

# Geology 10 Planet Earth

Spring 2005 T Th 11:30 a.m. – 12:20 p.m. DH 135

**Instructor:** Professor Richard Sedlock

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DH 223 Office hours: M 1:30–3:30p, T 1–3p, and by arrangement

Course Web site: <http://geosun.sjsu.edu/~sedlock/10/10.html> [[bookmark this!](#)]

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## Required texts

*Foundations of Earth Science* Lutgens & Tarbuck, Prentice Hall, 3rd edition; if you're desperate, you probably can get by with the 3rd edition, though it lacks some key additions.

*Course Notes* Print these .pdf files from the course Web site and bring them to class.

*Web Notes* View these .html files on the course Web site, and follow the embedded links.

**Scope of course:** Geology 10 is an integrated, interdisciplinary study of the Earth, with particular emphasis on the interactions of humans with their environment. This course examines (1) our current knowledge of geology, meteorology, oceanography, and astronomy, (2) the mechanisms, techniques, and tools used in these fields, and (3) how scientific ideas develop.

**Course Objectives:** Geology 10 satisfies the SJSU requirements for GE Areas B1 and B3. Here are some of the ways it addresses the student learning objectives of Area B:

In order to use the methods of science and knowledge derived from current scientific inquiry to question existing explanations, you will explain how the development of plate tectonic theory led to an understanding of the global distribution of earthquakes and volcanoes.

In order to demonstrate ways in which science influences and is influenced by complex societies, including political and moral issues, you will investigate the reactions of scientists, politicians, and media to the prospect of global warming.

In order to recognize methods of science, in which quantitative, analytical reasoning techniques are used, you will use lab skills such as observation, description, classification, map reading, and graphing to understand how such data are acquired and applied in the physical sciences.

## Course Logistics

We'll meet twice a week in the classroom for lecture, discussion, slides, and videos. You'll meet once a week in DH 216 for an inquiry-based lab session.

You must access the course Web site (and other links) to complete some assignments. SJSU provides appropriate computing facilities if you do not have a home Web connection.

Your **first lab meets on February 1st or February 3rd**. Give your lab instructor a \$5 check, payable to SJSU Geology, to help offset copying costs. Much cheaper than a lab manual!

The deadline for dropping a course without receiving a W is **February 14**. After this date, drop requests will be processed only for serious and compelling reasons. Unsatisfactory performance in course work is not considered a serious and compelling reason.

**Evaluation:** Your overall grade combines a classroom grade (67%) and a lab grade (33%). The classroom component of your grade is based on the following:

In-class 1-minute papers	10%
Exams (2) (3 Mar, 14 Apr)	40%
Final exam (Tues 24 May, 9:45 a.m.)	20%
Papers (3)	30%

In-class 1-minute papers work this way: At most class meetings, I will assign reading, Web sites, or other homework for the following class period. At the beginning of each class period, I may ask you to answer a question in writing, to be turned in immediately. I will not do this every day, but you will not know in advance whether I will do so. The goal of these papers is to encourage you to (1) attend class, and (2) prepare for class.

All exams will include essay, short-answer, and multiple-choice questions. No Scantron!

Webquests are semi-guided investigations of key issues involving Earth and humans. For each, you will write a short (1.5–2 pages) paper that I will evaluate for both content and writing quality. You can revise and resubmit a Webquest to improve your grade on the writing component only.

No “extra-credit” options.

If you miss an exam, your final exam will consist of the regularly scheduled final PLUS a mostly essay-style exam that covers the missed exam. Try not to miss an exam; based on the performance of your predecessors, it’s difficult to score well on such a “double-final.”

The lab component of your grade will be determined solely by your lab instructor and reported to me at the end of the semester.

To determine your final grade for the course, I will combine a letter grade that reflects your lab performance (1/3 of the final grade) and a letter grade that reflects your performance in the classroom component of the course (2/3 of the final grade). Generally, A/B/C/D boundaries for the classroom component are 85%, 73%, and 60%.

To pass this course, you must pass (receive at least a D in) BOTH the classroom and laboratory components. You will receive an F for the entire course if you receive an F in either component. If you miss more than 3 lab sessions, you will not pass the lab and, thus, you will fail this course.

If health or learning issues may affect your performance in the class, be sure you are registered with the Disability Resource Center (Administration 110, 924-6000).

## Grading Rubric for Written Assignments

Your papers will be graded according to the following rubric. As specified in the guidelines for GE courses, I will assess not only the content but also the quality of your writing. The final grade on an assignment will be determined by adding the content and writing scores (i.e., out of 10 possible points).

