

NEUROSCIENCE (NEUR)

NEUR 222. The Brain: A Neuroscience Primer. (2 Credits)

This course explores how neuroscientists study the human brain and the contemporary issues that arise. Lectures and lab experiences will focus on the tools used to study and understand the brain and their impact on understanding human thought, behavior, and emotion. Morning sessions will include lectures and seminar discussions that examine how the central nervous system is understood and related cultural/philosophical issues. Afternoon sessions will involve work with neural specimens, tissue, and other neuroscience lab techniques. (Open to Wheaton College Summer Institute students only)

NEUR 241. Foundations of Neuroscience. (4 Credits)

This course is an overview of the basic structure and function of the nervous system. Emphasis is placed on divisions of the nervous system, neural development, cellular and molecular systems and neurophysiology. Two lectures, three hours laboratory. Additional course fee required: \$95.

Tags: SP

NEUR 321. Cellular and Molecular Neuroscience. (4 Credits)

The course offers a comprehensive introduction into the cellular and molecular biology of the nervous system. The covered material ranges from classical studies to the current state of knowledge. All parts of the course provide an overview of standard techniques and approaches analyzing neuronal function in vitro and in vivo. The following topics are considered in substantial detail: a) neuronal cell biology, b) electrical properties of neurons; c) function of voltage- & ligand-gated ion channels; d) structure & function of synapses; e) molecular mechanisms underlying synaptic plasticity; f) cellular, molecular and genetic approaches & techniques in neuroscience. Prerequisite: NEUR 241. Additional course fee required: \$95.

NEUR 369. Neuroscience Research Techniques. (2 Credits)

A junior/senior level course where students are trained in the use of various neuroscience research techniques and methodology. Prerequisite: NEUR 241 or BIOL 339; and PSYC 269 or BHS 252; or consent of instructor. Additional course fee required: \$95.

NEUR 385. Special Topics in Neuroscience. (2 Credits)

Seminars or courses in special areas offered at discretion of the program. Prerequisites: NEUR 241 or BIOL 336 or consent of the instructor.

NEUR 386. Special Topics in Neuroscience. (4 Credits)

Seminars or courses in special areas offered at discretion of the program. Prerequisites: NEUR 241 or BIOL 336 or consent of the instructor.

NEUR 494. Neuroscience Capstone. (2 Credits)

A junior/senior level course with an interdisciplinary research component is developed as the culmination of a certificate. Students will develop a research study using tools from multiple disciplines to answer a question related to the field of neuroscience. Prerequisite: NEUR 369.

General Education: SHAR

NEUR 495. Independent Study in Neuroscience. (1 to 4 Credits)

Individual library or experimental research carried on under the supervision of a faculty member approved by the Neuroscience Program Coordinator.