



Distance Learning

Department of Geography & GeoInformation Science **[GGS]**

Global Environmental Hazards --- GGS 302-001

Summer 2019 – Term Starts 5/20 – 6/22

Instructor Contact Details

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Virtual Office hours: Wednesdays and Fridays: 3:30 pm - 4:30 pm

Recommended Prerequisite: 30 hours and undergraduate status

Course Overview [\[Read Me First\]](#)

This is a 3-credit course, offered in accelerated format. This means that **16 weeks** of material is covered in **5 weeks**. So, what does it mean to a student taking this course? I have one simple message – you will need time and discipline!

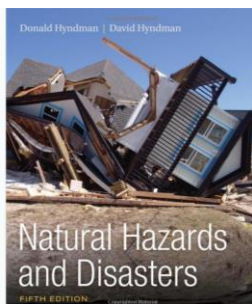
According to my personal experience for online courses that I have taught before, it will be good for both the instructor and students to be on the same page. As previously said, this course requires time and independent work, so if you are busy or overloaded with other personal summer schedule, or plan to travel during the semester, you should think twice if this is a better course for you. At the same time, the advantage of online course or my teaching modality for the course is that you can work on your own pace anywhere on this planet. *How you organize your daily schedule will depend on you – what I need from you is to finish assigned readings, and assignments after each unit every week!*

This should be more fun and enjoyable as long as you work hard, get involved in our virtual class activities (you can also bring in other course related topics through our weekly discussion forum) and apply critical thinking in all your writing assignments. As you go through the syllabus, you will notice that the course is not hard, but just like any other online courses, it does consume a lot of time.

Finally, before you start the course on Monday – 5/20 at 12:01 am [Eastern Time], you should **review this syllabus** (this is not an option).

Course description

GGS 302: Introduces applications of observational and modeling techniques to natural hazards and the threat they pose to the world, as well as a general introduction to global climate change and its effect on regional and local scales. Examples include topics of interest to different countries and regions of the world, such as earthquakes, sand and dust storms, slope failures, volcanoes, landslides, droughts and desertification, floods, hurricanes and typhoons, severe weather, wildfires (U.S., Indonesia, Africa, S. America), sea-level rise, and tsunamis. Covers Earth system science topics related to the above hazards and their coupling with anthropogenic hazards as well as how societies respond to natural disasters and mitigation.



Required Textbook

Natural Hazards and Disasters, 5th Edition

Donald Hyndman, David Hyndman

Publisher: Brooks Cole

SBN-10: 1-305-58169-5 | ISBN-13: 978-1-305-58169-2

Other options to explore

According to the textbook publisher, I have also been told that there are some cheaper options instead of hardcopy – check with GMU or Barnes and Nobles. ISBN for these alternatives are provided below:

MINDTAP only (Includes interactive eBook).

Hyndman - MindTap Earth Sciences, 1 term (6 months) Printed Access Card

for Hyndman/Hyndman's Natural Hazards and Disasters, 5th

ISBN 9781337092388

MindTap with Loose-leaf copy ISBN 9781337348775

1 semester UNLIMITED ISBN 9780357700006 [Not sure about this option but I understand some students have unlimited access to other course materials so if you have that option then you can have access to this textbook too through this ISBN 9780357700006]

- *Additional case studies will be posted from time to time. These case studies will supply additional context to the chapter.*

Course Objectives

This course will provide opportunities to students to become familiar with the scientific processes associated with various natural hazards from a geographic perspective. At the end of the semester, students will be able to:

1. know and understand environmental hazards and discuss their relevance to the field of geography in general.
2. describe, and analyze major natural hazards through scientific presentations, and reading academic literature.
3. Analyze and discuss ways to mitigate the hazards produced by natural disasters
4. Define critical environmental hazards terms.
5. Evaluate hazard response case studies from different geographical locations [local, national and global scale].
6. Apply critical thinking skills to evaluate the quality, credibility and limitations of an argument or a solution using appropriate evidence or resources.
7. Communicate effectively in all your writing assignment(s) and discussion forum using appropriate terminologies, supporting evidence and excellent organization.

How to Navigate through the Blackboard?

This course will be delivered entirely online through the course management system, thus Blackboard site. You will need your GMU username and password to log into the Blackboard Management System. Blackboard home page: <https://mymasonportal.gmu.edu>. If you are not familiar with the Blackboard site, below is a sample of course navigation MENU that you will see once you log-in (Blackboard site).

Blackboard Course Navigation	Description
Announcements	Class announcements on quizzes, reading and writing assignments, reminders, and upcoming assignments, etc. all located in this area.
Syllabus	The syllabus, course outline with due dates including Instructor's contact details.
Weekly Modules	In this section, you will find your weekly detailed modules, lecture notes, additional learning resources such as Web Links, Videos, Reading material besides the assigned chapters from your textbook.
Assignments	All assignments (individual and group, class activities, quizzes, short writing assignments, critical response) will be in this area.
Discussion Board	All class discussions as part of your participation grade is in this area
Tools	You can send email directly from the Blackboard. Click " Tools " then " Send Email "
My Grades	All your grades are in this area. It is your responsibility to check your grade and class progress from time to time.

