BIOPHYSICS, M.S.

The doctor of philosophy degree with a major in biophysics is an interdepartmental offering under the supervision of the biophysics program committee. The biophysics degree is intended for those who wish to emphasize physical principles and methods in solving biological problems. By necessity, the interdisciplinary nature of biophysics generates interaction among, and expands the boundaries of, traditional areas of science. Persons with strong training in biophysics can be expected to be major innovators and contributors in research and applied technology. Biophysics graduates pursue careers in academic, industrial, and government research, and in teaching and administration.

The biophysics program consists of 44 faculty members from 14 departments that span four colleges within the university. State-of-the-art facilities are available within the biophysics program for research in X-ray crystallography, nuclear magnetic-resonance spectroscopy, electron resonance spectroscopy, fluorescence spectroscopy, microscopy and imaging, and computational chemistry. Graduate students in biophysics can choose from an expansive range of research topics including, but not limited to, biomolecular structure and function interactions, protein engineering and biotechnology, virus structure and function, enzyme catalysis and kinetics, membranes, neurochemistry, and electrophysiology.

The program is flexible in its formal course requirements and emphasizes excellence in research. The candidate is encouraged to begin research as quickly as possible, since it is research experience that brings focus and meaning to classroom studies, and research progress that empowers critical judgment and self-confidence for independent work. To enhance self-confidence, students are expected to participate in weekly seminars and to present a seminar.

Financial assistance is available to support qualified graduate students throughout their graduate studies. Types of graduate appointments that may be awarded include research assistantships, fellowships, and traineeships. The stipends awarded provide financial support to students during their graduate work, permitting them to devote their efforts to coursework and research. In recognition of the leadership provided by scientists and researchers at University of Wisconsin–Madison, the National Institutes of Health (NIH) have funded a predoctoral training grant in molecular biophysics for the past consecutive 20 years.

A master's degree is offered officially; however, students are not admitted into the program for a terminal master's degree. For more information, see the Biophysics Handbook (http://www.biophysics.wisc.edu/handbook).

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

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 completed 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, students are allowed to count no more than 9 credits of graduate coursework from other institutions. Coursework earned more than two years prior to admission to the doctoral degree is not allowed to satisfy requirements. No admissions are made into the master's program.

PRIOR COURSEWORK REQUIREMENTS: UW–MADISON UNIVERSITY SPECIAL

With program approval, students are allowed to count no more than 9 credits of coursework numbered 300 or above taken as a UW–Madison Special student. Coursework earned more than two years prior to admission to the doctoral degree is not allowed to satisfy requirements. No admissions are made into the master's program.

CREDITS PER TERM ALLOWED

15 credits

PROGRAM-SPECIFIC COURSES REQUIRED

Half of degree coursework (15 credits out of 30 total credits) must be completed in courses numbered 700 and above and those courses numbered 600 and above considered graduate level in the biophysics program, which currently includes core courses BIOCHEM 601 Protein and Enzyme Structure and Function, BIOCHEM/GENETICS/MICROBIO 612 Prokaryotic Molecular Biology, BIOCHEM/CHEM 665 Biophysical Chemistry, CHEM 668 Biophysical Spectroscopy and NTP/PHMOC-M/PHYSIO 610 Cellular and Molecular Neuroscience, as well as those courses outside biophysics that have been identified as graduate level by the courses home departments.

OVERALL GRADUATE GPA REQUIREMENT

3.00 GPA required

OTHER GRADE REQUIREMENTS

3.00 overall GPA required. Any grade of BC or lower will not count toward the Biophysics core course requirement. If a student receives a BC or lower, the student must repeat the course in order to receive a higher
grade. The student may also substitute to course for an alternate core course.

**PROBATION POLICY**
If students fall below the 3.00 GPA program requirement or have incomplete grades, the biophysics program follows the Graduate School's policy of satisfactory/unsatisfactory progress. This could result in academic probation or suspension.

**ADVISOR / COMMITTEE**
All students are required to have an advisor by the end of their first semester in the program. Thesis committees must be formed prior to their preliminary exam. The committee consists of at least four other faculty members and the student's advisor. After gaining dissertation status, students are required to hold yearly progress report meetings with their committee until graduation.

**ASSESSMENTS AND EXAMINATIONS**
Students take two rounds of exams in order to achieve dissertator status. At the end of students' second year, they are required to take their written preliminary exam. Once this exam is passed, students must take their preliminary exam by the end of their third year.

**TIME CONSTRAINTS**
Master's degree students who have been absent for five or more consecutive years lose all credits that they have earned before their absence. Individual programs may count the coursework students completed prior to their absence for meeting program requirements; that coursework may not count toward Graduate School credit requirements.

**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/graduate-school-wide/biophysics-phd)

**LEARNING OUTCOMES**

**KNOWLEDGE AND SKILLS**
- Articulates, critiques, or elaborates the theories, research methods, and approaches to inquiry or schools of practice in the field of study.
- Identifies sources and assembles evidence pertaining to questions or challenges in the field of study.
- Understands the primary field of study 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 the field of study.
- Communicates clearly in ways appropriate to the field of study.

**PROFESSIONAL CONDUCT**
- Recognizes and applies principles of ethical conduct.