

# GEOGRAPH 250 Natural Disasters (GenEd SI) Summer 2015

•[Umass Online](#)

•[Department of Geosciences](#)

Welcome to Natural Disasters!

*Geo-Sci 250 is a 4-Credit General Education Science Interdisciplinary course.*

Instructor: Sean M Fitzgerald M.S.

Email: [sf@geo.umass.edu](mailto:sf@geo.umass.edu) [Blackboard Learn Classroom email *preferred*]

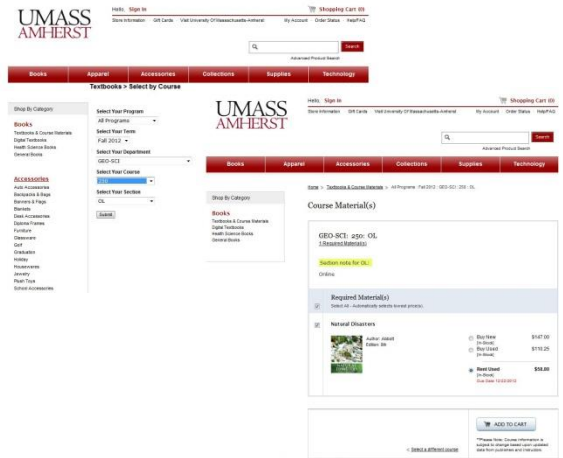
<http://www.geo.umass.edu/faculty/sf/>

Phone: 413-626-3713 (voice & text)

Online Live Office Availability: M-F 7:00 PM – 8:00 PM EDT  
*and by appointment 24/7.*

Textbook-Required: New or Used/Rent/eText  
Natural Disasters, 8/E  
Abbott | ©2012 | McGraw-Hill | Bound; 576 pp

SEE UMASS BOOKSTORE



IN THIS DOCUMENT:

- Course Themes / Topics-Chapters Outline
- Calendar Objectives Definitions
- Textbook Information and Announcements
- Course Format & Grading Criteria
- Theme Assignments Research Exercise Notes.
- Course Format Graphic Model (part); illustrating BB Learn Course layout.

*Students should have access to Microsoft Office™  
Student version 2003 or later with  
Word/PowerPoint/Excel*

*Syllabus is a 'beta' version 01, and will be updated with a newer version during 'Preview Week'. Students will have 'Preview' access of the updated course content and Theme 1 Assignment on 7/1. I have continued to evolve the course over the last decade. This semester, based on student inputs and new tools, we continue with a new risk model, and a reorganized more efficient format and with additional interdisciplinary utility; all worked well during spring 2015 semester.*

- We use the rather inexpensive Textbook as an efficient basic course reference, using chapters as relevant for each theme. Documents and Links specific to each Theme are provided.
- The course is sectioned into three Themes: Each with Theme Assignment and a folder. Themes are sectioned into Topics with Topic folders, which may correspond to a textbook chapter, and support the Theme assignment.

**Bold** Event-Types (below i.e. **Earthquakes**) indicate higher mortality or affect, and more course emphasis.  
*Italic* Event-Types. (below i.e. *Volcanoes*) indicate lower mortality or affect, and less course emphasis.

**Theme 1** TH1: Introduction to Natural Disasters. Risk Aspects Assignment 100p

- Topic 1 **Monitoring and Measuring** Terms/Concepts/Tools
  - Topic 2 **Mapping and Modeling** Terms/Concepts/Tools
  - Topic 3 **Managing Risk: Basic Approaches** UN ISDR WRR 14
    - WRR Risk Assessment (model) Components of Risk
    - WRR Adaptation and Coping Protocols UN ISDR Capacity Building
    - Technical-Situation Reporting Risk Aspects In-Practice
- Materials (Documents/Links/Tools) used in Theme 1 Risk Aspects are applied throughout Themes 2 and 3 and the Research Exercise.

**Theme 2** TH 2: Geophysical Assignment 100p

- Topic 4 **Earthquakes** (C3,4)
    - Basic Earthquake Geology
    - Earthquake Risk Aspects Urban Emphasis
  - Topic 5 Select Optional Event-Types
    - *Tsunami (Coast) (C8)*
    - *Volcanoes (C6)*
    - *Mass Movement (C15)*
- See Graphic Model of Blackboard Learn Course Content BELOW

**Theme 3** TH 3: Hydro-Meteorological-Climatological Assignment 100p

- Topic 6 Hydrological **Floods** (C13)
  - Basic Flood Hydrology
  - Flood Risk Aspects
- Topic 7 Meteorological **Tropical Cyclones** (Coast) (C11)
  - Basic Tropical Cyclone Meteorology
  - Tropical Cyclone Risk Aspects
- Topic 8 Select Optional Event-Types
  - *Severe Weather-Tornadoes (C10)*
  - *Wildfire (C14)*
- Topic 9 Climatological **Drought**
  - Climate Change (C12) (AR5 IPCC) and Mitigation and Preparation; Capacity

**Research Exercise: Flexible Formats. Event Technical Report, Country Risk Profile, Natural Disaster Chronicle etc.. 100p**

400 total points in THREE (3) Theme Assignments, and a Research Exercise.