Technology Requirements

- Internet connection (DSL, LAN, or cable connection desirable)
- Computer and Internet access for George Mason University students is available at the various campus locations.
- Students are also expected to be proficient in the use of computers and be familiar on how to navigate through the Blackboard.

Email Communication

Email communication with your Instructor should only take place through your GM University issued email address. If you have any questions regarding something that you do not understand, please feel free to e-mail me anytime. Although I will not instantly answer your e-mail, I will reply to your e-mail within 24-48 hours and if you don't get my response please feel free to remind me or ask to confirm if I have received your email.

If you have a general question regarding a specific course related topic or you need clarification on any assignments, you may not be alone so, use **ASK your Instructor** link through the Blackboard. We should maximize our efforts to answer your questions promptly – meaning that one of your classmates may know the answer to your question.

Please do not wait until the last day or minute of the work is due to ask questions.

Technical Assistance

Contact the ITS Support Center if you are unable to access your online course or email, or if you are having technical difficulties or problems with your browser or Blackboard. The ITS contact details are as follow: Website: <http://itservices.gmu.edu> | Email: support@gmu.edu; | Phone: 703-993-8870.

Participation & Attendance

Prompt and consistent attendance is very important for your success for this online course. You will need to verify your attendance within the first 5 days of this course.

If for some reasons you decide to drop the course without tuition penalty or an "F" grade, please check the appropriate dates through the GMU Office of the University Registrar [<https://registrar.gmu.edu/>].

Online-classes just like face to face classes have deadlines, assignments, and participation requirements and it is your responsibility to check on these due dates on your syllabus. It is also very important to budget your time carefully and communicate with your instructor. You should let your Instructor know if you are facing some technical problems or problems with your assignment at your earliest.

Assignments and Grading

The success of this course is not based only on tests, quizzes, rather students' performance will be evaluated by your accomplishments and performance based on your abilities acquired from this course.

What does that mean? This course will not be a 2D-course (exam and quizzes), but a 3D-course – check out the following questions that should guide everyone taking this course to succeed the course (my 3D-course dimension):

- Are you engage in active learning through weekly postings?
- Given a real-world situation (a case) that poses a thought-provoking problem, how well do you go about researching the topic?
- When reporting about this thought-provoking problem, does the student apply critical thinking including concepts learned in class in their research essay?
- Do you follow academic writing process i.e. research, planning writing (drafting, revising, and editing) including guidelines for written work (reference style - cite source in the text and add the reference to the reference section properly etc.)

Course structure for Grading:

The course is divided into 5 Modules according to the selected topics from your textbook. Each module will have 1-2 units depending on the topics schedule for that week.

Each unit's material will consist of:

- Overview and unit objectives
- Weekly quizzes or specific short writing assignment will be given at the end of each unit.
- These **ASSIGNMENTS** will help me to measure your learning progress, skill acquisition, or your educational needs. Some of these assignments will be individual-based assignments while other assignments will be accomplished as a group. Final grade will be calculated according to your overall performance on your written research essays, assignments, participation in discussion forum and critical thinking application to solve though-provoking problems.
- There will be ONLY 1 online **EXAM** – No Final Exam since you will submit Individual final project. If you fall behind, there are **No-Make-up opportunities**

Due Dates at a Glance is a link provided under the Table of Contents [Blackboard] that will show all due dates for quizzes, tests, assignments. It is your responsibility to take note of these dates and avoid late submissions. Below is a brief outline of course assignment description and allocation % of your final total grade:

Assignment Description	Percentage (%)
End of Unit Quizzes	10%
Weekly Participation Forum on assigned topic(s)	10%
Short Research Essay [1-Individual & 1-Group]	15%
Exam [ONE]	15%
Final Individual Project on a specific Natural Hazards topic [Detailed instructions will be posted through the Assignment Folder – Link]	25%
Topic description	1%
Progress Report Review [Details will be posted]	4%
Final Paper	20%

Grade-Scale Letter

Letter Grade	Percent Grade	Letter Grade	Percent Grade
A	93 - 100	C+	77 - 79
A-	90 - 92	C	70 - 76
B+	87 - 89	D	60 - 69
B	83 - 86	F	<60
B-	80 - 82		

Final Research Project [Individual]

You will develop a project to investigate how specific environmental hazards such as earthquakes, volcanoes, wildfires, floods, tornadoes, hurricanes, winter storms, oil spills, chemical releases, and environmental terrorism etc. affect a community, country or a region. The selected hazard will be examined for the physical processes, possible threats, likely impacts, mitigation strategies, and identify and prioritize strategies to lessen the impacts.

