Fall 2023
UNC Department of Psychology and Neuroscience
Undergraduate Courses

*For the complete list of undergraduate Psychology courses, please refer to the Undergraduate University Catalog*

*For the complete list of undergraduate Neuroscience courses, please refer to the Undergraduate University Catalog*

First-Year Seminar (PSYC, NSCI 01-99)

**PSYC 58H: The Psychology of Mental States and Language Use (3)**
Instructor: Dr. Jennifer Arnold (001)
Examines how language use is affected by one's reasoning about the mental activities of others. We will examine the development of language, adult language use, and the language of autistic individuals, who are known to have difficulty reasoning about others’ minds. This seminar will follow a discussion format. Honors version.

**NSCI 61: Drug Addiction: Fact and Fiction (3)**
Instructor: Dr. Kathryn Reissner (001)
The course will tackle questions through classroom discussions, lectures, movies, writing assignments, and a visit to a research laboratory and a treatment facility. Students will be introduced to fundamental concepts in addiction research.

Lower-Level Undergraduate Courses (PSYC, NSCI 100-399)

**PSYC 101: General Psychology (3)**
Instructor: Dr. Jeannie Loeb (001) & Dr. Ndidi Adeyanju-Okeke (002)
This course will give an overview of the many different scientific perspectives from which to understand behavior, including the biological, cognitive, developmental, social and psychopathological perspectives. PSYC 101 is a prerequisite for all psychology courses.

**NSCI 175: Introduction to Neuroscience (3)**
Instructor: Dr. Monica Gaudier-Diaz (01F & 02F), Dr. Sabrina Robertson (001)
Provides an introduction to the structure and function of the nervous system. Fundamental principles will be introduced including nervous system anatomy; molecular and cellular properties of the nervous system; sensory and motor systems; current methods used in neuroscience; and how the nervous system produces behavior and cognition. This course provides greater breadth and depth of neuroscience topics, as compared to Biopsychology (PSYC 220).

**PSYC 210: Statistical Principles of Psychological Research (3)**
Instructor: Dr. Patrick Harrison (001 & 002)
Prerequisite: PSYC 101
Consideration of the methodological principles underlying psychological research, descriptive and inferential techniques, and the manner by which they may be employed to design psychological experiments and analyze behavioral data. Students may not receive credit for both PSYC 210/PSYC 210H and PSYC 215/PSYC 215H.
**PSYC 220: Biopsychology (3)**
Instructor: Dr. Rebecca Stephens (001), Gillian Barkell (002)
Prerequisite: PSYC 101
Introductory course which surveys the biological bases of behavior. Topics may include nerve cells and nerve impulses, sensory systems, wakefulness and sleep, reproductive behaviors, and cognitive functions.

**NSCI 221. Neuropsychopharmacology (3)**
Instructor: Dr. Rachel Penton (001)
Prerequisites: NSCI 175, or both PSYC 101 and PSYC 220
This course provides an introduction to the scientific study of psychopharmacology, with emphasis on drugs of abuse and psychotherapeutic drugs.

**NSCI 222: Learning (3)**
Instructor: Dr. Sara Estle (001), Imamoglu Aslihan (002)
Prerequisite: PSYC 101 or NSCI 175
Topics in Pavlovian and operant (instrumental) conditioning, learning theory, higher order cognitive learning, and application of those principles to mental-health related situations.

**NSCI 225: Sensation and Perception (3)**
Instructor: Dr. Vicki Chanon (001)
Prerequisite: PSYC 101 or NSCI 175
Topics in vision, audition, and the lower senses. Receptor mechanisms, psychophysical methods, and selected perceptual phenomena will be discussed.

**PSYC 230: Cognitive Psychology (3)**
Instructor: Dr. Vicki Chanon (001)
Prerequisite: PSYC 101
Topics in attention; memory; visual, auditory, and other forms of information processing; decision making; and thinking.

**PSYC 242: Introduction to Clinical Psychology (3)**
Instructor: Dr. Desiree Griffin (001), Nicholas Myers (002)
Prerequisite: PSYC 101
Overview of clinical psychology: history, scientific basis, and major activities and concerns, including assessment, psychotherapy, and other psychological interventions, community psychology, ethics, and professional practice. Students may not receive credit for both PSYC 242 and 505.

