EES 1 – Natural Disasters & Earth Resources
CSUF – Dept. of Earth and Environmental Sciences
Fall 2008

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Class Time: Tuesday and Thursday, 08:00 – 09:15 in MacLane Hall 161
Office Hours: Tuesday, 15:30 to 17:00, Wednesday, 15:30 to 17:00, & by appointment
Required Text: Two choices are offered! Choose one only!

1. Earth – Portrait of a Planet, **3rd edition** by Stephen Marshak, W. W. Norton & Company, Inc. *Recently released, $90 at the campus bookstore*
2. Earth – Portrait of a Planet, **2nd edition** by Stephen Marshak, W. W. Norton & Company, Inc. *Same content than the 3rd edition but a different cover along with a little less bells and whistles, starting at $5 on Ebay.*

Please note this class counts for 4 units as a lab is required. Many options are offered that should fit your schedule.

Course Description:

Geologic processes surround our lives in ways that few of us pay attention to, until forced by a major event. Normal Earth processes – including earthquakes, volcanoes, landslides, meteorite impacts, floods, tsunamis, and climate change – are termed "disasters" or "acts of God" when they impact us negatively; yet these same processes are essential to life as we know it, on Earth.

The same processes causing disasters also form Earth's continents, atmosphere and ocean, soil, rain, and wind, mineral and energy resources, and even mountains and coral islands for us to explore. This class emphasizes the relationship between humans and Earth processes, and provides an overview of the geologic, hydrologic and atmospheric processes that produce the many natural resources and hazards around us.

Because our lives are so dependent upon the natural resources Earth provides and subject to natural hazards, the future of society depends upon our: 1) understanding and planning for natural disasters, 2) understanding the origin, distribution and limitations of our natural resources, 3) appreciating how the planet is affected by our actions locally and globally.

EES 1 is a lower division, general education (GE) course that fulfills the B1 "breadth" requirement. The purpose of this course is to "understand and actively explore fundamental principles in the physical sciences and the methods used in developing and testing hypotheses used in the analysis of the physical universe" (quote from course certification for GE use). There are no prerequisites to this course.

Learning Outcomes:

1. Familiarity with the scientific method and forming & testing hypotheses.
2. An understanding of what Earth is composed of, from atoms to minerals to rocks, to the overall structure of the planet. This includes the major classes of rocks and the processes that create them.
3. An understanding of the theory of plate tectonics and how it explains much of the geologic record, as well as earthquake and volcanic hazards.

4. Comprehension of how Earth scientists reconstruct past events and how they know when the events occurred. This includes knowing that the Earth is fantastically old.

5. A grasp of geologic hazards, how to arrange your life so as to minimize them, and what to do when they strike.

6. An understanding that Earth provides many resources that permit civilization to function. Most of these are non–renewable. Furthermore, their extraction and/or use can severely alter local areas or in some cases the entire Earth system.

7. An appreciation of the natural processes that gives rise to landforms and geological structures.

8. Plus, factoids with which to educate and amuse your friends and family!

Expectations:

1. Attend all of your class and lab meetings.

2. Arrive prepared and on time.

3. Ask questions in class, lab, field trips, and office hours.

4. Complete the reading before the class or lab on that topic and be ready to discuss it.

5. Follow all policies and guidelines set down by your lab instructor.

Assignments:

Regular reading, listen to occasional audio links on course website, lab exercises.

Exams:

This course has four (4) take-home exams. Except for medical emergencies (doctor's note required), and in the interest of fairness to all, I will not permit exams to be taken before or after the set date. Material covered in the exams will be taken from lecture material, textbook material, and current events if relevant.

Missing exams:

Missing an exam will result in a grade of 0 points and no make–up will be given except in the case of a serious personal injury or illness (written verification from a physician required) or official school business. Dr. Richaud must be notified before the scheduled time of the exam, or no make–up will be given. All approved make–up exams will consist of a series of essay questions.

Academic Dishonesty:

Any student guilty of any form of plagiarism or academic dishonesty will receive a "FAIL" grade for the assignment/exam and the course. Additionally, you will be referred to the University's student conduct judicial system for further administrative sanctions. This, by the way, becomes part of your permanent record at CSU–Fresno and you will be put on probation for the rest of the semester. Additionally, repeat offenders are expelled from the University (see Student Conduct Code).

University policies on incompletes/drops/unauthorized withdrawals will be followed. Also, read carefully the Legal Notice section of the current Schedule of Courses to understand University policy regarding plagiarism, cheating, disruptive classroom behavior, drug–free workplace, nondiscrimination, and policies regarding privacy with regard to student records. All such policies will be strictly enforced.

If you have a diagnosed disability or believe that you have a disability that might require reasonable accommodations for academic instruction, including temporary ones, please contact Services for Students with Disabilities (http://www.csufresno.edu/ssd). It is your responsibility to initiate a request for services from SSD and to provide appropriate verification of disability. Upon disclosure of a disability verified by SSD, any reasonable accommodation will be made.

