

GEOLOGY 10

De Anza College

Sections 01,02,03

Lectures: M - Th, 10:30-11:20am

Labs: T, W, Th, 1:30-4:20pm

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CLASS WEBSITE:

<http://nebula2.deanza.edu:16080/~marek/geology/index.html>

TEXTBOOKS & MATERIALS

Essentials of Geology, 4th edition by Steve Marshak

Geology 10 laboratory manual by Hay, Harding, and Cichanski

Materials you should have:

Pencils:

You'll be DRAWING a lot in this class, and pens won't work very well. In addition to a regular black pencil, bring two colored pencils on the field trip.

Optional:

Hand Lens
(available at bookstore, may be called a 'loupe'.)

Calculator:
Doesn't have to be fancy.
(note: cell phone calc's not allowed on tests)

STUDENT LEARNING OUTCOMES

You'll be learning a lot about how the Earth works this quarter. You'll also learn a lot about how a large college course like this works. Here are some specific things your instructors want to help you do; we hope that doing these things enables you to become a more scientifically aware citizen, and gets you excited about science no matter what your eventual path in life!

When someone proposes a *hypothesis* as to how the Earth works, *evaluate* that hypothesis using something called the *scientific method* - this is a way of thinking about the world, which minimizes the chances of getting fooled.

The Earth is an ever-changing system, and it's a good idea to be able to *track* those changes, and to *predict* future changes, using data and observations.

Changes in the outer part of the Earth (which we refer to using terms like *crust* and *lithosphere*) aren't just about making predictions, they're also about *determining geologic history*. As a geologically literate person, you'll want to be able to do this by examining the world at a variety of scales, from rocks that would fit in your hand to maps and datasets covering large regions of the Earth.

As a scientifically knowledgeable citizen, it is desirable for you to be able to analyze the impact that the Earth has on humanity; this includes both natural hazards and the availability, use, and distribution of the Earth's resources.

Geology 10 lecture schedule, Fall 2015 Day Class

Important: Dates of TESTS are fixed, but the *lecture topics* (shown in *italics*) are tentative. For example, we may or may not cover "Observatories..." on Oct. 15th, depending on how quickly we cover the preceding material.

Each test covers the material since the last test.

Final Exam is comprehensive - it covers the whole quarter.

		MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Wk. 1	Sep	21 <i>Introduction, Goals, Procedures</i>	22 <i>Earth's origin and layers</i>	23 <i>Minerals vs. Rocks Mineral Properties</i>	24 <i>How minerals work: Atoms and bonding</i>	25	26
Wk. 2	Sep/Oct	28 <i>More chemistry of minerals</i>	29 <i>Mineral classes and silicate minerals</i>	30 <i>Igneous rocks: Textures, compositions, and origins</i>	1 <i>Melting and crystallization</i>	2	3 Last day to add
Wk. 3	Oct	5 <i>Volcanoes</i>	6 <i>Volcanic Hazards</i>	7 <i>Weathering and erosion</i>	8 <i>Origin of sed. Rocks, Sed structures</i>	9	10
Wk. 4	Oct	12 TEST 1	13 Review Test 1	14 <i>More sed structures, Chemical sed. rocks</i>	15 <i>Oil Geology</i>	16 Last day to apply for Pass/No Pass grading	17
Wk. 5	Oct	19 <i>Metamorphic Rocks</i>	20 <i>Relative Dating, Unconformities</i>	21 <i>More Unconf's, Correlation</i>	22 <i>Isotopic Dating</i>	23	24
Wk. 6	Oct	26 <i>Rock deformation, Dip-Slip Faults</i>	27 <i>More dip-slip faults, strike-slip faults</i>	28 <i>Folds, foliation, mountain building</i>	29 <i>Earthquakes: Faults and elastic rebound</i>	30	31
Wk. 7	Nov	2 TEST 2	3 Review Test 2	4 <i>Earthquakes: Measurement and magnitudes</i>	5 <i>Earthquake Hazards</i>	6	7
Wk. 8	Nov	9 HOLIDAY	10 <i>Earth's Interior: Core, Mantle, and Crust</i>	11 <i>Earth's Interior: Gravity and Isostasy</i>	12 <i>Continental Drift Paleomagnetism</i>	13 Last day to drop with "W" grade	14
Wk. 9	Nov	16 <i>Ocean Basins and Seafloor Spreading</i>	17 <i>Convergent Plate Boundaries</i>	18 <i>Transform Plate Boundaries and hot spots</i>	19 <i>Streams 1</i>	20	21 Field Trip (also 11/22)
Wk. 10	Nov	23 TEST 3	24 <i>Streams 2</i>	25 <i>Groundwater Basics</i>	26 HOLIDAY	27 HOLIDAY	28
Wk. 11	Nov/Dec	30 <i>Groundwater Contamination and Cleanup</i>	1 <i>Caves and Karst</i>	2 <i>Glaciers: formation, flow</i>	3 <i>Glaciers: Landforms and deposits</i>	4	5
Wk. 12	Dec	7	8	9	10 FINAL EXAM 9:15 - 11:15	11	12