**PSYC 245: Psychopathology (3)**
Instructor: Dr. Desiree Griffin (001), Rachel Petrie (002), Kara Fox (003)
Prerequisite: PSYC 101
Major forms of behavior disorders in children and adults, with an emphasis on description, causation, and treatment.

**PSYC 245H: Psychopathology (3)**
Instructor: Dr. Charles Wiss (001)
Prerequisite: PSYC 101
Major forms of behavior disorders in children and adults, with an emphasis on description, causation, and treatment. Honors version.
PSYC 250: Child Development (3)
Instructor: Dr. Rebecca Stephens (001)
Prerequisite: PSYC 101
Study of the development of social and intellectual behavior in normal children and the processes that underlie this development. Emphasis is typically on theory and research.

PSYC 260: Social Psychology (3)
Instructor: Dr. Steven Buzinski (001)
Prerequisite: PSYC 101
Introductory survey of experimental social psychology covering attitudes, interpersonal processes, and small groups.

PSYC 270: Laboratory Research in Psychology (3)
Instructor: Dr. Ndidi Adyanju-Okeke (001), Dr. Marsha Dopheide (002)
Prerequisites: PSYC 101
Students in this course will be exposed to a survey of methodology (i.e., experimental, quasi-experimental, non-experimental) used across various disciplines in psychology (i.e., social, clinical, development, cognitive, and neuroscience). In addition, students will work as a class to conduct research projects on a common theme. Students will spend class time planning, conducting, and writing up the results of this project. Class time will also be used to discuss methodological considerations in psychological research more broadly.

NSCI 279: Neurophysiology Data Science Lab (3)
Instructor: Dr. Shveta Parekh (001 & 002)
Prerequisites: NSCI 175 and one of the following: PSYC 210 or STOR 155.
In this laboratory course, students will utilize molecular biology techniques (e.g., immunohistochemistry and immunoassays) while developing and testing hypotheses regarding how environmental or experimental conditions alter microglia. Students will work in teams to design an experiment, and then collect, analyze, and report data. Students may only receive credit for one of: NSCI 274, 276, 278 and 279. Restricted Neuroscience majors.

Upper-Level Undergraduate Courses (PSYC 400-699)

NSCI 405: Advanced Molecular Neuropharmacology (3)
Instructor: Dr. Rachel Penton (001)
Prerequisites: NSCI 175 or both PSYC 101 and PSYC 220, and NSCI 320/PSYC 320 or BIOL 202.
This course will examine the molecular basis of drug action in the brain. Primary literature will be used to investigate pharmacological principles, receptor structure-function relationships, and receptor-ligand interactions, including ligand gated-ion channel and G-protein coupled receptor signaling.

NSCI 421: Principles of Brain Circuits (3)
Instructor: Dr. William Snider (001)
Prerequisites: NSCI 175, or both PSYC 101 and PSYC 220; BIOL 101 recommended
This course is designed for upper-level undergraduates who are interested in how brain circuits control behavior. A major focus will be the new technique of optogenetics that is revolutionizing our approach to systems neuroscience. Circuits that control movement, sensation, sleep, memory, and fear will be explored in detail. Points of emphasis will be circuits mediating pain as related to actions of opiates and circuits mediating feeding behavior as related to obesity.
**NSCI 423: Neurotechnology in Modern Neuroscience Research (3)**  
Instructor: Dr. Sabrina Robertson (001)  
Prerequisite: NSCI 175, or both PSYC 101 and PSYC 220.  
This course addresses fundamental challenges inherent in studying the brain and explores the theory, applications, and limitations of new and traditional neurotechnology. The unique ethical issues and significance of interdisciplinary approaches in neuroscience will also be highlighted. Students will analyze research literature and focus on cellular, molecular, and genetic techniques that are essential staples in the neuroscientist's toolkit. Students will also design experiments, utilize publicly available resources, and analyze big data generated by high-throughput approaches.

**NSCI 424: Neural Connections: Hands on Neuroscience (3)**  
Instructor: Dr. Rachel Penton (001)  
Prerequisite: NSCI 175, or both PSYC 101 and 220.  
This class will explore links between the brain and behavior through neuroscience outreach activities. Students will also reflect on the meaning of community engagement. By the end of the semester, each student must complete a minimum of 30 hours of service within the community. Previously offered as PSYC 424.

