Learn how medicines work and how to design them. Prepare to enter scientific and health careers with strong training in critical thinking and solid skills in interdisciplinary, scientific problem-solving.

Program Description

The science of biochemistry is about understanding the chemical processes of living organisms. Discoveries of new drugs, the recognition and control of pathogens, development of new catalysts for energy transformations, and the production of new materials and solutions to problems such as food production and environmental remediation depend upon a thorough grounding in this area.

The BS degree program in biochemistry with a concentration in medicinal chemistry features an emphasis on the application of chemistry to the design and function of medicines. This program is appropriate for further study of biochemistry or related sciences in graduate school as well as medical, dental or pharmacy school.

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 270 - Calculus w/Analytic Geometry I
- **Math Intensity:** Substantial

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:

Biochemistry (Medicinal Chemistry), MS
Nanoscience, PSM

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. 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

A solid undergraduate education in biochemistry provides the necessary background for career paths in chemical industries and is useful for careers in governmental regulation, health care, research and other areas.

Students planning careers in medicine, dentistry, pharmacy or veterinary medicine often pursue the medicinal chemistry concentration, with supporting work in biology and chemistry as the route for preprofessional training.

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>Dentist</td>
<td>19.4%</td>
<td>$151,440</td>
</tr>
<tr>
<td>High School Teacher</td>
<td>7.5%</td>
<td>$59,170</td>
</tr>
<tr>
<td>Medical Doctor (MD)</td>
<td>14.6%</td>
<td>$192,930</td>
</tr>
<tr>
<td>Medical Lab Technician</td>
<td>14.0%</td>
<td>not available</td>
</tr>
<tr>
<td>Medical Scientist</td>
<td>13.4%</td>
<td>$82,090</td>
</tr>
<tr>
<td>Optometrists</td>
<td>17.9%</td>
<td>$110,300</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>5.6%</td>
<td>$124,170</td>
</tr>
<tr>
<td>Physician Assistant (PA)</td>
<td>37.3%</td>
<td>$104,860</td>
</tr>
<tr>
<td>Scientist/Biochemist</td>
<td>11.5%</td>
<td>$91,190</td>
</tr>
<tr>
<td>Veterinarian (Vet)</td>
<td>18.8%</td>
<td>$90,420</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).
Contact Information

Schedule an advisor appointment
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SMAdvising@asu.edu | 480-965-7667