For reading assignments, go to:

<http://nebula2.deanza.edu:16080/~marek/geology/calendar.html>

Geology 10 LAB schedule, Fall 2015 Day class

	<i>Description</i>
Wk. 1	<i>No lab this week</i>
Wk. 2	Lab on mineral identification
Wk. 3	Rock textures
Wk. 4	Rock identification
Wk. 5	Quiz on rock and mineral i.d. * Lab on geologic time
Wk. 6	Topographic Maps
Wk. 7	Lab on Seismology
Wk. 8	Quiz on geol. time, topo maps, and seismology Geologic maps and cross-sections
Wk. 9	Lab on anticlines and synclines
Wk. 10	<i>No lab this week</i>
Wk. 11	Quiz on geologic maps, x-sec's, folds Lab on Plate Tectonics

* The lab quiz on rock and mineral i.d. (Week 5) is open-lab-book. The other three lab quizzes (and the lecture tests and the final) are closed-book, closed-notes.

GRADES

step 1:

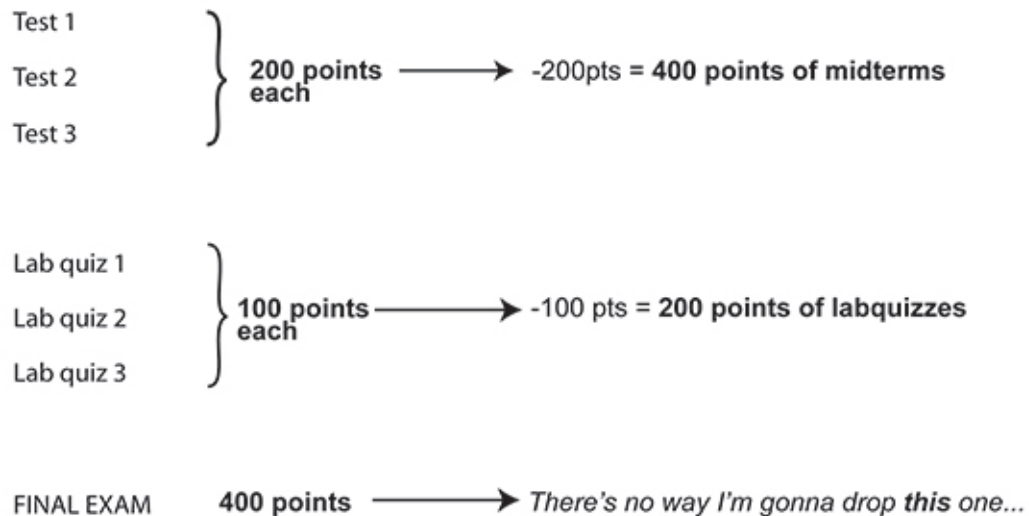
You take various tests and quizzes, and do assignments

step 2:

I drop the lowest midterm and lab quiz

step 3:

I calculate the final grade.



Your final percentage =

The points you earned, after dropping lowest scores as described at left

1000 possible points

I then round your final percentage to the nearest whole percent, and use the following grading scale:

Notes:

1) A %-age like 88.7 rounds to an 89, so it's an A.

2) If your final %-age is in a "grey area", such as 88.3%, I evaluate your field trip writeup, to decide whether or not to "bump you up".

89-100	A
79-88	B
68-78	C
57-67	D
<57	F

If something causes you to miss a test or quiz, that will be the one that you drop.

I'm afraid my schedule won't allow me to give you a final at a different time in order to fit your vacation.

You'll need to plan around the final.

Geology 10 Class Rules and Guidelines

During the first few weeks of class, I will collect state-mandated class attendance data using a sign-in sheet and/or seating chart.

ADDING THE CLASS:

If you add the class, make sure that your add code has worked, and that you have been properly added to the class. If not, it is your responsibility to check with the Admissions/Records office to find out how this can be corrected. After the end of Week 2, the College CAN NOT process a late add, and you could find yourself not enrolled and not receiving a grade for the course, if you're not registered!

DROPPING THE CLASS:

I would like to see everyone complete the course, earn a good grade, and become excited about science. However, the realities of life sometimes get in the way.

You should assess your situation realistically throughout the quarter.

If you decide to drop the class, you must do so by the final date to drop with a "w", or you risk receiving an "F" if you haven't earned enough points to pass the class.

Let me re-emphasize that: If you decide to drop the course, it is *your* responsibility to go to the registrar and drop yourself. The deadline is the end of the eighth week.

