

**Spring 2024**  
**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 Seminars \(FYS\)](#)**

**PSYC 054: First-Year Seminar: Families and Children (3)**

Instructor: Dr. Shauna Cooper (001)

This course will consider family from a life-course perspective and family influences on child development. Research and theory concerning divorced and step families, single parents, gay and lesbian parents, and family processes that shape children's development will be examined

**[Lower-Level Undergraduate Courses \(PSYC 100-399\)](#)**

**PSYC 101: General Psychology (3)**

Instructor: Dr. Jeannie Loeb (001), Dr. Ndidi Adeyanju (002), Dr. Frederick Wiss (01F & 02F)

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. This course is offered in two formats: a large-course format and as a First-Year Launch.

**NSCI 175: Introduction to Neuroscience (3)**

Instructor: Dr. Shveta Parekh (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). Previously offered as PSYC 175 and 315.

**PSYC 180: Social Media, Technology, and the Adolescent Brain (3)**

Instructor: Dr. Rosa Li (001 & 002)

In this course, we will learn about current evidence, theory, and controversies with regards to how technology use may affect adolescent development. Questions such as how technology is changing adolescents' social relationships, impacting their mental health, and interacting with the developing brain to influence social, emotional, and cognitive development will be explored.

**PSYC 210: Statistical Principles of Psychological Research (3)**

Instructor: Dr. Natasha Parikh (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. Three lecture hours. Students may not receive credit for both PSYC 210/PSYC 210H and PSYC 215/PSYC 215H.

**PSYC 220: Biopsychology (3)**

Instructor: Dr. Sara Estle (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. This course would be an appropriate foundational course for Advanced Biopsychology (PSYC 402).

**NSCI 221: Neuropsychopharmacology. (3)**

Instructor: Dr. Rachel Penton (001)

Prerequisite: 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. Previously offered as NSCI/PSYC 320.

**NSCI 222: Learning (3)**

Instructor: Dr. Sara Estle (001), Dr. Donald Lysle (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. Previously offered as PSYC 222.

**NSCI 222H: Learning (3)**

Instructor: Dr. Todd Thiele (001)

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. Honors version.

**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. Previously offered as PSYC 225.

**PSYC 230: Cognitive Psychology (3)**

Instructor: Dr. Vicki Chanon (001), Annaliisa Powers (002), Nikki Fackler (003)

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), Carrington Merritt (004)

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.

**PSYC 245: Psychopathology (3)**

Instructor: Dr. Anna Bardone-Cone (001), Rachel Petrie (002), Amanda Haik (003), Dr. Donald Baucom (004)

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. Anna Bardone-Cone (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), Natalie Frye (002), Kylie Chandler (003), Connor O'Fallon (004)

Prerequisite: PSYC 101

Introductory survey of experimental social psychology covering attitudes, interpersonal processes, and small groups.

**PSYC 270: Laboratory Research in Psychology (3)**

Instructor: TBD (001), TBD (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 277: Addiction Neuroscience qPCR Laboratory (3)**

Instructor: Dr. Shveta Parekh (001 & 002)

Prerequisites: NSCI 175 and PSYC 210 or STOR 155

Addiction Neuroscience qPCR Laboratory is a laboratory and research-based course that will expose students to the fundamental and emerging approaches used in RT-qPCR addiction neuroscience research. In this course students will learn to handle rodent brains, perform cryostat sectioning, conduct reverse transcription, create a cDNA library, and utilize R programming to analyze qPCR results by studying genes of interest in the context of a drug exposed rodent. Majors only.

**NSCI 278: Molecular Imaging of the Brain (3)**

Instructor: Dr. Sabrina Robertson (001 & 002)

Prerequisites: NSCI 175 and PSYC 210 or STOR 155

Students will design novel experiments to examine and visualize sex differences in the nervous system. Students will learn how to handle brain slices, neuroanatomy, microscopy, immunohistochemistry and imaging analysis techniques by studying neuronal diversity in the norepinephrine system of mice. Students will have the opportunity to develop and test hypotheses, write a research proposal, and present their work in poster form. Students may only receive credit for one: NSCI 274, 276, 277, 278 and 279. Majors only.

**NSCI 326: Neuroscience Career Development, Networking & Applications in the Working World (3)**

Instructor: Dr. Sabrina Robertson (001)

Prerequisites: NSCI 175

This course provides students interested in the neuroscience field an opportunity to gain valuable networking, job application and interviewing skills. Over the course of the semester students will meet with neuroscience professionals and create application packages. Students will learn from individuals in neuroscience related jobs about the diverse careers options available and strategies for navigating the job market successfully. Students will explore advances in neuroscience research and how they relate to industry, research, etc. Majors only.

**PSYC 391: Pedagogy Course for Psychology & Neuroscience Undergraduate Learning Assistants (3)**

Instructor: Nicholas Myers (001)

Prerequisites: PSYC 101

This course gives an overview of teaching methods that facilitate the acquisition of knowledge and understanding as well as entails hands-on experience in the classroom. Common misconceptions of learning as well as legal and ethical considerations related to working closely with an undergraduate population will also be covered. Departmental application and approval required.

