

# NEUROSCIENCE (NUIN)

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## **NUIN 401-1 Fundamentals of Neuroscience (1 Unit)**

This course covers fundamental concepts pertaining to the genetics, cell biology, and physiology of neurons. Major topics include gene expression and regulation, protein production and trafficking, neuronal ultrastructure, glial physiology, electrophysiology and membrane biophysics, synaptic communication and plasticity, receptor/neurotransmitter pharmacology, and signal transduction.

## **NUIN 401-2 Fundamentals of Neuroscience (1 Unit)**

## **NUIN 401-3 Fundamentals of Neuroscience (1 Unit)**

## **NUIN 407-0 NUIN Graduate Foundations (0 Unit)**

NUIN Graduate Foundations provides an introduction to academia, graduate school, Northwestern, and NUIN. At the end of the class, students will have a basic understanding of what to expect during graduate school, and how to use existing resources to help them be successful.

## **NUIN 408-0 Quantitative Methods and Experimental Design (1 Unit)**

## **NUIN 411-1 Great Experiments in Molecular and Developmental Neuroscience (1 Unit)**

## **NUIN 411-2 Great Experiments in Cellular Neurophysiology (1 Unit)**

## **NUIN 411-3 Great Expts in System & Cognitive Neuroscience (1 Unit)**

## **NUIN 414-0 Finding Your Voice as a Scientist (1 Unit)**

A workshop series for NUIN students offered in Spring. Full participation by second year students is strongly encouraged. The goal of the series is to help students find their individual voices to communicate their science effectively and passionately in both oral and written form.

## **NUIN 417-0 Proteinopathies: Alzheimer's Disease as a Case Study (1 Unit)**

## **NUIN 424-0 Sensory Transduction and Early Visual Processing (1 Unit)**

## **NUIN 433-0 The Neurobiology of Disease (1 Unit)**

## **NUIN 436-0 Drugs and the Brain (1 Unit)**

Graduate neuropharmacology course with a mix of didactic instruction (33%) and in-depth classroom discussion of primary research papers (66%). The course is not a survey course, but rather will cover selected topics in neuropharmacology with the goals of 1) informing the student of the latest neuropharmacology knowledge, 2) inculcating a rigorous approach to examination of the scientific literature, and 3) encouraging best practices in experimental design.

## **NUIN 438-0 Cellular and Molecular Aspects of Motor Neuron Biology (1 Unit)**

This course is designed to expose students to the current findings and developments in the field of motor neuron biology in the context of development, health, and disease. Both cortical and spinal components of motor neuron circuitry will be discussed in depth.

## **NUIN 440-0 Advanced Neuroanatomy (1 Unit)**

## **NUIN 441-0 Biophysical Signal Processing for Movement & Rehabilitation Sciences (1 Unit)**

## **NUIN 442-0 Issues in Movement & Rehabilitation Science (1 Unit)**

## **NUIN 455-0 Instrumentation for Neuroscience (1 Unit)**

## **NUIN 470-0 Cellular & Molecular Basis of Information Storage (1 Unit)**

## **NUIN 473-0 Cellular and Behavioral Mechanisms of Aging and Dementia (1 Unit)**

## **NUIN 480-0 Circuits and Systems of Motor Control (1 Unit)**

Contact the department for further information.

## **NUIN 481-0 Neural Mechanism of Pain (1 Unit)**

## **NUIN 486-0 The Biology of Sleep (1 Unit)**

## **NUIN 490-0 Responsible Conduct in Neuroscience Research (0 Unit)**

## **NUIN 499-0 Independent Study (1 Unit)**

SEE DEPT FOR SECTION AND PERMISSION NUMBERS.

## **NUIN 590-0 Research (1-3 Units)**

SEE DEPT FOR SECTION AND PERMISSION NUMBERS.