Biological Sciences (Genetics, Cell and Developmental Biology), **BS**

LABSCGBS

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

**Program Description**

The BS 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 to understand 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)

In addition to the guidelines in the Concurrent Program Options section below, students interested in pursuing concurrent or second baccalaureate degrees in The College of Liberal Arts and Sciences are advised to visit The College's website for more information and requirements.

**At a Glance**
• College/School: The College of Liberal Arts and Sciences
• Location: Tempe or Online, ASU Local
• Additional Program Fee: Yes
• Second Language Requirement: No
• First Required Math Course: MAT 251 - Calculus for Life Sciences
• Math Intensity: Moderate

Required Courses (Major Map)

2022 - 2023 Major Map (On-campus)
2022 - 2023 Major Map (Online)
Major Map (Archives)

Concurrent Program Options

Students pursuing concurrent degrees (also known as a "double major") earn two distinct degrees and receive two diplomas. Working with their academic advisors, students can create their own concurrent degree combination. Some combinations are not possible due to high levels of overlap in curriculum.

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
Global Management (Creative Industries and Design Thinking), MGM
Global Management (Digital Audience Strategy), MGM
Global Management (Global Affairs), MGM
Global Management (Global Business), MGM
Global Management (Global Development and Innovation), MGM
Global Management (Global Digital Transformation), MGM
Global Management (Global Entrepreneurship), MGM
Global Management (Global Health Care Delivery), MGM
Global Management (Global Legal Studies), MGM
Global Management (Integrated Health Care), MGM
Acceptance to the graduate program requires a separate application. During their junior year, eligible students are advised by their academic departments to apply.

**Admission Requirements**

**General University Admission Requirements:**
All students are required to meet general university admission requirements.  
First-year | Transfer | International | Readmission

**Change of Major Requirements**
A current ASU student has no additional requirements for changing majors.

Students should refer to https://changemajor.apps.asu.edu for information about how to change a major to this program.

**Attend Online**

**ASU Online**
ASU offers this program in an online format with multiple enrollment sessions throughout the year. Applicants may view the program description and request more information here.

**ASU Local**
It is now possible to earn an ASU degree with ASU Local, an integrated college experience in which students take advantage of in-person success coaching and programming experiences on site while completing one of 130+ undergraduate online degree programs, all of which come with online faculty interaction and tutoring support. Those interested may learn more about ASU Local here.

**Transfer Options**
ASU is committed to helping students thrive by offering tools that allow personalization of the transfer path to ASU. Students may use MyPath2ASU™ 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 they 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/MyPath2ASU.

Global Opportunities

Global Experience
When studying abroad, students are able to engage in community service and outreach all around the world, which can help their graduate and professional program applications stand out. Students experience unique biological environments and gain an understanding of worldwide differences in the human condition. Study abroad programs exist across the globe, including a summer in Panama and a year in Ireland. https://goglobal.asu.edu/

The College of Liberal Arts and Sciences recommends the following study abroad programs for students majoring in biological sciences with a concentration in genetics, cell and developmental biology: https://goglobal.asu.edu/students/major/sls/biological-sciences-genetics-cell-developmental-biology.

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, such as:

- animal breeder technician
- bioinformaticist or biotechnologist
- crime lab technician
- cytotechnologist
- drug or vaccine design technician
- genetic counselor
- histologist
- in-vitro fertilization technician
- 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>9.3%</td>
<td>$85,600</td>
</tr>
<tr>
<td>Clinical Trial Manager</td>
<td>4.8%</td>
<td>$137,940</td>
</tr>
<tr>
<td>Cytotechnologist</td>
<td></td>
<td>not available</td>
</tr>
<tr>
<td>Epidemiologist</td>
<td>4.6%</td>
<td>$74,560</td>
</tr>
<tr>
<td>Geneticist</td>
<td>2.2%</td>
<td>$85,290</td>
</tr>
<tr>
<td>High School Teacher</td>
<td>3.8%</td>
<td>$62,870</td>
</tr>
<tr>
<td>Life Scientist</td>
<td>4.6%</td>
<td>$82,000</td>
</tr>
<tr>
<td>Medical Scientist</td>
<td>6.1%</td>
<td>$91,510</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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