Introduction to Environmental Sciences for Majors

Last Updated: Tue, 11/18/2025

Course prefix: EAS

Course number: 1600

Section: Majors

CRN (you may add up to five):
33230

Instructor First Name: Jennifer

Instructor Last Name: Glass

Semester: Spring

Academic year: 2026

Course description:

We will begin by considering external influences on Earth's environment and reviewing the systems approach for studying interrelated phenomena, as well as the basic physics needed for such studies. We will explore how each component interacts with the others and how these processes control Earth's climate. We will use parameters from potentially habitable exoplanets for examples of how to perform fundamental planetary calculations. We will finish with a discussion of modern anthropogenic climate change. This class is in a "flipped course" format with recorded lectures, quizzes, and two course projects including presentations. Weekly small group discussions of articles and current topics in environmental science apply the course material to "real-world" problems like the Flint water crisis, hurricane storm surges, drinking water quality, Mars geology mapping, environmental policy, and environmental justice. Through the laboratory sessions, students develop an understanding of the scientific method and scientific research. In the exoplanets project, students apply planetary energy balance equations to assess the habitability of an exoplanet. In the Wikipedia editing project, students gain experience in scientific writing on notable topics in environmental sciences of high interest to the public and will gain experience in identifying an audience, citing literature, peer review, and revisions.

Course learning outcomes:

(1) understand how the whole Earth functions as a system;

(2) understand how physical planetary properties determine habitability;

(3) understand feedbacks between the atmosphere, oceans, solid Earth, and biosphere;

(4) gain an appreciation of deep geologic time;

(5) critically evaluate natural and anthropogenic influences on the environment.

Required course materials:

You should bring a scientific calculator, your personal computer (laptop or tablet), and headphones for your personal computer (if you will be attending in person) to every course meeting. The computer and headphones are used for in-class online activities.

Grading policy:

Grading scale: 90.00-100%=A; 80.00-89.99%=B; 70.00-79.99%=C; 60.00-69.99%=D; <60.00%=F. The scale may be adjusted upward if the median test scores are much below 80%, but it is highly unlikely that the curve will be more than 5% points lower than listed above.

Grades: You can check your current grades at any time on Canvas > Grades. Grades are posted within one week of assignment deadline. *Requests to adjust grades must be submitted to Prof. Glass in writing by email within 14 days of quiz or assignment deadline, or to the lab coordinator or the TA for that lab section within 14 days of the lab.*

Percentage Weight of Different Assignments:

Labs: Weighted average of lab scores: 30%

Wikipedia Project Grading rubrics posted on Canvas: 25%

Exoplanet Calculations Series of assignments working through Earth system calculations on recently discovered exoplanets: 20%

Quizzes Quizzes covering lecture and discussion material: 20%

Participation Lecture attendance and participation: 5%

Attendance policy:

Participation: 5% of your final course grade is based on your lecture attendance and participation in course activities during the lecture period, starting the second week of course. You may miss up to three lectures without it affecting your grade and additional in case of illness (please do not come to class sick!) or academic/athletics excused absences. Attendance is not required (but is highly encouraged) for work sessions. Please email Prof. Glass if you are ill or other excused absences. More than three absences will result in “0” grade for participation for each missed class.

Academic honesty/integrity statement:

Students are expected to maintain the highest standards of academic integrity. All work submitted must be original and properly cited. Plagiarism, cheating, or any form of academic dishonesty will result in immediate consequences as outlined in the university's academic integrity policy.