OXFORD COLLEGE

Geology 141 - Physical Geology

Fall 2002

COURSE ANNOUNCEMENTS

Instructor: Dr. Stephen W. Henderson

Office: 106 Pierce Hall

Office Phone: 784-8345

Office Hours: Monday and Wednesday, 10:45 – 12:00
Tuesday 9:30 – 12:00 and other times by appointment or chance. If I'm in I'll be happy to talk to you.

Text: Tarbuck and Lutgens, 1996, The Earth, 6th ed.

Lab Manual: Busch (ed.), 2002, Laboratory Manual in Physical Geology, 6th ed., (AGI/NAGT).

Organization: The class will meet for lecture three times each week: Monday, Wednesday, and Friday at 8:30 or 9:35. There are two laboratory sections that meet from 2:00-5:00 on Monday or Wednesday.

GOALS FOR STUDENTS ENROLLED IN GEOLOGY 141

Geology 141 (Physical Geology) has been designed for either the geology/environmental studies major or for a student who wants an interesting laboratory science course as part of their liberal arts education. As such, no prior background is assumed or necessary; just a desire to learn and an interest in the natural world. Some of the key elements in the study of geology include the scientific method and observational skills. The course will introduce those early in the semester and continue to reinforce them throughout the rest of the term. At the end of the course students will understand how the scientific method applies to geology. Their observational skills will be considerably improved through the analysis of mineral and rock specimens and landscape features. The study of the Earth brings in a number of the other sciences that have a bearing on geology. Concepts of physics are relevant to plate tectonics, the generation of magma, and metamorphic rocks. Students will see how pressures within the Earth influence these processes. Chemistry is especially useful in the understanding of minerals, rocks, and weathering. Students will gain knowledge of basic chemistry as it is applied to mineral and rock composition and how it relates to weathering. Basic mathematical skills will be mastered in the use and analysis of topographic maps. Physical geology involves the study of the building materials of the Earth. Students will understand minerals and be able to identify some. Students will understand how igneous, sedimentary, and metamorphic rocks form and be able to identify a suite of them. The course also involves the internal processes of the Earth. As such, students will understand plutonism, volcanism, structural deformation, and earthquakes. Surface processes are also important in physical geology and students will gain knowledge of weathering, stream processes, glaciation, and coastal processes. Finally, it is my hope that at the end of the course, students

will have developed a deep appreciation for the planet that we live on through an understanding of its geologic nature.

COURSE REQUIREMENTS AND GRADING METHODS

Attendance: All students are expected to attend all scheduled lecture and laboratory sessions. Attendance will be taken. No cuts are allowed in lab. 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 four or fewer lecture absences for the entire semester will receive the addition of two points to the final course average. There are no excused absences. Students having six or more lecture absences will have their final course grade reduced one point per absence starting with the sixth absence.

Grading System: Geology 141 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

Evaluation: Lecture work will comprise 55% of your final average, laboratory will comprise 35%, and class participation in the entire class is 10%. It is broken down as follows:

Highest two half-tests	20%
(Lowest half-test grade is dropped)	
Lecture half-test #1 on 9/13	
Lecture half-test #2 on 10/21	
Lecture half-test #3 on 11/13	
Lecture Exam on 10/4	15%
Final Exam	20%
(08 Section on 18 Dec 9:00am , 09 Section on 12 Dec 9:00am)	
Weekly Lab Quizzes (best 15 of 18)	25%
Lab Exam on 10/28 or 10/30	10%
Class Participation	10%

APPLICATION OF HONOR CODE TO GEOLOGY 141

The Honor Code of Oxford College applies to Geology 141. All quizzes, tests, and exams will be done individually with no non-sanctioned additional materials or help. The laboratory exercises can be done with other students and with the instructor's help. If you are unsure whether or not an action may result in an honor code violation, ask the instructor first. The Honor Code at Oxford College is quite serious.

TENTATIVE LECTURE SCHEDULE AND READING ASSIGNMENTS:

Day	Topic for the Week	Text Assignments
W 8/28	Introduction, Basic Principles,	Chapters 1 & 8
F 8/30	and Geologic Time	
W 9/4		
F 9/6		
M 9/9	Plate Tectonics	Chapter 19
W 9/11		
F 9/13	Lecture half-test #1	
M 9/16		
W 9/18	Mountain Building	Chapter 20
F 9/20		
M 9/23	Minerals	Chapter 2
W 9/25		
F 9/27	Igneous Rocks & Plutonic Activity	Chapter 3 & 4
M 9/30		
W 10/2		
F 10/4	Lecture Exam	
M 10/7	Volcanic Activity	Chapter 4
W 10/9		
F 10/11		
W 10/16	Weathering & Soil	Chapter 5
F 10/18		
M 10/21	Lecture half-test #2	
W 10/23	Crustal Deformation	Chapter 15
F 10/25		
M 10/28		
W 10/30		
F 11/1	Running Water	Chapter 10
M 11/4		
W 11/6		
F 11/8		
M 11/11	Glaciation	Chapter 12
W 11/13	Lecture half-test #3	
F 11/15		

M 11/18		
W 11/20		
F 11/22	Shorlines	Chapter 14
M 11/25		
M 12/2		
W 12/4	Earthquakes	Chapter 16
F 12/6		
M 12/9		

LABORATORY SCHEDULE FOR GEOLOGY 141:

Meeting	Mon.	Wed	Exercises	Quizzes at beginning and end of Lab?
1	9/9	9/11	Observations and Scientific Method	No
2	9/16	9/18	#1 Observing and Measuring	Yes
3	9/23	9/25	#2 Plate Tectonics	Yes
4	9/30	10/2	#3 Minerals	Yes
5	10/7	10/9	#5, 6, 7 Rocks	Yes (on #5)
6	10/21	10/23	#5, 6, 7 Rocks	Yes (on # 6 & 7)
7	10/28	10/30	Lab Exam	
8	11/4	11/6	#9 Topo Maps	Yes
9	11/11	11/13	#11 Stream Processes	Yes
10	11/18	11/20	#15 Coastal Processes	Yes
11	12/2	12/4	#16 Earthquakes	Yes