- A = 360+ points
- B = 319-359 points
- C = 278- 318 points
- D = 237-277 points

**Plus and Minus Letter Grades are calculated at the end of the semester.**

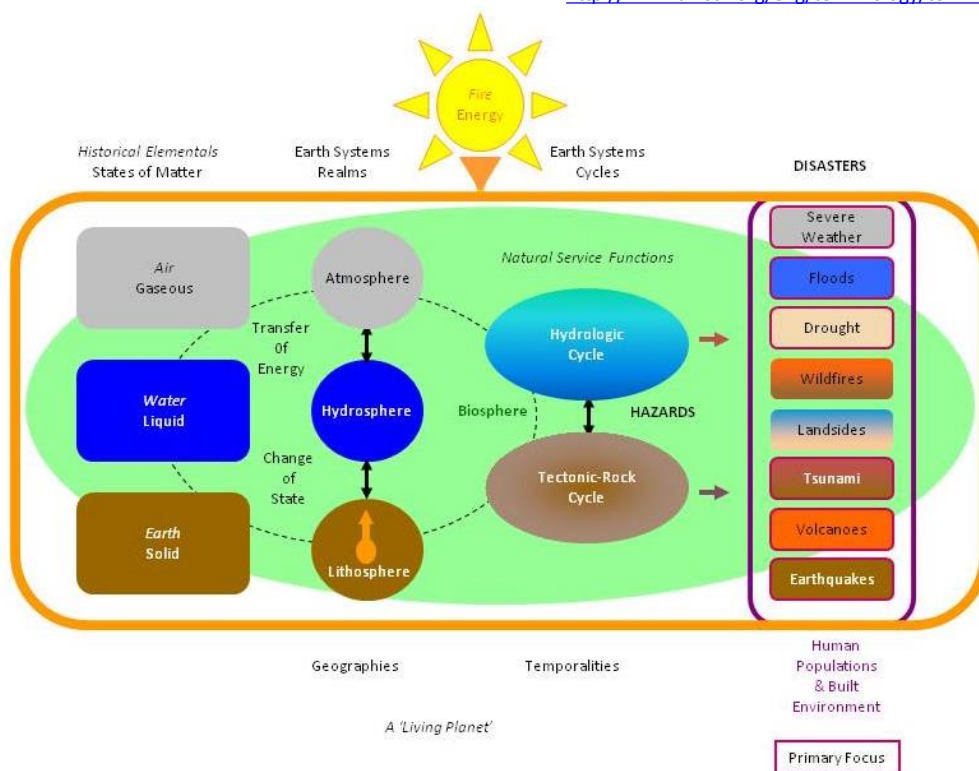
|   |                   |   |
|---|-------------------|---|
| <b>Opening Start Week/COURSE INTRO</b>                    | <b>7/6 – 7/10</b> | <b>Buy your Book</b>                        |
| <b>Theme 1<br/>Intro and Aspects of Risk</b>              |                   |   |
| <b>Topic 1</b>  | <b>7/13</b>       |   |
|   |                   |   |
| <b>Topic 2</b>  |                   |   |
|   |                   |   |
| <b>Topic 3</b>  |                   |   |
|   |                   |   |
| <b>Risk Aspects In-Practice<br/>Global-Regional-Local</b> | <b>7/24</b>       |   |
| <b>Theme 2<br/>Geophysical</b>                            | <b>7/27</b>       | <b>Theme 1 Assignment<br/>Suggested Due</b> |
| <b>Topic 4<br/>Earthquakes C3,4)</b>                      |                   |   |
|   |                   |   |
|   |                   |   |
| <b>Topic 5 N/A</b>  |                   |   |
|   |                   |   |
| <b>Theme 3<br/>Hydro-Meteorological-Climate</b>           |                   | <b>Theme 2 Assignment<br/>Suggested Due</b> |
| <b>Topic 6<br/>Flood (C13)</b>                            | <b>8/3</b>        |   |
|   |                   |   |
|   |                   |   |
| <b>Topic 7<br/>Tropical Cyclones (C11)</b>                | <b>8/10</b>       |   |
|   |                   |   |
|   |                   |   |
| <b>Topic 8 N/A</b>  |                   |   |
|   |                   |   |
| <b>Topic 9<br/>Drought &amp; Climate Change (C12)</b>     |                   |   |
|   |                   |   |
| <b>Closing Comments</b>                                   | <b>8/14</b>       |   |
| <b>Research Exercise Due</b>                              | <b>8/20</b>       | <b>Theme 3 Assignment<br/>Due</b>           |

