

## **SYLLABUS FOR GEOLOGY 2 – SPRING 2018**

Class Meetings: MTTh 8:15-9:05 at FHS

**Instructor:** Dr. David Tinker

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**Websites:** see Canvas *for official class information* and <https://sites.google.com/view/tinkergeology2>  
*for archived class materials*

**Office Hours:** by request

**Textbook:** There is no required text for this class.

Useful references include: Earth System History (Fourth Edition), Stanley and Luczaj. W.H. Freeman and Company, 2015; The Earth Through Time (9th edition), Levin. John Wiley and Sons, 2010.

**Course Objectives:** Geology 2 is an introductory course in historical geology. The goal of the course is to introduce basic geology principles (including the interplay between physical and biological systems) while discussing the evolution of the Earth since its formation. This is an introductory, general education course in geology appropriate for science majors and non-science majors.

### **Student Learning Outcomes (SLOs)**

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

1. Describe the concept of geologic time and how it is measured and then apply this information to interpret specific changes in the biologic and geologic record.
2. Critique theories on how life on Earth has evolved.
3. Classify rock and fossils and their relationship to the geologic record.
4. Explain the tectonic processes that shape the Earth over geologic time.

### **Objectives:**

In the process of completing this course, students will:

1. Diagram topographic maps to understand the impact of plate tectonics throughout geologic time.
2. Be able to explain that the earth is dynamic and that continents have moved through time with the results of continental collisions, continental break ups, and the formations of mountains and ocean basins and that life and its forms have been influenced by this dynamism.
3. Identify and explain the geologic processes, their causes and results, influencing environments of deposition, metamorphic histories, and igneous rock formation.
4. Learn the origin and geologic history of the earth in relation to geologic time.
5. Review the origin, history and implications of plant and animal evolution and be able to recognize major plant and animal life forms throughout geologic time.
6. Categorize the variability of fossil forms and their relationship to ancient environments of deposition for the purpose of interpreting the geologic record.
7. Examine the major events (tectonic, sedimentary, continental formation), life forms and extinctions of the Proterozoic, Paleozoic, Mesozoic and Cenozoic periods.

**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 January 26. The last day to add this class using Webadvisor is January 28. 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 will not be announced. There will be roughly one quiz per week. Reviewing "Preparation Questions" and the specific vocabulary discussed in lecture 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 they 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.
- 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
<b>1</b> (1/8-1/12)	<b>M</b>	<b>Overview of historical geology; earth as a system</b>		
	<b>T</b>	<b>Diversity of Life</b>		
	<b>Th</b>	<b>Diversity of Life</b>	<b>Relative Ages</b>	
<b>2</b> (1/15-1/19)	<b>M</b>	<b>NO CLASS- Martin Luther King, Jr. Day</b>		
	<b>T</b>	<b>Environments and life</b>	<b>Sedimentary Structures</b>	
	<b>Th</b>	<b>Environments and life</b>		
	<b>F</b>	<b>Last Day to Drop Classes (for refund)</b>		
<b>3</b> (1/22-1/26)	<b>M</b>	<b>Sedimentary Environments</b>		
	<b>T</b>	<b>Sedimentary Environments</b>		

	Th	Correlation and Dating of the Rock Record	Depositional Sedimentary Environments	
	F	Last Day to Register/Drop Deadline (to avoid a "W")		
4 (1/29-2/2)	M	Evolution and the Fossil Record		
	T	Evolution and the Fossil Record		
	Th	Evolution and the Fossil Record	Stratigraphy and Lithologic Correlation	
5 (2/5-2/9)	M	Plate Tectonics		
	T	Plate Tectonics		
	Th	MIDTERM 1	ice cores	
	F	Pass/No Pass Deadline		Essay 1 Due
6 (2/12-2/16)	M	NO CLASS		
	T	Plate Tectonics	Fossils	
	Th	Continental Tectonics and Mountain Chains		
7 (2/19-2/23)	M	NO CLASS- Washington Day observance		
	T	Continental Tectonics and Mountain Chains		
	Th	Continental Tectonics and Mountain Chains	Microfossils	
8 (2/26-3/2)	M	Geochemical Cycles		
	T	Geochemical Cycles		
	Th	Geochemical Cycles	Poriphera and cnidaria	
9 (3/5-3/9)	M	Hadean and Archean		
	T	Hadean and Archean	brachiopods, bryozoans	
	Th	Hadean and Archean		
	F	LAST DAY TO DROP <u>WITH A "W"</u>		
10 (3/12-3/16)	M	Proterozoic		
	T	Proterozoic		

	Th	Proterozoic	Gastropods and cephalopods	
	F			Essay 2 Due
11 (3/19-3/23)	M	Early Paleozoic		
	T	Early Paleozoic		
	Th	MIDTERM 2	bivalves	
(3/26-3/30)	SPRING BREAK			
12 (4/2-4/6)	M	Middle Paleozoic		
	T	Middle Paleozoic		
	Th	Middle Paleozoic	arthropods	
13 (4/9-4/13)	M	Late Paleozoic		
	T	Late Paleozoic		
	Th	Late Paleozoic	echinoderms	
14 (4/16-4/20)	M	Early Mesozoic		
	T	Early Mesozoic		
	Th	Early Mesozoic	vertebrates	
15 (4/23-4/27)	M	Cretaceous		
	T	Cretaceous		
	Th	MIDTERM 3		
16 (4/30-5/4)	M	Paleogene		
	T	Paleogene	tooth and claw molds	
	Th	Late Cenozoic		
17 (5/7-5/11)	M	Late Cenozoic		
	T	Holocene		Essay 3 Due
	Th	Holocene		
18 (5/14-5/18)	M	Final		