Earth and Space Exploration (Astrobiology and Biogeosciences), BS

Explore the chemistry and geology of life on earth, especially life in extreme environments, and make astronomical observations while developing tools to study the habitability of other planets. Foster a unique, interdisciplinary view of the Earth and the universe beyond by combining the fields of Earth science, chemistry and astrophysics in this program.

Program Description

Astrobiology studies the origins, evolution, distribution and future of life in the universe. Biogeoscience focuses on the interaction of biological, geological and chemical processes on Earth in the present, past and future. These topics are closely related because the concepts of biogeoscience inform the study of planetary habitability and the search for habitable worlds.

Therefore, the astrobiology and biogeoscience concentration in the BS program in earth and space exploration is designed to offer students a strong foundation for exploring the interaction of geological and biological processes and understanding how such interactions sustain life on Earth and how they might operate on other planets. Those with this necessary scientific background contribute to the search for life on other planets, explore the life of extreme environments here on Earth and better understand how life on Earth responds to past, current and future global changes.

Students currently enrolled in the Bachelor of Science in earth and space exploration (astrobiology and biogeosciences) may not pursue a concurrent degree with the Bachelor of Science in earth and space exploration, the Bachelor of Science in earth and space exploration (astrophysics), the BA in earth and environmental studies, the Bachelor of Science in earth and space exploration (exploration systems design), or the Bachelor of Science in earth and space exploration (geological sciences) due to the high level of overlap in curriculum. Students should speak with their academic advisor for any further questions.
At a Glance

- **College/School:** The College of Liberal Arts and Sciences
- **Location:** Tempe campus
- **Additional Program Fee:** Yes
- **Second Language Requirement:** No
- **First Required Math Course:** MAT 265 - Calculus for Engineers I
- **Math Intensity:** Substantial

Required Courses (Major Map)

- [2021 - 2022 Major Map](#)
- [Major Map (Archives)](#)

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://changemajor.apps.asu.edu](https://changemajor.apps.asu.edu) 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 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](https://admission.asu.edu/transfer/pathway-programs).

Global Opportunities
Global Experience
Space exploration is an international endeavor, and an international experience provides students opportunities for cross-cultural engagement and improving language and communication skills. Study abroad allows students to take relevant classes while living in another country. Students majoring in earth and space exploration can choose from nearly all of the 250 programs offered to supplement their ASU experience, whether it's stargazing in the desert or researching in Switzerland. [https://goglobal.asu.edu/](https://goglobal.asu.edu/)

Career Opportunities
Graduates of the astrobiology and biogeosciences program are well prepared for graduate studies in these fields. Because astrobiology is increasingly the motivation for space science exploration missions, they are also well suited for entry-level careers in space science research. The degree program also provides broad training across a range of sciences, giving students a strong background for careers in biomedical, environmental or sustainability areas.

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>Chemistry Professor</td>
<td>4.3%</td>
<td>$80,400</td>
</tr>
<tr>
<td>Climate Change Analyst</td>
<td>7.8%</td>
<td>$73,230</td>
</tr>
<tr>
<td>Environmental Protection Specialist</td>
<td>7.8%</td>
<td>$73,230</td>
</tr>
<tr>
<td>Environmental Restoration Planner</td>
<td>7.8%</td>
<td>$73,230</td>
</tr>
<tr>
<td>Environmental Sciences Professor</td>
<td>3.7%</td>
<td>$84,740</td>
</tr>
<tr>
<td>Geologist</td>
<td>4.9%</td>
<td>$93,580</td>
</tr>
<tr>
<td>Geology Professor</td>
<td>1.9%</td>
<td>$94,520</td>
</tr>
<tr>
<td>Health Sciences Manager</td>
<td>4.8%</td>
<td>$137,940</td>
</tr>
<tr>
<td>Hydrogeologist</td>
<td>4.8%</td>
<td>$137,940</td>
</tr>
<tr>
<td>Industrial Ecologist</td>
<td>7.8%</td>
<td>$73,230</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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