

EESC-1000-601: Introduction to Geology

Fall 2022 Course Prospectus

INSTRUCTOR

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COURSE MEETING TIMES

Tuesdays, 5:15 – 8:15 pm

Location: TBD

COURSE DESCRIPTION

The purpose of this course is to introduce you to earth materials and processes and how they impact our daily lives. This class will provide you with a broad background in the geosciences and the basic tools needed to understand: the origin of mountains, valleys, and oceans; the processes that shape these landforms; and the hazards that can result from them. By the end of the course you should be able to:

1. Identify Earth's building materials and their origin environments;
2. Recognize and explain the processes that have shaped the Earth's surface;
3. Understand the geologic hazards that can result from Earth's processes;
4. Discuss the feedbacks between human activity and geologic processes.

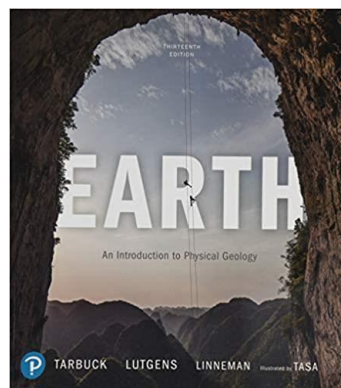
COLLEGE/LPS CURRICULUM REQUIREMENTS

This course fulfills the Sector VI Physical World and Quantitative Data Analysis requirements for all College and LPS Undergraduates.

TEXTBOOK

Tarback, E.J. and Lutgens, F.K. (2020) **Earth. An Introduction to Physical Geology**, 13th edition. Pearson. ISBN-10: 0135188318

This is the primary text for the course. Please ensure that you have a copy prior to class beginning as readings will be assigned from this text. The text is available in hard copy and as an e-text. Either format is fine for this class. **Please note that purchasing older editions is fine but bear in mind that the page numbers might be slightly different.**



COURSE FORMAT & WORKLOAD

The weekly three-hour class session will be approximately divided into three sessions, with a short break in between each:

- 5:15 – 6:00 pm: Lecture 1 + Q&A
- 6:05 – 6:50 pm: Lecture 2 + Q&A
- 7:00 – 8:15 pm: Recitation

Lectures form the foundation for your learning in this class, teaching key concepts and generating discussion that builds on the assigned reading each week. Therefore, it is important that you come to class each week having completed the assigned reading. Recitation sessions are designed to be workshops, where you will apply lecture content to help develop your data literacy skills and a deeper understanding of the course material. Work completed during the recitations will build toward the graded assignments and counts for your participation grade in this course. Attendance in these weekly class sessions is strongly recommended for your success in this course.

This course consists of seven modules, as listed in the course schedule below. Each week you will complete assigned readings, attend class for lecture and recitation, and complete a short quiz. In addition, there are four assignments throughout the semester (see course schedule), which will draw together material from the recitation work, and two open-book exams.

Table 1: Approximate course workload. Some weeks will entail a little more work than others, but in general you should allow ~6.5 hrs per week for this class (inclusive of lecture and recitations).

Course Component	Hours	Total hours
Assigned readings ¹	1.5 hrs per week (x13 weeks)	19.5 hrs
Class session: lecture & recitation	3 hrs per week (x13 weeks)	39 hrs
Weekly quizzes ²	30 mins per week (x13 weeks)	6.5 hrs
Assignments	4 hrs per assignment (x4)	16 hrs
Exams (open-book)	2 hrs + 6 hrs prep (x2 exams)	16 hrs
Total		97 hrs (~6.5 hrs/week)

¹ These will be assigned from the course textbook: *Earth* (Tarbuck, 2020).

² Weekly quizzes are low-stakes and designed as a learning exercise. You will have three attempts for each quiz (20 minutes per attempt) and the highest grade will be used.

GRADING

Final grades are based on a combination of the components outlined above. The breakdown is as follows:

In-class participation:	15 %
Weekly quizzes:	15 %
Assignments:	40 %
Exams (15 % each):	30 %

COURSE SCHEDULE

Table 2: Schedule of course modules, with approximate times of assignments and exams provided.

Week	Class Date	Module	Assignments
1	Aug 30	[1] Earth’s Geological History	Assignment 1 (due Sep 20)
2	Sep 6		
3	Sep 13	[2] Plate Tectonics	
4	Sep 20		
5	Sep 27	[3] The Rock Cycle: Igneous, Sedimentary, & Metamorphic Rocks	Assignment 2 (due Oct 11)
6	Oct 4		
7	Oct 11		
8	Oct 18	Exam 1 (Oct 18 th)	
9	Oct 25	[4] Mass Wasting & Fluvial Systems	Assignment 3 (due Nov 8)
10	Nov 1		
11	Nov 8	[5] Groundwater & Water Resources	
12	Nov 15	[6] Shoreline Environments	Assignment 4 (due Dec 6)
13	Nov 22	Note: No class on Tues, Nov 22	
14	Nov 29	[7] Cold Environments	
15	Dec 6		
16	Dec 15 – 22	Exam 2 (during final examination period)	