

NEUROSCIENCE, PHD

for the degree of Doctor of Philosophy in Neuroscience

Because of the breadth of the fields in this program, the coursework is tailored to the student's fields of interest as declared by a major and at least two minor areas of concentration. A faculty committee of representatives from the major and minor areas will then meet regularly with the student to plan coursework and research experience. The goal of this plan is to allow maximum flexibility while providing students with close guidance. Courses and laboratory research experience are supplemented by weekly seminars in neuroscience.

Graduate Degree Programs in Neuroscience

- Neuroscience, PhD (p. 1)

The Neuroscience Program is an interdisciplinary and highly individualized Ph.D. program. Students have varied backgrounds but typically have undergraduate degrees in psychology, biology, electrical engineering, or computer science. The Neuroscience Program guides students to become productive, scholarly neuroscientists with access to careers in academic research, medicine, industry or non-research careers such as law, policy, or journalism. The faculty have broad and diverse research interests; areas of particular strength include aging, brain plasticity, cognitive functions, neurogenomics, molecular bases of development and disease and neuroengineering. Integrative and collaborative studies that bridge two or more labs are encouraged.

Admission

Applications are considered individually by the admissions committee, for the fall semester and subject to final approval by the Graduate College. Graduate Record Examination (GRE) scores are optional. International applicants must meet the minimum English Language requirements as set by the Graduate College at <https://grad.illinois.edu/admissions/instructions/04c>. Admission and financial aid are considered together.

Financial Aid

The Neuroscience Program is committed to supporting its students and makes every effort to ensure that students who remain in good academic standing receive full support including tuition waiver and stipend throughout their tenure in the program. Support may come in the form of fellowships, traineeships, research assistantships, or teaching assistantships according to the student's qualifications.

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Because of the breadth of the fields in this program, the coursework is tailored to the student's fields of interest as declared by a major and at least two minor areas of concentration from among those listed above. A faculty committee of representatives from the major and minor areas will then meet regularly with the student to plan coursework and research experience. The goal of this plan is to allow maximum flexibility while

providing students with close guidance. Courses and laboratory research experience are supplemented by weekly seminars in neuroscience.

For additional details and requirements refer to the department's Program for Graduate Study (<https://neuroscience.illinois.edu/academics/graduate-program/>) and the Graduate College Handbook (<http://www.grad.illinois.edu/gradhandbook/>).

Code	Title	Hours
NEUR 520	Advanced Topics in Neuroscience (Section 1, Seminar - each of first 4 semesters)	4
NEUR 500	Topics in Neuroscience	2
NEUR 520	Advanced Topics in Neuroscience (Section 2, Professional Development Program.)	1
NEUR 599	Thesis Research (0 min applied toward degree)	0
Total Hours		96

Other Requirements

Requirement	Description
Other requirements may overlap	
All students must complete a minimum of one semester of service as a teaching assistant (one semester @50% or 2 semesters @25% appointment) or the requirement may be met by education outreach activity under the supervision of a Neuroscience Program faculty member.	
Masters Degree Required Before Admission to Ph.D.?	No
Qualifying Exam Required:	Yes
Preliminary Exam Required:	Yes
Final Exam/Defense Required:	Yes
Dissertation Deposit Required:	Yes
Minimum GPA:	3.0

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- 1. Knowledge and critical thinking:** Students are expected to acquire broad knowledge of neuroscience and in-depth knowledge of one major area and two minor areas of concentration in neuroscience.
- 2. Mastery of experimental design and methods:** Students are expected to apply their neuroscientific knowledge to creatively and successfully plan, design, carry out, and interpret experiments. They are also expected to be fully competent in the standard techniques of their field and to learn cutting-edge techniques where possible.
- 3. Analytical and quantitative skills:** All students are expected to become experts in the treatment, analysis, and interpretation of data and are strongly encouraged to take statistics courses appropriate to their research area. Students are also expected to master the treatment, analysis, and interpretation of data.
- 4. Writing and presentation skills:** All students must demonstrate strong writing skills that lead to manuscripts and grant proposals. Students are also expected to communicate their research effectively to general scientific and lay audiences.

5. **Teaching and mentoring:** Students are expected to develop into successful teachers and mentors. They are required to be Teaching Assistants for one semester at 50% (or two semesters at 25%). Students are also expected to successfully mentor one or more undergraduate students, or more junior graduate students.
6. **Professional skills and ethics:** Students are expected to develop professionally, attain a deep understanding of research and personal ethics, and prepare for successful careers after graduation.
7. **Leadership and Community Engagement:** Students are expected to build and sustain productive relationships and at the local level, create positive change in their communities, thereby developing a reflective orientation toward social and cultural differences.

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Neuroscience Program

Program Director: Martha Gillette

Program Coordinator: Michelle Tomaszynski

Program website (<http://neuroscience.illinois.edu>)

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College of Liberal Arts & Sciences

College of Liberal Arts & Sciences website (<https://las.illinois.edu/>)

Admissions

Graduate College Admissions & Requirements (<https://grad.illinois.edu/admissions/apply/>)