

EENS 605**Natural Disasters****Spring 2009****Instructor:** Dr. Stephen A. Nelson

Office Hours - MWF 1:00 - 4:00 PM, Room 208, Blessey Hall,

e-mail - snelson@tulane.edu Office Phone 862-3194**Required Textbook:** *Natural Disasters* 6th Edition by Patrick L. Abbott**Course Grading:** Your grade in this course will be determined on the following percentage distribution:

Midterm Exam	25%
Final Exam	30%
Homework	20%
Disaster Summary	10%
Term Paper	15%

Web Site:

Further course materials, including a copy of this syllabus, all homework assignments, lecture notes, disaster summary information, announcements from the instructor, and useful internet links can be found on the Internet at: <http://www.tulane.edu/~sanelson/geol204/>. Be sure to check this web page regularly throughout the course for important announcements and updates.

Homework and Exams:

The midterm and final exams will be mostly objective in nature with questions coming from the reading material, lectures, and homework assignments. Exam questions for those enrolled in EENS-605 may differ from those on the EENS-204 exams. **No make-up exams will be given.** The Final Exam **will be cumulative.** Homework assignments consist of exercises designed to help the student gain practical experience in examining information about the occurrence and effects of natural disasters. **All homework answers should be typewritten.** Due dates are listed in the schedule below. All homework is due by the end of the class period on the due date. Due dates and times are firm. Late assignments will be subject to a 50% penalty and will not be graded in detail..

Field Trip

Because much of New Orleans is still a disaster zone, we have an excellent opportunity to observe the effects of a natural disaster first-hand. EENS 605 students are required to participate on a 4.5 hour field trip to the disaster area. To sign up for a field trip please go to the web page at <http://www.tulane.edu/~sanelson/geol204/fieldtrip.htm> Be sure to follow all links on that page.

Disaster Summary:

Students will be required to find information on major natural disasters that occur during the time period of the course. Information for this summary will be found in newspapers,

magazines, and on the internet. On the last day of class, each student will turn in a short summary of the 12 worst disasters that occurred during the course. This summary should include information on the type, details, effects, death/injury toll, and economic impact of each of these 12 disasters. Further information on the disaster summary can be found at <http://www.tulane.edu/~sanelson/geol204/disasterssummary.htm>.

Term Paper

A 10 to 15 page term paper will be turned in on the last day of class (April 28, 2009). The term paper can be on any topic related to Natural Disasters, but the topic must be approved by the instructor before January 29, 2009. The term paper must show an advanced knowledge and understanding of the chosen topic. The student may turn in a near final version of the term paper by April 16 for the instructor to review and critique. The instructor will then return the reviewed paper, along with his comments so that the student has time to make the necessary revisions prior to the due date. All students are encouraged to take this approach. .

Honor Code:

All students are expected to follow the Tulane Honor Code. If you are unfamiliar with the Honor Code or have any questions about it, get a copy of the Honor Code from your Dean's office or view it at: <http://college.tulane.edu/code.htm> . In short, the Honor Code states that all work turned in for credit must be **your own work in your own words**, unless clear and explicit acknowledgement of the sources of the work is given. This does not mean that collaboration on assignments is discouraged. You may collaborate, just make sure that the work you turn in is in your own words, and not just a copy of the work of your collaborators.

Schedule of Lectures and Assignments		
Date	Topic	Readings
Jan. 13	Natural Disasters & Assessing Hazards and Risk Homework Assigned: I. Disaster Info on the Internet	Ch. 1 Lecture Notes
Jan. 15	Earth Structure, Materials, Systems, and Cycles	Ch. 2 Lecture Notes
Jan. 20	Earth Structure, Materials, Systems, and Cycles	Ch. 2 & 3
Jan. 22	Earthquakes: Causes and Measurements Homework I Due	Ch. 4
Jan. 27	Earthquake Hazards and Risks Homework Assigned: II. Seismological Exercises	Ch. 4 & 6
Jan. 29	Earthquake Case Histories	Ch 4, & 7 Lect. Notes
Feb. 3	Earthquake Prediction and Control	Ch. 6

Feb. 5	Tsunami	Ch. 5
Feb. 10	Volcanoes, Magma, and Volcanic Eruptions Homework II Due Homework Assigned: III. Volcanological Exercises	Ch. 8
Feb. 12	Volcanic Landforms, Volcanoes and Plate Tectonics	Ch. 8 & 9
Feb. 17	Volcanic Hazards, Beneficial Aspects, and Predicting Eruptions	Ch. 9
Feb. 19	Volcanic Case Histories Homework III Due	Ch. 9 Lect. Notes
Feb. 24	Mardi Gras - no class	
Feb. 26	Volcanic Case Histories	Ch. 9 Lect. Notes
Mar. 3	Midterm Exam	
Mar. 5	Mass Wasting and Mass-Wasting Process Homework Assigned: IV. Mass Wasting Exercises	Ch. 10
Mar. 10	Slope Stability, Triggering Events, Mass Wasting Hazards	Ch. 10
Mar. 12	Subsidence: Dissolution & Human Related Causes	Ch. 10 Lect. Notes
Mar. 17	The Ocean-Atmosphere System Homework IV Due	Ch. 11
Mar. 19	Thunderstorms & Tornadoes Homework Assigned: V. Weather Exercises	Ch. 12
Mar. 24 & 26	Spring Break- No class	
Mar. 31	Tropical Cyclones	Ch. 13
Apr. 2	Tropical Cyclones	Ch. 13
Apr. 7	Tropical Cyclones	Ch. 13
Apr. 9	Coastal Zones Homework V Due Homework Assigned: VI. Flooding Exercises	Ch. 13
Apr. 14	River Systems & Causes of Flooding	Ch. 14

Apr. 16	River Flooding	Ch. 14
Apr. 21	Flooding Hazards, Prediction and Human Intervention	Ch. 14
Apr. 23	Meteorites & Impacting Events Homework VI Due	Ch. 17
Apr. 28	Meteorites & Impacting Events Disaster Summary Due	Ch. 17
May 6	FINAL EXAMINATION 1:00 PM - 5:00 PM	

Learning Outcomes for this Course

1. The student will gain an understanding of the geologic and atmospheric processes responsible for natural hazards, including earthquakes, volcanic eruptions, landslides, flooding, tornadoes, hurricanes, drought, and asteroid impacts.
2. The student will gain an understanding of the areas susceptible to natural hazards and the frequency which these hazards become natural disasters.
3. The student will gain an understanding of practical ways to avoid the effects of natural disasters and mitigate the effects in areas where they are likely to occur.

[Obtain a PDF version of the Syllabus](#)

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