Earth and Space Exploration, BS

LASESBS

Learn about our planet, solar system and universe by combining science, engineering and education. You could be involved in building space-flight hardware; making astronomical observations; discovering new microbes; exploring volcanoes, oceans and glaciers; investigating Earth climate interactions; and setting the stage for a new era of exploration.

Program description

The BS program in Earth and space exploration offers students an integrated education across Earth sciences, planetary sciences, astrophysics and engineering. The degree program incorporates a learning community that includes science and engineering students, a yearlong collaborative capstone senior exploration project and strong quantitative preparation.

This foundation in geosciences, astrophysics and exploration engineering prepares students for key roles in Earth resources and exploration, environmental and geologic engineering, space research and industry, and water and environmental use policy.

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
- **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
Space exploration is an international endeavor, and an international experience provides students opportunities for cross-cultural engagement and improvement of language and communication skills. Global Education allows students to take relevant classes while living in another country. Each of the more than 300 Global Education program options provide an opportunity for students to develop a valuable skill set that can give them an advantage in their career and personal enrichment. Whether in a foreign country, in the U.S. or online, Global Education programs encourage students to build communication skills, challenge them to adapt and persevere, expose them to differences across the world and increase their ability to work with diverse groups of people.

Career opportunities

The Earth and space exploration major addresses critical future shortfalls in the national and regional training of the next generation of geoscientists and aerospace engineers.

Arizona has an expanding space industry with major new investments and is prepared to engage new technologies to monitor and understand environmental issues in the state, the Southwest and throughout the world.

Graduates with a Bachelor of Science in Earth and space exploration have the tools, knowledge and understanding to address key problems of a global nature, whether they are working in the private or public sector.

Career opportunities include:

- analytical lab technician
- astronomer

- data analyst
- geoscientist
- instrumentation specialist
- museum director
- planetary scientist
- research scientist
- science teacher
- science writer

Career settings include:

- aerospace industry organizations
- educational institutions
- federal, state and local government agencies
- manufacturing centers
- museums or planetariums
- NASA facilities
- national laboratories
- NSF facilities
- observatories
- space industry organizations

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
Aerospace Engineer	6.1%	$126,880
Aerospace Engineer Technician	8.3%	$74,410
Astronomer	4.6%	$128,330
Data Scientist	35.2%	$103,500
Geologist	5.1%	$87,480
Health Sciences Manager	4.8%	$144,440
High School Teacher	1.0%	$62,360
Middle School Teacher	0.8%	$61,810
Technical Writer	6.9%	$79,960

* 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