

Physical Geology

Geology 141, Oxford College

Fall 2000

Instructor: Scott Pike

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Office Hours: Monday, Wednesday, Friday 9:00am – 9:50am or by appointment.

Class Times and Location

Lecture: Monday, Wednesday, Friday 10:00am or 11:00am

Laboratory: Monday or Wednesday 2:00-5:00pm

Lecture and Labs to meet in Pierce 104

Required Texts

Primary Text: *The Earth, 6th Edition* by Tarbuck and Lutgens, Prentice-Hall Publishers, 1996.

Laboratory Manual: *Laboratory Manual in Physical Geology, 4th Edition* by Busch (ed.), Prentice-Hall Publishers, 1993.

Course Objective: This course is designed to introduce you to the exciting and dynamic field of geology. We will survey the development of geologic theory, the creation of the earth, the earth's composition and structure as well as processes that form and shape its crust. The role of the scientific method and the development of geologic theories as well as the unifying nature of plate tectonics will be stressed. It is hoped that by the end of the course you will have an increased awareness of the geology that surrounds your everyday existence and a greater understanding of and appreciation for the earth sciences.

Course Policies: Class attendance is mandatory and tardiness is not acceptable. Attendance will be taken. No unexcused absences or late arrivals will be permitted without penalty. Students who have an unexcused absence in lab will have their final course grade reduced three points per absence. Lab quizzes cannot be made up. A student who has three or fewer lecture absences for the entire semester will receive two bonus points to their final course average. Students having six or more lecture absences will have their final grade reduced one point per absence starting with the sixth absence. This policy will be strictly enforced because absence from class and tardiness not only lessens your own education, but also can be disruptive to your fellow classmates. A request for an excused absence must be accompanied with an official note on letterhead from your doctor, coach, etc. If you know you will be out of class ahead of time please inform me so that we can determine the best route for you to make up any lost work. Excused absences on exam days will be addressed on a case-by-case basis. There will be no make-up exams offered for unexcused absences on exam days. The use of any tobacco products is strictly prohibited during class or in lab

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sessions. No baseball caps or any other non-religious headwear may be worn during exams or quizzes.

Class Structure: There will be three lectures and one lab session per week. Lectures will be used to introduce geologic concepts and new material. Please note that lectures will supplement reading assignments and not necessarily duplicate them. Therefore, **it is imperative that you read your chapter assignments!** Three quizzes will be administered throughout the semester to evaluate your preparedness for lecture. I also strongly encourage questions and discussions during class time.

The lab exercises are designed to reinforce concepts covered in lecture sessions. You are expected to read the chapters prior to the lab period. There will be a short quiz administered at the start of each lab session on the preparatory reading assignment for that day's lab. At the end of each lab session we will go over the lab assignment. Lab assignments will not be graded. Your understanding of the lab material will be evaluated with two one-hour laboratory exams.

Grading: Grading will be based on two lecture exams, a final exam, lecture quizzes, two one-hour lab exams, lab quizzes and your involvement in discussions and group exercises. The grading scheme is as follows:

Lecture Exam 1	15%
Lecture Exam 2	15%
Final Exam	15%
Lab Exam 1	15%
Lab Exam 2	15%
Lab Quizzes	10%
Lecture Quizzes	10%
Class Participation	5%

The course will use the plus-minus grading system. The distribution of grades is as follows:

A (4.0)	93-100	C+ (2.3)	77-79
A- (3.7)	90-92	C (2.0)	73-76
B+ (3.3)	87-89	C- (1.7)	70-72
B (3.0)	83-86	D+ (1.3)	67-69
B- (2.7)	80-82	D (1.0)	60-66
F 59 and below			

Honor Code: Infractions of the Oxford College Honor Code are taken seriously. Every time you write your name on an assignment you are pledging adherence to the honor code.

Schedule of Lectures, Labs, Exams and Quizzes: A day-by-day outline of the course is listed below along with reading assignments and exam dates. This itinerary is not set in stone and may be adjusted as the course progresses. Also, I may assign additional readings through the Library's reserve system or via the internet.

LECTURE SCHEDULE

Day	Topics	Reading Assignments
W 8/30 F 9/1	Introduction	Chapter 1
M 9/4 W 9/6 F 9/8	<i>Labor Day (no class)</i> Matter and Minerals	Chapter 2
M 9/11 W 9/13 F 9/15	Igneous Rocks Volcanic and Plutonic Activity LECTURE QUIZ	Chapter 3 Chapter 4
M 9/18 W 9/20 F 9/22	Volcanic and Plutonic Activity (cont.)	Chapter 4 (cont.)
M 9/25 W 9/27 F 9/29	Weathering and Soil Sedimentary Rocks LECTURE EXAM #1	Chapter 5 Chapter 6
M 10/2 W 10/4 F 10/6	Sedimentary Rocks Metamorphic Rocks	Chapter 6 (cont.) Chapter 7
M 10/9 W 10/11 F 10/13	<i>Yom Kippur (no class)</i> Geologic Time	Chapter 8
M 10/16 W 10/18 F 10/20	Crustal Deformation Earthquakes LECTURE QUIZ	Chapter 15 Chapter 16
M 10/23 W 10/25 F 10/27	<i>Mid-Semester Break</i> Earthquakes (cont.)	Chapter 16 (cont.)
M 10/30 W 11/01 F 11/3	Plate Tectonics	Chapter 19
M 11/7 W 11/9 F 11/11	Mass Wasting	Chapter 9
M 11/14 W 11/16 F 11/18	LECTURE EXAM #2 No Class Running Water	Chapter 10
M 11/21 W 11/23 F 11/25	Running Water (cont.)	Chapter 10 (cont.)
M 11/27 W 11/29 F 12/1	Groundwater LECTURE QUIZ	Chapter 11
M 12/4 W 12/6 F 12/8	Shorelines	Chapter 14
M 12/11	Shorelines (cont.)	Chapter 14 (cont.)
F 12/15	LECTURE EXAM #3 10:00am class meets from 9:00am-12:00pm 11:00am class meets from 2:00-5:00pm	

LABORATORY SCHEDULE

IMPORTANT NOTE: There will be a quiz at the beginning of every laboratory session!!!

Day	Labs	Reading Assignments
W 8/30	No Lab	
M 9/4	No Lab	Laboratory 1 (read only)
W 9/6		
M 9/11	Minerals	Laboratory 2
W 9/13		
M 9/18	Topographic Maps and Aerial Photography	Laboratory 8
W 9/20		
M 9/25	Igneous Rocks and Volcanic Hazards	Laboratory 4
W 9/27		
M 10/2	Sedimentary Rocks, Processes and Resources	Laboratory 5
W 10/4		
M 10/9	No Lab	
W 10/11		
M 10/16	Metamorphic Rocks, Processes and Resources	Laboratory 6
W 10/18		
M 10/23	No lab	
W 10/25		
M 10/30	LAB TEST AT BEGINNING OF PERIOD	Laboratory 7
W 11/01	Dating of Rocks, Fossils, and Geologic Events	
M 11/7	Earthquakes	Laboratory 15
W 11/9		
M 11/14	No Lab	
W 11/16		
M 11/21	Plate Tectonics	Laboratory 3
W 11/23		
M 11/27	Stream Processes, Landscapes, Mass Wastage and Flood Hazards	Laboratory 10
W 11/29		
M 12/4	LAB TEST AT END OF PERIOD	Laboratory 11
W 12/6	Groundwater Processes, Resources and Risks	
M 12/11	No Lab	