

Natural Hazards Spring Semester, 2010

Instructor: Glen White

Office Hours: Before class

Email: whiteg@yosemite.edu

or

thegeologist@yahoo.com

Day and Time: Wed. 6:00 to 9:05 PM

Text: Natural Hazards, 2nd edition,
by Keller and Blodgett – with CD

Course Description: This course is intended to provide an introduction to natural hazards as studied through the disciplines of geology, oceanography, astronomy, and meteorology. Lectures will be augmented with PowerPoint presentations and films. Through the course, students will learn to critically think as geologists, oceanographers, meteorologists, and astronomers do in order to solve earth science problems. Topics include the study of subsidence, flooding, mass wasting, wildfires, comet/asteroid impacts and extinctions, climate change, severe weather, coastal hazards, earthquakes, and volcanoes. Intended audience: This course is a general science class intended to satisfy general education requirements for non-majors.

Text: The text will provide descriptions and examples of the terms and concepts we will study, and will be used to supplement in-class discussions. It is not necessary to bring the text to class, however it is often helpful during discussions.

Exams and Quizzes: There will be one final exam, offered on the last night of the course: You must take the final exam to pass this course, regardless of your point total. There will be four quizzes offered during the semester, of which your best three will be counted towards your grade. You are encouraged to take all four quizzes.

Projects: Several group projects will be completed during the semester. While some class time will be allotted towards these projects, the majority of the work will be completed outside of class, and several will utilize the Hazard City CD that is included with all new texts. Additional information related to each project will be provided separately.

End of Class Reflections: Near the end of class each night you will be asked to reflect upon the significance and applicability of the material discussed that night. You will be provided with a guiding question (or questions) to focus your reflection. Reflections will be completed in class, and turned in prior to leaving for the evening. There will be no late reflections accepted for grading. There will be at least twelve (12) reflection opportunities given during the semester, of which ten (10) will be counted towards your grade.

Make-up Work: In the event of extenuating circumstances (evaluated on a case by case basis), make-up work will be assigned (but only under rare circumstances). No make up work will be assigned for the group projects, the reflections, or the final exam.

Participation: Your attendance will not be considered as part of the grading scheme. However, since quizzes can only be made up under certain rare conditions, and there is no makeup available for the in-class reflections or projects, the failure to attend class can (and probably will) significantly affect your grade. Your participation in classroom discussions and projects will be used to determine a portion of your grade for those assignments.

Drops: It is **your responsibility** to drop the course if you do not wish to receive a grade for the course. If you stop attending class you will **NOT** be dropped. Failure to drop the course prior to the deadline will result in a grade being assigned. Additionally, failure to drop the course in a timely manner will result in a “W” being recorded on your transcript. The important dates are posted on the Columbia College website. You are responsible for knowing these dates.

Grading Policy: The maximum available points for quizzes, exams and projects are as follows:

Quizzes (best 3 out of 4)	300
Group Projects	300
In class Reflections (best 10 out of 12)	200
Final Exam	200
Total Points Available	1,000

A grading curve will not be used to determine grades. Grades will be determined as follows:

A = 90-100%	(900 to 1,000 points)
B = 80-89%	(800 to 899 points)
C = 70-79%	(700 to 799 points)
D = 60-69%	(600 to 699 points)
F = < 60%	(599 or fewer points)

Goals:

The primary goal of this course is to teach you to think critically in order to be able to make appropriate decisions that are based on logical analysis and sound reasoning. You will be given the opportunity to do this in the context of learning about the environment of the Earth as well as the inter- and intra-personal environment within the classroom and out in the field.

Objectives and Student Learning Outcomes:

By the end of the course, each student shall:

- be able to collect, compile, organize, transform, analyze, and make intelligent land use decisions from raw geologic data.
- have worked cooperatively within small groups of peers to solve geologic problems.
- have evaluated a geologic problem, researched possible solutions, and discussed your research with the class.
- be able to recognize geologic hazards, and determine appropriate mitigation measures.
- be able to assess your personal exposure to geologic hazards, and determine appropriate measures to eliminate or reduce your exposure.
- have utilized observational skills to recognize geologic principles in operation in the world around them.
- be able to correctly name geologic features, hazards, or processes, and identify potential risks, benefits, or other related elements of those conditions.
- be able to read, think about, analyze, research, and then convey clearly written answers to a variety of hazards or issues.
- gained an understanding of, and hopefully an appreciation for, the immense forces, scale of time, and processes that shape our planet and influence our lives, and our role in mitigating or exacerbating the impacts of those forces.