## Objectives:

Natural Disasters is a systematic and geographic approach to understanding the human population-earth systems relationship inherent in natural disasters. Themes include geophysical and hydro-meteorological hazards-exposure of populations to such hazards, and vulnerabilities of exposed populations to the effects of natural disasters. The course explores geographic distribution patterns, and relationships of and between the various themes. Our objective is to enhance our earth and human systems geographic literacy, and our understandings of why natural disasters occur where they occur; with a focus on profiling events, assessing risk, and minimizing casualties. In application, such geographic intelligence enhances our academic and professional activities.

- Develop knowledge and understandings of Natural Disasters; the earth-human systems processes that may pose risk to human systems.
- Enhance Geographic Literacy and provide a relevant learning experience which supports Academic and Professional endeavors.
- The topics are grouped into three themes.
- Students would complete Theme Assignments about every 2-weeks, and a brief Research Exercise on an event-type or country which is due at the end of the course. All Theme Assignments have the same or similar format. Students are provided with a detailed schedule, a short topic Chapter Video Presentation, customized Chapter Review. Assignments have suggested due-dates (Marked Late Reminder Only), and Final DUE dates (End of Course).
- A natural disaster is a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which often exceeds the ability of the affected community or society to cope using its own resources.
- Comment: Disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life (Mortality), injury -disease (Morbidity), and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation.

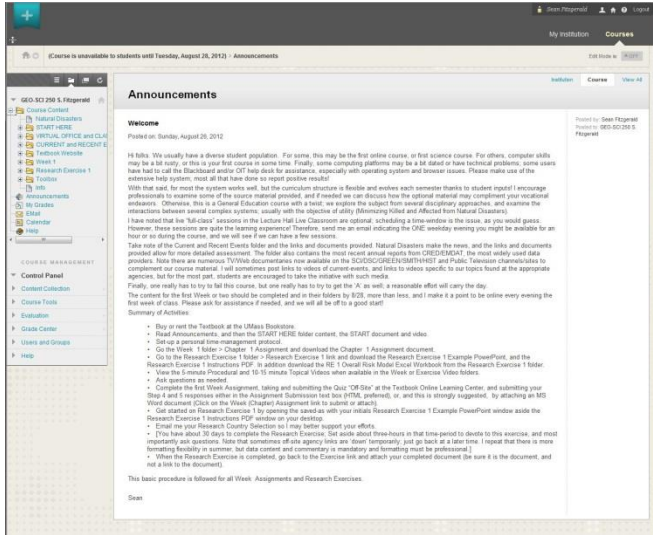
<http://www.unisdr.org/eng/terminology/terminology-2009-eng.html>



# READ ANNOUNCEMENTS

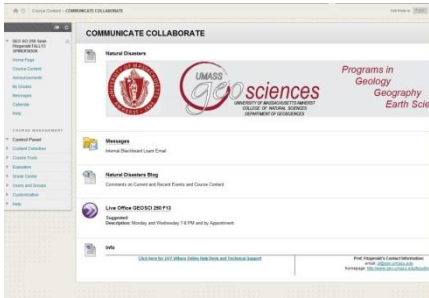
- **Welcome**
- **Initial Tasks**

Folder View



- **Announcements are usually posted weekly. General Progress Comments are posted here.**
- **Announcements often contain information about Current Natural Disaster Events, Ongoing Capacity Building, new tools; all supporting Theme Assignments and Research Exercises.**

Communicate  
Collaborate  
Folder



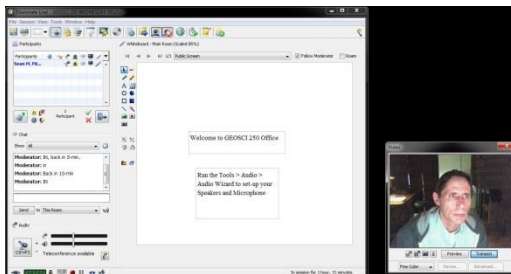
•Email

•Natural Disasters BLOG topic posted at least once a week, perhaps more often during a natural disaster event.



