

## GEOL1: The Earth

Fall 2017

Instructor: Dr. David Kratzmann

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Office Hours:

Mon: 9:00-10:00 3:00-3:30\*

Tue: 9:00-10:00 3:00-3:30\*

Wed: 9:00-10:00 (garden)

Thu: 9:00-10:00 3:00-3:30\*

### Course Description:

An introduction to rocks, minerals, landforms and the dynamic processes that shape the Earth. Course includes the study of plate tectonics, volcanoes, earthquakes, and surface processes such as streams, shorelines and glaciers.

**Required Text:** Essentials of Geology, 5th edition, 2016. Stephen Marshak. (Published by Norton.)

### Student Learning Outcomes

Upon successful completion of the course the student will be able to:

1. Apply scientific methodologies and principles to solve geologic questions
2. Recognize, identify and describe Earth materials and landforms.
3. Identify and explain processes that formed and continue to shape the landscape.
4. Recognize the complex interplay between humans and the environment.

### Course Outline of Record:

[http://busapp02.santarosa.edu/SRweb/SR\\_CourseOutlines.aspx?CVID=25069&Semester=20147](http://busapp02.santarosa.edu/SRweb/SR_CourseOutlines.aspx?CVID=25069&Semester=20147)

### Evaluation and Grading

Your final grade in this course is achieved through a combination of exams, homework assignments, a field trip write-up, and participation during the semester. There are 450 points possible in this course as follows:

Midterm exams (4): 70 points each (x3 = 210 pts) → your lowest exam result will be dropped

Weekly quizzes: worth 10 points each week (x10 weeks = 100 pts)

Problems Sets: worth 30 points each (x2 = 60 pts)

Major Project: worth 80 pts

Final letter grades will be based in the number of points earned, according to the following scale:

**A:** 450-405 pts → 90+%      **D:** 291-247 pts → 64-55%

**B:** 404-360 pts → 89-80%      **F:** below 247 pts → <55%

**C:** 359-292 pts → 79-65%

**Exams:** There will be four (4) midterm exams during the semester, worth 70 points each (40-50 objective and 10-20 written points) - ~46% of grade. **Your lowest score from the midterm exams will be dropped when calculating your final grade.** Questions are designed to test your understanding of subject matter and your ability to assimilate and incorporate information. Exams will include some combination of true/false, multiple choice, fill-in-the-blanks, diagram/graph interp, and short and long answer format questions.

**Important exam notes:**

- Late arrivals will NOT be allowed to start an exam once another student has finished and left.
- Your lowest score from the midterm exams will be dropped. Exams cannot be made up except if you notify me **IN ADVANCE** (after the fact does not constitute in advance) and there are extenuating circumstances for missing the exam or you have documentation from the Health Center of illness.
- Cheating will not be tolerated and will result in no credit for the exam or activity.

*Weekly quizzes:* Each week, you will complete quizzes via CANVAS designed to promote chapter readings. The total points for all quizzes 100 points - ~22% of grade. It is your responsibility to keep track of and complete the weekly assignments by the due dates (approximately weekly at 6pm).

**Successful completion of the course is not possible if you do not complete the online assignments.**

*Problem Sets:* You'll work on two (2) geologic problem sets during the course of the semester worth 30 points each (60 points total or ~13% of the grade.) These will be math based assignments assessing geologic hazards or the role of density in geologic processes. The math tutors are more than happy to help you through these problem sets, or stop by

*Final Project:* In the second half of the semester I will give you information regarding the final project – options include field trips to local outcrops or research papers. The write-up will be worth 80 pts (~18%) of the overall grade and is due on the date set for the final exam → check the syllabus. Online submission (via Canvas) will be required.

