

Proposal to Eliminate Academic Program

Pursuant to UW Regulation 6-43

M.S. Neuroscience

Statement of the reasons for elimination of the program:

The M.S. in Neuroscience (within the interdisciplinary Neuroscience program) has produced seven graduates in four years (Fall 2009-Spring 2013). This degree was administered through the Ph.D. program in Neuroscience.

In 2010, the decision was made to stop admitting students to the M.S. Admissions are now only to the Ph.D. program. The M.S. is considered the “default” or fall back degree where for personal or professional reasons a student does not complete the Ph.D. requirements. There is no additional cost; there are no “masters-specific” courses. This program supports the Ph.D. and contributes to the flexibility of that program.

Based on the “default” nature of this program and its ‘no-cost,’ we recommend the creation of a Neuroscience option or concentration within the M.S. in Zoology and elimination of the M.S. Neuroscience from the Master List of degrees.

Description of the program and relevant data:

Describe the mission, curriculum, content and format of the program:

The Master’s Program was/is a unit of the Doctoral Neuroscience Program, which is a research-focused Ph.D. program that exposes students to a variety of techniques, courses, and interdisciplinary thinking. The goal is to provide students with the necessary background to be broadly trained research neuroscientists. Special strengths of the program are faculty commitment to student education and research training and highly individualized programs of research and study. Faculty assistance and research facilities are readily available to meet the needs of individual students.

A particular emphasis of the program is the utilization of novel mammalian and nonmammalian species for neurobiological studies. Student and faculty members work employs diverse methodology, including neurophysiology, neuroanatomy, western blots and co-immunoprecipitation, immunohistochemistry, and various behavioral test procedures. Student-faculty interactions are fostered through the weekly seminar in Neuroscience.

The Master’s Program has not admitted students since 2010. The last Master’s was awarded in 2013. The Master’s Degree track was terminated (~2012), students are no longer admitted, although the Master’s degree remains on the books. Graduate Neuroscience Students are only admitted to the Doctoral Neuroscience Program. **The Master’s Program remains as a “default” degree; it is inactive (not admitting students nor devoting either state or federal resources [Neuroscience Center] to the program. The Master’s degree does fill a need. Students who are admitted into the**

Doctoral Program and have advanced in good standing, but for some reason (e.g. family, fail final dissertation defense) are not advanced to doctoral candidacy may petition for the Master's Degree. This approach seemed fair to the student, particularly in cases where health issues have prevented the student from finishing the final PhD, but have otherwise met expectations for a Master's Degree.

FROM 2010 Graduate Catalog: Program Specific Degree Requirements
Master's Program

After acceptance into the program, each student would select, or be assigned a major adviser and two other faculty advisers, all from the Neuroscience Program faculty. They will serve as the student's graduate committee, devising a set of course requirements (26 credit hour minimum) to best suit the student's educational goals and overseeing the design, execution, and approval of the student's thesis research.

In addition to the usual university requirements for the M.S. degree, an original research thesis (4 hours of thesis research; 5960) on a neuroscience problem and final oral examination will be required. Specific course requirements will include 1) Introduction to Neuroscience (NEUR 5280), 2) participation in at least two semesters in the Graduate Neuroscience Seminar (NEUR 5115; the topic and instructor changes each semester), 3) thesis research. Students are required to take a minimum of two of the following courses: Neurophysiology (NEUR 5685), Structure and Function of the Nervous System (NEUR 5100), Neural Mechanisms of Behavior (ZOO 4290), and Cell Physiology (NEUR 5670).

Students are required to earn a minimum grade of B for the required courses. Additional electives include: Pharmacology I and II (PHCY 6230), Molecular & Cellular Basis of Disease (HM 6520), and Statistics.

Students are required to obtain a B or better in required courses.

The thesis is the final, written product of the research project. The thesis must be submitted to the student's committee at least two weeks before the intended date of final examination. To finalize the master's program and project, one electronic copy of the thesis is submitted to the Office of the Registrar along with the completion of requirements and certificate of approval forms by the graduation deadline.

Describe the role of the program within the context of the college and the mission of the University:

The program supports the Doctoral Neuroscience Program in so far that it allows for some degree recognition for those students who have not completed the final requirements for the PhD in Neuroscience, but have met what would be expected for a master's degree (B or better in all classwork, research presentations and publication from their research).

