Molecular Biosciences and Biotechnology, BS

Do you want to make a difference in the world? You can be someone making scientific breakthroughs that feed the hungry and find sustainable energy resources. In molecular biosciences you can help produce ground-breaking research in biology, biochemistry, biophysics, genetics, genomics and immunology.

Program Description

The BS program in molecular biosciences and biotechnology encompasses many of the cutting-edge disciplines in life sciences research. Biotechnology is an exciting, rapidly growing field with major applications in agriculture (green biotechnology, leading to improved crops or production of vaccines in plants), health care (red biotechnology, leading to better therapeutics, diagnostics and personalized medicine) and industry (white biotechnology, leading to sustainable production of energy, enzymes and chemicals).

This molecular biosciences and biotechnology degree program focuses on the interface between molecular biology and biotechnology. The interface drives major advancements in knowledge and applied research and development, like the development of next-generation biomedical products or biofuels. Hands-on research and the capstone course with both science and business or entrepreneurial components round out this exciting program.

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 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:

- Biochemistry (Medicinal Chemistry), MS
- 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.

Freshman | Transfer | International | Readmission

## Change of Major Requirements

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

## Transfer Options

ASU is committed to helping you thrive by offering tools that allow you to personalize your transfer path to ASU. Students may use the [Transfer Map search](https://students.asu.edu/changingmajors) 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. Learn more about these programs by visiting the Admissions site.

Global Opportunities

PLuS Alliance
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/

Global Degree

Career Opportunities

The molecular biosciences and biotechnology degree program provides an excellent background and training for a growing number of careers that incorporate this innovative area of the molecular life sciences. Independent research and courses with classroom plus lab components result in a solid base of knowledge and practical expertise in biotechnology and the molecular biosciences, providing many options for further education or for entering the workforce.

After graduation, many molecular biosciences and biotechnology students enter graduate programs in a molecular biosciences and biotechnology-related area. A number of students also enroll in medical school, other health-related professional programs or in other advanced programs. Students also have the knowledge and technical skills to enter the biotechnology workforce in an area matching their expertise and interest.

The molecular biosciences and biotechnology program has a faculty mentoring program which provides students with the opportunity to speak with faculty regarding career choices, selection and timeline of major courses and of independent research projects, and much more.
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>Bioinformatics Scientist</td>
<td>8.0%</td>
<td>$76,690</td>
</tr>
<tr>
<td>Bioinformatics Technician</td>
<td>9.2%</td>
<td>$47,400</td>
</tr>
<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>Geneticist</td>
<td>8.0%</td>
<td>$76,690</td>
</tr>
<tr>
<td>Health Sciences Manager</td>
<td>9.9%</td>
<td>$118,970</td>
</tr>
<tr>
<td>Hydrogeologist</td>
<td>9.9%</td>
<td>$118,970</td>
</tr>
<tr>
<td>Medical Scientist</td>
<td>13.4%</td>
<td>$82,090</td>
</tr>
<tr>
<td>Molecular Biologist</td>
<td>8.0%</td>
<td>$76,690</td>
</tr>
<tr>
<td>Nanosystems Engineer</td>
<td>6.4%</td>
<td>$97,250</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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