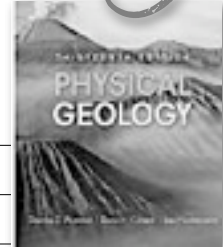


MW 1:10-2:30, SC 159  
 Spring 2012  
 Steven Newton

# GEOLOGY 120

# Physical Geology

**Required text:** Plummer, *Physical Geology*, 13th  
 (*older editions acceptable*). [007337671x](http://007337671x)



**Lecture schedule:**

	date	topic	readings
<b>Fire</b>			
1	M 23 Jan	intro	
2	W 25 Jan	Minerals	ch. 2
3	M 30 Jan	“	“
4	W 1 Feb	Igneous rocks	ch. 3
5	M 6 Feb	“	“
6	W 8 Feb	Volcanoes	ch. 4
7	M 13 Feb	“	“
8	W 15 Feb	Metamorphic rocks	ch. 7
	M 20 Feb	<i>holiday</i>	
9	W 22 Feb	“	“
10	M 27 Feb	<b>Midterm 1</b>	
<b>Water</b>			
11	W 29 Feb	Sediments & weathering	ch. 5, 6, 13
12	M 5 Mar	“	“
13	W 7 Mar	Mass wasting & landslides	ch. 9
14	M 12 Mar	“	“
15	W 14 Mar	Water & groundwater	ch. 10, 11
16	M 19 Mar	“	“
17	W 21 Mar	Glaciers	ch. 12
18	M 26 Mar	“	“
19	W 28 Mar	Coasts	ch. 14
20	M 2 Apr	“	“

21	W 4 Apr	<b>Midterm 2</b>	
	M 9 Apr	<i>Spring break</i>	
	W 11 Apr	<i>Spring break</i>	
<b>Earth</b>			
22	M 16 Apr	Tectonics	ch. 19, 17, 15, 20
23	W 18 Apr	“	“
24	M 23 Apr	“ <i>paper due</i>	“
25	W 25 Apr	Earthquakes	ch. 16, 15
26	M 30 Apr	“	“
27	W 2 May	“	“
28	M 7 May	Time	ch. 8
29	W 9 May	“	“
30	M 14 May	Climate	ch. 21
31	W 16 May	“	“
32	M 21 May	<b>Final exam, 11:10-2:00 pm</b>	

## Grading:

midterm 1	25%
midterm 2	25%
final (comprehensive)	35%
presentation	5%
field trip	5%
paper	5%

- 🕒 Exams will include multiple-choice, picture identification, short answers, and longer essay questions derived from the lectures and assigned readings. Answers will be scored according to accuracy, completeness, and clarity.
- 🕒 Please bring Scantrons (882e, green) and #2 pencils for exams.
- 🕒 Grade assignment will be by a 90%-A, 80%-B, 70%-C, 60%-D, 59%-and below-F scheme.



## Presentation:

I want you to give brief (10 minute) presentation on a topic to be selected. These topics will match what we are going over on a particular day and will complement the lecture.

If you wish to speak without software, that's fine, but most people will prepare a PowerPoint or Keynote for their talks. You can read my thoughts on making effective

presentations here: <http://sciencedenial.blogspot.com/2011/10/whats-wrong-with-scientific.html>. You can email me finished talks, bring them in on a flash drive or CD, or use your own laptop. If you are bringing in a Mac laptop, be advised that you will need a VGA adaptor specific to your Mac model.

## **Field trips**

I would like you to attend at least one Saturday or Sunday field trip during the semester. I will announce dates later in the term. You should plan on providing your own transportation or caravanning with other students. We will examine rocks in the Marin area and, I hope, give you a better understanding of the geology under our feet.

## **Paper**

I would like you to write a brief paper (1000 word min) on a topic to be selected, due Mon 23 Apr. This paper is meant to help you gain more detailed knowledge in one particular aspect of a topic we explore in class. This paper should follow normal MLA formatting.

## **Reaching me:**

The quickest way to get ahold of me is: [geology.prof@yahoo.com](mailto:geology.prof@yahoo.com)

I can also be reached at: [snewton@mycom.marin.edu](mailto:snewton@mycom.marin.edu)

My office phone is 415.485.7526

## **Office hours:**

Where: Science 165 (across hall from classroom)

When:

- MW: 10-11 am, M 2:30-3 pm
- TTh: 5:30-6:30 pm
- I will be happy to arrange other meeting times, if needed

## **Course web page:**

This course has a Moodle page, <http://moodle.marin.edu/course/view.php?id=1718> on which I will post lecture outlines, links, and notes.

