NEUROSCIENCE, M.S.

Administrative Unit: Neuroscience Training Program
College/School: School of Medicine and Public Health
Admitting Plans: Ph.D.
Degrees Offered: M.S., Ph.D.
Minors and Certificates: Doctoral Minor

The neuroscience training program (NTP) was established in 1971. Currently, it comprises over 100 faculty members whose research interests range from molecular neurobiology to integrative systems. The program is designed to prepare students for careers in research and teaching. On average the number of students in the program is approximately 50, half of whom are women. The program is best suited for students who are independent and wish to take a direct role in determining their graduate education. Training leads to the Ph.D. degree in neuroscience or the M.D./Ph.D. degree in cooperation with the School of Medicine and Public Health.

The doctoral program of each graduate student in the training program is tailored to meet individual needs. Each student’s program is supervised by an advisory committee of five faculty members selected by the student in consultation with the major professor. During the first year students complete three laboratory rotations and take one-semester courses in molecular/cellular neuroscience and systems neuroscience. Students also take one upper-level course in molecular/cellular and systems neuroscience. Additional advanced courses may be taken to complement individual research interests.

A preliminary examination is required of all Ph.D. degree candidates at the end of the second year of graduate study. The examination consists of two written papers that are presented orally to the student’s advisory committee. The first paper is a critical evaluation of a research topic outside the student’s major area of interest. The second paper is a thesis research proposal. Additional requirements for the Ph.D. degree are attendance at the weekly neuroscience seminar and completion of one semester of teaching.

The central forum for intellectual exchange in the program is the neuroscience seminar (NTP 900 Neuroscience Seminar: Current Topics in Neurobiology), which meets weekly and is attended by neuroscience students and faculty. During an academic year, members of the program choose six topics in current neuroscience research for consideration. Topics are reviewed intensively in study groups supervised by faculty sponsors. Critical summaries of each topic are then presented by students to participants in the seminar as a series of lectures and discussions. Each three- to four-week topic session concludes with a lecture by an outside invited speaker who is well known for his or her research in the topic area. In the course of every three- to four-year period, most of the major research areas in neuroscience are reviewed in the neuroscience seminar; consequently, students become familiar with the breadth of contemporary neuroscience.

The average time taken by students to complete the Ph.D. degree is five years. The program prepares students for careers primarily in research and teaching in universities and colleges and careers outside of academia. Of the more than 200 students who have earned the Ph.D. degree in the program, more than 95 percent have careers in biomedical science.

NEUROSCIENCE & PUBLIC POLICY PROGRAM

The neuroscience & public policy program (N&PP) offers three integrated degree tracks with the cooperation of the neuroscience training program, the La Follette School of Public Affairs and the University of Wisconsin-Madison Law School. The N&PP is based on two strongly held beliefs: first, that sound science and technology policy and law are essential for the well-being of societies; second, that a step toward ensuring such policy is to train future scientists in the making of public policy or the law and prepare them to participate in bringing science and society closer together.

The program offers students the opportunity to earn a Ph.D. degree in neuroscience as well as a master of public affairs (MPA), a master of international public affairs (MIPA), or juris doctorate (J.D.). In each of the degree tracks, the program brings together faculty from neuroscience, public policy, bioethics, sociology, and law and other related fields to train research neuroscientists who will be qualified to help shape public policy or the law. The cross-disciplinary training combines didactic and laboratory research training in neuroscience with a classroom-based and hands-on education in public policy or the law.

For more information about the double and dual degree tracks offered through the neuroscience & public policy program including admissions and program requirements please visit the program website (http://ntp.neuroscience.wisc.edu/npp.htm).

FUNDING

Each student receives a stipend that covers tuition, fees, living costs, and health insurance and is guaranteed for five years if progress is satisfactory. Financial support is provided from the program’s NIH training grant, fellowships, and faculty research grants. Limited support is available for international students.

REQUIREMENTS

MINIMUM DEGREE REQUIREMENTS AND SATISFACTORY PROGRESS

To make progress toward a graduate degree, students must meet the Graduate School Minimum Degree Requirements and Satisfactory Progress (http://guide.wisc.edu/graduate/#policiesandrequirementstext) in addition to the requirements of the program.

