NEUROSCIENCE (NEUR)

NEUR 8006 SYSTEMS NEUROSCIENCE (3 credits)
This is an advanced course for the Neuroscience major designed to provide a solid understanding of the peripheral and central connections that make the systems of the body function. Data and theories of brain-behavior relationships from current research in neuroscience will be discussed. (Cross-listed with NEUR 4000).
Prerequisite(s)/Corequisite(s): Graduate standing or permission. Not open to non-degree graduate students.

NEUR 8876 MOLECULAR AND CELLULAR NEUROBIOLOGY (3 credits)
This course presents foundational topics in molecular and cellular neurobiology in the context of how the nervous system is functionally organized. Topics include: nervous system cell types and their subcellular organization; electrical properties of neurons and glia; energy metabolism and biochemistry of the brain; intra- and intercellular neuronal signaling; the regulation of gene expression in neuronal cells; synaptic plasticity; and how these are altered in disease. (Cross-listed with BIOL 4870, BIOL 8876, NEUR 4870).
Prerequisite(s)/Corequisite(s): NEUR 1500, or both NEUR 1520 and NEUR 1540, or BIOL 3020, or permission of instructor.

NEUR 8896 GENES, BRAIN, AND BEHAVIOR (3 credits)
This course will evaluate the complex interaction between an organism’s genome and neural activity pattern in the nervous system as related to behavior. In this course students will explore how changes in gene expression (allelic variants, epigenetics, differential regulation) and gene networks within neural tissue can reciprocally influence behaviors such as communication, foraging, reproduction, and cognition. (Cross-listed with NEUR 4890, BIOL 4890, BIOL 8896, PSYC 8896).
Prerequisite(s)/Corequisite(s): Graduate standing. Not open to non-degree graduate students.