Experience the excitement of scientific discovery. Learn how genetic information is organized and transmitted across generations. Study how genes can affect change at the cellular level and in organisms.

**Program Description**

The BS degree program in biological sciences with a concentration in genetics, cell and developmental biology integrates the study of three exciting, closely related areas of life science research. Genetics examines the blueprints of life, such as DNA sequence and gene expression, while cell biology studies the machinery of life enclosed within the boundaries of cells. Developmental biology uses both genetics and cell biology to understand how genes and the environment interact to produce a whole new individual from a single cell as well as the various developmental changes that organisms undergo throughout life. The combined study of genetics, cell biology and development has resulted in a better understanding of many diseases and promises to prove even more important in the future.

This program is available as an accelerated degree program: [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:** [The College of Liberal Arts and Sciences](https://college.asu.edu/)
- **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 (Biology and Society), MS
- 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.

Freshman | Transfer | International | Readmission

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
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/

Career Opportunities

Graduates of this concentration have a variety of career options. This degree provides the fundamental coursework necessary for admission into medical, dental, veterinarian, pharmacy or graduate schools or any of the health professions. There also are many employment opportunities that can be pursued upon receipt of the Bachelor of Science with this concentration:

- animal breeder technician
- bioinformaticist
- biotechnologist
- cell culture specialist
- cloning technician
- crime lab technician
- cytotechnologist
- drug design technician
- food and drug inspector
- genetic counselor
- histologist
- in-vitro fertilization technician
- plant improvement specialist
- teacher
- technical writer
Students in this concentration program learn critical-thinking skills that can be applied to many scientific problems and professions as well as to the challenges of daily life. Students are encouraged to engage in independent research projects or internship opportunities to develop a better sense of how science is done.

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>Epidemiologist</td>
<td>8.8%</td>
<td>$69,660</td>
</tr>
<tr>
<td>Fuel Cell Technician</td>
<td>5.2%</td>
<td>$62,230</td>
</tr>
<tr>
<td>Geneticist</td>
<td>8.0%</td>
<td>$76,690</td>
</tr>
<tr>
<td>High School Teacher</td>
<td>7.5%</td>
<td>$59,170</td>
</tr>
<tr>
<td>Life Scientist</td>
<td>9.2%</td>
<td>$74,540</td>
</tr>
<tr>
<td>Medical Scientist</td>
<td>13.4%</td>
<td>$82,090</td>
</tr>
<tr>
<td>Surgeon (General)</td>
<td>11.4%</td>
<td>#</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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