# Natural Disasters (Geology 7) – Spring 2017

*Section 1, course index 33272 (GE Area B1)* - Tues/Thurs 12-1:15 pm – Sequoia 301
*Section 2, course index 33273 (GE Area B1)* - Tues/Thurs 1:30-2:45 pm – Sequoia 301

**Professor**: Dr. Barb Munn **e-mail**: bjmunn@csus.edu (the best way to reach me)

**Office**: Placer 1018 **Office Hours**: Tues 3-4 pm & Thurs 10-11 am, or by appointment

**Office Phone**: 278-6811 *(e-mail is the better way to reach me unless you know that I am in my office)*

**SacCT Class Website**: https://sacct.csus.edu (Go to this website for all materials for this class)

## Catalogue Description

In this course you will examine earth materials and earth processes through the study of catastrophes. Topics include: earthquakes, tsunamis, volcanic eruptions, landslides, global warming, floods, coastal erosion, hurricanes, thunderstorms, tornadoes, and impacts (asteroids, comets, meteorites). Causes, effects and mitigation of natural disasters also will be examined. No prerequisite. Satisfies GE area B1.

## General Education Area B1 Learning Outcomes

- Explain and apply core ideas and models concerning physical systems and mechanisms, citing critical observations, underlying assumptions and limitations.
- Describe how scientists create explanations of natural phenomena based on the systematic collection of empirical evidence subjected to rigorous testing and/or experimentation.
- Access and evaluate scientific information, including interpreting tables, graphs and equations.
- Recognize evidence-based conclusions and form reasoned opinions about science-related matters of personal, public and ethical concern.

## Textbook

All reading for this class is internet-based; there is no textbook. See SacCT for reading assignments.

## Specific Learning Outcomes for this Class

- Recognize and interpret the earth processes involved in earthquakes, tsunamis, volcanic eruptions, landslides, climate change, floods, severe storms, tornadoes, and hurricanes.
- Discuss the role of basic earth materials (rocks, water, air) in natural disasters.
- Integrate the concepts of plate tectonic theory with the occurrence of geologic hazards.
- Analyze the role of science in evaluating, predicting, and mitigating natural disasters.
- Think critically about scientific evidence associated with geologic and atmospheric hazards.
- Appreciate the magnitude and return periods of geologic and atmospheric hazards.
- Recognize the relationship between human activity and natural disasters.

**Grading**: 66% Exams 7% Topic Guides 22% Homework 5% In-Class Work

**Exams**:
- There will be three in-class pyramid exams, each worth 22% of your grade
- Each exam will consist of multiple choice and true/false questions
- Bring two scantrons (Form No. 882-E) to each exam
- No electronic devices of any kind during exams (mp3 players, cell phones, etc.)
- If you miss an exam you will receive a score of 0 for that exam; you may take the optional comprehensive exam to replace this score

### Optional Comprehensive Exam

The optional comprehensive final exam may be used to replace any single previous exam grade, including an exam that you may have missed. If your score is lower than the test score you are replacing, it will not be counted. *Taking the optional final exam can't hurt your grade.*

## Topic Guides

- Consist of terms to define and questions to answer so that you are prepared for class.
- Assigned and submitted through SacCT; reviewed and spot checked, but not graded:
  - 100% if complete and on-time
  - 50% if complete but late (done within a week of the due date)
  - 0% if not turned in with a week of the due date

**Homework**:
- will be assigned and posted on SacCT as we start new topics; check SacCT regularly to get the required assignments
- completed homework must be uploaded to SacCT by the due date; plan ahead, computer Issues are not an excuse for missing deadlines
- **late homework will NOT be accepted**; once the grading process has begun zeroes will be assigned. *Once graded, all of the answers will be posted on-line.*
- optional replacement credit homework can be used to replace missed or lower grade homework

***A note on how the homework is graded***

*My student assistants or I will check to see that you have answered all of the assigned questions. However, due to the large class size, only one of the questions will be graded (at random). Each homework assignment will be worth 10 points: 5 points for answering all of the required questions and 5 points for correctly answering the one actually graded. Be sure to check the homework answers posted on SacCT after grading is complete.*

## In-Class Work

Work completed during class may take the following forms:

- *Think-Pair-Share questions/Free-Writing*: Pauses during each lecture to ask you to confer with neighbors about the lecture material.
- *Video Questions*: Immediately after showing a video in class, questions will be posed; your written answers will be collected and reviewed.
- *Group Activities*: Group worksheets for collaborative activities completed during class will be collected and reviewed.
- *Pre-Quizzes*: Concept questions may be assigned prior to beginning a lecture in order to assess prior knowledge of a topic; these will be collected and reviewed.

If you are absent when in-class work is done, then you will receive a zero for that work. The in-class work is a way for me to keep track of what you do or do not understand about the concepts presented lecture. Most in-class work will be graded on a √-, √, √+ scale, which translates into these numbers:

√-: 33% √: 67% √¼: 75% √½: 83% √¾: 92% √+: 100% √++: 116%

## Classroom Etiquette and Expectations

I expect respect to be shown both to me and to your peers in the classroom.

