

Earth and Space Exploration (Geological and Planetary Sciences), BS

LASESGSBS

This program's name has changed effective Fall 2024. The previous name was Earth and Space Exploration (Geological Sciences).

Explore Earth's past, present and future. Study natural hazards, the distribution of critical minerals and the record of Earth system evolution. Apply this knowledge to help find sustainable solutions for the energy and resource needs of human civilization and to mitigate the effects of natural hazards and climate change.

Program description

The BS program in Earth and space exploration with an emphasis in geological and planetary sciences uncovers the processes that have shaped the Earth and other planets since the origin of the solar system. Students explore the coevolution of Earth's life, oceans, atmosphere and climate system and how their evolution is recorded in rocks, soil, ice and isotopes.

Students learn traditional and modern field methods, data analysis and more to effectively study the natural environment. This knowledge empowers graduates to work for the benefit of local, national and global communities. They also have the opportunity to study the potential for extraterrestrial life and the possibilities for the colonization of space.

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](#)
- **Second language requirement:** No
- **First required math course:** MAT 265 - Calculus for Engineers I or higher
- **Math intensity:** Substantial 

Required courses (Major Map)

[2024 - 2025 Major Map](#)

[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:

[Astrophysics and Astronomy, MS](#)

[Exploration Systems Design \(Instrumentation\), MS](#)

[Exploration Systems Design \(Sensor Networks\), MS](#)

[Exploration Systems Design \(Systems Engineering\), MS](#)

[Exploration Systems Design, 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.

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.

Global opportunities

Global experience

With more than 300 programs available, [Global Education](#) allows students in the geological and planetary sciences concentration to gain hands-on experience in a variety of programs all over the world.

Graduates with heightened cultural competency, leadership and critical thinking skills acquired through study abroad may stand out in a competitive field.

Career opportunities

Graduates will be well prepared for a wide range of careers in growing fields such as environmental geology, hydrogeology, geographical information systems analysis, critical mineral exploration, environmental consulting and natural resource management.

Sample career opportunities include:

- environmental monitoring and exposure assessor
- environmental or sustainability consultant
- geologist
- geophysicist
- hydrogeologist

- mineral exploration geologist or project manager
- natural hazards assessment, mitigation and recovery specialist
- natural resource manager
- science teacher (K-12)
- water resources scientist

Sample career settings include:

- educational institutions
- environmental consulting firms
- environmental engineering firms
- environmental industry organizations
- federal, state and local government agencies
- geotechnical industry organizations
- museums
- nonprofit organizations
- petroleum industry companies
- small exploration companies and large mining companies

The program also prepares students for graduate school in numerous disciplines within geoscience, planetary science, biogeoscience, science education or science communication.

For more information, students should see the [career opportunities page on the School of Earth and Space Exploration website](#).

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
<u>Environmental Analyst</u>	4.1%	\$64,460
<u>Forester</u>	2.4%	\$64,220
<u>Geologist</u> ☀	5.1%	\$87,480
<u>Geology Professor</u>	3.6%	\$97,770
<u>Hydrogeologist</u> ☀	4.8%	\$144,440
<u>Hydrologist</u>	1.5%	\$85,990
<u>Park Ranger</u>	4.1%	\$64,460

* Data obtained from the Occupational Information Network (O*NET) under sponsorship of the U.S. Department of Labor/Employment and Training Administration (USDOL/ETA).

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Contact information

