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GEOL 111-01, Earth System Science, Fall 2006

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Geo 111: Earth System Science Fall 2006

Earth System Science is an exploration of the interaction of land, water, air and life through time. This course will focus on the interior processes that shape this incredible planet. This course can be used towards the Earth System Science minor or Environmental Science minor. Successful completion of the course also provides 4 credit toward the Natural Science (with lab) requirement.

Objectives of this course:

1. Improve your powers of observation by identifying rocks and structures
2. Gather and analyze data to interpret the tectonic setting and geologic history of different areas.
3. Analyze an environmental issue in light of principles learned in ESS, make a decision and support that decision.
4. Improve skills of working in groups, giving a power point presentation, and teaching your peers.

Course Information:

Prof. C. Ekstrom, 116E RT, Office Hours: M 9:30-10:30 am, Th 11-12 or by appointment, phone 3089, home phone 458-6180 before 9pm, email: cekstrom@rhodes.edu

Time: Lecture T,Th 9:30-10:45am RT 510, Lab T 12:30-3:30pm 132E RT

Text: Understanding Earth, 5th ed., \$25 lab fee – pick up lab notebook in RT 213 Mon 8/28.

My Expectations of you: This course will involve a combination of lecture, hands-on activities, and group work during *both* lecture and lab meetings. I expect you to attend every class meeting and to be engaged and working during class time. There will be 3 excused absences. A weekend field trip to Ouachita Mountains in AR is required. If you can not attend, you should drop the course now.

It is essential for you to keep up with the assignments and be prepared for each class. Your ability to understand class material is often dependent upon your preparation. In addition, there will be pop quizzes. The power point lectures will be available before class in Acad Dept Pgm folder>Geology>Cekstrom>public. I recommend that you print a handout and bring it to class

I assume that students will work an average ~ 8 hours per week outside of class for a 4 credit course, on reading, assignments and group projects.

Course Evaluation:

The work in lecture and lab is intertwined as closely as possible. You will receive the same grade for lecture and lab. A group grade will be given for the group project with input from the group, the class, and the Prof.

The following point scheme will be used to assign grades:

1.	3 lecture exams	40%
2.	Comprehensive Lab Final	15
3.	Group Project	20
4.	Quizzes, lab reports (4), term paper	<u>25</u>
		Total 100

- Lab reports due at the end of lab. Assignments are due on due date. Late=30% off.
- Contact me before an exam if you are unable to take it, otherwise grade is 0.
- Grades will be posted on WebCT

Group Project: Public Hearing and Debate on Disposal of High Level Radioactive Wastes at Yucca Mtn., Nevada.

Term Paper: details to be announced

Tentative Schedule for Geology 111 Fall 2006

Date	Topic	Assignments
8/ 24	Observations	
29	ESS	Ch 1
31	Gallery Walk ,Choose a Location, & Yucca Mt.	4 questions, Read “We are all Panamanians” & “Indonesian Valve” http://www.ocrw.m.doe.gov/
9/ 5	Name Quiz , The Tectonic System	Ch 2
7	Plate Tectonics	Ch 2, GIS 1.2 , p. 494-500
12	Minerals	Ch 3
14	Igneous Rx	Ch 4 Location Essay due
19	Sedimentary Rx Sed	Ch 5
21	Metamorphic Rx Exam 1 7-8:30pm	Ch 6
26	Rx def	Ch 7
28	Rx def	Ch 7
10/ 3	Time	Ch 8
5	Work on Group Projects for Yucca Mtn.	
10	Evolution of the Continents	Ch 10
12	Geobiology	Chickasaw Bluff report due 9:30am
17	Fall break	
19	Volcanoes	Ch 12
24	Work on Group Projects for Yucca Mtn.	
26	Arkansas Geology	p. 491-495, field guide
28-29	Field Trip to Arkansas --- required	
31	No class	
11/ 2	EQ Exam II 7- 8:30pm	Ch 13 Field Trip Rept. due
7	EQ	Ch 13
9	Earth Interior – magnetic field	Cp 14
14	Cypress Middle School – Mineral ID	
16	Climate Systems and Weathering	Ch 16 Elmwood Rept. due
21	Balance between climate and tectonics	Location Report due.
23	Thanksgiving Break	
28	Human Impacts	Ch 23
30	Public Hearing	Structure Quiz
12/ 5	Debate on Yucca Mt.	
12/9	Lab Final at 5:30pm	
12/13	Exam 111 at 5:30 pm	

Date	Lab	Assignment
8/29	Minerals – What mineral are you wearing	Ch 3
9/5	Igneous Rx and PT	Ch 4 Mineral Quiz
9/12	Sand and gravel field trip	Ch 5, Miss Geo. Survey articles
9/19	Sed rx	Sand & Gravel report due 4pm
9/26	Meta rx and exposures	Ch 6
10/3	Chickasaw Bluffs Field Trip until 4:30 pm	Exposures due 12:30pm, Jibson and Keefer article
10/10	Work on Chickasaw Bluff report	Ch. 16 Rock Quiz
10/24	No lab	
10/31	Work on field trip report.	
11/7	Elements of Geologic Maps	
11/14	Elmwood Cemetery	Ch 16
11/28	Geologic Maps	
12/5	Your Location, Observations	

