Natural Disasters Laboratory
GEOL 308L Course Syllabus
(1 Unit)

Humboldt State University
Department of Geology
Arcata, CA 95521

Spring 2017

Lecture: CRN 25478 Section 1 W 08:00 – 09:50 Forestry 204 A

Instructor: Dr. Jason Robert Patton
Email: Jason.Patton@humboldt.edu
Office: Founders Hall 136
Phone: 707.826.3923
Course Website: http://www.science.earthjay.com/?page_id=4886
Office Hours: Tuesday 13:00 – 15:00

Prerequisites: GEOL 308 must be taken concurrently; upper division standing.

Field Trips: Two Weekend Field Trips (Optional)


Required Textbook:


Recommended Reading:


Contact: Please don’t hesitate to email me with any questions, comments, or concerns. I welcome any feedback or suggestions. The best way to contact me for any reason is by sending an email directly to my HSU email Jason.Patton@humboldt.edu

Fulfills the following requirements: (1) upper division (area B) General Education requirements and (2) a core requirement for the BA Geoscience degree program.

Required Supplies: three ring binder for class handouts including blank paper for drawing illustrations and notes during class; colored pencils for making illustrations; and a thumb drive, preferably at least 16 GB.
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Course Summary:
A two-hour per week laboratory to be taken concurrently with Geology 308. Laboratory activities introduce geographic information systems, electronic resources on disasters and disaster mitigation and management. Students select a Pacific Basin country to study throughout the semester and compile seismic, volcanic, tsunami and weather-related hazards maps of the area. At the end of the term, they give a summary presentation vulnerabilities and mitigation efforts.

Course Description:
Three-hour weekly laboratory introducing hazard and risk assessment tools including Geographic Information Systems, warning systems and emergency management, including a campus emergency exercise. Emphasis on countries in the Pacific Basin.

Course Student Learning Outcomes:

HSU Department of Geology:
- Assess the hazards of a country and compare/contrast to risks in Northern California.
- Develop competence in constructing GIS hazards maps.
- Demonstrate competence in communicating hazard information to a non-scientific audience.

HSU College of Natural Resources and Sciences:
- Be able evaluate the significance and value of scientific concepts and technology as they apply to the development of past and current human civilizations and the natural world.
- Find (in the library or on the Internet) scientific information and critically evaluate conclusions drawn from these sources.

HSU:
- Apply scientific concepts and theories to develop scientific explanations of natural phenomena.
- Critically evaluate conclusions drawn from a particular set of observations or experiments.
- Discuss value systems and ethics associated with scientific endeavors.
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Humboldt State University Student Learning Outcomes:

HSU graduates will have demonstrated:

- Effective communication through written and oral modes.
- Critical and creative thinking skills in acquiring a broad base of knowledge and applying it to complex issues.
- Competence in a major area of study.
- Appreciation for and understanding of an expanded world perspective by engaging respectfully with a diverse range of individuals, communities and viewpoints.

HSU graduates will be prepared to:

- Succeed in their chosen careers.
- Take responsibility for identifying personal goals and practicing lifelong learning.
- Pursue social justice, promote environmental responsibility, and improve economic conditions in their workplaces and communities.

Grading

Late Assignments are NOT ACCEPTED.
There are NO EXTRA CREDIT opportunities.
Your final grade will be comprised of:

<table>
<thead>
<tr>
<th>Summary</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>100</td>
</tr>
<tr>
<td>Lab Assignments</td>
<td>450</td>
</tr>
<tr>
<td>Country Project</td>
<td>400</td>
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<tr>
<td>Community Presentation</td>
<td>50</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>1000</strong></td>
</tr>
</tbody>
</table>

There are 1000 points available and grades are assigned by the percentage of total points as follows:

1000-940=A  939-900=A-  899-870=B+  869-830=B  829-800=B-
799-770=C+  769-700=C  699-670=D+  669-600=D  <599=F

Communication:

The instructor will send announcements via email to the student’s humboldt.edu email addresses. Students should check their email regularly (at least once a day). Please contact the instructor only via the email listed above. The instructor will respond at their earliest convenience. Students will exchange contact information with their peers on the first day of classes. This is important so that if anyone misses a class, they can contact more than one of their peers to go over the notes and lab materials.
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Classroom Conduct:
Side conversations among classmates are disrespectful and disruptive to the instructor and your fellow students. Questions or comments about the course material are welcome at all times but should be approached in a respectful manner.

Electronic and Smart Devices:
The use of cell phones, iPods, or other items that may distract you, your instructor, or your classmates are not permitted during class. All such devices must be turned off. Failure to comply is grounds for removal from classroom, a failed grade, or disciplinary action.

