Microbiology, BS

LAMICBS

Make a difference in science and health by studying the smallest living things: bacteria, protozoa and viruses. Learn about immunology --- the study of immune systems and how bodies defend against infectious diseases. This degree prepares you for a wide range of careers and is an outstanding major for premed students.

Program Description

The BS program in microbiology combines the study of the branch of biology involving the smallest of living things (bacteria, fungi, algae, protozoa and viruses) and immunology (the study of all aspects of the immune system). Despite their small size, microbes are fundamental to life on Earth and compose the majority of all Earth's life forms. In addition to their essential contributions to the natural world, microbes have been model experimental subjects due to their impact on human health and ease of manipulation in the laboratory. A significant portion of medical research employs microbiological and immunological methods in order to examine basic genetic and biological phenomena.

This program is available as an accelerated degree program. Students can visit this website to learn more about accelerated degree programs: https://sols.asu.edu/degree-programs/accelerated-bachelor-master-science.

At a Glance

- **College/School**: College of Liberal Arts and Sciences
- **Location**: Tempe campus

- **Additional Program Fee**: Yes
- **Second Language Requirement**: No
- **First Required Math Course**: MAT 251 - Calculus for Life Sciences
  or MAT 270 Calculus with Analytic Geometry I
Required Courses (Major Map)

2018 - 2019 Major Map
Major Map (Archives)

Accelerated Degrees

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 and master's degree with:

- Biology, MS
- Molecular and Cellular Biology, MS

Acceptance to the graduate program requires a separate application. During their junior year, eligible students will be advised by their academic departments to apply.

Admission Requirements

General University Admission Requirements:

All students are required to meet general university admission requirements.

Change of Major Requirements

A current ASU student has no additional requirements for changing majors. Students should refer to https://students.asu.edu/changingmajors for information about how to change a major to this program.

Transfer Agreements

ASU has partnered with colleges and universities in Arizona, California, Illinois and Washington to provide transfer curriculum pathways. Students should select their current institution to see if there is a partnership agreement between the institution and ASU for this degree program. Students who do not see their state or institution listed should check back as ASU is always working on creating new partnerships.
Transfer from a Maricopa Community College in Arizona

Select a college

- Chandler-Gilbert Community College
- Estrella Mountain Community College
- GateWay Community College
- Glendale Community College
- Mesa Community College
- Paradise Valley Community College
- Phoenix College
- Rio Salado College
- Scottsdale Community College
- South Mountain Community College

Transfer from an Arizona Community College

Select a college

- Arizona Western College
- Central Arizona College
- Cochise College
- Coconino Community College
- Dine College
- Eastern Arizona College
- Gila Community College
- Mohave Community College
- Northland Pioneer College
- Pima Community College
- Tohono O'odham Community College
- Yavapai College

Transfer from another state

Select a state

- California
- Illinois
- Washington
- Another state

Global Opportunities

Global Experience

With over 250 programs in more than 65 countries (ranging from one week to one year), study abroad is possible for all ASU students wishing to gain global skills and knowledge in preparation for a 21st century career. Students earn ASU credit for completed courses, while staying on track for graduation, and may apply financial aid and scholarships toward program costs. [https://mystudyabroad.asu.edu/](https://mystudyabroad.asu.edu/).
Career Opportunities

The microbiology degree program places emphasis on understanding microorganisms and their interrelationships with other organisms in nature and on the influence of microorganisms in biomedicine and biotechnology. Students in the microbiology degree program will study not only the background and current findings in the field of microbiology but also acquire the critical-thinking skills and the hands-on laboratory and field skills required to succeed in science. The major provides excellent training for premedical, predental, preveterinary and prepharmacy students as well as advanced study in microbiology and immunology.

The discipline of microbiology is diverse and the job opportunities for microbiologists are enormous. Graduates with a degree in microbiology have opportunities for employment in:

- government
- hospitals
- industrial laboratories (food, dairy, chemical, pharmaceutical, environmental and biotechnology companies)
- public health laboratories
- research laboratories

Many students are also suitably prepared for admission into graduate school and advanced study in these fields:

- dentistry
- medicine
- pharmacy
- veterinary medicine

Career examples include but are not limited to those shown in the following list. Advanced degrees or certifications may be required for academic or clinical positions.

<table>
<thead>
<tr>
<th>Career</th>
<th>*Growth</th>
<th>*Median Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Sciences Professor</td>
<td>15.2%</td>
<td>$78,240</td>
</tr>
<tr>
<td>Clinical Trial Manager</td>
<td>9.9%</td>
<td>$118,970</td>
</tr>
<tr>
<td>Cytotechnologist</td>
<td>11.5%</td>
<td>not available</td>
</tr>
<tr>
<td>Food Scientist</td>
<td>5.7%</td>
<td>$63,660</td>
</tr>
<tr>
<td>Genetic Counselor</td>
<td>29.0%</td>
<td>$77,480</td>
</tr>
<tr>
<td>Health Sciences Manager</td>
<td>9.9%</td>
<td>$118,970</td>
</tr>
<tr>
<td>Occupation</td>
<td>Growth Rate</td>
<td>Salary</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td>Health and Safety Technician</td>
<td>10.1%</td>
<td>$49,960</td>
</tr>
<tr>
<td>Histotechnologist and Histologic Technician</td>
<td>11.5%</td>
<td>not available</td>
</tr>
<tr>
<td>Hydrogeologist</td>
<td>9.9%</td>
<td>$118,970</td>
</tr>
<tr>
<td>Laboratory Technologist</td>
<td>11.5%</td>
<td>not available</td>
</tr>
<tr>
<td>Medical Scientist</td>
<td>13.4%</td>
<td>$82,090</td>
</tr>
<tr>
<td>Microbiologist</td>
<td>8.2%</td>
<td>$69,960</td>
</tr>
<tr>
<td>Molecular Biologist</td>
<td>8.0%</td>
<td>$76,690</td>
</tr>
</tbody>
</table>

* Data obtained from the Occupational Information Network (O*NET) under sponsorship of the U.S. Department of Labor/Employment and Training Administration (USDOL/ETA).

☀ Bright Outlook   ☀ Green Occupation

**Contact Information**

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