Course Instructors, Date, and Time:

Professors: Kevin Uno (kevinuno@g.harvard.edu) and Daniel Green (drgreen@g.harvard.edu)

Fall 2024
Tuesdays 9:00 - 11:45 AM

Course goals:

This course aims to teach students about proxies and analytical techniques for terrestrial ecosystem and climate reconstructions through lectures, labs, and paper discussions. We will survey a variety proxies that include botanical, vertebrate fossil, and wide range of geochemical methods that include stable isotopes and molecular biomarkers.

Course format:

This course will blend lectures, to introduce concepts and methods, with hands-on lab work where students will gain first hand experience with the techniques. We will also read and discuss papers from the literature where these methods have been applied.

Typical enrollees: Upper level undergraduates and graduate students studying evolution, ecology, or earth science.

When is course typically offered?

Fall; every other year.

What can students expect from you as an instructor?

Students can expect both a broad survey of methods in terrestrial paleoecology mixed along with a deeper dive into selected methods that are used in our labs here at Harvard. The instructors have a broad range of knowledge in paleoecology with expertise in geochemical approaches that include stable isotope and molecular biomarker analyses. During labs, students will work with professors to learn new techniques.

Assignments and grading:

Quizzes and Problem Sets	20%
Lab Project 1- Water	10%
Lab Project 2- Plants	10%
Lab Project 3- Diet	10%
Lab Project 4- Independent Project	10%
Class Participation	20%
Final Exam	20%

Sample reading list:

TBD.

Enrollment cap, selection process, notification:

We expect to admit 6-12 students with priority for upper-level undergraduates or graduate students with backgrounds in evolution, ecology, or earth science and some chemistry background. Students will be notified via email of acceptance into the course.

Past syllabus:

This is a new course. A draft syllabus will be posted later.

Absence and late work policies:

Students are expected to attend all classes. Late work will be accepted in some cases.

Generative AI policy:

Students should read the most up to date University guidelines for using AI tools here: https://huit.harvard.edu/news/ai-guidelines. The use of AI tools for certain activities is encouraged but students must acknowledge the contributions of AI in completed assignments.