### Neuroscience Courses (NSCI)

This is a list of all neuroscience courses. For more information, see Neuroscience.

**NSCI:4353 Neurophysiology: Cells and Systems** 3-4 s.h.
Physiological properties of nerve cells, nervous systems; axonal conduction, synaptic transmission, sensory transduction, integrative processes, higher functions. Prerequisites: (BIOL:2753 or BIOL:3253) and (MATH:1460 or MATH:1380 or MATH:1550 or MATH:1850) and ((PHYS:1511 and PHYS:1512) or (PHYS:1611 and PHYS:1612)). Same as BIOL:4353.

**NSCI:5161 Undergraduate Research in Neuroscience** arr.
Experimental research under faculty supervision.

**NSCI:5210 Fundamentals of Behavioral Neuroscience** 3-4 s.h.
Concepts, methods, and findings in behavioral and cognitive neurosciences; emphasis on principles of neuroscience, sensation, motivation, emotion. Same as PSY:5210.

**NSCI:5211 Foundations in Behavioral and Cognitive Neuroscience** 4 s.h.
Concepts, methods, and findings in behavioral and cognitive neurosciences. Prerequisites: BIOL:3253 or PSY:5210 or NSCI:5210. Same as PSY:5212.

**NSCI:5365 Seminar: Neuropsychology and Neuroscience** arr.
Clinical neuropsychology and cognitive neuroscience: cutting-edge research from scientific journals, case presentations in clinical neuropsychology, and current research. Same as NEUR:5365, PSY:5365.

**NSCI:5653 Fundamental Neurobiology** 3 s.h.
Neurobiology from molecular/cellular to systems levels, including cell biology of the neuron; membrane electrophysiology; synaptic transmission and plasticity, functional neuroanatomy, peripheral and CNS sensory systems, peripheral and CNS motor systems, autonomic systems, emotion, memory, sleep, language, attention and cognition, neuronal development. Same as BIOL:5653, PSY:5203.

**NSCI:5658 Fundamental Neurobiology Discussion** 1 s.h.
Discussion of selected papers, including classics from neurobiology literature; coordinated with BIOL:5653 lecture material. Same as BIOL:5658, PSY:5204.

**NSCI:5753 Developmental Neuroscience** 1 s.h.
Neural induction and nervous system patterning; neurogenesis, axon, and dendrite outgrowth and targeting; synapse formation, specificity, refinement; mechanisms of neuronal cell death; myelination; neural stem cells; introduction to cellular, molecular, and genetic techniques in studies of neural development. Prerequisites: BIOL:5653. Same as BIOL:5753.

**NSCI:6209 Steroid Receptor Signaling** 1 s.h.
Structure-function relationship and genomic and nongenomic actions of the steroid hormone receptor family; basis for actions of novel new ligands on these receptors. Offered spring semesters of even years. Same as MPB:6209, PCOL:6209.

**NSCI:6240 Topics in Cognitive Neuroscience** 1-3 s.h.
Key topics in the neural basis of human cognition; research literature. Recommendations: graduate courses in basic neuroscience and cognitive psychology. Same as NEUR:6240.

**NSCI:6250 Functional Magnetic Resonance Imaging** 2-3 s.h.
Basic physics principles of functional magnetic resonance imaging and approaches to data acquisition, including BOLD imaging, arterial spin labeling, and magnetic source imaging; data analysis strategies; paradigm design and development.

**NSCI:6265 Neuroscience Seminar** 0-1 s.h.

**NSCI:7235 Neurobiology of Disease** 3 s.h.
Broad, thematic understanding of disease mechanisms in neurobiological disorders.

**NSCI:7301 Directed Study in Neuroscience** arr.
Requirements: neuroscience graduate standing.