

Objective - The primary focus of this course is to introduce non-science majors to the dynamics of how planet Earth works, the major processes that shape the surface of the Earth, the interactions between the land, the sea and the atmosphere and finally, the relationship between our planet and the rest of the heavens. Topics covered will include:

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Scientific Method - you will have the opportunity to understand and apply the general nature of scientific thinking and how scientific knowledge is accumulated and tested to form theories.

Astronomy - this venture will take us to the origins of everything - the birth of the Universe and how our solar system came to be. We will explore man's growing understanding of how our planet moves through the heavens and how this understanding has evolved through time. We will learn about the other planets in our solar system, what makes them similar and different to the Earth, and examine some of the tools astronomers use to explore the heavens.

The Atmosphere - the general nature of atmospheric conditions, the influence of solar energy on weather conditions, the nature and movement of water in the atmosphere, air pressure differences and winds, storms and weather trends, how all of these conditions define climatic conditions, and the influence of man on climatic conditions.

Minerals and Rocks - we will explore the mineral world, their unique properties and look at some of the rock types that they often produce. We will also look at the different ways that rocks are created (from volcanoes, floods, mountain building processes and such) and distributed around the world, outline the rock cycle and discuss what these rocks tell us about the geologic history of areas.

Plate Tectonics and the Earth's Interior - we will walk through the development of the most important set of ideas that explain how planet Earth works and see the relevance of these ideas to processes and events that we witness on the surface of the Earth today. We will determine how these ideas pertain to earthquakes, volcanoes, and mountain building processes.

Surface Processes - we will also investigate processes (sometimes hazardous) that affect everyday life on Earth including landslides, streams and flooding, groundwater, glaciers, winds and deserts.

Geologic Time - discussions will delve into the concepts of geologic time and what the geologic record tells us about the formation of the Earth and the origin and development of life.

The Ocean Environment - will focus on the physical dynamics of the ocean basins themselves, the mechanisms that induce changes into this environment and the mechanics behind surface and subsurface wave action.

Required Textbook - for the course will be Foundations of Earth Science, E.J. Tarbuck and F.K. Lutgens, 5th ed. (4th ed. is OK) ISBN #0-13-240135-5

Instructor - Dr. Kevin Cornwell, rm. 1010 Placer Hall, Office hours are Tuesdays and Thursdays from 2:00 - 3:00, or by appointment. Office telephone number is 278.6667 and you can contact me via email at cornwell@csus.edu.

Grades - Your course grade will be determined by your performance three (3) exams (20% each), a comprehensive final (25%), and homework assignments (15%). There will be no extra credit. Missed exercises without prior arrangement will be given a grade of zero. Any form of academic misconduct will result in a grade of zero for that exercise and will be reported to the Geology Department and the Dean of Academic Affairs.

Exams - The exams will consist of multiple-choice questions and will cover all material covered in class (response papers, readings, videos, slides, lectures, quizzes, etc.) and assigned readings. If you must miss an exam please make prior arrangements with me or, if ill, call and let me know the problem. There will be no make-up exams without an excused absence. I am most serious about this policy, you should be too. Probable exam dates: September 30, October 29, November 25, and Finals week.

Homework assignments will be given throughout the semester that integrates lecture material with outside assignments. The homework should be chronologically organized in a folder or portfolio. I may collect homework portfolios a couple of times during the semester to check them for completeness. You are expected to do ALL of the homework assignments, even if you miss a class or do not complete the homework on time. Your portfolios can include additional materials that show your interest in and mastery of Earth Science.

You will also be given the opportunity to assess, in writing, your performance in the course. The self-assessment will consist of a short persuasive essay indicating the grade you think you deserve at the end of the semester. In your essay, you should make specific reference to the content of your course portfolio. You should discuss factors that are not explicitly calculated into grades, but that you think should influence your final grade (evidence of improvement, level of effort, outside activities related to the course, etc.). I will read the self-assessments carefully and look closely at your supporting materials. I will give as much as 5% extra credit for well argued self assessments that persuade me you deserve a grade higher than indicated by your numerical score.

TENTATIVE TOPICS AND CORRESPONDING READINGS FROM TEXT

Week 1 & 2 Introduction, the Scientific Method, Astronomy Introduction and Chapters 15 and 16

Week 3 and 4 Minerals and Rocks Chapters 1 and 2

Week 5 Weathering and Soil and Mass Wasting Chapter 3

TEST 1 (9/30/08)

Week 6 Water and Groundwater Chapter 3

Week 7 Glaciers, Deserts and Wind Chapter 4

Week 8 Plate Tectonics Chapter 5

TEST 2 (10/29/08)

Week 9 Earthquakes Chapter 6

Week 10 Mountains and Volcanoes Chapters 6 and 7

Week 11 and 12 Time and Earth History Chapter 8

TEST 3 (11/25/08)

Week 13 and 14 The Atmosphere Chapters 11, 12, 13 and 14

Week 15 The Ocean Environment Chapters 9 and 10

FINAL EXAM (Finals week)