



Understanding the Earth

Geology 10113 - May 2010

Class: Monday through Friday, 9:00 AM to 10:50 AM
Lab: Monday through Friday 12:00 to 1:50.
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(<http://geo1.tcu.edu/faculty/busbey.html>)
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Office Hours: M-R 2:00 - 2:30 PM or by appointment

The required text may be purchased at the TCU bookstore.

Required text for lecture: Tarbuck and Lutgens 9th Ed.

Required text for lab: You will receive a lab workbook in lab. You MUST always bring this to lab.

COURSE DESCRIPTION

GEOL 10113 **Understanding the Earth** ('Maymester'). Two hours of lecture and two hours of laboratory *per day*. A study of the physical environment of the planet Earth, its makeup, the processes that mold its surface features and an introduction to the resources that it provides.

PURPOSE OF COURSE

This course meets the core requirement for a science course.

COURSE OBJECTIVES

By the end of this course, students will:

- Understand the internal structure of the earth and its history.
- Understand the building blocks of the earth, including minerals and rocks.
- Understand how various processes shape the surface of the earth.
- Understand the significance of geologic time.
- Better understand the potential environmental impact of geology on the global society.
- Be evaluated on their grasp and comprehension of the material through a series of exams.

TEACHING PHILOSOPHY

Many students who have matriculated in the United States educational system know little about the earth, i.e. of its structures and materials, how the dynamic earth system changes through time, how time amplifies small changes and the effects that geology has and has had on civilization. Therefore, I believe that a basic geology class should involve more lecture-type instruction than round-robin discussion (it is very difficult to discuss what you don't know). Thus, the lecture portion of this course is, as the title implies, built of a series of class lectures. Questions are always appreciated and encouraged, but it is hoped that instruction in the classroom will lead

students to further expand their knowledge of the subject through assigned reading. The lab portion exposes students to more 'hands-on' approaches in geology, where students are given an opportunity to gain a practical experience with minerals, rocks, maps and 'field geology'.

Course Policies

DISABILITY SERVICES AT TCU:

Texas Christian University complies with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973 regarding students with disabilities. Eligible students seeking accommodations should contact the Coordinator for Students with Disabilities in the Center for Academic Services located in Sadler Hall, 11. Accommodations are not retroactive, therefore, students should contact the Coordinator as soon as possible in the term for which they are seeking accommodations. Further information can be obtained from the Center for Academic Services, TCU Box 297710, Fort Worth, TX 76129, or at (817) 257-7486.

ACADEMIC MISCONDUCT (Sec. 3.4 from the Student Handbook)

Any act that violates the academic integrity of the institution is considered academic misconduct.

The procedures used to resolve suspected acts of academic misconduct are available in the offices of Academic Deans and the Office of Campus Life. Specific examples include, but are not limited to:

- **Cheating:** Copying from another student's test paper, laboratory report, other report, or computer files and listings; Using, during any academic exercise, material and/or devices not authorized by the person in charge of the test; Collaborating with or seeking aid from another student during a test or laboratory without permission; Knowingly using, buying, selling, stealing, transporting, or soliciting in its entirety or in part, the contents of a test or other assignment unauthorized for release; Substituting for another student or permitting another student to substitute for oneself;
- **Plagiarism:** The appropriation, theft, purchase or obtaining by any means another's work, and the unacknowledged submission or incorporation of that work as one's own offered for credit. Appropriation includes the quoting or paraphrasing of another's work without giving credit therefore.
- **Collusion:** The unauthorized collaboration with another in preparing work offered for credit.

Should academic misconduct be detected, the action to be taken is at the discretion of the instructor. If you are caught cheating on an exam in Geology 10113 (lecture or lab) at the very least you will be given a zero on that exam.

TCU CAMPUS RESOURCES FOR STUDENTS

Many resources exist on the TCU campus that may be helpful to students: Mary Coutts Burnet Library (257-7117); Center for Academic Services (257-7486, Sadler Hall, 11); the William L. Adams Writing Center (257-7221, Rickel Bldg. 244); Student Development Services (257-7855, Student Center Rm. 220); and University Ministries (257-7830, Student Center Rm. 111).

E-MAIL NOTIFICATION:

Only the official TCU student e-mail address will be used for all course notification. It is your responsibility to check your TCU e-mail on a regular basis.

Course Requirements

GRADING

Your grade will be based on the results of three lecture exams (25% each) and lab (25%). Letter grades are assigned **only at the end of the course** approximately as follows: A=90-100%, B=80-89%, C=70-79%, D=60-69%, F=0-59%. The final letter grade will be based on the **adjusted average** of your course performance. On any particular exam you will be able to examine the grade distribution which should provide some idea of your test performance compared to the rest of the class. **There is no extra credit.** Please note that your class grade is based on exam performance and NOT on 'effort'.

Text readings supplement the material discussed in lecture; frequently lecture topics represent recent developments and may not be discussed at all in the text. Therefore the reading does not substitute for attending lectures and exam content is entirely based on lecture content.

EXAMS

There are no make-up exams unless you missed an exam and have a valid, verifiable excuse. Students who have University excuses to miss labs or exams must notify me **in advance** of the absence. Make-up exams may be different from the exam that was given and may have an essay or oral format.

CLASS ATTENDANCE

Attendance will be taken. Every three unexcused absences will result in your final grade being dropped a letter. *Note that one day in summer school is equal to a week in a regular semester.*

I assume that you have done the proper reading prior to each lecture and that you are acquainted with the basic terminology and concepts.

Tardiness and disruption of class are not appreciated and may affect your final grade. You are in the classroom to learn - do not eat, smoke, text, read newspapers or talk with other students during lectures, as this is *extremely* inconsiderate.

