

GEO 1010

Introduction to Physical Geology

Instructor: Dr. Weihong Wang

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Best way to reach me: through CANVAS email. I'll reply to your emails within 48 hours except weekends and holidays.

Textbook*: Marshak, S., 2013. Essentials of Geology. 4th Edition. Norton, New York.

ISBN-10: 0393919390

*textbook is recommended, but not required.

Material needed: You have to bring the following material to every class:

- Scientific calculator
- Ruler (with both English and metric system)
- No. 2 Pencil
- Eraser

COURSE INFORMATION

Course Overview:

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.

Learning Outcomes:

A student should be able to understand the following topics and develop critical thinking and problem solving skills during the semester

- Earth as a complex system
- Earth Materials - minerals and rocks
- Structure of the Earth and plate tectonics as a unifying theory of the Earth
- Processes associated of the interior of the Earth and processes influencing the surface of the Earth
- Earth's natural resources and stewardship of the Earth
- The Relationship Between Energy and Climate change

Grading:

- In-class activities 32%
- Online Pre-reading Quizzes* 15%
- Homework 18%
- Midterm Exams 15%
- Cumulative Final Exam 20%

All online pre-reading quizzes except the first one **are due before class on the designated dates listed on the tentative schedule at the end of the syllabus. All online pre-reading quizzes are on new material that we are going to discuss in the upcoming classes. Therefore, you have to read the related chapters and lecture slides before taking online quizzes. There is no time limit on the online quizzes as long as you complete it before the due date.*

**We will have a lot of in-class activities during the semester, but not all in-class activities will be collected and graded.*

Homework will consist of essay questions, calculation questions, excel spreadsheet, etc. There will be **THREE homework in this class. They **are due at midnight** on the designated dates.*

**Midterm tests will consist of 50 multiple choice questions and will be closed-book and closed-notes.*

**The cumulative final exam will consist of 100 multiple choice questions and will be closed-book and closed-notes.*

Two lowest quizzes, two lowest in-class activities, and one lowest midterm will be dropped. But **NO homework will be dropped.*

Course averages are normalized to a 100-point scale. Final grades will be based on the following scale:

- | | | |
|-------------|----|---|
| • 93.5-100% | A | mastery of the learning objectives |
| • 90-93.5% | A- | |
| • 87-90% | B+ | |
| • 83.5-87% | B | functional understanding of the learning objectives |
| • 80-83.5% | B- | |
| • 77-80% | C+ | |
| • 73.5-77% | C | basic achievement of learning objectives |
| • 70-73.5% | C- | |
| • 67-70% | D+ | |
| • 63.5-67% | D | met some learning objectives, but significant deficits |
| • 60-63.5% | D- | |
| • 0-60% | E | Did not demonstrate understanding of most learning objectives |

Missed/Late Tests and Assignments:

- Test make-ups will only be allowed if a doctor's note or other official documents are provided. Make-up tests may differ from regular, in-class tests. If you cannot take an exam, you need to let me know **before the exam** and **you need to make it up within one week.**
- Quizzes **cannot** be made up (but I drop the two lowest quiz grades...).
- In-class activities **cannot** be made up (but I drop the two lowest grades...).
- Homework assignments will be penalized **5 points** for every day that they are late. (Please note: **NO homework will be dropped**).
- All assignment due dates are set on Canvas. It is your responsibility to know when assignments are due and when tests are given.

Attendance:

- **Attendance is mandatory.** Excessive absences will be reflected in your final grade. If you do miss a class, you will be responsible for the day's assignments and notes.

Extra Credit Opportunities:

✚ **Every student can choose **ONE** extra credit opportunity from the following options during the semester for extra credit. The extra credit points will be added to your final exam grade**

- Field Trip (details will be announced in class) (**5 pts**)
- Attending THREE Earth Science Department Seminars and write 1 page single space summary on each of them (Seminar details will be announced at the beginning of each week) (**5 pts**)
- Watch Dante's Peak and complete the worksheet (see me for it) (**3 pts**)
- Museum of Paleontology / Museum of Ancient Life: Visit the BYU Museum of Paleontology or Museum of Ancient Life at Thanksgiving point. Take notes on the fossils and rocks you see. Type a 1 page single space summary of your notes. (**5 pts**)
- Visit the Bingham Copper Mines. Take a tour and turn in a typed 1 page single space summary (note: tours are available after April 1, so plan your visit accordingly) (**5 pts**)
- Visit Lehman Caves or Timpanogos Cave. Take notes and turn in a typed 1 page single space summary. (**5 pts**)

- Write a 1page single space summary of the geology of a place you visited during this semester. See me for approval first. (3 pts)

Canvas:

All your grades, online quizzes, homework assignments, lecture slides, reading material and announcements will be posted on Canvas. Assignments will be posted at least one week before they are due.

