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

LABSCGBS

Are you fascinated by how genes can affect change in organisms at the cellular level? Are you curious about how genetic information is organized and transmitted across generations? Experience the excitement of scientific discovery and gain the critical thinking skills and key lab techniques that will launch your career.

Program description

In the BS program in biological sciences with a concentration in genetics, cell and developmental biology, students gain an understanding of the intricacies of life. They investigate:

- developmental changes organisms undergo throughout life
- DNA sequence and gene expression
- how genes and the environment interact
- the machinery of life enclosed within the boundaries of cells
- the relationship between cell life and diseases

In addition to coursework, students gain hands-on experience by working with world-renowned faculty with opportunities to engage in independent research projects and internships.

This program is available as an accelerated degree program.

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

- **Second language requirement:** No
- **First required math course:** MAT 251 - Calculus for Life Sciences
- **Math intensity:** Moderate 

Required courses (Major Map)

2024 - 2025 Major Map (on-campus)
2024 - 2025 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 plus master's degree with:

Biology (Biology and Society), MS

Biology, MS

Computational Life Sciences, 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 (Nonprofit Leadership and Management), MGM

Global Management (Public Administration), MGM

Global Management (Public Policy), MGM

Global Management (Sustainability Solutions), MGM

Global Management (Sustainable Tourism), MGM

Global Management, MGM

Microbiology, MS

Molecular and Cellular Biology, MS

Acceptance to the graduate program requires a separate application. Students typically receive approval to pursue the accelerated master's during the junior year of their bachelor's degree program. Interested students can learn about eligibility requirements and how to apply.

Admission requirements

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

Tuition information

When it comes to paying for higher education, everyone's situation is different. Students can learn about ASU tuition and financial aid options to find out which will work best for them.

Change of Major Requirements

A current ASU student has no additional requirements for changing majors.

Students should visit the Change of Major form 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's ASU Online page for program descriptions and to request more information.

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.

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.

Program learning outcomes

Program learning outcomes identify what a student will learn or be able to do upon completion of their program. This program has the following program outcomes:

- Demonstrate capacity for scientific thinking by applying relevant background knowledge to analyze and/or develop scientific explanations.
- Effectively communicate complex scientific concepts, ideas, and reasoning with appropriate use of relevant sources and evidence.
- Demonstrate preparedness for graduate/professional degree programs and/or employment.

Global opportunities

Global experience
Through study abroad programs, students studying biological sciences experience distinct biological environments and gain an understanding of worldwide differences in the human condition. They are exposed to a variety of laws, policies and practices in biology-centric environments worldwide and expand their knowledge of how science impacts society. Students also are able to engage in community service and outreach all around the world, which can help them stand out in graduate study or a professional career.

With more than 300 programs available, Global Education programs allow students to tailor their experience to their specific interests and skill sets. The College of Liberal Arts and Sciences recommends these programs for students majoring in biological sciences with a concentration in genetics, cell and developmental biology.

Career opportunities

The genetics, cell and developmental biology concentration within the biological sciences major provides students with critical thinking skills and fundamental coursework that will enable them to pursue

advanced research and graduate study in biological sciences, health sciences, law, and other graduate level and professional programs, including dentistry, medicine, pharmacy and veterinary medicine.

The Bachelor of Science degree program also prepares graduates with skills that can be applied to many scientific problems as well as to the challenges of daily life, and the strong foundation they need for direct entry into their choice of career in a variety of fields, including research, bioinformatics, medicine and healthcare, forensics and veterinary care.

Example job titles and salaries listed below are not necessarily entry level, and students should take into consideration how years of experience and geographical location may affect pay scales. Some jobs also may require advanced degrees, certifications or state-specific licensure.

Career	*Growth	*Median salary
Biological Sciences Professor	8.6%	$81,650
Clinical Trial Manager	4.8%	$144,440
Cytotechnologist	4.9%	$57,380
Epidemiologist	26.7%	$78,520
Genetic Counselor	16.1%	$89,990
Geneticist	3.9%	$87,300
High School Teacher	1.0%	$62,360
Medical Scientist	9.8%	$99,930

* 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

Contact information

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