



# Montclair State University

Department of Earth & Environmental Studies

## GEOS 110 Natural Disasters

**Lecture:** MW 11:30am – 12:45pm; 360 Mallory Hall

**Instructor:** Dr. Matthew L. Gorrington

**Office:** 355 Mallory Hall; **Office Hours:** MW 1-2pm, TF 4-5pm, or by appointment

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**Required Text:** *Natural Disasters* by Patrick Abbott, McGraw Hill, fourth edition, 2004.

**Textbook Web Resource Page:** <http://www.mhhe.com/abbott4e>.

**Course Web Page:** <http://www.csam.montclair.edu/earth/eesweb/gorrington/geos110.html>

**Grading:** Three, 1-hour; non-cumulative exams (25% each) 75%

Five, homework assignments (5% each) 25%

**Goal of the Course:** This course focuses on natural disasters and the dynamic Earth processes that cause them. You will learn important Earth system principles and further your understanding through case studies of specific disaster events. At the end of the semester you will have a greater appreciation for the devastating power of the Earth.

### Course Content:

Week		Topic	Reading
1	Jan. 21	Intro to Natural Hazards, Earth Systems <b>Assignment 1: Places to Know - (Due Feb. 2)</b>	Ch 1
2	Jan. 26	Plate Tectonic Theory, Plate Boundaries	Ch 2
3	Feb. 2	Earthquake Basics, Seismic Waves and Magnitude; EQ's and Tectonics <b>Assignment 2: Earthinquiry: EARTHQUAKES and Plate Boundaries - (Due Feb. 16)</b>	Ch 3
4	Feb. 9	EQ Hazards and Prediction <i>Earthinquiry: EARTHQUAKES and Plate Boundaries</i> (GIS Lab)	Ch 4, 5
5	Feb. 16	Finish EQ's; Review; <b>Exam 1 (Feb. 18)</b>	
6	Feb. 23	Volcanoes and Plate Tectonics <b>Assignment 3: Virtual Volcano Tour - (Due Mar. 8)</b>	Ch 6
7	Mar. 1	Volcanic Hazards and Prediction	Ch 7
8	Mar. 8	Mass Movements and Landslides	Ch 8
9	Mar. 15	*****Spring Break*****	
10	Mar. 22	(3/22 no class- NEGSA meeting); <b>Exam 2 (Mar. 24)</b>	
11	Mar. 29	Weather Principles, Severe Weather, Tornadoes	Ch 10 (p. 274-291)
12	Apr. 5	Tornadoes (cont.)	Ch 10 (p. 291-300)
13	Apr. 12	Hurricanes <b>Assignment 4: Earthinquiry: Coastal Processes - (Due Apr. 26)</b>	Ch 11
14	Apr. 19	Hurricanes (cont.); Floods	Ch 12
15	Apr. 26	Floods <b>Assignment 5: Earthinquiry: Recurrence Interval of Floods - (Due May 10)</b>	Ch 12 (cont.)
16	May 3	Floods (cont.); Review; (5/5 no class- Reading Day)	
17	May 10	<b>Exam 3 (1:00-3:00pm; ML-360)</b>	

## Expectations and Requirements

### GRADING:

Final Grades will be based on a "normal" scale.

A =>92%; A- = 90-92%; B+ = 87-90%; B = 82-87%; B- = 79-82%; C+ = 76-79%; C = 71-76%; C- = 68-71%; D+ = 65-68%; D = 60-65%; D- = 56-60%; F <56%

READINGS: Required readings are listed with the schedule. The sections should be read before the lecture for which they are listed. Also you should read the Summaries, Key Terms, and any review questions at the end of each chapter as it is read. Occasionally handouts will be distributed as additional reading.

ATTENDANCE: I do not deduct from your grade for poor attendance; HOWEVER, any material (lectures, videos, homework assignments, etc.) covered in class is fair game on the exams- even if it is not covered in the book.

VIDEOS: We will see many videos during the class, usually discussing case histories of specific natural disaster events. These are shown for educational purposes – not entertainment. Any material in videos is fair game on exams. If you wish to see a video again, you may borrow the video from the dept. secretary and watch it in our dept. library. No videos will be loaned out overnight or weekends.

EXAMS: Three one-hour exams are scheduled. Exams will be mostly multiple choice, T/F, and some short answer. Make-up exams will be given only in exceptional circumstances. Usually, they will be harder than the regular exam.

HOMEWORK: Five class /take-home assignments will be given. Although discussion with classmates is acceptable, your work must be your own. Assignments must be handed in on the due date. Missing class is no excuse for handing assignments in late. **A 10% per day penalty will be assessed for work handed in late. After 10 days, a zero will be given for the assignment.**