Academic Misconduct:

Academic dishonesty will be not tolerated in this class. Dishonesty includes, but is not limited to plagiarism, unauthorized notes brought into an exam; copying answers from another student or letting another student copy your answers on tests or assignments. The penalty for the first offense will be a zero on the exam or assignment. Penalty for the second offense will be an E in the course.

Disability:

Students who need accommodations because of a disability may contact the UVU Accessibility Services Department (ASD), located on the Orem Campus in LC 312. To schedule an appointment or to speak with a counselor, call the ASD office at 801-863-8747. Deaf/Hard of Hearing individuals, email nicole.hemmingsen@uvu.edu or text 385-208-2677. Please notify one of the instructors as early in the semester as possible so that arrangements can be made to meet those needs.

Success:

Below are my suggestions to help you to succeed in this class:

- **Come to class on time.** If you miss a class, you have to do much more work at home. In addition, you may lose the points of the in-class activities and/or quizzes, so excessive absences will be reflected in your final grade
- **Pay attention.** I try hard not to lecture too much and to use active learning techniques to make the class more interactive and to facilitate your learning
- **Take notes.** Print the slides before coming to class. Lecture slides are posted on CANVAS before class. I suggest you print them so that you can take notes on them during the lecture. You also need the information in the slides to do the in-class activities. Taking good notes is a skill that is required in most jobs. It is good to learn it now
- **Be organized.** Keep syllabus, slides printout with notes, in-class activities, quizzes, and exams in a folder and bring it to class
- **Be prepared.** Read the chapter of the textbook before coming to class so you know what we will discuss in class
- **Be active and collaborative.** Do and put effort in the in-class activities. Many of the questions in the in-class activities will show up on exams. In addition, working well in a team is an important skill to learn and you will benefit from it in your life
- **Start early.** Do your homework and online quizzes early, and turn in assignments on time. Homework and online quizzes will be useful to enhance your understanding of the material we cover during the semester. Do not wait until the last minute to do your assignments, start a few days before it is due
- **Work hard.** Study hard for quizzes and exams. As a rule of thumb, you are expected to study on average 3 hours per week for each credit hour you are taking. So you are expected to study 9 hours a week for this class. Do not wait until the last minute to study for the exam
- **Get help.** Come to see me during my office hours; do not wait until the end of the semester. I am always happy to help you with class material. And forming/joining a study group is also an effective way to learn better

Tentative Schedule*:

*The topics and corresponding schedule listed above are tentative and may be subject to change during the semester.

Week	Class Plan	Reading Assignment	Important Due Dates (note: there are in-class activities every week)
Week 1	Class Introduction Intro to our Planet Earth	Prelude, Interlude D, Chapter 1	Online Quiz 1 on Syllabus Online Quiz 2 DUE
Week 2	Plate Tectonics	Chapter 2	Online Quiz 3 DUE
Week 3	Minerals	Chapter 3, 12	Online Quiz 4 DUE
Week 4	Google Earth Application	Handouts	HW1 DUE at 11:59pm Wednesday
	Midterm 1	Prelude, Interlude A, D, and Chapter 1,2,3,12	Midterm 1 on Friday
Week 5	Igneous Rocks	Chapter 4, Interlude A	Online Quiz 5 DUE
Week 6	Volcanoes	Chapter 5	Online Quiz 6 DUE
Week 7	Sedimentary Rocks	Chapter 6, Interlude B	Online Quiz 7 DUE
Week 8	Metamorphic Rocks	Chapter 7, Interlude C	Online Quiz 8 DUE
Week 9	Google Earth Application		HW2 DUE at 11:59pm Wednesday
	Midterm 2	Interlude B, C and Chapter 4,5,6,7	Midterm 2 on Friday
Week 10	Structural Geology	Chapter 9	Online Quiz 9 DUE
Week 11	Fall or Spring Break, NO CLASS		
Week 12	Earthquakes	Chapter 8	Online Quiz 10 DUE
Week 13	Geologic Time	Chapter 10, 11, Interlude E	Online Quiz 11 DUE
Week 14	Land Slides	Chapter 13	Online Quiz 12 DUE HW3 DUE at 11:59pm Wednesday
	Midterm 3	Interlude E, Chapter 8,9,10,11,12,13	Midterm 3 on Friday
Week 15	Global Change in the Earth System	Chapter 19	Online Quiz 13 DUE
Week 16	Intro to Nonrenewable Energy and Sustainable Energy	Chapter 12	Online Quiz 14 DUE
	Final Exam Review		
Final Week	Cumulative Final Exam		