**PSYC 433: Behavioral Decision Theory (3)**  
Instructor: Dr. Peter Gordon (001)  
Prerequisites: PSYC 101  
Simple mathematical and psychological models of judgment and choice, and related experiments, are treated, as are applications to real world problems in medical, environmental, policy, business, and related domains.

**NSCI 434: Cognitive Neuroscience (3)**  
Instructor: Dr. Joseph Hopfinger (001) & Dr. Jessica Cohen (002)  
Prerequisites: one of the following: NSCI 175, NSCI 222, NSCI 225, PSYC 220, or PSYC 230.  
Introduction to cognitive neuroscience. Higher mental processes including attention, memory, language, and consciousness will be covered, with an emphasis on the neural mechanisms that form the substrates of human cognition. Previously offered as PSYC 434.

**PSYC 471: The Study of Adolescent Issues and Development (3)**  
Instructor: Dr. Andrea Hussong (001)  
Prerequisites: PSYC 101, 250, and either PSYC 210 or 215.  
The developmental period of adolescence is studied from a multidisciplinary perspective. The course will distinguish among early, middle, and late adolescence and will cover several theoretical perspectives.

**PSYC 490: Psychology of Race and Racism (3)**  
Instructor: Dr. Julian Rucker (001)  
Prerequisites, PSYC 101, 260, and either PSYC 210 or 215  
This course offers an overview of research investigating the psychological underpinnings and impacts of racialization, racism, and racial inequality. The course will center research in social psychology, but will also draw from work in other areas of psychology (e.g., developmental, clinical), as well as from other social science disciplines (e.g., sociology, political science, public health).

**PSYC 490: Culture and Development (3)**  
Instructor: Dr. M. Dalal Safa (002)  
Prerequisites: PSYC 101, PSYC 210 or 215, PSYC 250 or 260  
An examination of research and theory pertaining to the intersection of culture and development. Topics include human development in a global world across multiple domains, periods of development, and countries. The course is recommended for students interested in engaging in rich dialogue.
PSYC 490: Current Topics in Psychology (3)
Instructor: Anne Maheux (003)
This course examines the role of gender in child and adolescent psychosocial development. Topics include socializing agents of gender development (e.g., parents, peers, media); conceptions of gender, masculinity, and femininity; experiences of youth at different intersections of gender and other identities (e.g., race/ethnicity, sexual identity); and the influence of gendered social roles in developmental outcomes (e.g., preferences and traits, academic outcomes, sexual behavior, violence).

PSYC 490: Quantitative Methods for Making Causal Inferences (3)
Instructor: Dr. Kenneth Bollen (004)
Understanding cause-effect relationships is at the heart of all sciences including psychology. More broadly, we encounter causal claims in news stories, advertisements, and everyday conversations. However, numerous challenges face us when we attempt causal inferences and there are good reasons to carefully examine these claims. Confounding variables, sample selection bias, measurement error, and internal and external validity are among the issues. The goal of this course is to introduce the threats to causal inference as well as proposed solutions. Contemporary approaches to causal inferences such as potential outcomes, directed acyclic graphs (DAGs), and structural equation models (SEMs) will be introduced. The course will consider experimental, quasieperimental, and nonexperimental designs and analyze empirical data.

NSCI 490: Animal Behavior Experimental Methods in Behavioral Neuroscience (3)
Instructor: Dr. Sylvia Fitting (001)
Prerequisites: NSCI 175, or PSYC101 and PSYC220
The primary function of this course is to survey the wide variety of experimental methods used in animal (rodents) studies to assess various behavioral outcomes, including learning and memory, attention, anxiety, depression, and drug seeking. This then will be combined with readings on how changes in brain circuitry can affect behavioral outcomes, such as drugs of abuse or other disease states. Topics discussed in this course will be based on primary literature and students will be trained in the critical evaluation of the field’s literature. This course will be a mixture of lecture and discussion formats.

PSYC 493: Internship in Psychology (3)
Instructor: Dr. Steven Buzinski (001)
Prerequisites: PSYC 101, two additional psychology courses and junior/senior standing
Designed for highly motivated psychology majors interested in exploring professional opportunities in psychology-related areas. Students complete hands-on internships at community sites for approximately 120 hours across the semester. Students also attend a weekly one-hour class with other interns.

NSCI 493: Internship in Neuroscience (3)
Instructor: Dr. Steven Buzinski (001)
Prerequisites: NSCI 175, two additional NSCI courses and junior/senior standing
Designed for highly motivated neuroscience majors interested in exploring professional opportunities in neuroscience-related areas.

