

GEOL 100: Environmental Earth Science

Fall 2008

Lecture:	Tuesdays and Thursdays 10:30 - 11:45 am MLH 100	Lab:	Friday Sec 3 8:00 am – 10:00 am MLH 110 Friday Sec 1 10:30 am – 12:30 pm Friday Sec 2 1:30 pm – 3:30 pm
Instructor:	Tom C. Walker Talkington Hall 218 792-2798 tcwalker@lscs.edu	Office Hours:	M & W 9:00 am – 12:00 pm Tu & Th 12:00 pm – 2:00 pm By appt. Any time
Teaching Assistants	Vince Isakson (coordinator)	vhisakson@lcwarriormail.com	
Class website & grades:	Syllabus: http://www.lscs.edu/tcwalker Class web: Log into your LCMail account http://partnerpage.google.com/lcmail.lscs.edu	Grade book: Log into your LCMail account http://partnerpage.google.com/lcmail.lscs.edu -Click on GEOL100 class -Click on grades -Note that this grade book is an <u>estimate</u> of your grade!	

Texts A text and lab book are required for this course: (1) Tarbuck and Lutgens, 2008, *Earth, an Introduction to Physical Geology 9st ed.*, Upper Saddle River, NJ, Prentice Hall, 714 p. (ISBN 0-13-156684-9); (2) Hall et al., 2007, *Exploring the Dynamic Earth: GIS Investigations for the Earth Sciences ArcGIS ed.*: Belmont, CA, Thomson Brooks/Cole, 142 p., (ISBN 0495115096).

Objective This class will teach you to observe and interpret the interconnected systems of the Earth, by giving you the chance to make personal observations of real rocks and processes, and by giving you an intellectual context within which to evaluate those observations.

You will learn how science works by experiencing how geologists study the workings of the Earth. As in any science, the "answers" do not come down from the sky, engraved on stone tablets; we must extract the answers (and even the questions!) directly from the stones themselves.

Access The Earth is a wonderful place. We all live here, and we should all have access to learning about it. I am committed to make this course accessible to all students, regardless of any physical, mental, or social challenges. We will go into the field, and we will observe rocks, water, air and other Earth materials. However, there are more ways of getting to the field than walking, if you are unable; and more ways of observing than using your eyes, if you can't see, for example. If you feel there is *any* condition within you or within the class that impedes your ability to participate in the class, please let me know so that we can remove or circumvent the impediment. You may speak to me before or after class, in office hours, by e-mail, or any other way that meets your needs.

Curricular Context This class satisfies the Distributive Component of the LCSC Core Curriculum. The goal of the Distributive Component is to ensure a minimum of "breadth" in knowledge of the contents of representative arts, social sciences, and natural sciences disciplines.

Academic Honesty In the event of academic dishonesty, those involved will be disciplined to the fullest extent possible. This includes receiving an "F" grade for the course and referral of the violation of the *Student Code of Conduct* to the Vice President for Student Affairs (see *LCSC Student Handbook*, page 26). As defined on pages 32-33 of the *LCSC Student Handbook*, Academic Dishonesty is any of the following:

- ***Cheating*** – intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise. The term academic exercise includes all forms of work submitted for credit hours.
- ***Fabrication*** – intentional and/or unauthorized falsification or invention of any information or the source of any information in an academic exercise
- ***Collusion*** -- facilitating academic dishonesty -- intentionally or knowingly helping or attempting to help another to commit an act of Academic Dishonesty.
- ***Plagiarism*** -- the deliberate adoption or reproduction of ideas or words or statements of another person as one's own without acknowledgment.

Attendance, participation, and due dates

Attendance and participation in this class is mandatory. You will receive a zero for any material that is not turned-in during class time on the due date. All assignments are due on the date assigned. The only exception to this policy is a documented emergency or other extenuating circumstances for which you make prior arrangements with me. This may be done via email, phone, or in person.

Other stuff

- I recognize the wide variety of backgrounds you bring to this course. Feel free to stop me at any time during class to ask questions. If you are having difficulties that are too extensive to be solved during class time, contact me by phone or e-mail or come to my office during office hours.
- A standard benchmark for studying for a college science class is 2-3 hours of work outside of class for each hour in class. This includes reading in your text book and looking over note sets ahead of class.
- You are part of an institution with an Honor Policy. This class is about sharing ideas. However, I consider it a violation of the college's academic honesty rules for any student to use any material from a previous GEOL100 class.

Activities

Laboratory Exercises

Most of the work, and most of the points, in this class come from practical exercises in the laboratory and in the field. You learn about earth materials and processes best when you experience them first hand. LCSC is located in an ideal natural laboratory for learning about the Earth, and we will use our immediate environment as much as possible. To prepare you to get the most out of each exercise, there is some **Pework** to be completed before you come to lab. This material and a description of the activity for each lab will be available the week before the lab on the class website. **It is your responsibility to download the prework and lab activity before each lab session and bring the materials to lab.** Please see me or one of the TA's ASAP if you need assistance with finding and downloading the materials. For each lab, a written **Report** is due at the end of the lab period. The only exception to this rule is to communicate with me or one of the TA's during lab and work out another time that will allow you to finish the lab. I do drop one lab at the end of the semester. If you miss a lab, this will be the one I drop. If you turn in all labs, I will drop the lowest one.

