Molecular Biosciences and Biotechnology, BS

Breakthroughs in biotechnology help combat disease, feed the hungry and find sustainable energy resources. At the same time, the molecular biosciences field is producing ground-breaking research in biology, biochemistry, biophysics, genetics, genomics and immunology. This program synthesizes biosciences and biotechnology, offering a unique skill set crucial to today's scientific endeavors.

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 is differentiated from the other life sciences majors by its focus on the interface between molecular biology and biotechnology. The interface drives many major advancements in knowledge and in applied research and development, like the development of next-generation biomedical products or biofuels. Other hallmarks of this program are the focus on hands-on research and the capstone course with both science and business or entrepreneurial components.

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](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

• Math Intensity: Moderate

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:

- 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 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.

**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 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>
Contact Information

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