PSYC 504: Health Psychology (3)
Instructor: Dr. Karen Gil (001 & 002)
Prerequisites: PSYC 101 and PSYC 245
An in-depth coverage of psychological, biological, and social factors that may be involved with health.
**NSCI 507: Autism (3)**
Instructor: Dr. Sara Estle (001)
Prerequisites: NSCI 175 or PSYC 101, and both PSYC 245 and 250.
Intensive service-learning seminar on autism includes a supervised community placement. Topics include historical diagnostic issues, etiological theories, assessing patterns of functioning, developmental/life span issues, family concerns, and intervention approaches. Previously offered as PSYC 507.

**PSYC 531: Tests and Measurement (3)**
Instructor: Dr. Oscar Gonzalez (001)
Prerequisites: PSYC 101 and either PSYC 210 or 215
Basic psychometric theory underlying test construction and utilization. Detailed study of issues and instruments used in assessing intellectual functioning, educational progress, personality, and personnel selection.

**PSYC 533H: The General Linear Model in Psychology (3)**
Instructor: Dr. Daniel Bauer (001)
Prerequisites: ECON 400, PSYC 210, PSYC 215, SOCI 252 or STOR 155
Consideration of multiple regression and the general linear model in psychological research, including hypothesis testing, model formulation, and the analysis of observational and experimental data. Honors version available. Honors version.

**PSYC 564: Interpersonal Relationships (3)**
Instructor: Dr. Sara Algoe (001)
Prerequisites: PSYC 101, 260, and either PSYC 210 or 215. PSYC 270 Recommended
This advanced course will comprehensively cover the social psychological literature on normally-developing interpersonal relationships, with implications for relationships with family, friends, co-workers, and romantic partners. This is a research-intensive course with a major aspect involving an independent research project to facilitate learning by doing.

**PSYC 565: Stereotyping, Prejudice, and Discrimination (3)**
Instructor: Dr. Keith Payne (001)
Prerequisites: PSYC 101, 260, and either PSYC 210 or 215. PSYC 270 recommended.
Examines the determinants, functions, processes, and consequences of stereotyping, prejudice, and discrimination. Prospects for change are considered. Class presentations and participation required.

**PSYC 574: Science of Moral Understanding (3)**
Instructor: Dr. Kurt Gray
Prerequisites: PSYC 101 and 260
Each of us is committed to our moral values and often struggle to understand those who with different beliefs. This course will focus on difficult moral disagreements (e.g., abortion, euthanasia), using social psychology and related disciplines to reveal the basis of our moral judgments, the drivers of moral divides, and how best to bridge them. We will cover both theory and application, and practice having constructive dialogue and civil disagreement to forge moral understanding.

**PSYC 601: Psychology and Law (3)**
Instructor: Dr. Desiree Griffin (001)
Prerequisites: PSYC 101, and either PSYC 210 or PSYC 215.
Examines the legal system from the perspective of psychology methods and research, with a focus on criminal law. Discusses dilemmas within the law and between the legal system and psychology.
**PSYC 602: Evolutionary Psychology (3)**
Instructor: Dr. Charles Wiss (001 & 002)
Prerequisites: PSYC 101
Major topics of general psychology are examined from an evolutionary perspective with an emphasis on empirical studies asking why much current human behavior and experience would have been adaptive for our early ancestors.

**PSYC 693H: Honors in Psychology I (3)**
Instructor: Dr. Keely Muscatell (001)
Prerequisites: Cumulative GPA of 3.3, in-process or completion of PSYC 395 (or equivalent experience in a faculty research lab)
By application to the psychology honors committee and enrollment in the honors program. To be taken in the fall of the last year of studies as the first course in the two-semester honors sequence. Students conduct research under the direction of a faculty advisor and receive classroom instruction in research-related topics.

**NSCI 693H: Honors in Neuroscience I (3)**
Instructor: Dr. Kelly Giovanello (001)
Prerequisites: Cumulative GPA of 3.3, in-process or completion of NSCI 395 (or equivalent experience in a faculty research lab)
By application to the psychology honors committee and enrollment in the honors program. To be taken in the fall of the last year of studies as the first course in the two-semester honors sequence. Students conduct research under the direction of a faculty advisor and receive classroom instruction in research-related topics.