



# BIO 130: Introduction to Environmental Science

## Overview

This course introduces the interconnected nature of Earth's hydrosphere, lithosphere (soils and rocks), atmosphere, and biosphere. It covers a variety of topics related to environmental science. The first part of the course focuses on how soils, the hydrosphere and atmosphere act to support life. The next section introduces the biosphere and how ecosystems work. The third section focuses on energy use and global climate change. Other topics include pollution, solid waste & recycling, and the design of sustainable communities. Throughout the course, students will reflect upon their role in the environment.

## What You'll Learn

- The role that organisms play in the cycling of energy and resources on Earth
- The four Earth spheres and how energy and matter is cycled through these spheres
- The importance of ecosystems and biodiversity on human survival
- Informed arguments about public policy, especially regarding energy production and renewable versus nonrenewable resources
- Scientific reasoning and data to make predictions about energy use/consumption, land use, and human population
- The complexity of global climate change models and the data behind them
- Anthropogenic effects on the environment
- Waste reduction and recycling strategies using an understanding of issues with solid waste disposal

## 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](#).

## 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 requirement 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

**10 pts**  
Syllabus Quiz

**10 pts**  
Academic Integrity Quiz

**20 pts**  
Personal Introduction

**160 pts**  
Discussion Assignments

**280 pts**  
Apply It! Lab Quizzes

**520 pts**  
Unit Quizzes

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## Time Commitment

This is an asynchronous, online course. This means, while you will have deadlines, 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 deadlines indicated. 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.

### 8 week Version

This 4 credit, 8 week course requires about 180 hours of work. Therefore, expect to spend approximately 20-25 hours per week preparing for and engaging in this course.

### 16 week Version

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.

## Materials

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

**Lab Materials:** Two hands-on labs require approximately \$20 or less in supplies, some of which are common household items you may already have.

## Graded Assignments

Graded assignments are required and count towards your final grade. Students must submit all assignments via the course site unless otherwise instructed.

**Discussion Boards (160 pts):** There are four online discussions (40 pts). For full credit, post one initial post (your answers to the topic questions; worth 30 pts) and at least two response posts (5 pts).

**Apply It! Lab Activities & Quizzes (280 pts):** These are applied/interactive lab activities that will include simulations, hands-on, and internet-based activities. Apply it! lab quizzes cover pre-laboratory reading materials, procedures and observations, and worksheet post-activity questions. Fill out corresponding worksheets as you work through the activity and take the associated Canvas quiz. Apply It! lab quizzes include multiple choice, multiple answer, matching, short answer, or true/false. Hands-on labs also require you to upload an image and respond to a short-answer question.

**Unit Quizzes (520 pts):** There are quizzes at the end of each of the 12 content units (40 pts). Unit quizzes cover material in textbooks and alternate resources, that is summarized in the lectures. Quizzes include multiple choice, matching, true/false, and multiple answer questions. All quizzes are timed, so budget your time accordingly.

## Assignment Deadlines

Your instructional team will provide all content and learning activities on or through your course site. It is your responsibility to review all content, fulfill all assignments on time, and ask any questions you have in the designated discussion area. It is also your responsibility to determine the due dates and times for all course assignments according to your time zone. Due to the large-scale format of Universal Learner Courses, late assignments will not be accepted at any point during the course, and we cannot make exceptions.

## 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.

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## Additional Information

If you have questions about Universal Learner Courses and how they work, please visit [ea.asu.edu](https://ea.asu.edu) or contact our support team at [ulcourses@asu.edu](mailto:ulcourses@asu.edu).