

# MICROBIOLOGY, PH.D.

## REQUIREMENTS

### MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (<http://guide.wisc.edu/graduate/#policiesandrequirementstext>), 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. Details can be found in the Graduate School's Minimum Graduate Coursework (50%) 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. This program follows the Graduate School's 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.

**Language Requirements** None.

**Graduate School Breadth Requirement** All doctoral students are required to complete a doctoral minor or graduate/professional certificate. Students in the program may fulfill the minor requirement under either Option A: a full minor in a single department outside the major (e.g., Biochemistry, Genetics, Population Health) with at least 10 credits, or Option B: a distributed minor between two or more departments with a total of 10 credits. M M & I and MICROBIO courses can be used for minor credit rather than major credit in the Option B minor. Coursework to fulfill major and minor requirements must be reviewed and approved by student's thesis committee.

### REQUIRED COURSES

Code	Title	Credits
<b>Required Courses</b>		<b>10</b>
MICROBIO 810	Current Issues in Microbiology	
MICROBIO 811	Advanced Problems in Microbiology	
At least three courses must come from the following list:		
GENETICS 885	Advanced Genomic and Proteomic Analysis	
MICROBIO 526	Physiology of Microorganisms	
MICROBIO 607	Advanced Microbial Genetics	
MICROBIO/ BIOCHEM/ GENETICS 612	Prokaryotic Molecular Biology	
MICROBIO 657	Bioinformatics for Microbiologists	
MICROBIO 710	Microbial Symbiosis	
MICROBIO/ BMOLCHEM 668	Microbiology at Atomic Resolution	
MICROBIO 875	Special Topics	
M M & I/PATH- BIO 528	Immunology	
M M & I 740	Mechanisms of Microbial Pathogenesis	
ONCOLOGY/ PL PATH 640	General Virology-Multiplication of Viruses	
PL PATH/ BOTANY/ GENETICS/ M M & I 655	Biology and Genetics of Fungi	
<b>Seminar Requirement<sup>1</sup></b>		<b>6</b>
MICROBIO 731	Seminar	
or M M & I 901	Seminar	

**Breadth** 10

The remaining credits may be other MICROBIO or M M & I courses approved by the Advising Committee or your thesis committee, excluding research, directed study, seminar or journal club course except as approved by the Steering Committee.

### Research Credits

Students complete enough credits of 990 to meet the total minimum credit requirement. 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

### Total Credits

51

1

Students must enroll for the program's seminar (MICROBIO 731 or M M & I 901) during their first three years. Students are expected to present during their third year when enrolled in the seminar as well as in their fourth year of the program, although they may not be enrolled.

### 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.

### Professional Development Requirement

Professional Development is a required part of the program's curriculum. Students are required to perform a second semester of teaching practicum, carry out an internship for as long as one semester, take at least 2 credits of coursework from the list of approved classes or through the Delta Program, or perform other professional development activities equivalent to 2 semester hours of coursework as judged by the thesis committee. The thesis committee must give approval for the student to participate in the chosen professional development activity. 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.

### Options for completing Professional Development requirement:

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 participate in the Delta Program, allowing students to take classes and gain experience in teaching. Successful students are granted a certificate from the Delta Program, and this achievement and experience likely make the students more attractive for teaching positions.

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.

### Teaching Practicum Requirement

All students in the program are required to complete a Teaching Practicum. This Teaching Practicum 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.