

PHYSIOLOGY, M.S.

Administrative Unit: Basic Research, Biotechnology and Graduate Studies

College/School: School of Medicine and Public Health

Admitting Plans: Ph.D.

Degrees Offered: M.S., Ph.D.

Minors and Certificates: Doctoral Minor

The physiology graduate training program is interdisciplinary in its approach to scientific research, reflecting the breadth of the discipline of physiology. Powerful new tools in modern biology make it possible to link the cellular and molecular with integrative levels in physiological systems, the cardiovascular, respiratory, renal, endocrine, neurophysiological, gastrointestinal, musculoskeletal, and metabolic systems. The program provides doctoral training in mechanistic studies that use these new tools to study the functions of molecules, cells, tissues, and organ systems in preparation for careers in biomedical research, biotechnology, and academic teaching. Students learn through lecture courses, seminar courses, seminars by speakers from campus and from other institutions, journal clubs and, most important, from their research mentors. Students are encouraged to interact with other training programs and research centers to broaden their knowledge and experience. Gaining expertise in public speaking is an important component of the program.

FUNDING

Financial aid is provided to all students, usually in the form of grant-supported research assistantships, institutional fellowships, teaching assistantships, or advanced opportunity fellowships for minority or disadvantaged students. Students are encouraged to contact individual professors in their areas of interest to determine whether support is available for working in that lab.

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/#policiesandrequirements>) 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

At least half (16 credits of the required 30) 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

Courses taken that fulfill the equivalent requirements may be considered to exempt a class:

If demonstrated didactic knowledge of physiology, then PHYSIOL 435 Fundamentals of Human Physiology may be exempted.

If considerable background in neuroscience, then NTP/PHMCO-M/PHYSIOL 610 Cellular and Molecular Neuroscience may be exempted.

Statistics courses may be considered by the student's advisory committee for exemption; however, students are still strongly encouraged to participate.

These exemptions do not waive a student from any credits, merely from taking the courses. The student will still need to accumulate 30 credits for the degree.

PRIOR COURSEWORK REQUIREMENTS: UW-MADISON UNDERGRADUATE

Courses taken that fulfill the equivalent requirements may be considered to exempt a class:

If demonstrated didactic knowledge of physiology, then PHYSIOL 435 may be exempted.

If considerable background in neuroscience, then NTP/PHMCO-M/PHYSIOL 610 may be exempted.

Statistics courses may be considered by the student's advisory committee for exemption; however, students are still strongly encouraged to participate.

These exemptions do not waive a student from any credits, merely from taking the courses. The student will still need to accumulate 30 credits for the degree.

PRIOR COURSEWORK REQUIREMENTS: UW-MADISON UNIVERSITY SPECIAL

Courses taken that fulfill the equivalent requirements may be considered to exempt a class:

If demonstrated didactic knowledge of physiology, then PHYSIOL 435 may be exempted.

If considerable background in neuroscience, then NTP/PHMCO-M/PHYSIOL 610 may be exempted.

Statistics courses may be considered by the student's advisory committee for exemption; however, students are still strongly encouraged to participate.

These exemptions do not waive a student from any credits, merely from taking the courses. The student will still need to accumulate 30 credits for the degree.

CREDITS PER TERM ALLOWED

12 credits

PROGRAM-SPECIFIC COURSES REQUIRED

Physiology core curriculum includes:

Code	Title	Credits
PHYSIOL 435	Fundamentals of Human Physiology (or equivalent)	5
STAT/F&W ECOL/ HORT 571	Statistical Methods for Bioscience I	4
or ONCOLOGY 675	Advanced or Special Topics in Cancer Research	
NTP/PHMCOL-M/ PHYSIOL 610	Cellular and Molecular Neuroscience	4
NTP 700	Professional Development for Biomedical Graduate Students	1
PHYSIOL 901	Seminar	1

OVERALL GRADUATE GPA REQUIREMENT

3.00

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

Every graduate student is required to have an advisor. To ensure that students are making satisfactory progress toward a degree, the Graduate School expects them to meet with their advisor on a regular basis.

An advisor generally serves as the thesis advisor. In many cases, an advisor is assigned to incoming students. Students can be suspended from the Graduate School if they do not have an advisor. An advisor is a faculty member, or sometimes a committee, from the major department responsible for providing advice regarding graduate studies.

A committee often accomplishes advising for the students in the early stages of their studies.

ASSESSMENT AND EXAMINATIONS

Contact the program for information on required assessments and examinations.

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

Contact the program for information on any 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/physiology-phd/#admissionstext>)

LEARNING OUTCOMES

KNOWLEDGE AND SKILLS

- Students will be able to teach physiology, engaging audiences and helping them to learn.
- Students will demonstrate a didactic knowledge of physiology.
- Students will be able to describe past science, propose future experiments, and defend their ideas to peers in a proposal format.
- Students will be able to write for a proper audience, revising and responding to reviewers as appropriate.
- Students will be able to verbally communicate their science and do so in a clear manner for a variety of audiences.

PROFESSIONAL CONDUCT

- Students will understand that science and research is based on trust –trust between scientists and colleagues, trust between scientists and policy makers, trust between scientists and advisory boards, and trust between scientists and society.

PEOPLE

Faculty: See faculty list (<http://pgtp.wisc.edu/faculty>) on the program website.