders.

**PSYC 4413 Assessment-Psychopathology (Social, Emotional, and Behavioral) (4 Credits)**

Overview of evidence-based psychological assessment (emotional, behavioral, and social) with a focus on integrating theory, research, and clinical practice.

**PSYC 4512 Prosem in Psychopathology (4 Credits)****PSYC 4518 Readings in Family Therapy (4 Credits)**

This course will survey major historical and contemporary theories from the field of family therapy. Basic family therapy techniques will be covered, and integrated with other modes of therapy (e.g. individual, marital). In the second half of the course, students will work with families and receive group supervision.

**PSYC 4525 Prosem in Develop Neuropsych (4 Credits)**

Normal brain development, functional neuroanatomy, clinical conditions that can affect brain functioning in children, adults.

**PSYC 4526 Prosem in Cog Neuroscience (4 Credits)**

This is a graduate-level introduction to cognitive neuroscience. It covers basic theories of cognition and their neurological support.

**PSYC 4565 Systems of Psychotherapy (4 Credits)**

The course provides an introduction to evidence-based treatment for children and adolescents. Conceptual and empirical underpinnings of youth therapies are examined. Treatments for three prominent child and adolescent disorders - disruptive behavior problems, depression, and anxiety disorders - are highlighted. Demonstration and practice of specific treatment components is included.

**PSYC 4566 Systems of Psychotherapy II (4 Credits)**

Conceptual/empirical foundations of interventions for clinical problems, including (but not limited to) parasuicidality, Borderline Personality Disorder, and substance abuse.

**PSYC 4571 Multicult Issues & Ment Health (4 Credits)**

Theory, research, and practice issues related to the mental health of racial/ethnic minority and other diverse groups.

**PSYC 4587 Workshop in Marital Therapy (4 Credits)****PSYC 4612 Marital Conflict (1-10 Credits)****PSYC 4620 Advan in Couples Intervention (4 Credits)****PSYC 4625 Marital/Couples Thrpy-Div Popl (4 Credits)**

This course will cover the complexities in couples research and intervention that are the focus of current investigations in labs around the world. The major issues revolve around the role that marital problems play in the development, maintenance and treatment of a variety of child and adult problems and vice versa. These will include, adult sexual problems, alcohol and drug use and abuse, anxiety disorders, depression, medical problems, and that marital discord and destructive conflict are generic risk factors for a wide range of child and adult mental health problems and that marital health is a protective factor.

**PSYC 4660 Perception: A Cognitive Neuroscience Approach (4 Credits)**

An introduction to human perception with a strong emphasis on visual perception. This course evaluates the current understanding of how neural activity in the brain allows people to perceive basic sensory features (e.g., brightness, color, size, position, depth, movement, loudness and pitch) as well as recognize and discriminate complex perceptual patterns (e.g., 2D-shapes, 3D-objects, faces, and scenes). The underlying mechanisms are discussed on the basis of behavioral, neurophysiological, and computational evidence.

**PSYC 4665 Executive Functioning (4 Credits)**

This course provides an overview of current research, theories, and methods in the study of executive function and cognitive control. We will explore executive function from an interdisciplinary perspective, drawing on work from cognitive psychology and neuroscience, clinical neuropsychology, and developmental and educational psychology. Topics include the brain basis of executive function and cognitive control, the unity and diversity of executive functions, the development of executive functions, emotion and motivation as modulating influences on executive control, executive function in psychopathology, the role of individual differences, and links between executive function performance and higher-order behavioral outcomes. Enrollment restricted to Ph.D. program or with instructor approval.

**PSYC 4688 Clinical Psychopharmacology (4 Credits)**

This course offers an in-depth examination of medications used to treat mental disorders, including the neurobiology of these medications. Different options available for each disorder will be discussed, along with issues related to the effective use of psychiatric medications. Prerequisites: Instructor approval required.

**PSYC 4920 Ethics-Psych & Rsrch Practice (2 Credits)**

Ethical issues on psychological research. Teaching, practice.

**PSYC 4925 Clinical Ethics and Professional Issues in Psychology (3 Credits)**

Ethical topics related to clinical psychology; professional topics in clinical psychology such as supervision and consultation. Instructor permission required.

**PSYC 4930 Psychology Practicum-Clinical (1-5 Credits)**

On-the-job training in clinical psychology. May be repeated for a maximum of 24 quarter hours. Prerequisite: Admission to doctoral program.

**PSYC 4931 Psychology Practicum-Teaching (0-5 Credits)**

On-the-job training in teaching psychology. May be repeated for a maximum of 24 quarter hours. Prerequisite: Admission to doctoral program.

**PSYC 4932 Psychology Practicum-Research (1-5 Credits)**

On-the-job training in research psychology. May be repeated for a maximum of 24 quarter hours. Prerequisite: Admission to doctoral program.

**PSYC 4934 Practicum: DCN Neuropsychology (1-10 Credits)****PSYC 5991 Masters Independent Study (1-10 Credits)****PSYC 5995 Independent Research (1-10 Credits)****PSYC 6981 APA Internship (8 Credits)**

1 Year APA approved Internship in clinical psychology - the course is not graded.

**PSYC 6991 Ph.D Independent Study (1-10 Credits)****PSYC 6995 Independent Research (1-10 Credits)**