I will also repost this information on: <http://www.blackquartz.com/geology.html>

Lecture notes will be posted as .pdf files, and students have benefited in previous terms from printing notes out beforehand as a guide for note-taking.

## **Makeup Tests:**

I will be willing to work around scheduling conflicts for midterms, so long as you notify by email well *before* the exam.

## **Catalog description**

GEOL 120: Physical Geology (3.0 Units) (No prerequisite. Three lecture hours weekly). This course is a study of the evolution of the Earth and the dynamic disequilibrium that exists between the lithosphere, hydrosphere, atmosphere, and biosphere. The focus of the course is on rocks, minerals, geologic structures, and landforms.

## **Student learning outcomes**

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

1. Define endogenic and exogenic forces and processes that drive and resist the forces of change to the quasi equilibrium conditions of our Earth's lithospheric regime
2. Recognize basic mineral and rock types, geologic structures.
3. Recognize problematic concerns of our ever-shrinking natural resources
4. Explain the significance of geologic time.

Critical thinking:

Upon being presented with lithostratigraphic conditions found within an area, the learner will employ the scientific method and principals of geology to analyze the environmental conditions that existed during the time of deposition of that lithostratigraphic section. The learner will possess the skills necessary to quantify data obtained in the field and use that data to objectively define dynamics of the system in study.

## **Other stuff:**

Please turn off cell phones and pagers prior to class commencement. Please do not text-message.



This course is meant as a transferable equivalent of an introductory physical geology course at the university level. For attendance and conduct policies, please see the catalog.

Plagiarism occurs when a students misrepresents the work of another as his or her own. Plagiarism may consist of using the ideas, sentences, paragraphs, or the whole text of another without appropriate acknowledgement, but it also includes employing or allowing another person to write or substantially alter work that a student then submits as his/her own. Any assignment found to be plagiarized will be given an “F” grade (and could result in an F in the class). All instances of plagiarism will be reported to the Dean of the Division, and further action may be taken by the College.

I wish to make this course as accessible as possible to students with disabilities or medical conditions that may affect any aspect of the course assignments or participation. I encourage you to communicate with me at the outset of the course any accommodations

that will improve your experience of (or access) to the course. If you feel this is appropriate for you, I encourage you to talk to Disabled Student Services, at 415.485.9406, about how to improve your experience here.

## **General study tips:**

The following is a list of suggestions for you to improve your experience for my class:

1. Take notes.  
Most terms there are some students who just sit in class, their arms folded, staring at me and not taking notes. I don't know how they expect to pass the class—and, generally, they don't. To do well, at a bare minimum, you need to write down everything important I say in the class.
2. Prepare for essay questions by outlining.  
Essay questions will not be a surprise to you in this class; when you see the test question, you'll realize that I spent a lot of time discussing these major topics. Before the test, take a blank sheet and try to answer a major question cold. Then go back to the notes and see what you missed. Then repeat this process a day later, gradually filling in the gaps. Using this method, you'll have it firmly in your grasp by test time.
3. Make a mnemonic to help you remember key points.  
Many years ago, in a class on graphic design, I learned that the four cardinal aspects of good design are: Contrast, Repetition, Alignment, Proximity. How do I remember these?
4. Learn the vocabulary.  
Science requires learning a lot of vocabulary, as does any foreign language. If you were taking German or Russian, you would of course make flash cards to help you learn the vocabulary—and most importantly, to help you identify which words you had not mastered. Do the same in this class.
5. Don't sweat the spelling.  
Ey ham naught goin two take uff fur schpellin sow lang az eye kan mayk out da wurd. Eye no itz hawd with zeez weird siunc werds.
6. Never use "like."  
Using "like" in formal writing is a mistake. Do not say what an object is *like*; say what it *is*. You might object that you want to make analogies: A ship to an ocean is like a plane to the sky. Don't try to be cute. ☺ Just tell me what it *is*.
7. The possessive of "it" does not use an apostrophe.

Some professors think that if a student does not know this by college, then it's a hopeless case. However, I am an optimist, and I think that this mistake—and its hold on students—well, it's just one more thing to learn.

8. Leave margins. On essay questions, do not take up every bit of space on the page. Leave me some room to write comments. Ask for more paper if you need it.
9. “Data” is plural. Do not write, “The data shows...” Instead, write: “The data show...”
10. Be specific. Do not be vague.  
Science is all about the details. Back up your statements with numbers and facts.