

SYLLABUS

GEOLOGY 008T – Earth Science Lab for Teachers
Section 2, Wednesday 5-7:50 PM, SQU-132

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Instructor:

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Although telephone numbers are provided, it is best to contact me via e-mail.

Office Hours: T 7:50-8:50 PM, and by appointment. Being a part-time instructor, I am not on campus every day. Please call/e-mail me if you need to talk/meet with me.

Course Outline

GEOL 8T. Earth Science Lab for Teachers. Exploration of the solid Earth, its atmosphere and oceans, and the Earth's place in the solar system. Emphasizes learning Earth science through investigation, and uses Earth science to understand the processes of science. Laboratory three hours. **Prerequisite:** GEOL 008; may be taken concurrently. **Units:** 1.0. (*Description from CSUS Online Course Catalog*)

Course Description and Purpose

This lab is designed as a companion course to Geology 008 (Earth Science) and is aimed at those in the CSUS Liberal Studies program preparing to be K-8 teachers in California. The lab offers "hands-on" study of earth science topics, an important component of the natural science portion of the Liberal Studies curriculum. Emphasis is on hands-on, investigative lab activities. The course is designed to give you a solid background in a wide spectrum of Earth Science topics (geology, oceans, atmosphere, planets) which you can then apply to your own classroom settings.

Objectives:

At the end of the course, you should have a sound knowledge of general Earth Science, the processes of science, and ideas and materials to use in your own classroom settings. In addition, you should be able to:

- construct a scientific explanation, evaluate evidence, and draw conclusions.
- use the internet to access information on Earth Science topics.
- explain how scientists determine what is inside of the Earth.
- describe the motions of the Earth & Moon through space and relate them to Earth based observations.
- identify basic earth materials (rocks, minerals, water, air) and understand their roles in Earth processes.
- recognize Earth resources and their uses.
- explore basic stream and coastal processes and their impact on human activity.
- describe the basic geologic processes and hazards that mark plate tectonic boundaries.
- understand the great range of time scales on the Earth.
- understand how ocean currents are generated and redistribute global heat.
- describe the motion of the Earth relative to the Sun and its affect seasonal changes and atmospheric heating.
- understand how the uneven heating of the Earth influences wind and weather.
- describe the role played by water in providing energy for hurricanes.

Lab Format and Requirements

Lab Manual

The Geology 008T Lab Manual is REQUIRED for the course, and is available for purchase through the bookstore. ***IMPORTANT: Remember to bring the manual with you to each lab.

Prerequisite: You must have completed or be currently enrolled in Geology 8, Earth Science lecture, or the community college equivalent. 8T is taught independently of the lecture; the two courses complement each other, but are not necessarily synchronized with each other.

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Format: The class is taught through hands-on activities, thus, it is essential that you attend all classes. Many of the activities are appropriate for children in K-8 classrooms, however, we will tackle these activities at a higher intellectual level!

I will be using the following techniques to assess your learning in this course:

Exams: There will be three exams to assess your understanding of the material covered during the previous weeks.

Lab Activities: Many hands-on activities have been developed for this class. It is essential that you participate in each activity in order to experience first hand the Earth Science learning outcomes of this course.

Weekly Assignments: You will be given a weekly assignment at the end of each lab which will be due before you leave class. The weekly assignments involve conceptual questions designed to assess your understanding of the lab activities. You will be given time to complete the assignment during class and it should be turned in prior to leaving. I will generally post brief notes for each lab on my website prior to class. It is helpful to read these notes as well as the activity guides in your manual before you come to class.

- I will collect the weekly assignment at the end of class and will return it the following lab period. Weekly assignments handed one week late will still be accepted but will be considered late, and may not be rewritten for a higher grade. Weekly assignments handed in more than one week late will NOT be accepted and you will receive a zero for that assignment.
- You may discuss the assignment questions with each other but your answers should be written individually → identical answers constitute plagiarism and all involved will receive a zero for that question.
- Up to seven assignments may be rewritten once for a higher grade, but only if they were originally handed in on time. Hand in your original graded assignment with your rewrite. Rewrites are due one week after the graded assignments were returned and will NOT be accepted later than that.
- If you miss a class, you still have to turn in the assignment. Contact a classmate to find out what you missed; assignments will be posted on the website.

Grading: 46% weekly assignments 44% exams 10% activity participation

Missing Class: (assignments are posted on the website)

It is impossible to make up a lab unless you arrange to attend a different lab during that same week. If you miss class, attempt the weekly assignment: read about the activities in your lab manual, review the notes on the website, and speak to a classmate.

Academic Honesty:

It is essential that you do your own work in this course. You will work collaboratively with other students during class, however, all of your assignments must be your own work. As a teacher, it is critical that you develop a strong sense of academic ethics that you can pass on to your students. All instances of academic dishonesty will be dealt with harshly, with consequences that range from a grade of F, to referral to the Office of Student Affairs for disciplinary action.