## GEOL 3321/CE 3335

## Geology for Engineers Laboratory, Spring 2013

**Faculty Supervisor:** Dr. Diane Doser (doser@utep.edu, 747-5851) (room 307)

**Teaching Assistants:** Shane Schinagel (smschinagel@miners.utep.edu), Chris Dankoff (cjdankoff@miners.utep.edu)

**Laboratory Times:** *Monday* 3:30-6:20 GEOL 222 (28939) (Chris)

*Monday* 2:30-5:20 GEOL 210 (23602) (Shane)

*~~Wednesday~~* ~~3:30-6:20 GEOL 404 (28940)~~ – cancelled!

 *Wednesday* 2:30-5:20, GEOL 210 (23602) (Shane)

**Office hours:** *Mon./Weds.* 10:30-11:20, *Weds.* 1:30-2:30 (Dr. Doser)

 *Monday, Weds.* after lab (Shane)

 *Monday* 2:30-3:20 (Chris)

**Course Description:** Laboratory to accompany (GEOL 3321/CE 3335) the study of the earth’s composition, structure, and internal/external processes.

Laboratory Manual: **Copies of the laboratories should be downloaded from the class Blackboard site**

PLEASE come to class with a copy of the current week’s lab downloaded from this site.

**Class objectives:** Upon successful completion of this lab, you will be able to:
1) identify rocks and minerals
2) explain rock formation in terms of plate tectonics

3) understand how mineral composition of rocks and soils influences their engineering properties
4) describe earth surface processes
5) make geological observations in the field
6) read topographic and geologic maps

7) make topographic and geologic cross sections

8) learn to measure/observe simple soil properties

**Attendance:** In order to pass this course, you are expected to attend the lab meetings. *If you miss more than two labs and do not contact me or the teaching assistant within one week of the absences, you may be withdrawn, with a grade of either W or F.* If you miss a lab, it is your responsibility to learn the material, since it will be on the tests.

**Grading:** Your grade in lab includes your attendance, the mandatory field trips (on campus), lab quizzes, and homework as well as the final project.

**Students with Disabilities:** If you think you may have a disability or if you are experiencing learning difficulties, please contact the [Disabled Student Services Office (DSSO)](http://www.utep.edu/dsso/) at (915) 747-5148 (voice or TTY), in Union East Room 106, or by E-Mail at dss@utep.edu. They will provide any necessary accommodations. You should also meet with your instructor in order to facilitate your needs. You are expected to provide documentation of your disability in order to make special arrangements in this class.

**Academic Honesty and other issues:** The Geological Sciences Department has gone to great lengths in order to make learning the material easier than engaging in scholastic dishonesty, which is defined in the UTEP Student Handbook and also at [http://www.utep.edu/dos](%20http%3A//www.utep.edu/dos). Proven violations of these detailed regulations may result in any of the consequences outlined in the Student Handbook. Cellular phones and pagers are to be turned off or placed in silent mode during class. Conducting telephone conversations or extensive text messaging during class time may result in disciplinary action.

## Course Outline

Week of:

Jan. 21 **No labs, MLK holiday**

Jan. 28 Lab 1, basic geography and topographic maps

Feb. 4 Lab 2, minerals

Feb. 11 Lab 3, igneous rocks, volcanic hazards

*Quiz #1 on reading maps and plate tectonics*

Feb. 18 Lab 4, sedimentary rocks, hazards, topographic cross-sections

*Quiz #2 on minerals*

Feb. 25 Lab 5, metamorphic rocks, hazards, engineering properties of rocks

Mar. 4 Lab 6, soils, weathering, campus field trip (igneous rocks, soils)

*Quiz #3 on rocks/rock cycle and topographic cross-sections*

Mar. 11 Lab 7, structural geology, geologic cross-sections, geologic maps

*Quiz #4 on engineering properties of rocks, vertical exaggeration*

Mar. 18 **No labs, Spring Break**

Mar. 25 Lab 8, geophysics I – seismic techniques, earthquakes

Apr. 1 Lab 9, geophysics II – non-seismic techniques including gravity, electrical

methods, well logging

*Quiz #5 on soils/weathering, structural geology, geologic cross sections*

Apr. 8 Lab 10 floods, river systems, groundwater

Apr. 15 Lab 11 slope stability

*Quiz #6 on geophysical methods*

Apr. 22 Project

*Quiz #7 on surface water, ground water and slope stability*

Apr. 29 Project

May 6 Presentations of final projects, the reading room in the Geology Department

(room 310) will be reserved for these presentations

**Grading**  Lab attendance, including handing in lab manual pages 85 points

 Lab quizzes 140 points

 Project 75 points