Name changes, gender identity and pronouns:
If the name or gender on your HSU email account or Moodle name is different than the one you are and are called by, please tell me.

Academic Honesty:
You are encouraged to work together to review notes from lectures, to work on problems from the text, and to formulate ideas for any take-home assignments. However, all work you turn in must be your own independent, original work.

In the event that any work is copied from another student, zero credit will be given to all students involved (regardless of who copied from whom).

Any sources of information used in your written work must be referenced (regardless of whether the material was copied word-for-word). This includes your text book and all internet sources (reference these by including the name and URL). Any work including un-referenced material from another source (regardless of whether it was copied word-for-word) will be given zero credit.

More information is available at:
http://www.humboldt.edu/studentrights/academic_honesty.php

Academic Misconduct: Cheating, plagiarism, collusion, abuse of resource materials, computer misuse, fabrication or falsification, multiple submissions, complicity in academic misconduct, and/ or bearing false witness will not be tolerated. Violations will be dealt with according to the procedures and sanctions proscribed by Humboldt State University. Students caught plagiarizing or cheating on exams will receive an “F” in the course.

University Policies:
Student Code of Conduct: Students are responsible for following the standards described in the Student Code of Conduct.
https://www2.humboldt.edu/studentrights/sites/default/files/images/code_of_conduct.pdf
Students with Disabilities: Persons who wish to request disability-related accommodations should contact the Student Disability Resource Center in the Learning Commons, Lower Library, 826-4678 (voice) or 826-5392 (TDD). Some accommodations may take up to several weeks to arrange. [http://www.humboldt.edu/disability/](http://www.humboldt.edu/disability/)

Add/Drop policy: Students are responsible for knowing the University policy, procedures, and schedule for dropping or adding classes. [http://www.humboldt.edu/~reg/regulations/schedadjust.html](http://www.humboldt.edu/~reg/regulations/schedadjust.html)

Emergency evacuation: Please review the evacuation plan for the classroom (posted on the orange signs), and review [http://www.humboldt.edu/emergencymgmtprogram/evacuation_procedures.php](http://www.humboldt.edu/emergencymgmtprogram/evacuation_procedures.php) for information on campus Emergency Procedures. During an emergency, information can be found campus conditions at: 826-INFO or [www.humboldt.edu/emergency](http://www.humboldt.edu/emergency)

Academic honesty: Students are responsible for knowing policy regarding academic honesty: [http://www.humboldt.edu/studentrights/academic_honesty.php](http://www.humboldt.edu/studentrights/academic_honesty.php)

*Academic dishonesty is willful and intentional fraud and deception to improve a grade or obtain course credit. It includes all student behavior intended to gain unearned academic advantage by fraudulent and/or deceptive means.*

Attendance and disruptive behavior: Students are responsible for knowing policy regarding attendance and disruptive behavior: [http://www.humboldt.edu/studentrights/attendance_behavior.php](http://www.humboldt.edu/studentrights/attendance_behavior.php)

Additional University Policies: See the link below for the official University policies on a) academic honesty, b) attendance and disruptive behavior, c) complaints against HSU employees, d) student code of conduct, e) animals in classrooms, f) adding/dropping classes, g) campus emergency procedures, h) counseling and psychological services, i) student disabilities resource center, j) financial aid office, k) academic and career advising center.

[http://www2.humboldt.edu/academicprograms/syllabus-addendum-campus-resources-policies](http://www2.humboldt.edu/academicprograms/syllabus-addendum-campus-resources-policies)

