Twin Cities Campus

Neuroscience Ph.D.

Neuroscience

Medical School

Link to a list of faculty for this program.

Contact Information:
Department of Neuroscience, 6-145 Jackson Hall, 321 Church Street SE, Minneapolis, MN 55455 (612-626-6474; fax: 612-626-6460)
Email: neurosci@umn.edu
Website: http://www.neuroscience.umn.edu

- Program Type: Doctorate
- Requirements for this program are current for Fall 2021
- Length of program in credits: 49
- This program requires summer semesters for timely completion.
- The NSCI 5551 Cell & Molecular Neurobiology Lab at Itasca is held at the Itasca Biological Station in Shevlin, Minnesota their first semester.
- Degree: Doctor of Philosophy

Along with the program-specific requirements listed below, please read the General Information section of the catalog website for requirements that apply to all major fields.

Neuroscience is an interdisciplinary field of inquiry. The objects of this inquiry, the brain and nervous system, are sufficiently complex and unique among biological systems to require experimental and analytical approaches that cross the traditional boundaries of molecular and cell biology, behavioral biology, biochemistry, genetics, pharmacology, physiology, and psychology. In some instances, neuroscientific inquiry may also encompass computer science, information processing, engineering, physics, and mathematics.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

Special Application Requirements:
Applicants whose native language is not English are required to take the TOEFL and obtain a minimum score of 625 (paper) or 107 (Internet); or obtain 6.5 on the IELTS examination. There is no minimum GPA requirement to apply.

International applicants must submit score(s) from one of the following tests:

- TOEFL
  - Internet Based - Total Score: 107
  - Paper Based - Total Score: 625
- IELTS
  - Total Score: 6.5

The preferred English language test is Test of English as Foreign Language

Key to test abbreviations(TOEFL, IELTS).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements

25 credits are required in the major.
24 thesis credits are required.

Plan A: Plan A requires 23 major credits, up to null credits outside the major, and 10 thesis credits.The final exam is oral.

This program may be completed with a minor.

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

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A minimum GPA of 3.00 is required for students to remain in good standing.

At least 2 semesters must be completed before filing a Degree Program Form.

The neuroscience PhD curriculum begins in the summer session with the intensive laboratory course in cellular and molecular neurobiology (NSC 5551), held at the Itasca Biological Station and Laboratories.

While taking courses, students explore research opportunities in the faculty's laboratories and thereby select a thesis advisor.

Summer - First Year (4 credits)
Take the following course or, with advisor approval, a substitute course.
NSC 5551 - Itasca Cell and Molecular Neurobiology Laboratory (4.0 cr)

Fall - First Year (9.5 credits)
Take the following courses or, with advisor approval, substitute courses. Take 1 credit of NSC 8334.
NSC 5461 - Cellular and Molecular Neuroscience (3.0 cr)
NSC 5561 - Systems Neuroscience (4.0 cr)
NSC 8321 - Career Skills and Understanding Responsibilities as a Neuroscientist (0.5 cr)
NSC 8334 - Laboratory Neuroscience (1.0 - 3.0 cr)

Spring - First Year (8.5 credits)
Take the following courses or, with advisor approval, substitute courses. Take 1 credit of NSC 8334.
NSC 5661 - Behavioral Neuroscience (2.0 cr)
NSC 8211 - Developmental Neurobiology (2.0 - 4.0 cr)
NSC 8321 - Career Skills and Understanding Responsibilities as a Neuroscientist (0.5 cr)
NSC 8334 - Laboratory Neuroscience (1.0 - 3.0 cr)

Fall - Second Year (3.0 credits)
Take the following course or, with advisor approval, substitute course.
NSC 8111 - Quantitative Neuroscience (3.0 cr)

Spring - Second Year (0.5 credits)
Take the following course or, with advisor approval, substitute course.
NSC 8321 - Career Skills and Understanding Responsibilities as a Neuroscientist (0.5 cr)

Thesis Credits
Take at least 24 doctoral thesis credits.
NSC 8888 - Thesis Credit: Doctoral (1.0 - 24.0 cr)

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