Student Responsibilities:

Each student is expected to actively participate in their education. This requires regular attendance, reading assigned materials, and completing assignments on schedule.

Students will demonstrate their understanding of the materials and concepts by providing answers to exam questions, producing well-organized research and reflection assignments, and by open classroom discussion.

A fair portion of the course will be dedicated to the open discussion of various geologic topics. Each student is expected to provide thoughtful consideration of others' opinions, and respectful responses. All discussions need to be directly related to the topic at hand. Please defer personal conversations for time outside the classroom.

Food or drinks are discouraged in the classroom. All food related trash **MUST** be disposed of in waste containers outside of the classroom. **NO** food wastes are allowed to be disposed in classroom trash cans. Tobacco products are not allowed to be used in the classroom at any time – including chewing tobacco. Please help maintain these facilities - your tax dollars are paying for them.

Help build a mutually respectful, cooperative learning environment. Your future depends on it.

Additional Resources:

Resources are available through Columbia College for students with learning or physical disabilities. For information on your rights and the services that are available, please contact the Disabled Students Programs and Services office, or visit their web page at: http://www.gocolumbia.edu/student_services/ for additional information.

It is your responsibility to contact appropriate resources if you feel you need additional assistance with this course. Please do not wait until it is too late to seek assistance that is available.

Columbia College adheres to Section 504 of the Rehabilitation Act of 1973 that stipulates that no student shall be denied the benefits of an education, ‘. . . solely on the basis of disability.’ Disabilities covered by Section 504 and the American Disabilities Act include but are not limited to learning disabilities, hearing, sight, or mobility impairments. If you have a condition that may impact your work in this class and for which you may need accommodations, please see me by the second week of class.

Columbia College is committed to providing access to students with disabilities. If you have or believe you have a condition which requires special accommodations, please see me immediately so we can talk about your options.

For students with disabilities, whether physical, learning, or psychological in nature, who believe that they may need special accommodations in this class, I encourage you to discuss options with me as soon as possible or contact Student Services.

For your convenience, various student academic resources are available to you through Columbia College. Please utilize these resources in order to help you succeed in your educational goals.

Student Learning Styles

Go to the following web site to help determine your preferred learning style. It can be a great help in focusing your energies in the direction that best fits your educational needs. At the very least, read the definitions of learning styles to see which best describes you.

Index of Learning Styles: <http://www.ncsu.edu/felder-public/ILSpage.html>

Go to the ILS link (Index of Learning Styles) to take the 44 item questionnaire to determine your learning style.

Tentative Course Schedule:

Week	Date	Topics	Text Chapters
1	1/13	Course Introduction, Process, hazard, disaster	1
2	1/20	Earthquakes	2
3	1/27	Earthquakes	
4	2/3	Tsunamis and Coastlines	3, 10
5	2/10	Volcanoes	4
6	2/17	Volcanoes	
7	2/24	Flooding	5
8	3/3	Mass Wasting and Subsidence	6, 7
9	3/10	Hurricanes and Tornadoes	8, 9
10	3/17	Climate and Climate Change	11
11	3/24	Wildfires	12
12	3/31	Impact Events	13
13	4/7	Disaster Response and Relief	
14	4/14	The Future	
15	4/21	Course Review Emergency Plan Review	
16	4/28	Final Exam	

Please note: This is a **flexible guideline** and is subject to change!

Grade Tracking Sheet

Enter the points you've earned for each assignment to keep track of your point total throughout the semester. Also use it to ensure that you have submitted all of your assignments. Keep all returned assignments with this tracking sheet to ensure that my records match up with yours.

Assignment	Points Possible	Points Earned
In Class Reflections		
Reflection 1	20	
Reflection 2	20	
Reflection 3	20	
Reflection 4	20	
Reflection 5	20	
Reflection 6	20	
Reflection 7	20	
Reflection 8	20	
Reflection 9	20	
Reflection 10	20	
Reflection		
Reflection		
Projects		
Project One	75	
Project Two	75	
Project Three	50	
Project Four – Emergency Plan	100	
Quizzes and Final Exam		
Quiz One	100	
Quiz Two	100	
Quiz Three	100	
Quiz Four		
Final	200	
Total Points	1,000	

Natural Hazards

Project Four

The purpose of this project is to have each student prepare a comprehensive emergency response plan for either their home, or their business. The end product will be a document that can be utilized in the event of any major disaster. You will follow established guidelines to determine what is required for your plan, however you will tailor the plan to suit your specific needs and situation.

