

**EENS 204/ EVST 203****Natural Disasters****Fall 2009****Instructor:** Dr. Stephen A. Nelson

Office Hours - MWF 1:00 - 3:00 PM, Room 208, Blessey Hall

e-mail - [snelson@tulane.edu](mailto:snelson@tulane.edu) Office Phone 862-3194**Required Textbook:** *Natural Disasters* 7th 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	25%
Disaster Summary	15%
Field Trip	5%

**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. **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 must 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 part of New Orleans is still a disaster zone, we have an excellent opportunity to observe the effects of a natural disaster first-hand. In order to help understand the Katrina disaster 5% of your grade will be based on participation on a 4.5 hour field trip to the disaster area. To receive the 5%, all you need to do is participate in the field trip. To sign up for a field trip please go to the 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/disastersummary.htm>.

### 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
Aug. 25	Natural Disasters & Assessing Hazards and Risk <b>Homework Assigned: I. Disaster Info on the Internet</b>	Ch. 1 Lecture Notes
Aug. 27	Earth Structure, Materials, Systems, and Cycles	Ch. 2 Lecture Notes
Sept. 1	Earth Structure, Materials, Systems, and Cycles	Ch. 2 & 3
Sept. 3	Earthquake Case Histories	Ch 4, & 7 Lect. Notes
Sept. 8	Earthquakes: Causes and Measurements <b>Homework I Due</b> <b>Homework Assigned: II. Seismological Exercises</b>	Ch. 4
Sept.. 10	Earthquake Hazards and Risks	Ch. 4 & 6
Sept. 15	Earthquake Prediction and Control	Ch. 6
Sept. 17	Tsunami	Ch. 5
Sept. 19	<b>Saturday Field Trip</b> (only if you are signed up for this trip)	
Sept. 22	Volcanoes, Magma, and Volcanic Eruptions <b>Homework II Due</b> <b>Homework Assigned: III. Volcanological Exercises</b>	Ch. 8
Sept. 24	Volcanic Landforms, Volcanoes and Plate Tectonics	Ch. 8 & 9

Sept. 29	Volcanic Hazards, Beneficial Aspects, and Predicting Eruptions	Ch. 9
Oct. 1	Volcanic Case Histories <b>Homework III Due</b>	Ch. 9 Lect. Notes
Oct. 6	Volcanic Case Histories	Ch. 9 Lect. Notes
Oct. 8	<b>Midterm Exam</b>	
Oct. 11	<b>Sunday Field Trip</b> (only if you are signed up for this trip)	
Oct. 13	Mass Wasting and Mass-Wasting Process <b>Homework Assigned: IV. Mass Wasting Exercises</b>	Ch. 10
Oct. 15	<b>Fall Break - no class</b>	
Oct. 20	Slope Stability, Triggering Events, Mass Wasting Hazards	Ch. 10
Oct. 22	Subsidence: Dissolution & Human Related Causes	Ch. 10 Lect. Notes
Oct. 27	The Ocean-Atmosphere System <b>Homework IV Due</b>	Ch. 11
Oct. 29	Thunderstorms & Tornadoes <b>Homework Assigned: V. Weather Exercises</b>	Ch. 12
Nov. 3	Tropical Cyclones	Ch. 13
Nov. 5	Tropical Cyclones	Ch. 13
Nov. 10	Tropical Cyclones	Ch. 13
Nov. 12	Coastal Zones <b>Homework V Due</b> <b>Homework Assigned: VI. Flooding Exercises</b>	Ch. 13
Nov. 17	River Systems & Causes of Flooding	Ch. 14
Nov. 19	River Flooding	Ch. 14
Nov. 24	Flooding Hazards, Prediction and Human Intervention	Ch. 14
Nov. 26	<b>Thanksgiving Holiday - no class</b>	
Dec. 1	Meteorites & Impacting Events <b>Homework VI Due</b>	Ch. 17
Dec. 3	Meteorites & Impacting Events <b>Disaster Summary Due</b>	Ch. 17
Dec. 11	<b>FINAL EXAMINATION 8:00 AM - 12:00 PM</b>	

## 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.

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

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