Neuroscience (BS)  
(Computational Neuroscience Concentration)

Major Academic Director: Lori Holt (email: loriholt@cmu.edu); Undergraduate Coordinator: Emilie O’Leary (BH 343)

Neuroscience is an interdisciplinary field in which scientists from many backgrounds apply the tools of biology, cognitive science, psychology, chemistry, mathematics, statistics, computer science, and engineering to develop a comprehensive understanding of brain function at the level of molecules, neurons, brain circuits, cognitive brain modules, and behavior.

The goal of this interdisciplinary program between the Dietrich College and the Mellon College of Science is to provide an intensive interdisciplinary education to enable outstanding students to become leaders in identifying and solving tomorrow's Neuroscience problems using a variety of methods. There are three concentration areas: Neurobiology; Cognitive Neuroscience; Computation Neuroscience. Students may complete only one concentration.

This is a suggested schedule for the 4 years for a Primary Major.

Suggested Plan for Neuroscience with Computational Neuroscience concentration:

1st semester
• Complete 2: First-Year Writing (FYW)  
  79-104, Global Histories  
  Freshman Seminar  
  • 99-101, C@CM  
  • 03-121, Modern Biology*  
  • 21-120, Diff. & Integral Calculus**  
  • 09-105, Intro to Modern Chem. I

2nd semester
• Complete 1: First-Year Writing (FYW)  
  79-104, Global Histories  
  Freshman Seminar  
  • 36-200, Reasoning with Data***  
  • 21-122, Int., Diff., Equ., & Approx.  
  • 09-106, Modern Chemistry II  
  • 15-112, Fund. Prog. & Comp. Sci.

3rd semester
• 85-219, Biological Fnds. of Beh.  
• 03-330, Genetics  
• 21-127, Concepts of Mathematics  
• xx-xxx, Elective  
• 15-122, Princ. of Imperative Cmp.

4th semester
• 15-386, Neural Computation  
• 33-121, Physics I  
• 85-211, Cognitive Psychology  
• xx-xxx, Computational Elective  
• 21-241, Matrices & Linear Trans.

*Can switch and take 15-112 in Fall & 03-121 in spring if necessary.  
**If required to start with 21-111, complete 21-112, then 21-122.  
+Elective: This space can be used for a pre-requisite course, another GenEd course, major course, or for a course you are interested in.

Academic Advisory Center (6/27/2018)