OXFORD COLLEGE

Geology 142 - Evolution of the Earth

Spring, 2005

Goals for the course: Geology 142 (Evolution of the Earth) has been designed for either the geology/environmental studies major or for a student who wants to complete an interesting laboratory science course sequence as part of their liberal arts education. This course continues the concepts learned in physical geology. Thus, Geology 141 is a prerequisite.

Some key elements in the study of geology include the scientific method and observational skills. The course will introduce these 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 rock and fossil specimens.

The focus of the course is on the history of the earth in context of changing environments. As such, the methods for analysis of Earth history are highly stressed. The students will critically examine the evidence for the interpretation of Earth history throughout the semester. At the end of the course, students will be able to understand the nature of evidence and the basis of scientific interpretations. This will be done through an integration of lecture, laboratory, and field trips.

Much of this evidence is in the form of changes in tectonic plate distribution, changing environments as represented by the rock record, and biological change as seen through fossils. The students will gain a considerable knowledge of biology, ecology, and paleoecology. We will spend time studying modern environments of deposition so that we may interpret past environments as seen in the rocks. The geologic history of North America will be the primary focus. 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 and history.

Course Announcements

Instructor: Dr. Stephen W. Henderson

Office: 106 Pierce Hall

Office Phone: (770) 784-8345

Office Hours: Monday and Wednesday (8:30 – 9:30, 10:45 – 12:00), other times by appointment or stopping by. I'm usually in my office and available.

Text: Levin, The Earth Through Time, 7th ed.

Lab Manual: Gastaldo, Savrda, and Lewis, 1999, Deciphering Earth History, 2nd ed.

Organization: The class will meet for lecture two times each week: Tuesday and Thursday at 10:00 a.m. The laboratory section is from 2:30-5:30 p.m. on Tuesday.

Attendance: All students are expected to attend all scheduled lecture and laboratory sessions. Attendance will be taken. No unexcused cuts are allowed in lab. Lab quizzes cannot be made-up without a valid excuse. Students who have an unexcused absence in lab will have their final grade reduced 3 points per absence. A student who has three 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 five or more lecture absences will have their final course grade reduced one point per absence starting with the fifth absence.

Honor Code: The Oxford College Honor Code applies to this course. If unsure whether or not how a particular assignment falls under the Honor Code, **ask** the professor prior to doing the assignment.

Grading System: Geology 142 will use the plus-minus grading system. The distribution of grades is as follows:

A	93-100	C+	77-79
A-	90-92	C	73-76
B+	87-89	C-	70-72
B	83-86	D+	67-69
B-	80-82	D	60-66
		F	59 and below

Evaluation: Lecture work will comprise 50% of your final average. Lab will comprise the remaining 45%. Class participation 5%.

Highest half-test (lowest half-test grade is dropped) Lecture half-test #1 on 2/8 Lecture half-test #2 on 4/12	15%
Lecture Test on 3/3	15%
Final Exam on 5/5, 9-12	20%
Weekly Lab Quizzes (best 6 of 8)	15%
Lab Exam #1 on 3/8 in Lab	10%
Lab Exam #2 on 4/26 in Lab	10%
Sapelo Field Trip Report or Paper	10%
Class Participation	5%

Tentative Lecture Schedule and Reading Assignments:

Day	Topic for the Week	Text Assignment for the Week
Th 1/20	Introduction, Basic Principles, and Geologic Time	Chapter 1
Tu 1/25 Th 1/27	Sedimentary Rocks and Environments	Chapter 2 and 3
Tu 2/1 Th 2/3		
Tu 2/8 Th 2/10	Lecture Half-Test #1	
Sapelo Island 2/11 – 2/13		
Tu 2/15 Th 2/17	The Fossil Record	Chapter 4
Tu 2/22 Th 2/24	Pre-Cambrian	Chapters 6 and 7
Tu 3/1 Th 3/3	Lecture Test	
Tu 3/8 Th 3/10	Early Paleozoic Geology No Class	Chapter 8
SPRING BREAK SPRING BREAK SPRING BREAK SPRING BREAK		
Tu 3/22 Th 3/24	Late Paleozoic Geology	Chapter 9
Tu 3/29 Th 3/31	Paleozoic Life No Class	Chapter 10
Tu 4/5 Th 4/7	Mesozoic Geology	Chapter 11
Tu 4/12 Th 4/14	Lecture Half-Test #2	

Tu 4/19 Th 4/21	Mesozoic Life	Chapter 12
Tu 4/26 Th 4/28	Cenozoic Geology and Life	Chapters 13 & 14
Tu 5/3		

Laboratory Schedule for Geology 142:

Lab Day	Title of Exercise	Quiz at End of Lab?
1/25	Observation and Scientific Method	No
2/1	#3 Relative Time	Yes
2/8	#1 Description and Classification of Sedimentary Rocks	Yes
2/15	#2 Interpretation of Sedimentary Rocks	Yes
2/22	#8 Fossil Preservation and Taphonomy	Yes
3/1	#10 Early Paleozoic Life: The Cambrian Fauna	Yes
3/8	**Lab Test #1**	
3/22	#11 Later Paleozoic Life	Yes
3/29	#12 Mesozoic and Cenozoic Life	Yes
4/5	#12 Mesozoic and Cenozoic Life	No
4/12	**Field Trip**	No
4/19	Paleoecology Slab Lab	Yes
4/26	**Lab Test #2**	
5/3		