VERY IMPORTANT INFORMATION ABOUT DROPPING AND THE END OF THE QUARTER:

For many years, De Anza students have been given the impression that "your instructor can drop you" after the end of the 8th week. THIS IS CHANGING! We are no longer allowed to give a "W" on the final grade form. Additionally, I will NOT be able to drop you using a blue 'Addendum to Class List' form after the end of the 8th week. If you have a personal hardship after the end of the 8th week, you will have to request a "Late Drop" using a white form called "Petition for Exception to Registration Policies", which will be evaluated by the Registrar and/or the Academic Council.

CLASS ENVIRONMENT:

Remember that we have all chosen to be in this class. We should thus have an environment that fits this choice.

Talking to your neighbor(s) while I'm lecturing, reading non-course material in class, doing outside homework, and using wireless devices of any kind* are not allowed in class, and may result in dismissal for the remainder of the class period. Such dismissal will count as an absence.

TESTS:

After you start working on a test or quiz, you must hand it in before leaving the room.

If you arrive late for a test or quiz, you won't be given extra time to finish it.

On tests and quizzes, once the first person has turned it in and left the room, no further latecomers will be given tests.

* this means that you won't be able to use the calculator on your cell phone during tests and quizzes. You'll need to get a separate calculator if you want to use one on tests and quizzes.

NOTICE:

Cheating on any exam or project is grounds for a failing grade in the class and a permanent note to a student's file. "Cheating" is defined (in this course) to be an effort by a student to obtain a grade by any means other than demonstration of that student's individual achievement in mastering the class material and/or fulfilling terms of a project.

Further grounds for expulsion from the class include any activity which interferes with others' ability to benefit from the class (such as chronic distracting behavior) or which degrades the classroom's function or environment.

NOTE: For complete information on the field trip (including directions to the field trip stops), go to:
<http://nebula2.deanza.edu:16080/~marek/geology/fieldtrip.html>

Geology 10

Sections 01, 02, 03

Field Trip

Make sure you read and examine ALL of the information on this page! Scroll down to the bottom and read everything, and examine all of the clickable links, before you ask me a question about the field trip. Your question is very likely to be answered somewhere on this page!

Fall 2015, sections 01,02,03: You will go on EITHER Saturday, November 21st, OR Sunday, November 22nd.

Here's the deal with the field trip:

- Until 2008, De Anza College was able to afford buses for the field trip. Students used to meet at school on the morning of the trip, and the buses would take them on the trip.
- Unfortunately, the late-2000s / early 2010s California budget crisis put an end to the buses. The school decided it can no longer afford buses. Your instructors wish this were otherwise, but there is nothing they can do about this.
- So, we'll meet at 10 am on the day of the trip at Stop 1. This is along Skyline Blvd (a.k.a. CA Hwy 35), near the Hayne Rd. exit from Hwy 280.
- If you are unable to make it to the field trip (e.g. if you are sick that day), you'll finish the rest of the course, and temporarily get an Incomplete grade, until you go on the field trip with the next quarter's class. At that time, your grade will be changed to the grade you earned from your tests, quizzes, and assignments.

Field Trip Sites – our temporary outdoor classrooms:

In order to understand the Earth and its history, geologists don't just work in a laboratory or in front of a computer – they go out and study the Earth first-hand.

We'll study the geologic history of the Bay Area and the methods of geologic field work at four sites, which are shown in the Google Maps links above: Skyline Road, Mussel Rock, Montara State Beach, and the Seal Cove / Moss Beach neighborhood.

For this class, De Anza College has adopted these public places as **temporary outdoor classrooms**. You will be responsible for commuting to these temporary outdoor classroom sites, just as you would normally commute to class in Cupertino.

We'll start doing geology at 10am at Stop #1, along Skyline Road, and we should finish our work at Seal Cove / Moss Beach by 4pm.

Liability Release:

Before the field trip, you'll need to sign this release form:

(click to enlarge)

I'll give you a copy of this form to sign, probably during the week before the field trip.



I know what you're thinking: ``Wait...what? What's this about *voluntary*? Does it mean I don't have to go?" Nope. If you want to pass the class, you have to go on the trip. When the Risk Management office first started requiring these forms, I asked about this, and was told that "registering for the class = volunteering to go on the field trip". So, if you're sure you don't want to sign a form like this, then you shouldn't register for this class.

Americans With Disabilities Act (ADA) Exemption from Field Work:

Students with physical limitations or other special needs that would preclude participation in fieldwork will be given an appropriate alternate assignment. Every reasonable accommodation will be provided so that all students can participate and benefit from the field experience. If you have questions or concerns regarding access and participation issues please contact your instructor. This exemption only applies to students with documented disabilities that have been verified through the Disabled Students Program & Disability Support Services Office at De Anza College.