



SES 106: Habitable Worlds

Overview

Are we alone in the Universe? If so, why? If not, where are our cosmic cousins? Such questions, once the domain of science fiction, are on the verge of being answered with science facts. Astronomers are discovering planets around other stars. Planetary scientists are exploring the worlds in our solar system. Biologists are unlocking the secrets of metabolism and evolution. Geoscientists are determining how the Earth supports life. And as we struggle to build a sustainable future for ourselves, all of us are finding out how technologically advanced civilizations rise and how they might fall. Inspired by this ongoing scientific revolution, Habitable Worlds surveys key concepts from across the major areas of science that help us to understand what makes Earth - or any other planet - a habitable world.

What You'll Learn

- Explain the conditions that can make a planet habitable
- Describe the history of Earth as an inhabited world and how this knowledge informs the search for life on other worlds
- Describe and interpret observations using data analysis, foundational mathematics, and accessible computational methods
- Apply scientific reason, particularly using hypothesis-driven processes to create scientific models, test models using basic qualitative and quantitative reasoning, choose among competing ideas that have different levels of uncertainty
- Apply problem-solving skills including breaking complex problems into multiple steps, identify the knowledge needed to solve each step, and obtain and interpret that knowledge quantitatively and qualitatively

How to Succeed

To be successful in this course, we recommend English language fluency and computer literacy. We also encourage you to make sure your laptop or desktop computer meets the [technical requirements](#).

MAT 117 College Algebra is strongly suggested as a prerequisite for success in this course.

Earn College Credit

This course appears on your transcript identically to how it appears on the transcript of an enrolled ASU student.

This course includes a lab and satisfies 4 credit hours toward the Natural Science - Quantitative (SQ) General Studies requirements at Arizona State University. It is strongly encouraged that you consult with your institution of choice to determine how these credits will be applied.

In order to receive academic credit for this course, you must earn a grade of "C" or better. You have one year to add the course to your transcript.

Exams and Grading

75 pts

Introduction

145 pts

Stars

108 pts

Planets

152 pts

Habitability

48 pts

Life

84 pts

Survival

260 pts

Project Habitable Hunt

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Materials

This course makes use of open educational resources (OERs) provided within the course, **no purchase necessary**.

Course Structure

The course is organized around an overarching project that you need to solve: Find a potentially habitable world in a field of 500 stars.

In addition to the project, you will need to complete training exercises and assessment exercises that are designed to teach you the concepts necessary to master the project. Your best strategy for success is to complete the training exercises before attempting the assessment exercises.

In this course, you will encounter activities that you must complete before you can proceed to the next part of the course. In some cases, you will be held on a particular activity or assessment page until you provide the correct answer. There are no skip buttons on these pages.

Training Exercises: You will earn points as you complete each training exercise. Training exercises are only graded for how much you complete, they are not graded for correctness. Training exercises are open all session and can be revisited as often as you want. These exercises teach you what you need to know to complete the assessment exercises.

Assessment Exercises: In these exercises, your points are awarded based on how well you complete each assessment task. You can attempt these as often as you want while they are open, but all your attempts will be averaged together to generate your final assessment score.

The Project: The skills you build through the training exercises and assessment exercises will enable you to complete the overarching project. Points for the project are awarded based on how well you complete the tasks required. Within the project you can revise your answers to improve your score until you submit. The project can be retaken after you submit it. The highest score of all your attempts on the project will be used as your final project score.

Course Communication

All communication will take place via the discussion forums and course announcement page. There will be a discussion forum where you can post general questions, comments, and direct inquiries for the instructor and course team. Please use these forums to ensure a timely response. Your instructor will not be able to respond to email.

Additional Information

If you have questions about Universal Learner Courses and how they work, please visit ea.asu.edu or contact our support team at ulcourses@asu.edu.

Instructor led Version

Time Commitment

This is an asynchronous, online course. You do not need to be at your computer at specific times or participate in live activities. To be successful in this class, you must view all course pages and complete all graded work by the end of the course. Also, keep in mind that "attendance" in an online course means logging into the platform on a regular basis, checking for course announcements, and visiting and participating in the discussion forums.

This 4 credit, 16 week course requires about 180 hours of work. Therefore, expect to spend approximately 12-14 hours per week preparing for and engaging in this course.

SES 106: Continued

Instructor led Cont.

Assignment Deadlines

Your instructional team will provide all content and learning activities on or through your course site. All course interactions will use internet technologies; it is your responsibility to review all content, fulfill all assignments by the end of the course, and ask any questions you have in the designated discussion area. It is your responsibility to determine the end date of the course according to your time zone. Due to the large-scale format of Universal Learner Courses, late assignments will not be accepted and we cannot make exceptions.

Self paced Version

Time Commitment

The work in this course is equivalent to an eight week course but you have one year to complete it. Please plan your goals accordingly. During this year, you are encouraged to work through the course at a pace that suits your needs.

You have one year from the date you enrolled to complete the course, and you have one year from the date you complete the course to purchase your academic credit.

Course Resets

Self paced courses cannot be reset. If you are not happy with your grade and want to take the course again, you have two options: you may take the course the next time it is offered in an instructor led format or wait until a new version of the self paced course opens at the beginning of every academic year on the first day of class in August.

Transcript

You will be able to add the course to your transcript **six weeks after enrolling**. Although the course is self paced, course attendance dates will be listed on your transcript. After purchasing the credits, the course will appear on your transcript in the session you **completed** the course. If you are on the cusp of two sessions and need to confirm the date of completion or beginning/end of a session, please contact our support team at ulcourses@asu.edu.