

# MICROBIOLOGY, PHD

## REQUIREMENTS

### MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum degree requirements (<https://guide.wisc.edu/graduate/#requirements>) and policies (<https://guide.wisc.edu/graduate/#policies>), in addition to the program requirements listed below.

### MAJOR REQUIREMENTS

#### MODE OF INSTRUCTION

Face to Face	Evening/ Weekend	Online	Hybrid	Accelerated
Yes	No	No	No	No

#### Mode of Instruction Definitions

**Accelerated:** Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.

**Evening/Weekend:** Courses meet on the UW-Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

**Face-to-Face:** Courses typically meet during weekdays on the UW-Madison Campus.

**Hybrid:** These programs combine face-to-face and online learning formats. Contact the program for more specific information.

**Online:** These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

### CURRICULAR REQUIREMENTS

Requirement Detail	
Minimum Credit Requirement	51 credits
Minimum Residence Credit Requirement	32 credits
Minimum Graduate Coursework Requirement	26 credits must be graduate-level coursework. Refer to the Graduate School: Minimum Graduate Coursework (50%) Requirement policy: <a href="https://policy.wisc.edu/library/UW-1244">https://policy.wisc.edu/library/UW-1244</a> ( <a href="https://policy.wisc.edu/library/UW-1244/">https://policy.wisc.edu/library/UW-1244/</a> ).
Overall Graduate GPA Requirement	3.00 GPA required. Refer to the Graduate School: Grade Point Average (GPA) Requirement policy: <a href="https://policy.wisc.edu/library/UW-1203">https://policy.wisc.edu/library/UW-1203</a> ( <a href="https://policy.wisc.edu/library/UW-1203/">https://policy.wisc.edu/library/UW-1203/</a> ).
Other Grade Requirements	n/a

Assessments and Examinations	Doctoral students are required to take a comprehensive preliminary/oral examination after they have cleared their record of all Incomplete and Progress grades (other than research and thesis). Deposit of the doctoral dissertation in the Graduate School is required.
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Language Requirements	n/a
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Graduate School Breadth Requirement	All doctoral students are required to complete a doctoral minor or graduate/professional certificate. Refer to the Graduate School: Breadth Requirement in Doctoral Training policy: <a href="https://policy.wisc.edu/library/UW-1200">https://policy.wisc.edu/library/UW-1200</a> ( <a href="https://policy.wisc.edu/library/UW-1200/">https://policy.wisc.edu/library/UW-1200/</a> ).
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### REQUIRED COURSES

Code	Title	Credits
Topics		

Students must complete the following courses.

MICROBIO 810	Current Issues in Microbiology	1
MICROBIO 811	Advanced Problems in Microbiology	1

#### Electives

Students must complete at least 9 credits or three courses from the following list.

GENETICS/ BIOCHEM/ MD GENET 620	Eukaryotic Molecular Biology	
GENETICS 885	Advanced Genomic and Proteomic Analysis	
MICROBIO 526	Physiology of Microorganisms	
MICROBIO/ BIOCHEM/ GENETICS 612	Prokaryotic Molecular Biology	
MICROBIO 626	Microbial and Cellular Metabolomics	
MICROBIO 657	Bioinformatics for Microbiologists	
MICROBIO/ BMOLCHEM 668	Microbiology at Atomic Resolution	
MICROBIO 710	Microbial Symbiosis	
M M & I/PATH- BIO 528	Immunology	
M M & I 740	Mechanisms of Microbial Pathogenesis	
M M & I/PATH- BIO 750	Host-Parasite Relationships in Vertebrate Viral Disease	
M M & I 760	Quantitative Systems Biology and Disease	
ONCOLOGY/ M M & I/ PL PATH 640	General Virology-Multiplication of Viruses	
PL PATH/ BOTANY/ GENETICS/ M M & I 655	Biology and Genetics of Fungi	

#### Seminar

Students must complete 6 credits of seminar from one of the following courses. Students enroll for the program's seminar course during their first three years and must present during the third and fourth year of program.

MICROBIO 731	Seminar	6
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or M M & I 901 Seminar

### Breadth

Students take at least 10 credits in either an external or distributed doctoral minor or a graduate/professional certificate. 10

### Additional Coursework

Students complete enough credits of additional coursework as well as 990 research credits to meet the 51-credit degree requirement. 24-26

### Research Credits

Credits of 990 in subjects outside of MICROBIO and M M I are acceptable with advisor approval.

M M & I 990 Research and Thesis  
or MICROBIO 990 Research

### Coursework Credits

Courses are chosen in consultation with the thesis committee.

### Total Credits

51

## Rotation Requirement

Incoming students are required to rotate in a minimum of three research labs. Students who are directly admitted into a lab are exempt from this rotation requirement.

## Teaching Practicum Requirement

All students in the program are required to complete a teaching practicum.

This is usually completed during the second year. Students choose from a list of courses and work with faculty delivering instruction in a lecture or lab setting.

## Professional Development Requirement

Professional development is a required part of the program's curriculum. Students must receive approval from their thesis committee on the activity chosen to satisfy this requirement. Thesis committees will also determine if each student has met the requirement. Students should complete the professional development requirement by the end of the fourth year.

This requirement is fulfilled by:

- completing a second semester of teaching practicum,
- carrying out an internship for as long as one semester,
- taking at least 2 credits of coursework from the list of approved classes or through the Delta Program, or
- performing other professional development activities equivalent to 2 semester hours of coursework as judged by the thesis committee.

## Professional Development Activities Courses

The Graduate School has agreed to allow dissertator students to enroll in courses from a limited list of classes appropriate for professional development of the program's students. Students would take one or two courses in an area of interest after they become dissertators. Additional courses may be added to this list if they are appropriate for the program's students and are approved for this purpose by the Graduate School.

## Teaching Practicum

A second semester of teaching practicum may be the most appropriate training for students that seek a career in academic research and teaching. If students do not arrange for other professional development activities,

the default professional development training would be a second semester of teaching in a teaching practicum.

## The Delta Program

Students interested in teaching as a career can complete the Higher Education Teaching and Learning (<https://guide.wisc.edu/graduate/graduate-school-wide/higher-education-teaching-learning-graduate-professional-certificate/>) graduate/professional certificate through the Delta Program. Completing this certificate prepares students to become a leaders in teaching and learning, promoting inclusive and effective educational experiences at the college level. Through this program, students gain the skills and confidence needed to thrive as an instructor and mentor, be competitive for faculty positions and other academic roles, and contribute to the advancement of teaching and learning practices in their discipline.

## Summer Courses or Workshops

For students most interested in continuing in academic research, one or more summer courses or workshops may be the most appropriate training. Examples of such courses are those that cover research areas or methods or scientific writing or grant preparation.

## Internship

As an alternative to class work or a second semester of teaching practicum, students could participate in an internship with a business or other organization. Students doing internships would have to arrange to be paid through the organization, and they would not be paid by their advisors while away from their research.