

**HONORS 161: INTEGRATED SCIENCE
ENVIRONMENTAL GEOLOGY COMPONENT**

SYLLABUS FOR FALL SEMESTER 2007

Course Number: HON 161-01: 3 credit hours

Time and Place: MWF 12:00-12:50 AM LDB 208

Instructor Information: John Degenhardt
B.S. Geology, Texas A&M University
M.S. Planetary Geology, University of Houston
Ph.D. Geography, Texas A&M University

Contact Information: Office: Room 323 Lee Drain Building (LDB)
Office Hours: MW 10:00-11:00, Tues 11:00-12:00
Phone: 936-294-1452
E-mail: degenhardt@shsu.edu

Prerequisites: HON Physical Geology and Weather and Climate components

Text: None; Reference material will be distributed in class.

Supplies: Scantron test forms (100-question version 882ES), notebook, pen, pencil, calculator.

Course Description: An introduction to the interrelationship between humans and the geologic environment. This includes the potential hazards posed by geologic processes, and the planning that needs to be done to avoid or lessen their impact. Specific topics include geologic hazards related to volcanism, flooding, landslides, earthquakes, and coastal processes.

Objectives: The goal is to enable the student to: 1) develop knowledge and awareness of the interaction between geologic materials, resources, processes, and human activities; 2) propose methods of solving related environmental problems; and 3) analyze specific earth hazards in light of fundamental principles learned and recommend ways of coping with them through recognition of their potential, predicting their occurrence, and in some cases, controlling them.

Methods of Instruction: Lectures for this course will be delivered by means of PowerPoint presentations and an occasional video. They will be scheduled to coincide as closely as possible to activities that are undertaken in lab (GEL 112). It is my intent to make the PowerPoint lectures available on the Blackboard course website.

Grading Criteria: Grading for the Environmental Geology component will consist of a single exam, administered in the last week of the course, together with the average of grades obtained from lab exercises and quizzes done over the 5-week period. The lecture exam, which covers material from both the lectures and labs, will comprise 75% of your grade in the Environmental Geology component and the remaining 25% will consist of your final lab grade. It is assumed

that you have a working knowledge of the material covered in the two previous 5-week components of the HON 161 course. **Your overall grade will be based on the average of the scores earned for all three components of the HON 161 course.**

Grading Scale: A = 90-100% B = 80-89% C = 70-79% D = 60-69%

Attendance and Make-up Policies: The SHSU Undergraduate Catalog states that "Regular and punctual attendance is expected for each student at Sam Houston State University." Accordingly, the University requires each instructor to keep a record of student attendance. Attendance for this course will be taken at the beginning of the hour based on a seating chart and/or initialed roster. In order for an absence to be excused, **some form of documentation MUST be provided.**

1. In addition to the required attendance policy, it is necessary that you please come to class on time. Tardy students disrupt the class and adversely affect the presentation of information, as well as other activities. *Please note that tardies may be counted as absences.* This class operates under the premise that an important part of the learning process takes place in the lecture portion of the course. Therefore, class attendance and participation are strongly encouraged.

The University allows nine class hours of absence without penalty (6 T-day classes or 9 M-day classes). No excuses are required. **For the Environmental Geology component, you are allowed three absences.** Those with absences in excess of this number are subject to automatic failure for the component.

Americans with Disabilities Act: *SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Counseling Center and talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. Note: No accommodation can be made until you register with the Counseling Center. Therefore, any student seeking accommodations should go to the Counseling Center and Services for Students with Disabilities in a timely manner and complete a form that will grant permission to receive special accommodations.*

Special Circumstances: If unusual circumstances arise during the semester, such as a medical problem, death in the family, etc., that adversely affects your attendance PLEASE **discuss this with me immediately and provide documentation.** Under these conditions, I will gladly do my best to accommodate your situation by excusing absences, allowing late work to be turned in within a reasonable time period, and so on. However, if you wait until after-the-fact, at the end of the semester, **I will not retroactively make accommodations and I do not give extra credit assignments to make up for grade deficiencies.**

COURSE CONTENT

WEEK 1

Overview and Course Introduction

- History and Causes of Environmental Problems
- Earth Materials – minerals, rocks, surficial deposits, bedrock
- Earth Processes – internal vs. surface

WEEK 2

Earthquake Hazards

- Distribution and scales
- Hazards and mitigation

WEEK 3

Volcanic Hazards

- Nature of, causes, morphology
- Types and Distribution
- Hazards and Mitigation
- Video – Mt. St. Helens (time permitting)

NO CLASS: Thanksgiving Holidays - Wed 11/21 – Fri 11/23

WEEK 4

Coastal Hazards

- Coastal Processes and Landforms
- Erosional and depositional Hazards
- Mitigation – Case Study Galveston

WEEK 5

Floods

- Drainage basins and basin hydrology
- The Issue of Dams
- Stream Channels, Landforms
- Types of Floods and mitigation

FINAL EXAM (Monday, December 10, 2:00 to 4:00 PM)

Lab Instructor: **Molly Mayer**

Lab Topics:

1. Topographic Maps and Remote Sensing
2. Earthquake Hazards
3. Volcanic Hazards
4. Coastal Hazards
5. Flash Floods (time permitting)