### **Suggestions for Success**

- Please turn your cell phone and other electronic devices **OFF DURING CLASS!**
- Stay on top of the material. You may be expected to spend up to 6 hours per week **OUTSIDE** of class to complete the required reading, assignments, and studying.
- Devote the time necessary to succeed in this course - **do the assigned reading, review lecture notes, take advantage of online and textbook resources, study for exams, and, most importantly, show up for class.** Everyone can succeed in this class, so set high expectations and then work hard to meet them.
- Do not hesitate to ask questions, participation is encouraged. Get to know your instructor & your classmates.
- I reserve the right to drop any student who misses more than 10% of classes.
- Abide by the Code of Student Conduct while in class and on campus, including rules on cheating and plagiarism. You are encouraged to read the code in its entirety if you have any questions. **Any violation of this code can result in your suspension from the classroom and/or receiving no credit for the assignment or exam.** The code (and other guidelines concerning student behavior on campus) can be found at the following web address:  
[http://www.santarosa.edu/for\\_students/rules-regulations/student-conduct.shtml](http://www.santarosa.edu/for_students/rules-regulations/student-conduct.shtml)

**Safety/Emergency Information:** Please note the location of the red Emergency Preparedness Handbook in the classroom. In an emergency situation, immediately contact **Campus Police at 527-1000 or dial 1000** from any campus phone. In the event of an emergency that requires evacuation from the building, please leave the class immediately, but calmly. If you are a student with a disability who may need assistance in an evacuation, please see me during my office hours as soon as possible so we can discuss an evacuation plan.

**Disability Resource Information:** If you need disability related accommodations for this class, such as a note taker, test taking services, special furniture, use of service animal, etc., please provide the Authorization for Academic Accommodations (AAA letter) from the Disability Resources Department (DRD) to me as soon as possible. You may also speak with me privately during office hours about your accommodations. If you have not received authorization from DRD, it is recommended that you contact them directly. DRD is located in Petaluma Village on the Petaluma campus and Analy Village on the Santa Rosa campus.

**Regular Sem****Section 3696****Mon-Wed 1:00-3:00 Tentative Schedule (subject to change)**

<b>Week #</b>	<b>Date</b>	<b>Topic</b>	<b>Reading</b>	<b>Pages</b>
3	9/4	<b><i>NO CLASS - Labor Day</i></b>		
	9/6	Intro to Geology, Resources	Prelude, Ch 12	1-9, 391-426
4	9/11	Earth Formation & Structure	Ch 1, INT D	11-27, 282-295
	9/13	PT – Unified Theory & M.O.R.	Ch 2	43-62, 62-65
5	9/18	PT – Subduction Zones	Ch 2	65-67
	9/20	PT – Transform Faults & Hotspots	Ch 2	67-72
6	9/25	<b><u>EXAM #1</u></b>		
	9/27	Minerals / Rock Cycle	Ch 3, INT C	83-100, 236-243
7	10/2	Igneous Rocks	INT A, Ch 4	102-111, 113-122
	10/4	Magmatic Diff 'n & Bowen's Reaction	Ch 4	122-125
8	10/9	Volcanoes - Eruption styles	Ch 5	137-168
	10/11	Volcanoes - Products, Hazrds etc	Ch 5	137-168
9	10/16	<b><u>EXAM #2</u></b>		
	10/18	Weathering & Erosion / Sedi Rocks	INT B	170-185
10	10/23	Sedimentary Environments	Ch 6	187-212
	10/25	Causes & Types of Metamorphism	Ch 7	215-220, 226-228
11	10/30	Metamorphic Rocks & Textures	Ch 7	220-226
	11/1	Structural Geology - Faults	Ch 9	297-305
12	11/6	Structural Geology - Folds	Ch 9	308-313
	11/8	<b><u>EXAM #3</u></b>		
13	11/13	Geo Time & Fossils	Ch 10, INT E	339-341, 326-335
	11/15	Stratigraphy Laws	Ch 10	339-352
14	11/20	Age Dating	Ch 10	352-362
	11/22	<i>Major Project</i>		
15	11/27	Earthquakes	Ch 8	245-278
	11/29	Groundwater & Streams	Ch 14, 16	463-490, 523-540
16	12/4	Coastlines	Ch 15	493-512
	12/6	<b><u>EXAM #4</u></b>		
17	12/11	<i>Last Week Regular Semester</i>		
	12/13			
18	1/1	<i>Reg Semester Final Exams</i>		