* Please note that this document is informational and subject to change.
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lab Subject</th>
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<tbody>
<tr>
<td>1</td>
<td>1/18/2017</td>
<td>Lab Introduction</td>
</tr>
<tr>
<td>2</td>
<td>1/25/2017</td>
<td>ArcMap Introduction (Population)</td>
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<tr>
<td>3</td>
<td>2/1/2017</td>
<td>Weather Hazards</td>
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<tr>
<td>4</td>
<td>2/8/2017</td>
<td>Hurricane Katrina</td>
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<tr>
<td>5</td>
<td>2/15/2017</td>
<td>Landslide Modeling</td>
</tr>
<tr>
<td>6</td>
<td>2/22/2017</td>
<td>no lab in exchange for field trip (2/25/17)</td>
</tr>
<tr>
<td>7</td>
<td>3/8/2017</td>
<td>Seismic Hazard</td>
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<tr>
<td>8</td>
<td>3/15/2017</td>
<td>Spring Break</td>
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<tr>
<td>9</td>
<td>3/22/2017</td>
<td>Tsunami</td>
</tr>
<tr>
<td>10</td>
<td>3/25/2017</td>
<td>Field Trip: Tsunami Hazards Humboldt County</td>
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<tr>
<td>11</td>
<td>3/29/2017</td>
<td>Coastal Hazard</td>
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<tr>
<td>12</td>
<td>4/5/2017</td>
<td>Sea Level Rise</td>
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<tr>
<td>13</td>
<td>4/12/2017</td>
<td>Volcanoes</td>
</tr>
<tr>
<td>14</td>
<td>4/19/2017</td>
<td>no lab in exchange for field trip (3/25/17)</td>
</tr>
<tr>
<td>15</td>
<td>4/26/2017</td>
<td>Presentations</td>
</tr>
<tr>
<td>15</td>
<td>5/3/2017</td>
<td>Presentations</td>
</tr>
</tbody>
</table>
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GEOL 308L Course Expectations

Class will start on time at 8:00 AM. You are responsible to be present for and be attentive to all the material covered in class. If you need to leave the class early, please let me know before the class starts. Lateness is unprofessional and chronic lateness is unacceptable. Rare lateness to class is completely understandable, but chronic lateness will result in a reduced attendance and participation grade.

This is a college-level science class, and will require a commitment of your time outside of class. This at-home time will enable you to digest the material we cover in class and help when you are asked on the exams to apply these concepts to different problems and applications.

You may spend up to 4 hours per week on course material outside of class, on average. You are encouraged to set aside a specific time each week outside of class devoted solely to each course:

- Reviewing lecture notes and in-class exercises each week
- Reading the textbook
- Studying for the exam

Note that 4 hours per week at home is the average minimum to pass. Some students may require more time at home just to pass; for some in this course that may be enough to get an A. A student who is very attentive in class, asks questions, and takes careful notes will need less at-home time.

You need to attend labs and participate in class discussions. Much of the course material will only be presented in lecture, and quizzes and the final exam will be based on lecture material. Last minute changes in lecture topics, reading assignments or other requirements may. If you miss a lecture, it is your responsibility to get the missed material and to find out about any assignments from a classmate. It is your responsibility to communicate to me if you are having a problem with class material. I am available during office hours and by apportionment. You will also be working on group hazards projects in class. Missing class may not only affect your grade, but that of others in the class.
Absences: It is extremely difficult to do well in this class without attending all the labs. I understand there will be an occasional absence due to illness or emergency, however I consider more than two absences per semester excessive. If you do miss a class:

1. Obtain the course material online (PowerPoint slides, extra reading, and handouts). The slides will include information about any homework or in-class exercises that were assigned. Most assignments and handouts referenced by the slides will be in your handouts.
2. Next, try to obtain a copy of lab notes from a classmate since there are many things we cover that are not spelled out directly on the slides or handouts. This is the most important step.
3. Read the required reading covering the material you missed.
4. After this, feel free to contact me by email with any questions.

Course Withdrawal. The University has strict policies on withdrawing from classes. You can drop this class with no fee and no permission up until the census date January 30. The course will not appear on your transcript. After that date, there are only two options to drop classes:

1. Serious and Compelling Reason: Examples – psychological problems, loss of childcare, job conflicts. Note: taking too many units or doing poorly in classes is not considered a valid reason to drop the class. You must provide written documentation. Deadline to drop with a “Serious and Compelling Reason” is April 6. A $20 fee, and a grade of W will show up on your transcript. You will receive no units and there is no impact on your GPA. You cannot withdraw from more than 18 units of class over your undergraduate career at Humboldt.
2. Catastrophic withdrawal: Examples – serious illness, accident, death in the family, being called to military service. Requires formal documentation (doctor’s note, obituary, service notice etc.). Grade of W on your transcript, does not count in GPA. Can be granted at any time in the semester and does not count toward your 18 unit limit above.

Incompletes are given only in extreme emergency situations. I require that incompletes be finished within a few weeks of the scheduled final unless you have an extraordinary situation. Don’t ask me for an incomplete if you are not passing the course at the time. If you are having any difficulties meeting assignments, or with the material, please see me early on! We can usually work something out if you don't wait till the last minute.
Check your grades! Please keep all of your returned work for the duration of the semester. I will post your grades on course Canvas page. If you don’t understand how that number is determined, please see me right away and I will make corrections if you have documentation of what you really earned.