<b>score</b>	<b>~grade</b>	<b>Content criteria</b>
5	A+	Outstanding response with superior supporting examples or evidence; unusual insights, creative and original analysis, reasoning, and explanation; superior mastery of content; goes well beyond minimum required for the assignment.
4	B+	Good, solid response that uses excellent supporting examples or evidence; excellent reasoning and explanations; goes beyond the minimum required for the assignment.
3	B-	Good, solid response that meets minimum required by assignment. Reasoning and explanations are adequate.
2	C-	Response is accurate but cursory, and does not meet the minimum required for completeness; some inaccuracies or reasoning flaws; response is too general, lacks specific evidence.
1	D	Response doesn't effectively address the question; response fails to support assertions with data or examples; major flaws in reasoning; explanations are unclear; displays inadequate understanding of content.
0	F	Response is missing or not submitted, or does not address the question.

<b>score</b>	<b>~grade</b>	<b>Writing criteria</b>
5	A+	Meets criteria for 4, plus demonstrates superior grammatical correctness and sense of personal style. Effortlessly readable prose.
4	B+	Very effective organization of paragraphs and paper; interesting, varied sentences; good grammar (usage, punctuation, etc.); few spelling mistakes; does not read like a first draft.
3	C+	Reasonably effective organization of paragraphs and paper; serviceable prose; numerous errors of grammar or spelling; reads like a first draft.
2	C-	Somewhat structurally disorganized; paragraphs lack topic sentences or are not developed effectively; awkward sentence structure; grammar and spelling errors are numerous, distracting, and serious.
1	D-	Similar to 2, but even harder to read.
0	F	Uncited, unattributed work (i.e., plagiarism) OR any content, in any form, from a pay-by-the-page service. In each of these circumstances, your paper will be forwarded to the appropriate SJSU office.

I EXPECT you to read and abide by the  
following guidelines for all written assignments:

**Formatting**

Your papers should be printed on a computer printer using the following standard format (see me if your printer cannot cope with these requirements):

Do not use a folder or plastic cover.

*Double-space* the entire manuscript, and leave *1-inch margins on all sides* of the page.

Use a *12-pt font*, preferably Times New Roman (*NOT Courier*).

Single-space your name, the date, and “Geology 10” in a header at the top of page 1. Follow this header with the title of your paper. Do not use a separate title page.

Number all pages, and staple the paper in the upper left corner.

**College-Level Writing**

Any papers you write for this course will be research-oriented, and thus should NOT contain:

- (1) conversational passages such as “Have you ever wondered why xyz?”
- (2) casual references to “you” (the second person), as in “When you look at xyz.”
- (3) slang or other overly informal expressions;
- (4) filler words that can be omitted without loss of meaning; for example,  
“There are several factors that affect xyz” should be “Several factors affect xyz.”

**Direct Quotes**

Avoid direct quotes wherever possible, which should be in almost all cases. Direct quotes show no thought, analysis, or other higher-level skills on your part, and do nothing to convey your understanding of the content. The more direct quotes you use, the lower grade you will earn.

**Academic Integrity**

The university maintains a strongly worded policy regarding academic integrity. READ IT at <http://www2.sjsu.edu/senate/S04-12.htm>. Plagiarism (presenting someone else's work as your own) and cheating will earn you an F and endanger your chances of passing the course, of retaining any academic or athletic scholarship you currently receive, and of remaining enrolled at this university.

**Provisional Schedule**  
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**Jan**

27 Introductions, logistics; Earth as a system

**Feb**

1	Red shift, Big Bang, origin/fate of universe	Ch 11,15
3	Sun-Earth connections, intro ( <b>assign WebQuest 1</b> )	Ch 11,15
8	Sun-Earth connections 2	Ch 15
10	Stars	Ch 15
15	Solar system; Solar system	Ch 16
17	Plate tectonics: history ( <b>WebQuest 1 due</b> )	
22	Plate tectonics: history (cont), plate boundary types	Ch 5
24	plate boundary types, conclusion; Earth's interior	Ch 5

**Mar**

1	Discuss WebQuest; EQ intro	
3	<b>Exam #1</b>	
8	Discuss exam; Earthquakes	Ch 6
10	Earthquakes, Earthquake hazards	Ch 6
15	Earthquake hazards ( <b>assign WebQuest 2</b> )	
17	EQ hazards, conclusion	
22	Volcanoes; volcanic hazards (slides)	Ch 7
24	Volcanic hazards, conclusion (video)	Ch 7
29/Apr 1	Spring break	

**Apr**

5	Minerals; rocks; natural resources & energy ( <b>WebQuest 2 due</b> )	Ch 1, 2
7	The rock cycle	
12	Groundwater	Ch 3
14	<b>Exam #2</b>	
19	Discuss exam; Surface water	Ch 3
21	Groundwater (concl); Oceans intro	Ch 3,10
26	Oceans, conclusion; Atmosphere: introductory stuff, ozone intro ( <b>assign WQ3</b> )	Ch 10
28	Atmosphere: ozone, Sun-Earth (seasons)	Ch 11

**May**

3	Atmosphere: review, temperature differences	Ch 12
5	Clouds & precipitation; fog; intro to wind	Ch 12,13
10	Global warming; SOTEs ( <b>WebQuest 3 due</b> )	
12	Winds, weather patterns; extreme weather	Ch 14
17	El Niño/La Niña	
24	<b>Final exam (9:45-noon)</b>	