Part One: Do a search of various websites or other resources to find an emergency plan outline that best meets your needs. Modify the outline to meet your particular needs.

Part Two: Flesh out the details of your emergency response plan. The plan must be comprehensive. That is, be sure that it addresses earthquakes, flooding, mass wasting, wildfire, or other events that you and your family could be potentially affected by while living in California. While you may not face tornadoes or hurricanes, severe weather is a potential threat. Be sure to consider as many potential impacts as possible.

Part Three: Produce a final written emergency response plan. Include maps, diagrams, or other figures that would be useful to family members or employees. Consider color coding pages or using some method to enable rapid access to the needed information. Phone numbers and emergency contacts as well as meeting locations need to be listed.

Part Four: On the second to last night of class we will discuss the variety of emergency plans and look at everyone's final product. They will be turned in that night for grading.

The Importance of Earth Science Education

Earth Science plays a unique and essential role in today's rapidly changing world. It is an integrated study of the Earth's history, composition and structure, its atmosphere and oceans, and its environment in space. Knowledge of Earth Science is important because most human activities are related to interaction with the planet Earth.

Basic knowledge about the Earth is the key to development of an informed citizenry. The reasons for teaching Earth Science are numerous: 1) it offers experience in a diverse range of interrelated scientific disciplines; 2) it is closely related to your natural surroundings; and 3) it offers you subject matter which has direct application to your life and the world around you. You need only step outdoors to observe and find relevance in concepts learned in the Earth Science classroom. Because it offers many opportunities to collect data, hypothesize, experiment, and draw conclusions, both within school and outside environments, Earth Science is a laboratory and activity oriented course. Earth Science integrates many principles of both physical and life sciences. It incorporates and presents concepts often not emphasized in other parts of the science curriculum, such as geologic time and the vastness of space.

The teaching of Earth Science allows all students to have a better science background with pertinent information about your surroundings. Daily, society is faced with environmental and economic concerns such as deforestation, mining issues, acid rain, water supply, the greenhouse effect, and waste disposal. Civilization is absolutely dependent upon utilization of Earth's energy, mineral, and human resources. Awareness of natural phenomena such as floods, earthquakes, landslides, volcanoes, tornadoes, and hurricanes also requires knowledge of Earth Science.

Students who study Earth Science are better prepared to discuss issues and make informed, responsible decisions. The interdisciplinary curriculum of Earth Science develops and builds on skills learned in earlier courses and closely relates to your everyday experiences. It develops attitudes and problem-solving skills that will be useful throughout life. If tomorrow's adults are to make wise decisions about Earth and environmental issues, it is vital that today's students be given the opportunity to study Earth Science at all levels as an integral part of their school experience.

(This statement is modified from the National Earth Science Teachers Association, September 13, 1988).

AFFIRMATIONS FOR ACADEMIC SUCCESS
-or-
HOW TO DO GREAT AT COLUMBIA COLLEGE

Jeff Fitzwater, Counselor/Instructor

- I am at College each class day, and I am attending each of my courses.
- I am paying attention while in class, and am taking accurate notes.
- While in class, I am sitting in a place where I can focus on the Instructor, and where I will not be distracted.
- I am asking questions during class.
- I am involved in class discussions / activities.
- I am keeping *ahead* of the reading required for my courses.
- I set aside time to complete my homework.
- I am finishing my assignments, and I am turning them in on time.
- If I begin having problems in a class I will immediately visit my Instructor during their office hours, and seek additional help on campus (tutoring, counseling, etc.)
- I read my college catalog and Student Handbook to understand Columbia College policies, procedures and degree / transfer requirements.
- I seek out the Student Services available on campus, and I utilize the many available and helpful resources to support my academic success.
- I manage my time well, and I wisely balance school, work, social life and family obligations.
- I let the significant people in my life know the importance of my education, and I actively ask for their encouragement and support.
- If I am thinking of transferring to a four year school, I am taking positive steps to research my options, and am looking ahead to apply to the University of my choice.
- I am planning ahead for how my education will bridge into the career / work world.
- I am taking responsibility for my education, and am preparing for my future.