Cell phones should be turned off or turned to vibrate during class and, in any case, I do not expect to see a cell phone out in class (**it is entirely possible that, if a cell phone goes off during lecture, the entire class may then have a pop quiz**). If I see a cell phone out in class I may ask you to leave the room. If I see a cell phone out during an exam you may receive an F on that exam.

You are encouraged to ask questions during class or to obtain help outside of class. Although reading your text book should answer most questions, I am here to explain any of the more seemingly obscure points. If you do not understand something in lecture then raise your hand and ask about it - the odds are that other students are also in a quandary. See me during my office hours if you have problems in lecture or lab that require more intensive discussion. If you cannot make my office hours then contact me for an appointment at some other time.

DROPPING

You have until May 20th to drop the class. After that time you must consult a Dean about dropping a class.

LABORATORY EXERCISES

Laboratory exercises are only loosely coordinated with lecture topics. It is crucial that you are on time for lab and that you conduct yourself in lab as you would in any course. Two lab exams (see below) will be given during the course. These exams will test your knowledge of material covered in the lab. The average of these two exams will count 25% toward your final grade in the course.

No food, drinks or tobacco products are permitted in lab. Please eat your lunch before you come to lab. You should always bring your lab workbook to lab and you should have already looked over the lab exercise. **Coming to lab without your lab book and pencil/pen is inexcusable and may have repercussions on your lab grade.** A good pencil and eraser will be handy in lab (ink is usually difficult to erase). Most of the lab exercises are practical or 'hands on'. You are encouraged to ask questions and to solve geologic problems in study groups. However, each student should complete the required lab exercises to prepare for lab exams and **on lab exams you are on your own.**

Defacing lab facilities, equipment or computers, **will** adversely effect both your lab and course grades.

LAB MAKE-UP POLICY

No unexcused, unmade-up labs are allowed. You will be allowed to make up labs if you are covered by a University notice or have another valid excuse. You can only make up labs **prior** to the next lab exam.

READING

There is much more in any chapter than I will discuss in lecture. Before a series of lectures you should skim through the chapter and then, after the lecture, reread the text focusing on the material that was dealt with in lecture.

May	Lecture - 9:00 to 10:50	Lab - 12:00 to 1:50	Chapters in Text
10	Intro - Matter & Minerals	No Lab 1 st day	Chs. 1 & 3
11	Igneous Rocks & Volcanos	Minerals	Chs. 4 & 5
12	Weathering & Sedimentary Rocks	Igneous Rocks	Chs. 6 & 7
13	Sedimentary & Metamorphic Rocks	Sedimentary Rocks	Chs. 7 & 8
14	Exam #1	Metamorphic Rocks	
15			
16			
17	Geologic Time	Lab Exam #1	Chs. 9 & 22
18	Mass Wasting & Surface Water	Reading & Making Maps	Chs. 15 & 16
19	Surface & Ground Water	Contour Maps	Chs. 16 & 17
20	Glaciers & Deserts	Planetary Geology	Chs. 18 & 19
21	Exam #2	Fieldtrip	
22			
23			
24	Shorelines and Stress & Strain	Geologic Maps	Chs. 20 & 10
25	Earthquakes & Earth Interior	Sequencing Events	Chs. 11 & 12
26	Continental Drift & Plate Tectonics		Chs. 2 & 22
27	Plate Tectonics & Planetary Geo.	Lab Exam #2	Chs. 2, 22 & 24
28	Exam #3		

Suggested Study Hints for Geology 10113

The following suggestions, if heeded, may improve your chances of getting the most out of the course and making a good grade. I base these suggestions on the experiences of students who have gone before you (those who passed and those who weren't so lucky) and on my own experiences in classes that were hard for me. Some, or all, of these suggestions may not fit your life or study styles, but they may come in handy if you want to do well in this course (or any college course). Many find it easier to start off on a good foot than to play makeup later.

1. Before you come to class the assigned book chapter(s) and download and review the presentations to be given a particular day. If you run across a term that is unfamiliar look it up in the glossary in the back of the text. If the word is not in the text then ask the instructor. I do not care if you use a tape recorder to record my lectures - but be aware, however, that I use presentations and may draw diagrams which you will miss in a tape recording: i.e., tape recordings are not a substitute for taking notes during the lecture! Likewise, I lecture about topics that may not be in the textbook and about recent developments - merely reading the text is no substitute for attending lecture and taking notes. I firmly believe the following credo: "*Anything important enough for me to mention in lecture may show up on a test.*" Don't assume that anything I mention in class isn't part of the course material.
2. After lecture, review the assigned reading, and lecture notes. If something wasn't clear in lecture perhaps the illustrations or discussion in the book might help to clarify. There may be sections of your book that cover material I have not discussed in lecture - if so then do not spend time on them (unless they interest you) since you will not be asked about them on a test.
3. At some time on the same day as a lecture, review your notes and see if they make sense. You have a better chance of remembering my lecture comments the same day I made them than later just before an exam (a well known function of short-term memory).
4. It may help to recopy your notes into another notebook or to type them up. This reinforces the material and, if you take sloppy notes, results in a legible set of notes. Merely highlighting sections of your textbook or notes does not constitute studying - you should understand and comprehend what you are studying! Memorizing lists of terms doesn't give you an integrated conceptual model of how those terms are interrelated. **Make sure you understand how the terms are related across topics.**
5. It always helps to study with friends. You may think you know the material but the best way to find out is to have a friend quiz you without an open textbook or notes.
6. Ask questions in class - never be afraid to raise your hand and ask questions. If something isn't clear it may not be clear to your classmates either. If my answer is unclear then come and visit me in my office (SWR 254).