

SYLLABUS FOR GEOLOGY 9 – FALL 2018

Class Meetings: MW 4:30-6:35 in PHY76

Instructor: Dr. David Tinker

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Websites: see Canvas *for official class information* and <https://sites.google.com/view/tinkergeology>
for additional archived class materials

Office Hours: by request, after class in PHY76

Textbook: There is no required text for this course.

Useful references include: Earth: An Introduction to Physical Geology (12th Edition), Tarbuck and Lutgens. Pearson, 2017; Physical Geology (online textbook link <https://opentextbc.ca/geology/>), Earle, 2015.

Course Objectives: Geology 9 is a survey course in Earth science. The goal of the course is to introduce the science behind structures and processes that affect humans every day. This is an introductory, general education course in geology appropriate for science majors and non-science majors. The curriculum is aligned with the requirements for prospective teachers.

Student Learning Outcomes (SLOs)

1. Explain and apply the scientific method to problem solving across numerous disciplines.
2. Differentiate among the major Earth systems and describe how the systems are interconnected. Earth's systems include the hydrologic cycle, rock cycle, plate tectonics cycle, solar system, geologic time, weather and climate.
3. Describe basic physical properties of minerals and rocks and use appropriate methods to identify common minerals and rocks.
4. Utilize the plate tectonics theory to explain the distribution of Earth's major topographic features and the distribution of volcanoes and seismic activity.
5. Describe the forces and processes that shape the earth's surface and their effects over geologic time.
6. Describe and explain the controls of Earth's weather and climate.
7. Demonstrate a fundamental understanding of the significant role played by oceans in controlling Earth's weather, climate and biological systems.
8. Be able to explain and critique theories for the origin of the solar system and the universe.
9. Communicate complex course concepts effectively in writing and diagrams.

Suggested Supplies: calculator; ruler; protractor; pencil; different-colored pens (e.g., one blue, one red)

Attendance: Attendance in lecture and lab is mandatory. The student will be dropped automatically if she/he misses the first day of class, without contacting the instructor. If a student misses more than 25% of the lectures/labs, without contacting the instructor with a valid excuse, they will also be dropped. Always inform the instructor ahead of time if you know you have to miss an exam; a missed exam with no prior warning will count as a zero grade. Unexplained, missed classes will not excuse missed homework assignments. If a student is disruptive (including using cell-phones, interrupting the instructor continuously) he or she may be asked to leave the lecture/lab and recorded as "absent."

Cancelled Classes: If for some reason a class is cancelled, an official yellow cancellation form will be posted on the door of the classroom. Every effort will be made to inform the students via Canvas, or on the Reedley College Website in a timely manner.

Late Adds: The last day to add this class in person is August 31. The last day to add this class using Webadvisor is September 2 (for this, you must have full access to Webadvisor). Please be aware that these are firm deadlines; mistakes such as forgetting to use an add code will not be forgiven. Any student who adds this class late forfeits the opportunity to complete assignments that were submitted before his or her add date.

Grading :

Quizzes	(15 %)	Quizzes may not be announced. There will be roughly one quiz per week. They will generally be given at the end of a lecture period. They may contain content from the current lecture or previous lectures. Understanding "Preparation Questions" is a good way to prepare for quizzes. A missed quiz will be entered as a zero grade. There are no make-ups. The two lowest quiz grades will be dropped.
Exams	(40 %)	Exams will be given on the posted dates. There will be no make-up exams. There will be no way (after an exam) to arrange a make-up. All exams, including the cumulative final, will be weighted equally. The lowest exam score will be dropped when the final grades are calculated.
Lab Exercises	(20 %)	Lab exercises will be collected at the end of each lab period. There will be no make-ups for missed lab exercises.
Homework	(10 %)	There will be one homework assignment each week. The assignments are designed to reinforce ideas from the chapters and to help you prepare for exams. The assignments will be due at the beginning of class each Wednesday. No late work will be accepted.
Essays	(15 %)	Three essays will be required. A grading rubric will be provided these essays, and the essays will be due at the beginning of the class period on the posted dates. No late work will be accepted.

