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: The 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
• Math Intensity: Moderate
Required Courses (Major Map)

2019 - 2020 Major Map
Major Map (Archives)

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 and master's degree with:

- Biology, MS
- Microbiology, 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://changingmajors.asu.edu/request for information about how to change a major to this program.

Transfer Options

ASU is committed to helping students thrive by offering tools that allow personalization of the transfer path to ASU. Students may use the Transfer Map search to outline a list of recommended courses to take prior to transfer.

ASU has transfer partnerships in Arizona and across the country to create a simplified transfer experience for
students. These pathway programs include exclusive benefits, tools and resources, and help students save
time and money in their college journey. Students may learn more about these programs by visiting the
admission site: https://admission.asu.edu/transfer/pathway-programs.

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.ÂStudents 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/

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
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 and Safety Technician</td>
<td>10.1%</td>
<td>$49,960</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

School of Life Sciences | LSA 189
sols.advising@asu.edu   | 480-727-6277