Environment of the Earth

GEOL 103 Honors, Spring 2011
T, Th: 11:00-12:15pm
PSC 214

Course objectives: This course describes the earth as a system and the various processes that affect human-kind. It explains the makeup of the earth, its resources and the various uses and misuses of the same. This course will provide you with an excellent background on: (a) basic concepts of geology, rocks, minerals and earth processes; (b) information on natural hazards; (c) the relation between natural resources and pollution and (d) environmental management of human activities and earth resources.

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OFFICE HOURS by appointment [email]

Teaching Assistants: Legna Torres and Walt Anderson

Textbook: *Environmental Geology*, Ninth Edition, Carla W. Montgomery, McGraw-Hill, NY, ISBN 978-0-07-352408-5

Topics:
[1] Foundations of Environmental Geology
[2] Hazardous Earth Processes
[3] Human Interactions with the Environment
[4] Minerals, Energy and Environment
[5] Global change, land use and decision making

Grading and weight: Lecture = 60%/ Laboratory = 40%

Activity	Percentage	Points
Exam 1	15	450
Exam 2	15	450
Exam 3	15	450
Final exam	15	450
Laboratory	40	1200
Total	**100%**	**3000**

Laboratory:
Lab attendance is **mandatory**. *Lab work must be turned in at the end of lab*. Laboratory work is worth 40% of your grade.
** There will be 10 labs for a total of 1000 points (100 points per lab). Notice that your lab grade is **1200 points total**. There will be a **final project** at the end of the semester worth 200 points. Details regarding the final project will be given later in the semester.

Final grades will be based on STRAIGHT PERCENTAGES; 90 - 100% = A, 80 – 89% = B, 70 – 79% = C, 60 – 69% = D and < 60% = F. If you are curious about how you are doing in class add up the number of points you earned, divide by the total, multiply by 100% and check with above. Make-up labs will only be permitted with a note from the doctor or proper authority. A basic function calculator is strongly recommended for lab work.

Readings:
It is a good idea to read the book before coming to class; the readings are meant to supplement the lecture, however, most exam questions will come from lectures. Below is a list of all the topics covered in the lectures. Days designated "*Carry over and review*" are set aside to cover any material we have not yet gone over and/or to review material as needed before an exam.

January							
13	Syllabus and Introduction	**18**	Appendix A Geologic Time	**20**	Chap 2 Rocks and minerals	**25**	Chap 2 Rocks and minerals
27	Chap 3 Tectonics	**1**	Chapter 4 Earthquakes				
February							
3	Chap 5 Volcanoes	**8**	***Carry over and review***	**10**	**Exam 1**	**15**	Chap 6 Streams and Flooding
17	Chap 7 Coast. processes	**22**	Chap 8 Mass movements	**24**	Chap 9 Glaciers	**1**	Chap 10 Climate changes
March							
3	***Carry over and review***	**8**	**Spring**	**10**	**Break**	**15**	**Exam 2**
17	Chap 11 Water as a resource	**22**	Chap 12/13 Soils and mineral resources	**24**	MOVIE: Energy Resources	**29**	Chap 14 Energy resources (fossil fuels)
31	***Carry over and review***						
April							
5	**Exam 3**	**7**	Chap 15 Alternative energy	**12**	Chap 16 Waste Disposal	**14**	Chap 17, 18 Water/air Pollution
19	Chap 20 Eng. Geo. and looking ahead	**21**	***Carry over and review***				

*****FINAL EXAM: Tuesday May 3rd at 9:00am**

Exams:
Exams are closed book and closed notes. The final exam is **not cumulative**. The exams will be mostly multiple choice with some fill-in-the-blank and essay questions. Most exam questions will come from the lectures and class discussions.

Class format: Lectures will consist predominantly of *PowerPoint* slides. These slides will be posted on Black Board before each exam. Some of the material that will be covered may evoke discussion among students and I encourage open discussion in the classroom with the following stipulations: (1) the discussion must stay on-topic (2) students must remain respectful of each other's opinions.

STATEMENT OF ACADEMIC HONESTY

It is the responsibility of every student to maintain academic integrity and adopt honest methods in this class. Cheating in lab exercises or exams will be grounds for review and penalty.

SPRING 2011	
January 10, Mon.	Classes begin
January 14, Fri.	Last day to change a course schedule or drop a course without a grade of "W" being recorded (Session C002)
January 17, Mon.	Dr. Martin Luther King, Jr. Service Day - no classes
January 31, Mon.	Last day to apply for May graduation
February 28, Mon.	Last day to drop a course or withdraw without a grade of "WF" being recorded (Session C002)
	Midpoint in semester
March 6 - 13, Sun.-Sun.	Spring break - no classes
April 21, Thurs.	Awards Day
April 25, Mon.	Last day of classes
April 26, Tues.	Reading day
April 27 - May 4, Wed.-Wed.	Final examinations (includes exams on Sat.)
May 6 - 7, Fri.-Sat.	Commencement Exercises
70 Total class days **28 TTH class days, 42 MWF class days**	

Learning outcomes: Upon completion of this course, the student will have a working knowledge of earth materials and will be able to identify and classify aforementioned materials and uses of these materials (minerals/rocks). Each student will understand the general internal processes occurring within the earth (i.e., plate tectonics/earthquakes), as well external processes that occur at the earths' surface (i.e., hydrology, slope movement), and the impact of natural hazards on human civilization. Additionally, each student will gain conceptual knowledge of some of the complexities surrounding the interaction between the natural environment and humans. Finally, the student will gain factual knowledge about the earth's resources, how humans have utilized these resources in the past and how we hope to implement a more environmentally-sound future through sustainability and environmental awareness.