Financial data relevant to the academic program:

UW Office of Institutional Analysis does not track the normal data-set for interdisciplinary graduate programs. Not applicable since there are no courses specifically for the MS, and program has not admitted students to the Program for 6 years. **There are not any on-campus Master's students.**

Course enrollment- not applicable; no MS coursework

Other instructional cost drivers- not applicable, no MS coursework

Research expenditures per tenured/tenure-track FTE- -0- = **all expenditures are in the Doctorate in Neuroscience, not in the MS.**

Admission, enrollment and graduation data relevant to the program, including the number of students currently enrolled and the status of their progress toward graduation:

start	degree awarded	years to degree	Advisor	Dept	College
8-06	MS 8-09	3	Skinner	Z&P	A&S
8-05	MS 8-08	3	Flynn	Z&P	A&S
8-08	MS 8-10	2	Skinner	Z&P	A&S
8-08	MS 8-11	3	Fox	Vet Sci	Ag
8-09	MS 12-12	3	Fox	Vet Sci	Ag
8-10	MS 12-13	3	Schatzl	Vet Sci	Ag
8-10	MS 12-13	3	Culver	Pharm	HS

Describe the administration of the program:

The Master's in Neuroscience is part of the Interdisciplinary Neuroscience Program, Department Head, Bill Flynn.

Describe the faculty and academic professionals who serve in the program, including their academic credentials, academic rank and length of service to the University:

The faculty of the Graduate Neurosciences Program do not teach MS-specific courses in Neurosciences. Nevertheless, the faculty affiliated with the program include:

Bill Flynn (PhD Kansas State University), Director, Graduate Neurosciences Program
Rank: Professor
Length of Service: 30 Years (1986)

Brenda Alexander (PhD, University of Wyoming), Reproductive Biology, Animal Science

Rank: Assistant Professor

Length of Service: 34 years (1982)

Travis Brown (PhD Neuroscience, Washington State University), School of Pharmacy

Rank: Assistant Professor

Length of Service: 4 Years (2012)

Jared Bushman (PhD, Biomedical Genetics, University of Rochester Medical Center), School of Pharmacy

Rank: Assistant Professor

Length of Service: 2 Years (2014)

Kurt Dolence (PhD Pharmaceutical Sciences, University of Kentucky), School of Pharmacy

Rank: Associate Professor

Length of Service: 17 Years (1999)

Jonathan Fox (PhD Virginia Tech), Veterinary Science

Rank: Associate Professor

Length of Service: 8 Years (2008)

Zoltan Fuzessery, Zoology and Physiology

Rank: Professor Emeritus

Length of Service: 26 Years (1987)

Sreejayan Nair (PhD, Mangalore University), School of Pharmacy

Rank: Assistant Professor

Length of Service: 14 Years (2002)

Jonathan Prather (PhD Neuroscience, Emory University), Zoology and Physiology

Rank: Associate Professor

Length of Service: 7 Years (2009)

Kara Pratt (PhD Neuroscience, Brandeis University), Zoology and Physiology

Rank: Assistant Professor

Length of Service: 5 Years (2011)

Stephen Santoro (PhD, Scripps Research Institute), Zoology and Physiology

Rank: Assistant Professor

Length of Service: 2 Years (2014)

Donal Skinner (PhD, Cambridge University), Zoology and Physiology

Rank: Professor

Length of Service: 14 Years (2002)

Qian-Quan Sun (PhD Neurobiology, St. Andrews University), Zoology and Physiology
Rank: Associate Professor
Length of Service: 12 Years (2004)

Baskaran Thyagarajan (PhD, Karl-Franzens University of Graz), School of Pharmacy
Rank: Assistant Professor
Length of Service: 5 Years (2011)

Charles Jeff Woodbury (PhD, SUNY Stony Brook), Zoology and Physiology
Rank: Associate Professor
Length of Service: 13 Years (2003)

Zhaojie Zhang (PhD, University of Oklahoma), Director, Microscopy Core facility
Rank: Senior Research Scientist
Length of Service: 15 Years (2001)

Describe the program facilities, including classrooms and offices, library and equipment used by or dedicated to the program:

Since faculty are affiliated and the program is interdisciplinary, the offices associated with the group are not dedicated to the MS Neuroscience program, but their respective departments.