• **Comments Welcome !**

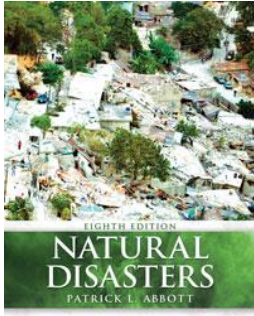
•Online Office every T/R evening; in the Blackboard Collaborate Live Office SMR15.



• **LIVE support for Theme Assignments. Occasional Optional discussion forum.**

•Text/Voice 413 626 3713

## BUY THE TEXTBOOK



# SEE UMASS BOOKSTORE

- Textbook can also be purchased online at various vendors.
- As noted in Outline and Calendar, we use specific Textbook Chapters to support Topic basics.
- Textbook Remedial Chapters:
  - C1 Population Geography
  - C2 Geophysical Energy Sources
  - C9 Hydro-Meteorological Energy Sources

**LINK In Topic Folders using the Textbook Chapters, and Library –Remedial folder**

### Textbook Website

Textbook Website

Natural Disasters and the Human Population

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Any use is subject to the [Terms of Use](#) and [Privacy Notice](#).  
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### TEXTBOOK WEBSITE

### Animations and Videos SUPPORTING COURSE TOPICS

[Textbook Website HELP](#)

### TEXTBOOK WEBSITE GUIDE

Natural Disasters Online Learning Center 8th Ed

Online Chapter Quizzes and supporting information

Textbook 8th Online Learning Center Guide S13.pdf

24/7 UMass Online Help Desk and Technical Support  
phone: 1.800.569.6505  
email: [amherstsupport@umassonline.net](mailto:amherstsupport@umassonline.net)  
See [www.amherst.umassonline.net](http://www.amherst.umassonline.net)  
for technical support related information about this class.  
[Click here for a live text chat with Amherst support.](#)

Prof. Fitzgerald's Contact Information:  
email: [stf@geo.umass.edu](mailto:stf@geo.umass.edu)  
homepage: <http://www.geo.umass.edu/faculty/stf/>

## Course Format:

**There is NO "Attendance" Requirement  
However attendance is suggested-optional at a few live discussions**

- We use a "Guided-Initiative" Approach, and a Flexible Schedule.
- Assignment submissions are in an attached Word or PowerPoint document. (SEE BELOW)
- 5-minute Procedural Videos using the Assignment Document or Course Page
- Optional 15-minute Topical Videos using the Theme and Topic supporting Links and Docs
- Virtual Office Every TR Evening. Discussion Group. Attendance Suggested but *Optional*.
- Occasionally we will have a guest speaker to discuss the topic /chapter under review.

## Grading Criteria: (additional detail in each Theme Assignment/Research Exercise document)

- Complete Theme Assignments and Research Exercise on suggested time.
- In Theme Assignments and Research Exercise use Information from Theme/Topic folder material; relevant documents and links, data and maps tools. Citations (SEE BELOW)
- Accurate responses, reasonable discussions using relevant topical vocabulary. An exemplar with data-metrics, a map and/or informative graphic/photo and citations are required and helpful for short answer and topical questions. (There are usually several 'correct' answers)
- Professional Formatting. Use our many example reports as an informal template.
- Ask Questions. Participate in BLOG when possible with a comment, or initiate a discussion. Participate in Live Office SP15 Forum *optionally*.

## Theme Assignments: 100-Points Each

- Each Assignment has the same format:
  - STEP 1 View any Theme or Topic Guide or Procedural documents or Videos.
  - STEP 2 Examine/Review Theme or Topic Documents and Links, or Textbook Chapter if applicable.
  - STEP 3 Short Research Essay Questions : Use select course materials as appropriate, most always with an example. Two paragraphs is typical. Ask questions if you do not understand the question. Include Graphics as appropriate and Cite Sources. CRITICAL THINKING
  - Submit Theme Assignment documents (and the final Research Exercise) by selecting the Theme Assignment Item LINK , the topmost item in the Theme folder. The LINK is the text "Theme (1-3) Assignment" within the item, and just to the upper-left of the Assignment download document link. GO BACK TO THIS LINK to see your GRADE FEEDBACK. (SEE BELOW)

## Research Exercise: 100-Points

### Suggested Formats:

- Country Risk Profile
- Global Event-Type Profile
- Risk Aspects Focus Report
- Global Natural Disaster Chronicle

Choose ONE of the suggested formats, or design your own. Flexible based on your interests. I will assist personally with format and data/map aspects; just ask.