- In order to concentrate on the lecture material, **please turn off laptops, cell phones, and other electronic devices during class time**. If you have specific electronic needs, please let me know.
- Please avoid non-class related conversations while I am talking up front. Although your conversations may not carry down to me, your talking distracts students who are trying to hear what I say. Out of respect for everyone in the classroom, I cannot tolerate private conversations during class time. Consequently, persistent conversationalists will be asked to leave the room.

I do not mind if you arrive late to class as long as it is not a chronic problem and you enter the class discretely. If you need to leave class early, I expect you to tell me before class starts (thank you).

I expect you to act with integrity in completing all assignments and in-class work.

- I encourage you to confer with other students during the in-class activities, while doing your homework, and studying for exams. HOWEVER, all of your written work must be your own - plagiarism (**including copying from each other**) is dishonest.
- Zeroes will be given to all parties who turn in identical answers on any work, who copy directly from each other, from the on-line reading, or from any other source.
- Academic dishonesty may result in a referral to the Office of Student Affairs for disciplinary action. See http://library.csus.edu/content2.asp?pageID=353 for more information about plagiarism.

# Natural Disasters Course Schedule – Spring 2017

I may get ahead or fall behind this course schedule periodically over the semester, however the exam dates are firm; lecture schedule changes will be updated on the SacCT unit topic pages for this class. See the SacCT assignment page to confirm the due dates and times for topic guides and homework assignments.

| Week | Date | Topic | Topic Guides and Homework |
|---|---|---|---|
| 1 | T Jan 24 | Natural Disasters Introduction | |
| | Th Jan 26 | Introduction continued / Continental Drift | ***TG 1*** *(risk)* |
| 2 | T Jan 31 | Continental Drift / The Nature of Science | ***TG 2*** *(nature of science)* |
| | Th Feb 2 | Plate Tectonics | **HW 1** (risk) |
| 3 | T Feb 7 | Plate Tectonics | ***TG 3*** *(plate tectonics)* |
| | Th Feb 9 | Plate Tectonics & Earthquakes | **HW 2** (continental drift/nature of science) |
| 4 | T Feb 14 | Earthquakes | ***TG 4*** *(earthquakes)* |
| | Th Feb 16 | Earthquakes | **HW 3** (plate tectonics) |
| 5 | T Feb 21 | Earthquakes | ***TG 5*** *(tsunami)* |
| | Th Feb 23 | Tsunami | **HW 4** (earthquakes) |
| 6 | T Feb 28 | Tsunami / Volcanism & Magma / Test Review | Optional HW 5 (tsunami) |
| | **Th Mar 2** | **TEST 1** – Introduction, Cont. Drift, Nature of Science, Tectonics, Quakes, Tsunami | |
| 7 | T Mar 7 | Volcanism and Magma | ***TG 6*** *(volcanism)* |
| | Th Mar 9 | Volcanic Eruptions | **HW 6** (volcanoes, part 1) |
| 8 | T Mar 14 | Volcanoes | ***TG 7*** *(landslides)* |
| | Th Mar 16 | Volcanoes / Landslides | **HW 7** (volcanoes, part 2) |
| | Mar 20-24 | *NO CLASS – SPRING BREAK!* | |
| 9 | T Mar 28 | Landslides / Weather | ***TG 8*** *(weather)* |
| | Th Mar 30 | Weather | **HW 8** (landslides) |
| 10 | T Apr 4 | Weather / Test Review | Optional HW 9 (weather) |
| | **Th Apr 6** | **TEST 2** – Volcanism, Mass Movements, Weather Basics | |
| 11 | T Apr 11 | Global Winds / Floods | ***TG 9*** *(flooding)* |
| | Th Apr 13 | Floods | **HW 10** (global winds) |
| 12 | T Apr 18 | Climate Change | ***TG 10*** *(climate change)* |
| | Th Apr 20 | Climate Change | **HW 11** (floods) |
| 13 | T Apr 25 | Thunderstorms | ***TG 11*** *(T-storms, tornadoes)* |
| | Th Apr 27 | Tornadoes | **HW 12** (climate change) |
| 14 | T May 2 | Tornadoes / Hurricanes | ***TG 12*** *(hurricanes)* |
| | Th May 4 | Hurricanes | **HW 13** (thunderstorms) |
| 15 | T May 9 | Hurricanes | |
| | Th May 11 | Hurricanes | Opt. HW 14, 15 (Tornadoes, Hurricanes) |
| **Final exam period will be used for BOTH Test 3 (1st hour) and the optional final (2nd hour)** | | | |
| *Section 1 (noon class):* **T May 16** | | *Section 2 (1:30 class):* **Th May 18** | Opt. HW 16, 17 (coastal erosion, asteroids) |
| 12:45-1:45 pm **TEST 3** (floods, climate change, T-storms, tornadoes, hurricanes)<br>1:45-2:45 pm ***OPTIONAL*** **COMPREHENSIVE FINAL** – covers everything | | | |