General Grading Break-down : **A** 90-100%, **B** 80-89%, **C** 70-79%, **D** 60-69%, **F** 0-59%

Please be aware of the following rules:

- Tardiness, leaving early, or sleeping during lectures will result in a partial or full absence being recorded. Students need to sign the sign-in sheet within the first 10 minutes of class. Students considered absent will forfeit their points for the day.
- Fraudulent behavior during exams is graded with a (0) zero.
- Copying of any class work is considered fraudulent behavior for both the copier and the originator and points (10-100%) may be deducted from both the copier and the originator. DO NOT HAND IN IDENTICAL HOMEWORK.
- No late work will be accepted (without prior discussion of validated, extenuating circumstances).
- No extra credit will be given. You need to work consistently from the beginning.
- It is expected that you will not use your cell phones during class. Please silence your phone during lectures so as not to disturb the class. No cell phones or other electronic device will be allowed during exams.

If you have a verified need for an academic accommodation (especially in labs) or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact the Disabled Student Services as soon as possible.

With this statement on my course syllabus, I am **referring** each of my enrolled students in need of academic support to **tutorial services**. Referral reason: Mastering the content, study skills, and basic skills of this course is aided by the use of trained peer tutors

Tentative course outline:

Week		Lecture Topic	Lab Exercise	Essays
1 (8/13-8/17)	M	Introduction to Geology	The Earth's Spheres	
	W	Plate Tectonics	Plate Motion	
2 (8/20-8/24)	M	Minerals	Silicate Minerals	
	W	Igneous Processes, Pt. 1	Nonsilicate Minerals	
	F	Last Day to Drop Classes (for refund)		
3 (8/27-8/31)	M	Igneous Processes, Pt. 2	The Rock Cycle	
	W	Volcanoes	Igneous Rocks	
	F	Last Day to Register/Drop (to avoid a "W")		
4 (9/3-9/7)	M	NO CLASS- LABOR DAY		
	W	Weathering and Soils	Soils	
5 (9/10-9/14)	M	Sedimentary Rocks	Sedimentary Rocks	
	W	MIDTERM 1		
	F	Pass/No Pass Deadline		
6 (9/17-9/21)	M	Metamorphic Rocks	Metamorphic Rocks	
	W	Geologic Time	Relative Age Dating	Essay 1 Due

7 (9/24-9/28)	M	Geologic Structures	Block Diagrams		
	W	Earthquakes	Locating an Epicenter		
8 (10/1-10/5)	M	Earth's Interior	Refraction Lab		
	W	Ocean Crust	Aerial Photo Interpretation		
9 (10/8-10/12)	M	Mountain Building	Topographic Maps		
	W	Mass Wasting	Angle of Repose		
	F	LAST DAY TO DROP <u>WITH A "W"</u>			
10 (10/15-10/19)	M	Running Water	Stream Processes		
	W	Groundwater	Groundwater and Subsidence		
11 (10/22-10/26)	M	Glaciers	Glacial Features		
	W	MIDTERM 2			
12 (10/29-11/2)	M	Deserts	Dryland Landforms		
	W	Shorelines	Coastal Landforms	Essay 2 Due	
13 (11/5-11/9)	M	Global Climate Change	Evidence of Climate Cycles		
	W	Weather Patterns	El Nino		
14 (11/12-11/16)	M	NO CLASS- VETERANS DAY			
	W	Ocean and Atmosphere Circulation	Density of Seawater		
15 (11/19-11/23)	M	Earth's Evolution	Climate Change		
	W	Energy and Mineral Resources	Ore Minerals		
16 (11/26-11/30)	M	Mineral Resources of CA	Economic Resources		
	W	MIDTERM 3			
17 (12/3-12/7)	M	The Solar System	Patterns in the Solar System	Essay 3 Due	
	W	The Earth-Moon System	The Moon		
18 (12/10-12/14)	M	FINAL			