We live on an active dynamic planet. Human history has been determined mainly by the activities of humans, but it is not completely divorced from natural processes. In this course, we will explore how a variety of geologic events and environments have influenced human history from pre-historic times up to the present. We will analyze the social, cultural and economic effects of various disasters that led to significant changes in societies in Africa, the Americas, Asia, Europe and Oceania.

This course will use a mix of lecture and hands-on learning through group projects. After outlining the hazards associated with various geologic processes, we will investigate historical examples and how different societies have reacted to, and changed because of, these natural disasters.

Following a week of introduction to how our dynamic planet works and how this dynamism results in sometimes-hazardous conditions, the semester will be divided into four 7-class modules, dedicated to volcanism, earthquakes, tsunami, and floods. Each module will start with an introduction to the particular hazard (class 1 and part of class 2). At the end of class 2 the group project for that particular module will be assigned. Class 3 will present case studies of the particular hazard, including their cultural and historical effects. In class 4, the student groups will present their preliminary results to the class, with feedback and discussion from fellow students and the instructor. Class 5 and most/all of class 6 will be additional case studies. Depending on enrollment, some or all of class 6 will be the first set of final presentations from the student groups. Class 7 will be all or the remaining final presentations from the student groups, again depending on enrollment.

Course grading:
Midterm (25%)
Final Exam (25%) (non-cumulative)
Course attendance and participation (50%) – includes participation in class discussions and group projects


**Tentative Schedule**

Jan 9 – Intro., Earth Structure, Plate Tectonics I

Jan 11 – Plate Tectonics II: Plate boundaries

Jan 16 – Volcanism I: Magma generation and volcanic eruptions

Jan 18 – Volcanism II: Volcanic hazards, assign group project 1 (effects of Tambora)

Jan 23 – Volcanism III: Historical effects (Toba 73K BCE; Santorini ~1600 BCE; Vesuvius 79 CE)

Jan 25 – Volcanism IV: Preliminary presentations, discussion of preliminary results

Jan 29 – Volcanism V: Hawaiian eruptions (‘Ailā‘au and Keanakāko‘i eruptions and connections to epic Hi‘iaka story, current eruption and Pāhoa); 20th century eruptions in Hawai‘i and Italy

Feb 1 – Volcanism VI: Gas disasters in Cameroon

Begin student presentations

Feb 6 – Volcanism VII: Project 1 student presentations

Feb 8 – Earthquakes I: Causes, measurement, location

Feb 13 – Earthquakes II: Hazards, assign group project 2 (earthquakes from 1800-1950)

Feb 15 – Earthquakes III: 1868 Ka‘ū Mw 8.0(?)

Feb 20 – Earthquakes IV: Preliminary presentations, discussion of preliminary results

Feb 22 – Earthquakes V: Earthquakes in China, prehistoric to recent

Feb 27 – Earthquakes VI: 2010 Haiti (poverty and corruption) and Europe (Lisbon)

Begin student presentations

March 1 – Earthquakes VII: Project 2 student presentations

**March 6 Midterm**

March 8 – Tsunami I: Generation and propagation

March 13 – Tsunami II: Hazards

Assign group project 3 (the 1960 tsunami around the Pacific)

March 15 – Tsunami III: 2004 Indian Ocean, 2011 Tohoku

March 20 – Tsunami IV: Preliminary presentations, discussion of preliminary results.

March 22 – Tsunami V: 1868, 1946 and 1975 Tsunami in Hawai‘i

**March 27-29: SPRING BREAK**

April 3 – Tsunami VI: Eastern Mediterranean (365 CE) and Lisbon (1755)

Begin student presentations

April 5 – Tsunami VII: Project 3 student presentations

April 10 – Floods I: Causes, measurement

April 12 – Floods II: Opening of Bosporus = Noah’s flood?

Assign group project 4 (flood cases)

April 17 – Floods III: Chinese floods in ~2200-2000 BCE and effects on dynasties

April 19 – Floods IV: Preliminary presentations, discussion of preliminary results

April 24 – Floods V: Holland: ~823- present, with emphasis on the 1421 St. Elizabeth Flood

April 26 – Floods VI: Louisiana flooding in 1927 (Mississippi River) and 2005 (Katrina)

Begin student presentations

May 1 – Floods VII: Project 4 student presentations

**May 8 Non-cumulative Final Exam (Tuesday of Finals Week, 9:45-11:00 am)**
Admin Stuff:

The Department of Geology and Geophysics has established the following undergraduate student learning objectives for introductory courses such as GG135:

Students can explain the relevance of earth science to human needs, including those appropriate to Hawaii, and be able to discuss issues related to geology and its impact on society and planet Earth.

Students use the scientific method to define, critically analyze, and solve a problem in earth science.

Students can reconstruct, clearly and ethically, geological knowledge in both oral presentations and written reports.

In addition, as a UH General Education Foundations course, the following student learning objective applies:

Students can analyze the development of human societies and their cultural traditions through time in different regions (including Africa, the Americas, Asia, Europe, and Oceania) and using multiple perspectives.

Please review the UH Mānoa Student Conduct Code at:

http://www.studentaffairs.manoa.hawaii.edu/policies/conduct_code/

A key line in the Code says, “The University expects students to maintain standards of personal integrity that are in harmony with the educational goals of the institution; to respect the rights, privileges, and property of others; and to observe national, state, and local laws and University regulations.”

The code also outlines the serious penalties for violations, so please do not violate the code.

Title IX:

The University of Hawai‘i is committed to providing a learning, working and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking. If you or someone you know is experiencing any of these, the University has staff and resources on your campus to support and assist you. Staff can also direct you to resources that are in the community. Here are some of your options:

As members of the University faculty, your instructors are required to immediately report any incident of potential sex discrimination or gender-based violence to the campus Title IX Coordinator.

Although the Title IX Coordinator and your instructors cannot guarantee confidentiality, you will still have options about how your case will be handled. Our goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need.