MASTER’S DEGREES

M.S.

MINIMUM GRADUATE DEGREE CREDIT REQUIREMENT
30 credits

MINIMUM GRADUATE RESIDENCE CREDIT REQUIREMENT
16 credits
MINIMUM GRADUATE COURSEWORK (50%) REQUIREMENT
Half of degree coursework (15 credits out of 30 total credits) must be in graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university's Course Guide (http://my.wisc.edu/CourseGuideRedirect/BrowseByTitle).

PRIOR COURSEWORK REQUIREMENTS: GRADUATE WORK FROM OTHER INSTITUTIONS
With program approval credits from former graduate institutions may be allowed to count toward degree. Coursework earned five or more years prior to admission to a master's degree is not allowed to satisfy requirements.

PRIOR COURSEWORK REQUIREMENTS: UW–MADISON UNDERGRADUATE
With program approval credits from graduate-level courses (numbered 300 or above) taken as an undergraduate at UW–Madison may be allowed to count toward degree up to 7 credits. Coursework earned five or more years prior to admission to a master's degree is not allowed to satisfy requirements.

PRIOR COURSEWORK REQUIREMENTS: UW–MADISON UNIVERSITY SPECIAL
With program approval, coursework numbered 300 or above taken as a UW–Madison Special student may be allowed to count toward the degree up to 15 credits. Coursework earned five or more years prior to admission to a master's degree is not allowed to satisfy requirements.

CREDITS PER TERM ALLOWED
12 credits

PROGRAM-SPECIFIC COURSES REQUIRED
Candidates must satisfactorily complete one year of coursework that covers molecular, cellular, and integrative neurobiology. Enrollment in at least 2 credits of NTP 900 Neuroscience Seminar: Current Topics in Neurobiology is required.

OVERALL GRADUATE GPA REQUIREMENT
3.00 GPA Required

OTHER GRADE REQUIREMENTS
The Graduate School requires an average grade of B or better in all coursework (300 or above, not including research credits) taken as a graduate student unless conditions for probationary status require higher grades. Grades of Incomplete are considered to be unsatisfactory if they are not removed during the next enrolled semester.

PROBATION POLICY
The Graduate School regularly reviews the record of any student who earned grades of BC, C, D, F, or Incomplete in a graduate course (300 or above), or grade of U in research credits. This review could result in academic probation with a hold on future enrollment or in being suspended from the Graduate School.

ADVISOR / COMMITTEE
Candidates must select the advisory committee by the end of the second semester of the first year of graduate study.

ASSESSMENTS AND EXAMINATIONS
A research paper or presentation based on at least one year of laboratory research must be submitted to the advisory committee.

TIME CONSTRAINTS
Master's degree students who are absent for five or more years will not be given credit for prior work.

LANGUAGE REQUIREMENTS
No language requirements.

ADMISSIONS
This master’s program is offered for work leading to the Ph.D. Students may not apply directly for the master’s, and should instead see the admissions information for the Ph.D. (http://guide.wisc.edu/graduate/medicine-public-health-school-wide/neuroscience-phd/#admissionstext)

LEARNING OUTCOMES

KNOWLEDGE AND SKILLS
• Students will develop the knowledge base necessary for a career as an independent, professional scientist.
• Articulates, critiques, or elaborates the theories, research methods, and approaches to inquiry or schools of practice in neuroscience.
• Identifies sources and assembles evidence pertaining to questions or challenges in neuroscience.
• Demonstrates understanding of the primary field of neuroscience in a historical, social or global context.
• Selects and/or utilizes the most appropriate methodologies and practices.
• Evaluates or synthesizes information pertaining to questions or challenges in neuroscience.
• Communicates clearly in ways appropriate to the field of neuroscience.

PROFESSIONAL CONDUCT
• Students will receive training in responsible conduct of research, and will learn and foster principles of ethical and professional conduct.

PEOPLE

Faculty: Professor Mary Halloran (director). For a comprehensive faculty list, visit the program website (http://ntp.neuroscience.wisc.edu/faculty-research.htm).