Final grade active attendance boost: If your final course grade after rounding to the nearest whole number is within 1 percentage point of a grade transition (C to C+, D to C, A- to A, etc.) I will give you the boost needed to obtain the higher grade if you have actively attended most classes and succeeded in many of the in-class pop quiz questions. More than 2 unexcused absences is considered excessive and will disqualify you from this opportunity. Conduct not in accordance with that outlined in the syllabus will also prevent you from receiving this bonus.

Computer skills: This class will require computer use outside of class. Activities involving the 5 skills listed below will be included throughout the semester. In addition, you will be expected to check Canvas and your email regularly for announcements.

1. Send and receive email from your Humboldt State University email account. Please only send email to my HSU email address.
2. Open a web browser and access a web page if you are given the web address.
3. Access the course material online (handouts, slides, announcements, etc.).
4. Create, edit, and export Microsoft word (.doc or .docx), Microsoft Excel (.xls or .xlsx) and Adobe .pdf documents. We will also be using specialized software to create, edit, and export files of other formats.
5. Create and edit ArcMap projects (.mxd). We will learn the basics of this during the class.

Groups: This class will conduct some class work in groups. Students are encouraged to collaborate by collecting data, taking notes, and sharing these data and results. Some assignments will be turned in as a group and for some activities, students are required to turn in individual reports and assignments. See the notes about academic honesty in the Syllabus.

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Labs: Lectures will consist of short presentations and discussions led by the professor. Most labs can be completed during the two-hour lab period. Many require access to ArcMap software, so unless you have GIS software on your personal computer, you will need to use a computer lab on campus. Most all labs have ArcMap installed. HSU students have access to ArcGIS via the HSU ITS page here: https://www2.humboldt.edu/software/software-downloads

NO LATE ASSIGNMENTS ACCEPTED. If an emergency occurs, let me know as soon as possible to assess your situation. IN SOME CASES, THE 308 LAB ASSIGNMENT INCLUDES THE 308 HOMEWORK WITH ADDITIONAL POWERPOINT SLIDES OR MAPS RELATED TO YOUR COUNTRY PROJECT

Country Project: Each of you will select a country to research this semester. During the semester you will compile information about the geologic, social, economic and political issues in the country that impact vulnerability to disasters. Much of the lab work will focus on constructing ArcMap GIS hazards maps for your country. It is a good idea to figure out soon if your country has GIS material that you can use this semester. If not, I can recommend another country. You will follow current disasters and construct case studies of past disasters in your region. Is your country a donor or debtor nation when disaster strikes? You will look at the links between your country and its people to the surrounding region and to the United States. At the end of the term you will make a short PowerPoint presentation on your country, its hazard history, and how it mitigates future disasters. What are the similarities and differences between the hazards faced by the peoples of your country and our local North Coast California setting?

Campus Table-top Exercise: Hurricane Katrina illustrated the consequences of poor pre-event disaster planning. The event was forecasted correctly with several days of warning. The response failed on every level in large part because the City, County, State and Federal Government had little or no planning system. State agencies in California were mandated to follow the Standardized Emergency Management System (SEMS) after the 1991 Oakland Hills Fire. In 2006, most aspects of SEMS were incorporated into the National Incident Management System (NIMS) that is now being adopted by FEMA on a nation-wide basis. In this exercise, students will become familiar with NIMS by simulating the response to a major disaster on campus. You will take on the roles of the campus management plan such as Director of the Emergency Operations Center, Operations Chief, Planning Chief etc., and will respond to a scenario developed by the Campus Police.
Participation: Students will be given up to 100 points for participating in class. Full credit will be given if students attend regularly, ask and answer questions in class, and participate in class discussion. When students conduct in behavior that is not respectful (as outlined in the syllabus), they jeopardize their participation grade.

I expect you to follow the disaster issues in your chosen country throughout the semester and be able to give updates in the lecture or lab portion of the class. Ask questions and contribute to our discussions.

Community presentation: I require you to give a presentation about hazards and/or preparedness to a non-scientific group. Part of the goal of this class is to gain science literacy, and that requires communicating scientific principles to the general public. This presentation could be given in another class such as Speech 100, to a community group or to a class. The week of March 23 – 29 is Tsunami Awareness week. This is a great time for a presentation on tsunamis!

Field trips: Two optional Saturday field trips are scheduled for this Lab. We will not have two labs in exchange for these field trips. Please do your best to make the field trips. We are lucky that there is so much to see during a short weekend drive. They will be lots of fun!

Electronic Presentations: All electronic presentations will be posted to the website for this course. Please use these presentations to review course material and to prepare for your exams and reports.

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