

# NEUROSCIENCE

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The Neuroscience Major is multidisciplinary, combining expertise across a variety of fields. It adopts an integrative approach early in the curriculum to provide students with a conceptual framework for understanding the neuroscientific implications of the biology, psychology, chemistry, mathematics, computer science, and physics courses that are required. At the upper levels, it provides in-depth lab experiences, individual research opportunities, and senior capstone courses to tie it all together and to prepare graduates to succeed in a graduate program or to enter the field in some professional capacity.

## Program in Neuroscience

### Major:

- B.S. in Neuroscience (<https://catalog.bethel.edu/academic-programs/college-of-arts-sciences-and-education/undergraduate-programs/neuroscience/neuroscience/>)

### **NSC 130 • Introduction to Neuroscience** 3 Credits

An introduction to the biological basis of behavior. Focuses on two main themes: the cellular, molecular, and genetic processes that form the foundation of nervous system function and the systems-level organization of the nervous system that forms the foundation of human and animal behavior.

*Corequisites:* Concurrent registration in NSC 130D is required. Offered: Spring.

### **NSC 130D • Intro to Neuroscience Lab** 1 Credit

Laboratory experience accompanying NSC 130.

*Corequisites:* Concurrent registration in NSC 130 is required. Offered: Spring.

### **NSC 350 • Neuroscience Methods** 3 Credits

Principles and practice of neuroscience laboratory techniques. Laboratory and lecture experience are integrated to include an introduction to histological, molecular, electrophysiological, and computer-based neuroscience research. Collection of qualitative and quantitative data and data analysis.

*Prerequisites:* BIO 120/BIO 120D or BIO 124/BIO 124D and NSC 130/NSC 130D; PSY 230M. *Corequisites:* Concurrent registration in NSC 351 is required. Offered: Spring, even # years.

### **NSC 351 • Neuroscience Methods Lab** 1 Credit

Laboratory experience accompanying NSC 350.

*Corequisites:* Concurrent registration in NSC 350 is required. Offered: Spring, even # years.

### **NSC 358 • Neurobiology** 3 Credits

Nervous system of animals and humans from the subcellular to organismic and behavioral levels. Includes significant attention to the senses as well as mechanisms of neuronal communication, plasticity, and memory.

*Prerequisites:* BIO 218 or both PSY 101 and NSC 130/NSC 130D. *Corequisites:* Concurrent registration in NSC 359 is required. Offered: Fall. *Special Notes:* This course carries cross-credit in biology.

### **NSC 359 • Neurobiology Lab** 1 Credit

Laboratory experience accompanying NSC 358.

*Corequisites:* Concurrent registration in NSC 358 is required. Offered: Fall. *Special Notes:* This course carries cross-credit in biology.

### **NSC 481 • Internship in Neuroscience** 1-4 Credits

A learning/practicing experience in which the student applies neurological understanding and skills in an off-campus professional setting.

*Prerequisites:* Major in neuroscience and Junior or senior standing. Offered: Fall, Spring.

## Neuroscience 2

### **NSC 495 • Neuroscience Literature Review and Senior Seminar** 4 Credits

Survey of contemporary and classical neuroscience literature. Topics of the students' choosing are researched, discussed, and methodologies assessed. Students evaluate a variety of neuroscience research. Readings and discussion of topics that relate neuroscience to Christian faith as well as moral, ethical and societal issues.

*Prerequisites: major in neuroscience and Junior standing. Offered: Fall.*

### **NSC 496 • Neuroscience Research** 1-4 Credits

Students collect original data through independent laboratory/field research under the supervision of a neuroscience faculty member. Data is analyzed and conclusions are drawn and reported.

*Prerequisites: NSC 130/NSC 130D and Consent of instructor. Offered: Fall, Spring.*