**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 221

This course will examine the molecular basis of drug action in the brain. Students will learn about ligand-receptor interactions and modulation of receptor number, structure, and function by drugs. Detailed examples will examine the molecular details of both ligand-gated ion channels and G-protein coupled receptors. The course will use analysis of primary literature and a semester-long makerspace project to delve into research where central themes will include developing critical thinking, design thinking, and communication skills.

**NSCI 419: Behavioral Endocrinology (3)**

Instructor: Dr. Monica Gaudier-Diaz (001)

Prerequisites: NSCI 175 or PSYC 220

The endocrine and nervous systems interact with each other in complex ways to influence behavioral processes. In this course, we will discuss the ways by which hormones regulate homeostatic and social behaviors, learning, stress responses, and affective disorders, among others. Additionally, we will read scientific articles to learn about advances in the field of neuroendocrinology.

**NSCI 422: Genetics of Brain Diseases (3)**

Instructor: Dr. William Snider (001)

Prerequisites: NSCI 175, or PSYC 101 and PSYC 220

This course will explore the manifestations and causes of important neurological and psychiatric diseases. A particular focus will be the impact of advances in genetics on our understanding of these disorders. Disorders that affect large numbers of patients including Alzheimer's disease, autism, and schizophrenia will be studied in detail.

**NSCI 434: Cognitive Neuroscience (3)**

Instructor: Dr. Joseph Hopfinger (001)

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.

**NSCI 490: Animal Perception (3)**

Instructor: Dr. Vicki Chanon (001)

Prerequisites: NSCI 225

This course will focus on discussing and identifying how animals' "umwelt" (perceptual experience of their environment) may differ from ours and how differences in their sensory receptors, sense organs, etc. lead to these differences in experience. We'll look at each sense, and explore how various animals may have differences in each of these senses (including the senses we share and unique senses like echolocation, magnetoreception, etc.).

**PSYC 490: Culture and Development (3)**

Instructor: Dr. M. Dalal Safa (001)

Prerequisites: PSYC 101, PSYC 210 or 215, and PSYC 250 or 260

An examination of research and theory pertaining to the intersections of culture, ethnicity-race, and development. Specifically, this course focuses on identifying limitations and advances in psychological and developmental sciences toward our understanding of ethnic-racial minoritized and immigrant youth development in culturally bounded contexts (e.g., families, schools, and neighborhoods) within and outside the U.S. The course is recommended for students interested in engaging in rich dialogue and self-reflection.

**PSYC 490: Psychology of Race and Racism (3)**

Instructor: Dr. Julian Rucker (002)

Prerequisites: PSYC 101, 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. It will center research in social psychology, but will also feature work from other areas of psychology (e.g., developmental), as well as other social science disciplines (e.g., sociology, political science).

**PSYC 490: Gender and Development (3)**

Instructor: Dr. Anne Maheux (003)

Prerequisites: PSYC 101, PSYC 210 or 215 and PSYC 250 or PSYC 260

This course examines the role of gender in child and adolescent psychosocial development, with an emphasis on research methods in developmental psychology. 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, mental health).

**PSYC 490: Psychotherapy: Practice and Research (3)**

Instructor: Dr. Thomas Rodebaugh (004 & 005)

Prerequisites: PSYC 101

This is an introductory course in psychotherapy, or the treatment of psychological problems through the application of interventions grounded in psychological theory and focusing on behavior or mental processes. Students will become familiar with the more popular schools of psychotherapy, including their historical context, characteristic techniques, theoretical underpinnings, and current research support. For example, students will be able to identify the broad school of psychotherapy being used by a given clinician during an interaction with a client. Students will also gain an appreciation of the problems and solutions in researching psychotherapy, as well as emerging variations on psychotherapy procedures.

**PSYC 490: Society and the Developing Brain - Pathways of Risk and Resilience in context (3)**

Instructor: Dr. Margaret Sheridan (006)

Prerequisites: PSYC 101 or NSCI 175 and A 200 level course which emphasized child development or any 200 level neuroscience course

In this course emphasis will be placed on developing an integrated understanding of neurobiology and variation in human behavior in the context of environmental influences. In particular, in this course we will examine how society shapes the intimate environments of the family and school systems that a child develops within. We will link decision making on the societal level with brain development within an individual child.

This course will provide an overview of principles of developmental cognitive neuroscience with an eye to examining how this knowledge varies across individuals and as a result of early experience. Commonly used methods in human neuroscience (e.g., cognitive subtraction and task design, fMRI, EEG/ERP, TMS) will be introduced and described. The course will provide examples of societal level interventions which shape children's experiences. Current knowledge about the development of neural mechanisms supporting perception, cognitive, and emotional function will be investigated in the context of the course through summary chapters, review articles and recent empirical studies.