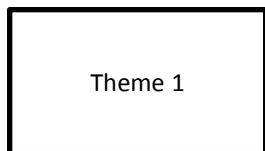
- In all work, Citations might be the textbook page, the name of a course document, or the URL of a link.

Maps and Pictures can be saved in Windows 7 or 8 by using the Accessories > Snipping Tool to capture selected screen area and save as a picture. For Mac OS Command-Shift-4; see link

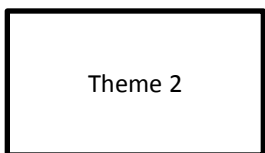
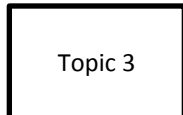
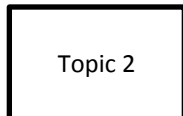
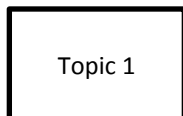
<http://www.wikihow.com/Take-a-Screenshot-in-Mac-OS-X>

# EXAMPLE

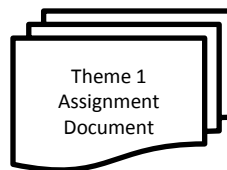
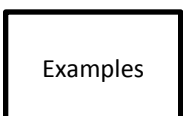
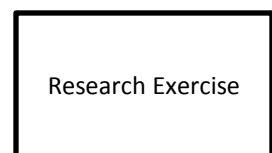
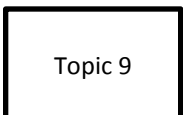
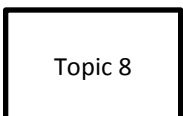
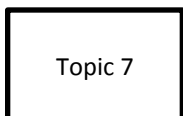
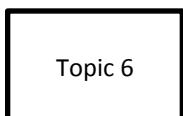
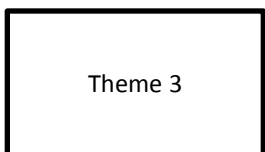
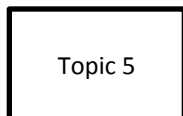
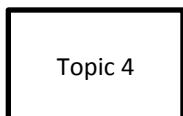
## Folder



## Sub-Folder

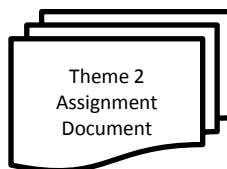


## See Detail BELOW

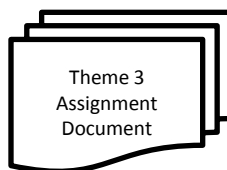


**Download-Complete-Attach**

TOOLS LINKS and DOCUMENTS Used Throughout the Course. Reference.



**Download-Complete-Attach**



**Download-Complete-Attach**

\*This is a schematic of the Course Content page for the updated Blackboard Learn course application I have under-construction, for which I will provide instructions screen-captures when the new 'shell' is updated in a new Start Guide Syllabus Version.



**Download-Complete-Attach**



# EXAMPLE Detail

Theme 1  
Folder

## Theme 1 Assignment 'Item'

**Theme 1 Assignment** (LINK)

Theme 1 Assignment GEOGRAPH250 SP15 V01.pdf

**Download**

**Attach/Feedback**

Topic 1  
Sub-Folder

Topic Materials SUPPORT Theme Assignment

Monitoring  
Sub-Folder

- GDACS
- Relief Web
- USGS
- Flood Observatory

Additional Optional Links  
In GEOGRAPH 250  
Library Folder

Measuring  
Sub-Folder

- EMDAT CRED
- USGS
- NOAA WMO
- Flood Observatory
- GLIDE Number

Additional Measuring  
Links In select Event-  
Type Topic Folders

Topic 2  
Sub-Folder

And so on... Topic 3

Theme 2  
Folder

Topic Materials SUPPORT Theme Assignment

## Theme 2 Assignment 'Item'

**Theme 2 Assignment** (LINK)

Theme 2 Assignment GEOGRAPH250 SP15 V01.pdf

**Download**

**Attach/Feedback**

Topic 4  
Folder

EQ Basics

- Chapter Reviews/Animations
- USGS Education

Additional Optional Links  
In GEOGRAPH 250  
Library Folder

EQ Risk  
Aspects

- EQ Hazard Exposure
- EMDAT NGDC
- Urban Issues
- Building Forces Lab

Topic 5  
Folder

Typically, one most recent event-type is selected for discussion

Volcanoes  
EXAMPLE

And so on... Theme 3