NEUROSCIENCE, DOCTORAL MINOR

Neuroscience as a discipline is at a vital juncture. Groundbreaking advances such as mapping of the human genome, development of advanced molecular, genetic, and imaging technologies, and novel integrative approaches have expanded knowledge about the workings of the brain as never before. With this increased understanding, neuroscientists now envision significant treatments for numerous diseases, including neurodegenerative diseases, psychiatric illnesses, and developmental and emotional disorders. The doctoral minor in neuroscience is both interdepartmental and interdisciplinary. The course curriculum draws on expertise from faculty who are spread across over 22 departments on campus.

A doctoral minor in neuroscience will be of interest to doctoral students who are interested in augmenting the discipline to their research. The minor emphasizes the core sequence of cell and molecular neuroscience and systems neuroscience as well as a midlevel graduate course in one of the two areas: cell/molecular/developmental or systems/behavior.

ADMISSIONS

Contact NTP staff (ntp@mailplus.wisc.edu, 608-262-4932).

REQUIREMENTS

Code	Title	Credits
Required		
NTP/ NEURODPT 610	Cellular and Molecular Neuroscience	4
NTP/NEURODPT/ PSYCH 611	Systems Neuroscience	4
Elective		
NTP mid-level course		

Students must receive a grade point average of 3.0 for all required courses to receive the minor.

Once the requirement has been met, please return the completed PhD Minor in Neuroscience Form (https://ntp.wiscweb.wisc.edu/wp-content/uploads/sites/81/2017/03/PhD_Minor_Form.pdf) to the Neuroscience Training Program office for signature by the program director.

ELECTIVES

Cellular/Molecular/Developmental Approved Mid-levels

Code	Title	Credits
BIOCHEM/PHMCOL-M/ZOOLOGY 630	Cellular Signal Transduction Mechanisms	3
B M E/MED PHYS/ PHMCOL-M/ PHYSICS/ RADIOL 619	Microscopy of Life	3
NTP/ NEURODPT 629	Molecular and Cellular Mechanisms of Memory	3
NTP 670	Stem Cells and the Central Nervous System	2-3
NTP 675	Special Topics (Molecular Mechanisms of Brain Damage)	2
NTP 675	Special Topics (Reproductive Neuroendocrinology)	1-3
NTP/NEUROL 735	Neurobiology of Disease	2
NTP/NEURODPT/ ZOOLOGY 765	Developmental Neuroscience	3
ZOOLOGY 604	Computer-based Gene and Disease/ Disorder Research Lab	2

Systems/Behavioral/Computational Approved Mid-levels

Code	Title	Credits
B M E 601	Special Topics in Biomedical Engineering (Problem-Based Learning in Clinical Neuroengineering Seminar)	2
CS&D 850	Hearing Science I: Basic Acoustics and Psychoacoustics	3
COMP SCI/B M I/ PSYCH 841	Computational Cognitive Science	3
KINES 713	Neural Basis of Normal and Pathological Movement	3
KINES 721	Neural Basis for Movement	3
KINES 861	Principles of Motor Control and Learning	3
NTP/ NEURODPT 630	Neuronal Mechanisms for Sensation and Memory in Cerebral Cortex	3
NTP 677	Basic Sleep Mechanisms and Sleep Disorders: from Neurobiology to Sleep Medicine	3
NTP 675	Special Topics (Neuroethology)	2
NTP 675	Special Topics (Brain Mapping in Health and Disease: Applications)	3
NTP/MED PHYS 651	Methods for Neuroimaging Research	3
PSYCH 720	Essentials of Cognitive Neuroscience	3
PSYCH 711	Current Topics in Psychology (Cognitive Neuroscience of Attention and Memory)	2-3
PSYCH 711	Current Topics in Psychology (Introduction to Neural Network Modeling of Cognition)	2-3
PSYCH 733	Perceptual and Cognitive Sciences (Perceptual Systems Analysis) [1]	2
PSYCH 733	Perceptual and Cognitive Sciences (Cognitive Neuroscience of Reading and Dyslexia) [1]	2
PSYCH 733	Perceptual and Cognitive Sciences (Knotty Problems in Psycholinguistics) [1]	2
PSYCH 918	Seminar-General Psychology (Visual Perception)	1-3

PSYCH 954	Seminar-Physiological Psychology (Neuropharmacology)	3

[1] Two PSYCH 733 courses (8 weeks each) must be taken to meet the midlevel systems requirement.

PEOPLE

Faculty: Professor Ari Rosenberg (director). For a comprehensive faculty list, visit the program website (https://ntp.neuroscience.wisc.edu/faculty-trainers/).