**PSYC 490H: Creating Digital Tools for Positive Youth Development (3)**

Instructor: Dr. Andrea Hussong (001)

Prerequisites:

In this upper-level course, students will learn about the interdisciplinary field of Positive Youth Development and create a digital tool to improve health, well-being, or developmental outcomes for youth through an intensive semester-long project. This course is designed so that by the end of the semester you will be able to: apply Positive Youth Development and Prevention Science frameworks to identifying points of intervention that promote youth thriving; understand design-based processes and universal design practices as key tools in creating technology-based interventions for youth; learn and apply technical skills in a single digital medium to support development of a program prototype; create a prototype tool that meets a clearly defined intervention goal for a given community-based collaborator; and present the science-based rationale behind the program created to community-based partners. This class is part of the IDEAs in Action curriculum and requires students to explore creative processes that underlie the creation of empirically-informed content and digital intervention platforms. Finally, this course aims to provide you will experiences and tools that are valued in the marketplace such as using design-based approaches to problem solving, creating a digital tool for promoting positive youth development; and using community-engaged practices to address a challenge or growth opportunity.

**NSCI 493: Internship in Neuroscience (3)**

Instructor: Dr. Steven Buzinski (001)

Prerequisites: PSYC 101 and completion of application process

Required preparation, minimum of two other neuroscience courses and junior/senior standing. Designed for highly motivated neuroscience majors interested in exploring professional opportunities in neuroscience-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. This course is only for those students who have been accepted into the Karen M. Gil Internship Program: <https://psychology.unc.edu/gil-internship/>

**PSYC 493: Internship in Psychology (3)**

Instructor: Dr. Steven Buzinski (001)

Prerequisites: PSYC 101 and completion of application process

Required preparation, minimum of two other 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. This course is only for those students who have been accepted into the Karen M. Gil Internship Program: <https://psychology.unc.edu/gil-internship/>

**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.

**PSYC 505: Sports and Performance Psychology (3)**

Instructor: Dr. Desiree Griffin (001)

Prerequisites: PSYC 101 and either PSYC 242 or 245

This course examines the mental health and psychological factors that impact the performance of athletes. Furthermore, the mental health of sports fans, along with the physiological and psychological impact of being a spectator will be examined.

**NSCI 507: Autism (3)**

Instructor: Dr. Sara Estle (001)

Prerequisites: NSCI 175 or PSYC 101

Autism Spectrum Disorder (ASD) is characterized by difficulty in communication and social interaction. This course will examine scientific advancements in diagnosis, causes, and interventions for ASD. Additional topics include neurodiversity and inclusion.

**PSYC 534: Introduction to Computational Statistics (3)**

Instructor: Dr. Kathleen Gates (001)

Prerequisites: PSYC 210, SOCI 252, or STOR 155

Introduction to programming and the implementation of statistical techniques. Topics include data manipulation, graphical procedures, writing loops and functions, data simulation, use of regular expressions, and scraping data from the web.

**PSYC 535: Programming for Psychologists: Computational Tools for Psychological Research (3)**

Instructor: Dr. Natasha Parikh (001)

Prerequisites: PSYC 101 and PSYC 210 or PSYC 215

In this course, we will cover fundamental coding practices and computational tools used frequently in psychology research. We will go over the basics of coding, how to present computer-based experiments, how to keep a digital lab notebook, univariate data analyses, and visualization through programming. Through this process, students will have the opportunity to develop and run a simple experiment from start to finish.

**PSYC 559: Applied Machine Learning in Psychology (3)**

Instructor: Dr. Oscar Gonzalez (001)

Prerequisites: PSYC 101 and PSYC 210 or PSYC 215

As opposed to hypothesis-driven data analysis, machine learning takes an exploratory and predictive approach to data analysis. This course introduces machine learning approaches in psychology to identify important variables for prediction and uncover complex patterns in datasets, such as nonlinearity, interactions, or clusters. Classes include theoretical lectures and hands-on examples.

**PSYC 570: The Social Psychology of Self-Regulation (3)**

Instructor: Dr. Stephen Buzinski (001), Dr. Pashal Sheeran (002)

Prerequisites: PSYC 101, PSYC 260 and PSYC 210 or PSYC 215

PSYC 270 recommended. An intensive review of self-regulation theory and research, focusing on the cognitive, motivational, and affective processes involved in goal commitment, monitoring, and overriding behavioral responses.

**PSYC 601: Psychology and Law (3)**

Instructor: Dr. Neil Mulligan (001)

Prerequisites: PSYC 101 and 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 694H: Honors in Psychology II (3)**

Instructor: Dr. Keely Muscatell (001)

Prerequisites: PSYC 693H

This course comprises the second semester in the two-semester sequence of Senior Honors in Psychology/Neuroscience. There are two components to the course: research that you will conduct under the direction of your faculty thesis advisor, and this class, which you will attend with the other senior honors students to learn about research-related topics and receive consultations with the instructor and your classmates. Admission to the psychology honors program required.

**NSCI 694H: Honors in Neuroscience II (3)**

Instructor: Dr. Kelly Giovanello (001)

Prerequisites: NSCI 693H

This course comprises the second semester in the two-semester sequence of Senior Honors in Psychology/Neuroscience. There are two components to the course: research that you will conduct under the direction of your faculty thesis advisor, and this class, which you will attend with the other senior honors students to learn about research-related topics and receive consultations with the instructor and your classmates. Admission to the neuroscience honors program required.