

Earth's Environments

Geology 120, Spring 2007

Instructor: Dr. Laura Moore

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Office hours: Mon. 4:00 - 5:30

Thurs. 11:00 - 12:00

or, by appointment

Lectures: Tues. & Thurs.

9:35 – 10:50

Severance 108

Lab sections: Tues.

1:30 – 4:30

Carnegie 212

Wed.

1:30 – 4:30

Carnegie 212

Required Book and Lab Manual:

Marshak, Steven, 2001. *Earth*, New York: W.W. Norton and Company Inc.

Course Overview and Goals: Welcome to Earth's Environments! In this course we will study the internal and external features of the Earth emphasizing geologic hazards, Earth resources and the unifying theory of plate tectonics. We will study Earth materials and processes firsthand in lab and on local field trips. After successfully completing this course you will look at the world through a geologist's eyes be able to:

- Decipher the general geologic history of an area based on rocks and relationships between rocks.
- Read and analyze topographic maps.
- Predict local geologic hazards and impacts based on a regional understanding of plate tectonics and local geology.
- Explain the origin of various Earth resources such as water, ore minerals and describe the concepts of "mining" and "sustainability."

Blackboard: I will post Powerpoint lectures on Blackboard. Please use these postings freely for review purposes but please also be aware of the copyright rules that apply (see front page of Blackboard for details).

Lab Fees: The Geology Department requests that each student contribute \$10 to help defray the cost of lab supplies and vehicle rental for field trips. This fee may be paid in cash or by check made payable to Oberlin College. **Please remit to Retha Ball in Carnegie 417 by March 22nd** (the day I expect to return your first exam).

Assignments: All reading assignments are required and I recommend that they be done *prior* to class. Laboratory exercises are to be completed during the lab time and handed in. They are to be completed individually, but working with others is expected and encouraged. There are three lab field trips denoted by "**FT**" below. Please dress appropriately for the weather, come prepared to do some walking and arrive on time. **All field trips will depart promptly from the parking lot behind Carnegie.** All exams are to be taken at the scheduled times unless there are extenuating circumstances. Please note that the final exam date and time are not flexible so please make your travel plans accordingly.

Grade Point Distribution: Class Participation - 5%, Exam 1 - 20%, Exams 2 & 3 - 25%, Labs - 25%

Class Schedule (Subject to Change as Necessary):

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Day	Date	Topics Covered	Reading	Lab Topic
T	2/6	Course Intro; Earth's Origin and Composition	Prelude, Ch. 1	Lab starts week 2- L. Moore at meeting
Th	2/8	No Class		
T	2/13	Minerals and Structure of Earth's Interior	Ch. 2	Crystal Chemistry and Properties Ch. 5
Th	2/15	Sea Floor Spreading	Ch. 3	
T	2/20	Plate Tectonics	Ch. 4	Mineral Identification
Th	2/22	Magma and Igneous Rocks	Ch. 6	
T	2/27	Volcanoes	Ch. 9	Igneous Rocks Mineral Quiz*
Th	3/1	Weathering, Erosion and Sedimentary Rocks	pp. 165-176	
T	3/6	Sedimentary Systems	Ch. 7	Sedimentary Rocks
Th	3/8	Metamorphic Rocks & the Rock Cycle	Ch. 8 Int. B	
T	3/13	EXAM I (through Sed. Systems)		Metamorphic Rocks
Th	3/15	Rock Deformation	Ch. 11	
T	3/20	Earthquakes and Seismic Hazards	Ch. 10	Structure Rock Quiz*
Th	3/22	Time told in Rocks – Strata & Fossils	Int. D, pp. 365-377	
SPRING BREAK				
T	4/3	Geologic Time and Determining the age of the Earth	Ch. 12	Fossils
Th	4/5	Hydrologic Cycle, Ground Water, Caves and Karst	Int. E, Ch. 19	
T	4/10	<i>Cadillac Desert</i> Part I – 9:15**		Water Treatment Plant (FT)
Th	4/12	Running water: Rivers and Streams	Ch. 17	
T	4/17	Floods and Pollutants		Stream Gauging (FT)
Th	4/19	Oceans and Coasts	Ch. 18	
T	4/24	EXAM II (through Floods/Pollutants)		Topographic Maps and Landforms
Th	4/26	Mass Wasting and Slope Processes	Ch. 16	
T	5/1	Glaciers and Ice Ages	Ch. 22	Cascade Park (FT)
Th	5/3	Earth's Changing Climate	p.649-656, Ch. 23	
T	5/8	Earth Resources: Ore Deposits	Ch. 14	Lab Final
Th	5/10	Earth Resources: Fossil Fuels	Ch. 15	
Th	5/17	FINAL EXAM (2 pm) - 75% through Fossil Fuels, 25% cumulative		

Honor Code: Please remember that Oberlin students are bound by the honor code. Details of the Honor Code are located at <http://www.oberlin.edu/students/links-life/rules-regs.html#honor>. In this class all exams and quizzes are to be completed individually. Students may work together on lab assignments as long as each student works on all aspects of the assignment and is responsible for their own answers. Be sure to write and sign the honor code statement on each exam, quiz and lab assignment.

Services for Students with Disabilities: If you are a student with a documented disability who will require accommodations in this course, please register with the Jane Boomer, Coordinator of Services for Students with Disabilities, in Room G 27 Peters Hall, ext. 58467, for assistance in developing a plan to address your academic needs.