

Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: <https://catalog.uvu.edu/>

Semester: Spring 2025

Year: 2025

Course Prefix: GEO

Course and Section #: GEO-1010-X04-202520

Course Title: Introduction to Physical Geology

Credits: 3

Course Description

Geology is the science that pursues an understanding of the Earth, including the materials that make up the Earth and the physical processes that sculpt the surface of the Earth. The Earth impacts us all from the energy and raw materials we use every day to the natural disasters that strike without warning. This course is an introduction to physical geology, and will help you to have a basic understanding of Earth processes and the way that humans interact with their home planet.

Course Attributes

This course has the following attributes:

- General Education Requirements
- Global/Intercultural Graduation Requirements
- Writing Enriched Graduation Requirements
- Discipline Core Requirements in Program
- Elective Core Requirements in Program
- Open Elective

Other: *Click here to enter text.*

Instructor Information

Instructor Name: Michael Stearns

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Identify major rock types and rock forming minerals.
2. Explain the role of different rock types and rock forming minerals in plate tectonics, the rock cycle, and surficial and interior geological processes.
3. Describe the geologic time scale.
4. Explain the ways in which geologic resources and geologic data benefits society.
5. Critically evaluate popular news articles and proposed policies related to Geology and the Earth Sciences.
6. Apply the laws and principals of relative and absolute dating to evaluate geologic cross sections and maps.
7. Apply the scientific method, including multiple working hypotheses, to analyze and evaluate geologic data and problems outside of the classroom.

Course Materials and Texts

Marshak, S. Essentials of Geology. 4th Edition or newer. Norton, New York.

Course Requirements

Course Assignments, Assessments, and Grading Policy

All assignments are to be completed and submitted online through Canvas.

Grading Scale: This scale represents your percentage of total points

Grade	Percent
A	95-100
A-	90-94
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62

Grade	Percent
E	0-59

Assignment Categories

Activity	Percent
Interactive Lectures	10
Reading Quizzes	15
Applied Online Activities	25
Discussions	15
Midterms Exams	15
Cumulative Final Exam	20

Late Work

No late work is accepted. All work should be submitted through Canvas. I do understand that life sometimes happens and you will miss an assignment. In order to build in some flexibility in the course, we will drop a few assignments in each assignment category. If something happens, please be in touch over email and we can work together to find a solution. Send me a note the sooner the better if it looks like you are slipping!

Attendance

You should maintain an active presence in this online class. This means that will participate in discussions every week by posting original content, and also commenting on at least two group members. Detailed directions are provided for each discussion.

Assignment and Assessment Descriptions

- **Interactive Lectures: 10% of total grade**

These interactive lectures consist of interactive slides where you can watch videos, animations, complete interactive activities on the slides. It is essential to go over the lecture slides after reading the textbook chapters. The slides will help you to understand the core of the topics in each chapter.

- **Reading Quizzes: 15% of total grade**

These short reading quizzes are designed to keep you on track with the reading so that you are better prepared for the assignments and discussions. Reading introduces fundamental concepts and lays the foundation upon which we will build other class activities.

Your three lowest reading grades will be dropped.

- **Applied online activities: 25% of total grade**

These exercises are designed for to apply concepts from the readings to real life scenarios of earth system science. These assignments will have you collecting and analyzing data, calculating results, and communicating ideas through writing and other media.

Your three lowest learning activity grades will be dropped,

- **Discussions: 15% of total grade**

Discussions will be opportunities to explore topics together. Posts to the discussion should add significantly to the conversation and support your point of view. *Comments that do not add significantly*

to a discussion will receive no credit. It is okay to disagree in a discussion. In fact, much learning happens when we disagree. However, we need to be respectful and keep our online classroom a safe place to learn.

Due dates for discussions correspond with the initial post date which is usually a Wednesday. Follow up comments are due by Friday. Discussions conclude by the Friday following the due date. After this, posts will be marked late.

Your two lowest discussion grades will be dropped, but the "Introductions" assignment won't be dropped.