Required field trip

On Saturday, October 20 we will take a full-day field trip to examine the geology of the Lewiston Basin. A trip report will be due following the field trip. If you have a schedule conflict on this day, please see me about a writing make-up exercise.

Examinations

There will be **two lecture midterm examinations** that will cover material delivered in the first 12 weeks of the semester and a **lecture final examination** that will cover all the material in the course. These will be in a mechanically graded, multiple-choice format. There will also be a **lab midterm** that will cover mineral and rock identification and map skills.

Evaluation

Your final grade will be based on:

Lecture participation	5%
Lab Exercises (12 labs)	30%
Field trip	10%
Lecture midterm I	12.5%
Lecture midterm II	12.5%
Lab exams	15%
Final Exam	15%
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TOTAL	100%

Grade Scale

		A	100.0-93.3%	A-	93.2-90.0%
B+	89.9-86.7%	B	86.6-83.3%	B-	83.2-80.0%
C+	79.9-76.7%	C	76.6-73.3%	C-	73.2-70.0%
D+	69.9-66.7%	D	66.6-63.3%	F	<63.3%

Important academic dates:

The last date to withdraw from this course without a W on your transcript is Sept. 8

The last date to drop this class without a permanent entry on your transcript is Oct.31

After that date, withdrawal is permitted by petition only and approval of the division chair. The division chair requires documentation of extraordinary circumstances that prevented you from withdrawing by the deadline.

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Course Outline, Fall 2008- *note: this schedule will change! Check class website often!*

Week	Date	Topic	Textbook	Download from class website	Important Information
1	T 8/26	Intro to the Earth - structure	Ch 1		
	TH 8/28	Intro to the Earth - plate tectonics	Ch 1, 2		
	Lab	Exploring the Dynamic Earth, tectonics	Unit 1	Exercise 1	
2	T 9/2	Intro to the Earth - plate tectonics	Ch 2		
	TH 9/4	Intro to the Earth - plate tectonics	Ch 2		
	Lab	Exploring the Dynamic Earth, tectonics	Unit 1 cont	Exercise 1 cont.	
3	T 9/9	Plate tectonics - a scientific revolution	Ch 2		
	TH 9/11	Plate tectonics - a scientific revolution	Ch 2		
	Lab	Exploring the Dynamic Earth - seafloor	Unit 2	Exercise 2	Exercise 1 due
4	T 9/16	Plate tectonics; Minerals	Ch 2 & 3		
	TH 9/18	Minerals	Ch 3		
	Lab	Mineral Identification		Exercise 3	Exercise 2 & 3 due
5	T 9/23	Igneous rocks	Ch 4		
	TH 9/25	Igneous rocks; Sedimentary rocks	Ch 4 & 7		
	Lab	Igneous rock identification		Exercise 4	
6	T 9/30	Sedimentary rocks	Ch 7		
	TH 10/2	Metamorphic rocks	Ch 8		
	Lab	Sedimentary & metamorphic rock ID		Exercise 5	
7	T 10/7	Weathering & Soils	Ch 6		
	TH 10/9	Lecture Midterm 1 Examination			
	Lab	Atlas field trip		Exercise 6	
8	T 10/14	Geologic time	Ch 9		
	TH 10/16	Geologic time	Ch 9		
	Lab	NO LAB THIS WEEK			
	Sat 10/18	<i>Saturday Field Exercise - 8:45 am in library parking lot (back by 5:00 pm)</i>		Print field exercise in 'Lab materials'	
9	T 10/21	Topographic maps	-		
	TH 10/23	Geologic maps	-		
	Lab	Topo and geologic maps		Exercise 7	
10	T 10/28	Mass wasting	Ch 15		Study mineral, rock, and map sets on reserve in library
	TH 10/30	Mass wasting	Ch 15		
	Lab	Lab Midterm Examination			
11	T 11/4	Streams	Ch 16		
	TH 11/6	Streams	Ch 16		
	Lab	Local mass wasting hazards		Exercise 8	
12	T 11/11	Lecture Midterm 2 Examination			
	TH 11/13	Groundwater	Ch 17		
	Lab	Hell's Canyon geology		Exercise 9	
13	T 11/18	Groundwater	Ch 17		
	TH 11/20	Volcanoes	Ch 5		
	Lab	Roadtrip to the dump!		Exercise 10	
14	T 11/25	NO CLASS!! Thanksgiving Break			
	TH 11/27	NO CLASS!! Thanksgiving Break			
	Lab	NO CLASS!! Thanksgiving Break			
15	T 12/2	Volcanoes	Ch 5		
	TH 12/4	Crustal deformation	Ch 10		
	Lab	Exploring the Dynamic Earth, Volcanos		Exercise 11	
16	T 12/9	Earthquakes	Ch 11		
	TH 12/11	Earthquakes	Ch 11		
	Lab	Exploring the Dynamic Earth, Quakes		Exercise 12	
17	T	LECTURE FINAL EXAM!!	MLH 100, 10:30am		