The NIH Center of Biomedical Research Excellence (COBRE) at the University of Wyoming was initiated in 2000 with the successful funding of the Center grant. This grant was part of the National Center for Research Resources (NCR) Institutional Development Award (IDeA) Program to broaden the geographic distribution of NIH funding for biomedical and behavioral research. The NCR identified that the "objectives of the program was to foster health-related research and strengthen institutional biomedical research capabilities by expanding and developing biomedical faculty research capability through support of a multidisciplinary center.." Since 2000 the COBRE has: 1) had a positive impact on the research development of a number of biomedical and neuroscience faculty, 2) enabled the recruitment of new neuroscience faculty, 3) fostered the growth of graduate Neuroscience education (both a MS and PhD in Neuroscience are offered), 4) established a state-of-the art Microscopy Facility, directed by Dr. Zhaojie Zhang. The Microscopy Facility has the leadership and instrumentation for virtually any imaging need.

The Microscopy Core is supported by the Neuroscience Center Core Grant from the National Institutes of Health (P30 RR32128). The objective of the Microscopy Core is to meet the growing imaging needs of the Neuroscience Center investigators who rely on the microscopy imaging to identify the structural bases that occur in neurons and their synapses in response to a variety of physiological events, development, and several neurodegenerative diseases.

Since its establishment, the Facility has grown in terms of instrumentation and service. The Microscopy Facility has four main components: epi fluorescence and bright field microscopy, confocal laser scanning microscopy, transmission electron microscopy, and scanning electron microscopy. The TEM is equipped with a high resolution (4000 X 4000) cooled CCD camera. With its capabilities, the Microscopy Core is essential to the NIH-funded projects of the Neuroscience Center investigators.

No classrooms are specifically used for the MS program; as described above, MS coursework does not exist.

Evaluations from accrediting bodies or other reviewers of the quality of the program and its faculty and academic professionals:

Not applicable.

Comparison of the program with related or similar programs:

The Program in Neurosciences is ranked #85 by the NRC.

Describe the anticipated effects of elimination of the program upon the college in which the program is situated, upon other colleges and units of the University, and upon the University as a whole, including:

Effects upon students enrolled in the academic program:

At this time there are 2 students enrolled as Off-campus Continuing students. The students are not actively involved with faculty nor are they taking courses, but have the ability to stay enrolled even though they are making no progress towards the degree. The students have completed the required coursework but have not written or defended a research thesis.

Effects upon faculty and academic professionals who serve in the program, including termination of any existing positions:

All faculty involved in the MS Neuroscience program are also affiliated with the Doctoral program. They will not be impacted.

Educational and financial effects upon other units of the University:

An option for students who cannot complete the PhD program will be constructed within the Zoo/Phys graduate program, thus impacting that program. Otherwise, impacts will be minimal.

Effects upon faculty, academic professionals, staff, students and alumni of the University:

An option for students who cannot complete the PhD program will be constructed within the Zoo/Phys graduate program. Therefore, impacts will be minimal.

Effects on the State of Wyoming, including loss of benefits conferred outside the University by the academic program:

An option for students who cannot complete the PhD program will be constructed within the Zoo/Phys graduate program. Therefore, impacts will be minimal.

Implementation plan to be followed in the event the academic program is eliminated, including:

Procedures for handling current and future applications for admission:

No applications or admissions have been taken for this program since 2010. It is the default degree for the doctoral degree in Neuroscience. This means that students who, for some reason, are unable to complete the doctoral degree, could receive this MS degree. Now this will not be possible under the Neuroscience program. [An option for students who cannot complete the Neuroscience PhD program will be constructed within the Zoo/Phys graduate program.]

Plans for assisting currently enrolled students to complete the course of study:

The two current students associated with the programs, described above, will be allowed to write and defend their theses and complete the program. [No coursework is unique to the MS degree. All courses are actually part of the doctoral degree in Neuroscience.] The two impacted students have completed sufficient coursework to attain this degree. Only their thesis remains. **They will be informed that the degree is being eliminated and told to complete their theses within two years' time.**

Plans for accommodating faculty and academic professionals who will be terminated or otherwise affected by elimination of the academic program:

Not applicable. The faculty and academic professionals have responsibilities both to the doctoral program in Neuroscience as well as to other degree programs, for example, zoology. No positions will be eliminated.