The syllabus and schedule are subject to change in the event of extenuating circumstances. If you are absent from class, it is your responsibility to check on announcements made while you were absent.

Regarding honor code, copyright of this course material, disruptive behavior, etc. . . , see http://www.csufresno.edu/academics/policies_forms/instruction/RequiredSyllabusPolicy Statements.htm

Grading Scheme:

Type of Assignment	% of total grade
Take-home Exam 1	20%
Take-home Exam 2	20%
Take-home Exam 3	20%
Take-home Exam 4	20%
Lab assignments	20%

YOU MUST PASS THE LAB SECTION OF THE COURSE TO PASS THIS CLASS! IF YOU HAVE PROBLEMS WITH THE LAB, COME SEE ME!

At the end of the semester your letter grade for the course will be calculated according to the following scheme: The total number of points will be normalized to 100% and a letter grade will be assigned according to the distribution stated. All fractions will be rounded. 90–100% = A, 80–89% = B, 70–79% = C, 60–69% = D, 59% & below = F.

CUMULATIVE TAKE-HOME FINAL EXAM: TBA

STUDENT INFORMATION SHEET – FALL 2008 – EES 1

Name: _____

Status: Freshman Sophomore Junior Senior Transfer Special

Your major:

If not applicable; first semester and undecided

List of other science classes you have taken in high school and/or college:

Why are you taking the course?

_____ To fulfill an B1 "breadth" requirement
_____ Interest in the subject matter
_____ Reputation of the instructor
_____ Reputation of the course
_____ My advisor recommended it
_____ I expect it to be easier than other science courses on this campus
_____ I hope to major/minor in Geology/Earth Sciences/Environmental Sci/Natural Resources Mgmt.
_____ I plan to become a school teacher and need this course for my degree
_____ A friend took the class and recommended it
_____ It was an alternate for another course I didn't get into
_____ Other reasons: Please explain:

Have you visited any national or state parks? If yes, please list a few of your favorite places:

Acknowledgment of the California State University–Fresno Honor Code: "I will be academically honest in all of my coursework and will not tolerate the academic dishonesty of others."

I acknowledge that this language from the California State University–Fresno Student Conduct Code applies to me.

Signature _____ Date _____

Date	day	lecture	Lecture Topics	Lab Topic	Reading
Week 1	Tu	1	Population, Natural Disasters, and Ressource Depletion	Lab 1: Orientation, Basic Skills Review	Prelude
	Th	2	Earth Origin and Structure		Chapter 2
Week 2	Tu	3	Plate Tectonics – History	Lab 2: Faults & Earthquakes, Part 1	Chapter 3
	Th	4	Plate Tectonics		Chapter 4
Week 3	Tu	5	Earthquakes	Lab 3: Faults & Earthquakes, Part 2	Chapter 10
	Th	6	Earthquakes and Tsunamis		Chapter 10
Week 4	Tu	7	Minerals	Lab 4: Mineral Properties	Appendix A and Chapter 5
	Th	8	Minerals		Chapter 5
Week 5	Tu	9	The Scientific Method, Cosmology	Lab 5: Identifying Minerals	Chapter 1
	Th	10	Rock Groups and the Rock Cycle		Interludes A and B
Week 6	Tu	11	Igneous Rocks	Lab Midterm	Chapter 6
	Th	12	Igneous Rocks and Volcanoes		Chapter 6
Week 7	Tu	13	Volcanoes	Lab 6: Igneous Rocks	covers thru Week 6, 2nd lecture
	Th	13	Volcanoes		Chapter 9
Week 8	Tu	14	Sedimentary Rocks	Lab 7: Volcanoes and Plate Tectonics	Chapter 7
	Th	15	Metamorphic Rocks		Chapter 8
Week 9	Tu	16	Oceans, Currents and Coasts	Lab 8: Sedimentary Rocks	Chapter 18
	Th	17	Rivers and Floods		Chapter 17 & Interlude E
Week 10	Tu	18	Mass Wasting (Landslides)	Lab 9: Floods	Chapter 16
	Th	19	Groundwater and Caves		Chapter 19
Week 11	Tu	20	Measuring the Age of Things	Lab 10: Fresno's Groundwater	Chapter 12 and Interlude D
	Th	21	Earth History in a Nutshell		Chapter 13
Week 12	Tu	22	Earth's Atmosphere – Climate and Weather	Lab 11: Fresno's Geologic History	covers thru Week 11 2nd lecture
	Th	22	Earth's Atmosphere – Climate and Weather		Chapter 20
Week 13	Tu	23	Glaciers and Ice Ages	Spring Break	Chapter 22
	Th	24	No Class – Spring Break		
Week 14	Tu	25	Climate Change	Lab 12: Plate Tectonics	Chapter 23
	Th	26	Climate Change		Chapter 23
Week 15	Tu	27	Earth Resources – Energy	Lab Final	Chapter 14
	Th	28	Earth Resources – Rocks and Minerals		Chapter 15
Week 16	Tu	29	Video – What's Up with the Weather	No Lab	
		Th	Classes over, no class today		