

# ASTROBIOLOGY, MINOR

Requirements for a minor may be completed at any campus location offering the specified courses for the minor. Students may not change from a campus that offers their major to a campus that does not offer their major for the purpose of completing a minor.

## Program Description

Astrobiology is the study of life in the universe. Astrobiology has become a major focus of scientific research in the United States and a topic often discussed in popular science literature and the general media. The Astrobiology minor is designed to educate students in this interdisciplinary field covering the varied scientific disciplines that contribute to our general understanding of life, the origin of life, the past history of life on Earth, possible futures for life on Earth, and the possible existence of life on other planetary environments. The principal goal of the minor is to develop students' literacy in astrobiology so that they can critically evaluate claims related to this field that they encounter well after their college education has ended.

## What is Astrobiology?

Astrobiology is a field devoted to the exploration of potential life outside of Earth and to the investigation of the origin and early evolution of life on Earth. This may include studying ancient Earth rocks that serve as examples of what could have happened to planets in different galaxies, studying meteorites or samples from other bodies in our solar system for indicators that suggest they could or may once have supported life, or observing planetary bodies outside of our solar system to determine if they might exist under appropriate conditions to potentially support life as we know it.

## You Might Like This Program If...

- You want to know more about how life on Earth started.
- You like learning about microbes and other simple forms of life.
- You want to understand what kind of environment is necessary for life to survive.
- You want to know about the environmental limits or "extremes" under which life can exist.
- You're interested in learning about the potential for life on other planets.

## Program Requirements

| Requirement                | Credits |
|----------------------------|---------|
| Requirements for the Minor | 18-19   |

At least 6 credits must be taken at the 400 level.

## Requirements for the Minor

A grade of C or better is required for all courses in the minor, as specified by Senate Policy 59-10 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/59-00-minors-and-certificates/#59-10>). In addition, at least six credits of the minor must be unique from the prescribed courses required by a student's major(s).

| Code  | Title        | Credits |
|---|--------------|---------|
| <b>Prescribed Courses</b>                                 |              |         |
| <i>Prescribed Courses: Require a grade of C or better</i> |              |         |
| BIOL/GEOSC 474  | Astrobiology | 3       |

## Additional Courses

*Additional Courses: Require a grade of C or better*

|                           |  |     |
|---------------------------|--|-----|
| ASTRO 140<br>or ASTRO 291 | Life in the Universe<br>Astronomical Methods and the Solar System          | 3   |
| EARTH 2<br>or GEOSC 21    | The Earth System and Global Change<br>Earth and Life: Origin and Evolution | 3   |
| GEOSC 204<br>or BIOL 427  | Geobiology<br>Evolution  | 3-4 |

## Supporting Courses and Related Areas

*Supporting Courses and Related Areas: Require a grade of C or better*

|                                    |  |   |
|------------------------------------|--|---|
| Select 6 credits of the following: |  | 6 |
| ASTRO 475W                         | Stars and Galaxies   |   |
| BIOL 405                           | Molecular Evolution  |   |
| BMB 401                            | General Biochemistry   |   |
| BMB 402                            | General Biochemistry   |   |
| GEOSC 416                          | Stable and Radioactive Isotopes in Geosciences: Introduction |   |
| GEOSC 419                          | The Organic Geochemistry of Natural Waters and Sediments     |   |
| METEO 466                          | Planetary Atmospheres  |   |
| MICRB 201                          | Introductory Microbiology                                    |   |

## Academic Advising

The objectives of the university's academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee's unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy/>)

## University Park

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## Contact

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