

# MICROBIOLOGY (PHD)

Graduate School

Program Website (<https://cals.cornell.edu/education/degrees-programs/graduate-field-microbiology/>)

CIP: 26.0502 | HEGIS: 0411.00 | NYSED: 17095

## Graduate Field

Microbiology (<https://catalog.cornell.edu/graduate-school/microbiology/>)

## Program Description

Research areas include genetics, physiology, biochemistry, molecular biology, systematic and environmental microbiology, microbial ecology, and virology. Most of the laboratories used by the field have been recently built or renovated, and a broad range of instrumentation is available for work in all aspects of microbiology and molecular biology. One semester of teaching is required for Ph.D. degree candidates.

## Concentrations

- Microbiology

## Program Information

- Instruction Mode: In Person
- Location: Ithaca, NY
- Minimum Credits for Degree: 80

## Program Requirements

- Minimum Semesters for Degree: 6

## Graduate School Milestones

- Responsible Conduct of Research Training: Required
- Open Researcher and Contributor ID (ORCID): Required
- Student Progress Reviews (SPR) begin: First Year
- Examination for admission to candidacy (A Exam): Spring of second year
- Defense of Dissertation (B Exam): Spring of fifth year

## Field Specific Milestones

- One semester of teaching assistantship is required

## Course Requirements

Additional course requirements may be set by the student's Special Committee. Program specific requirements that apply to all students are included below.

### Year 1 (Fall)

- BIOMI 7100 Fundamentals of Environmental Microbiology
- BIOMI 7970 Scientific Communication Skills

### Year 1 (Spring)

- BIOMI 6200 Core Concepts in Molecular Bacteriology
- BIOMI 7990 Microbiology Seminar

## University Graduation Requirements Requirements for All Students

In order to receive a Cornell degree, a student must satisfy academic and non-academic requirements.

### Academic Requirements

A student's college determines degree requirements such as residency, number of credits, distribution of credits, and grade averages. It is the student's responsibility to be aware of the specific major, degree, distribution, college, and graduation requirements for completing their chosen program of study. See the individual requirements listed by each college or school or contact the college registrar's office (<https://registrar.cornell.edu/service-resources/college-registrar-directory/>) for more information.

### Non-academic Requirements

**Conduct Matters.** Students must satisfy any outstanding sanctions, penalties or remedies imposed or agreed to under the Student Code of Conduct (Code) or Policy 6.4. Where a formal complaint under the Code or Policy 6.4 is pending, the University will withhold awarding a degree otherwise earned until the adjudication process set forth in those procedures is complete, including the satisfaction of any sanctions, penalties or remedies imposed.

**Financial Obligations.** Outstanding financial obligations will not impact the awarding of a degree otherwise earned or a student's ability to access their official transcript. However, the University may withhold issuing a diploma until any outstanding financial obligations owing to the University are satisfied.

## Learning Outcomes

- Demonstrate proficiency in research laboratories (completing three rotations)
- Demonstrate understanding of courses (predominately during the first two years)
- Demonstrate proficiency in teaching in a formal teaching setting (by working as a teaching assistant)
- Support education through teaching, mentoring, and outreach
- Make an original and substantial contribution to the field through research
  - Explain research premises, experimental design and the analysis of results.
  - Explain methods and justifications for choosing particular methods.
  - Identify and access appropriate resources, synthesize existing knowledge, and critically analyze and evaluate results.
  - Listen, give, and receive feedback effectively.
  - Present research at national or regional meetings.
  - Publish peer-reviewed manuscripts.
- Demonstrate commitment to professional development through engagement in graduate and professional societies and journal clubs
- Understand and adhere to ethical standards in the discipline and Responsible Conduct in Research