- **Midterm Exams: 15% of total grade**

Midterm exams are periodic summative assessment to check your progress during the semester.

Midterm exams consist of 45 multiple choice questions and will be open-book and open-notes, but timed. You will have 60 minutes to complete each midterm exam.

Your one lowest midterm exam grades will be dropped

- **Cumulative Final Exam: 20% of total grade**

The cumulative final exam is the summative assessment for what you have learned during the semester.

The cumulative final exam consists of 55 multiple choice questions and will be open-book and open-notes, but timed. You will have 90 minutes to complete the cumulative final exam.

The cumulative final exam won't be dropped.

Required or Recommended Reading Assignments

One or two relevant chapters from the required textbook will be assigned weekly for each unit of the course.

General Description of the Subject Matter of Each Lecture or Discussion

Week	Class Plan	Reading Assignment
Unit 1	Intro to our Planet Earth	Prelude, Interlude D, Chapter 1
Unit 2	Plate Tectonics	Chapter 2
Unit 3	Minerals	Chapter 3, 12
Unit 4	Minerals	Chapter 3, 12
	Midterm 1 (Prelude, Interlude A, D, and Chapter 1,2,3,12)	
Unit 5	Igneous Rocks	Chapter 4, Interlude A
Unit 6	Volcanoes	Chapter 5

Unit 7	Sedimentary Rocks	Chapter 6, Interlude B
Unit 8	Metamorphic Rocks	Chapter 7, Interlude C
Unit 9	Midterm 2 (Interlude B, C and Chapter 4,5,6,7)	
	SPRING BREAK	
Unit 10	Earthquakes	Chapter 8
Unit 11	Structural Geology	Chapter 9
Unit 12	Geologic Time	Chapter 10, 11, Interlude E
Unit 13	Land Slides	Chapter 13
	Midterm 3 (Interlude E, Chapter 8,9,10,11,13)	
Unit 15	Climate Change and Air Pollution	Chapter 19
Unit 16	Intro to Nonrenewable Energy and Sustainable Energy	Chapter 12
Final Week	Cumulative Final Exam	

Required Course Syllabus Statements

Generative AI

Artificial Intelligence Statement (adapted from Temple University statement)

Artificial intelligence (AI) programs are not a replacement for your human creativity, originality, and critical thinking. Thinking, researching, and writing are skills that take time to develop and give you a

unique voice as a person. Using AI tools can support those activities *and* be ethical in certain academic settings.

The use of generative AI tools (e.g., ChatGPT, Google Bard, etc.) *is* permitted in this course for the following activities:

- Brainstorming and refining your ideas;
- Fine tuning your research questions;
- Finding information on your topic;
- Drafting an outline to organize your thoughts; and
- Checking grammar and style.

The use of generative AI tools *is not* permitted in this course for the following activities:

- Impersonating you in classroom contexts, such as by using the tool to compose discussion board prompts/responses assigned to you or content that you put into a Teams/Canvas chat.
- Completing group work that your group has assigned to you, unless it is mutually agreed upon that you may utilize the tool.
- Writing a draft of a writing assignment.
- Writing entire sentences, paragraphs, or papers to complete class assignments.

You are responsible for the information you submit based on an AI query (for instance, that it is accurate, does not violate intellectual property laws, contains no misinformation, or contains no unethical content). Your use of AI tools must be properly documented and cited to stay within university policies on academic honesty. Any student work submitted using AI tools should clearly indicate what work is the student's work and what part is generated by the AI. In such cases, no more than 25% of the student work should be generated by AI. If any part of this is confusing or uncertain, please reach out to me for a conversation before submitting your work.

Using Remote Testing Software

This course does not use remote testing software.

This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities

Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU [Accessibility Services](#) at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity

At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their [rights and responsibilities](#). In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in [UVU Policy 541: Student Code of Conduct](#).

Equity and Title IX

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation

UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.

To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a [specially dedicated space](#) for meditation, prayer, reflection, or other forms of religious expression.