

# Microbiology, MS

LAMICROMS

When you become an expert in microbes, you will be able to contribute to the greater good. Join us to learn how microbes impact human health and the environment, and receive theoretical and practical training in your chosen area of interest.

## Program description

### **Degree awarded: MS Microbiology**

The MS in microbiology is designed to prepare students for careers in bacteriology, virology, mycology, immunology and oncology in academic institutions, government agencies or commercial entities.

Students train broadly in microbiology, including microbial ecology and evolution, geomicrobiology, bacterial physiology and genetics, bacterial pathogenesis, metabolic engineering, immunology and vaccine development, and cancer biology. They receive advanced training in the study of microbes and their impact on humankind, disease and the environment. The tools they use range from nanotechnologies and genomics to mathematical models and satellite-based imaging.

Students receive training in teaching as well as in basic, translational and use-inspired research with world-class faculty and collaborative research partners. Faculty members are associated with the School of Life Sciences, The Biodesign Institute, The Translational Genomics Institute, Barrow Neurological Institute, and other area hospitals and research centers.

## At a glance

- **College/School:** [The College of Liberal Arts and Sciences](#)
- **Location:** [Tempe](#)

## Accelerated program options

This program allows students to obtain both a bachelor's and master's degree in as little as five years. It is offered as an [accelerated bachelor's plus master's degree](#) with:

[Biological Sciences, BS](#)

[Biological Sciences \(Biology and Society\), BS](#)

[Biological Sciences \(Biomedical Sciences\), BS](#)

[Biological Sciences \(Conservation Biology and Ecology\), BS](#)

[Biological Sciences \(Genetics, Cell and Developmental Biology\), BS](#)

[Biological Sciences \(Neurobiology, Physiology and Behavior\), BS](#)

[Microbiology, BS](#)

[Microbiology \(Medical Microbiology\), BS](#)

[Molecular Biosciences and Biotechnology, BS](#)

[Neuroscience, BS](#)

Acceptance to the graduate program requires a separate application. Students typically receive approval to pursue the accelerated master's during the junior year of their bachelor's degree program. Interested students can learn about eligibility requirements and [how to apply](#).

## Degree requirements

30 credit hours and a thesis

### **Required Core (3 credit hours)**

MIC 501 Foundations in Microbiology (3)

### **Electives and Research (21 credit hours)**

### **Culminating Experience (6 credit hours)**

MIC 599 Thesis (6)

### **Additional Curriculum Information**

Students should see the academic unit for a complete list of approved electives.

## Admission requirements

Applicants must fulfill the requirements of both the Graduate College and The College of Liberal Arts and Sciences.

Applicants are eligible to apply to the program if they have earned a bachelor's or master's degree in the biological sciences, biochemistry or a closely related field from a regionally accredited institution.

Applicants must have a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in the last 60 hours of their first bachelor's degree program, or a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in an applicable master's degree program.

All applicants must submit:

1. graduate admission application and application fee
2. official transcripts
3. academic record form
4. personal statement
5. curriculum vitae or resume
6. three letters of recommendation
7. proof of English proficiency

### **Additional Application Information**

An applicant whose native language is not English must provide proof of [English proficiency](#) regardless of their current residency.

Prior research experience is a desired qualification for admission.

## **Tuition information**

When it comes to paying for higher education, everyone's situation is different. Students can learn about [ASU tuition and financial aid](#) options to find out which will work best for them.

## **Program learning outcomes**

Program learning outcomes identify what a student will learn or be able to do upon completion of their program. This program has the following program outcomes:

- Able to review the scholarly literature associated with research questions in microbiology.
- Able to carry out a research plan in an area of Microbiology under advisement of their mentors.
- Able to communicate science effectively, both orally and in writing.

## **Career opportunities**

Professionals with tailored research training in specific directions, including microbial physiology, environmental microbiology, evolution and ecology, immunology, virology and various aspects of modern molecular genetics are in demand in diverse sectors.

Career examples include:

- environmental scientists and specialists (including health)
- lab managers in academic and industrial labs
- medical and clinical laboratory technologists
- microbiologists in diverse sectors including food service and health care industry
- natural sciences managers
- research technicians in academic and industrial labs

## Contact information

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