Choosing a topic:

Example of a descriptive topic title: “Analysis of Economic and Policy Impacts of an Earthquake in Chile.” If you write “Earthquake in Chile” – that’s not a descriptive topic title.

You will then submit your draft and upon finishing your draft, you will also be requested to review a classmate’s paper by describing evaluating writing technique, and responding to content of the paper. Detailed guidelines for the project will be available at the beginning of second week of class. In your final write-up, you will be requested to link your research topic with the concepts and themes of the course.

Through this research project, you will get practical experience searching the GMU library and utilizing Inter-Library Loan. The quality of articles selected will also be considered in your grade. Additional information regarding your project will be posted through the blackboard.

Discussion Forums

Class discussion is an important part of any college experience. This will consist of your posting followed by comments or response, questions on your classmate’s posting. Your contribution will be rated according to the scientific content, critical thinking and concept application based on the following criteria:

- *Unacceptable (0 points); poor (1 point); good (2 points) and excellent (3 points).*
- *Each Discussion topic will have instructions on how to write and submit your posting and response.*

Note: 10% of your final grade will be delivered from your weekly postings so the instructor is expecting well-articulated contributions from all students.

Absolutely, no make-up will be given for Discussion Forum.

Complete Assignment and due Dates

Course weeks run **Monday** [12:01 am] through **Sunday**, with Sunday at **11:59 p.m. Eastern Time [ET]** as the deadline for submitting some of your weekly assignments.

You are encouraged to read additional notes below regarding requirements for all assignments

- All assignments for this course will be submitted electronically through the GMU Blackboard site.
- I will not accept assignments submitted through emails unless you get my permission to do so.
- You will need to adhere to assignment(s) deadline given according to the outline schedule or communication that will be given from time to time.
- Assignments must be completed to the best of your ability with correct spelling and acceptable grammar.
- All extensions must be arranged at least three days in advance and students must be prepared to document their reasons for requesting an extension.
- Extensions will not be given beyond the next assignment except under extreme circumstances.

For Due Dates at Glance – Check the Blackboard

Policy on Late Submissions and Quizzes, Assignments

Please do not wait until the last minute (**11:59pm**) for you to complete your quiz/test - computers are machines and sometimes they cannot be reliable (e.g. power outage, wireless connection problem etc.) and cannot be held accountable for your excuse.

- All quizzes will become unavailable on Blackboard site after the due date and time.
- All writing assignments including Topic Specific Research Essays will be available but will be graded accordingly – **5 points deducted from their possible score for each day.**

Online Classroom Policy

- Students are responsible for keeping all graded coursework until the grade appeal period is over.
- The class schedule that is on this online syllabus is a tentative (it can change). Changes will be communicated to way ahead of time, once they occur.
- Students are responsible for information in **ALL** assigned readings, handouts, videos, lectures, and other materials given by the instructor.
Students are expected to log in each week and complete all assignments.
- Late assignments will **NOT** be accepted. Work is due as scheduled. Computer problems are **NOT**
- good excuses for not turning in work. Failure to login on time is **NOT** a good excuse for not turning in work.
- Students are expected to be courteous to their colleagues during discussion boards or blogs, etc.

Online Academic Integrity

George Mason University operates under an honor system, which is published in the University Catalog and deals specifically with cheating, attempted cheating, plagiarism, lying, and stealing. You are

therefore expected to take this course in adherence to GMU and Department standards for Academic Integrity. Please familiarize yourself with the honor code, especially the statement on plagiarism (<http://www.gmu.edu/org/honorcouncil/guidelines.htm>). I will respond to acts of academic misconduct according to university policy concerning plagiarism. In such cases Plagiarism will result in a failing grade of the assignment in question and/or for the course.

PLAGIARISM -- Rules for all Assignment(s)

It is your responsibility to respect procedures related to Honor Systems and Academic Integrity. You are strongly advised not to copy other people's sentences or phrases without giving them credit. This includes sentences where you change a few words and then include the slightly modified sentence in your paper. If you use information from sources other than your own brain, you **MUST** make a reference to the source. This means all written work that you will be assigned throughout the duration of the course should include references accordingly. For this course, we will use the APA style. If 75% of your written work consists of "quotes" from other people's work, then your paper will get a "D" or "F" grade according to the intensity of your quotes.

Students with Disabilities

Students with documented and qualifying learning, physical and psychological disabilities should contact the Disability Services (ODC), which arranges for reasonable accommodations in accordance with the Americans with Disabilities Act and University policies. Disability Services (ODC) website: <http://ods.gmu.edu/> / Student Union Building I (SUB), Room 2500. Telephone: (703) 993-2474.

Notice of mandatory reporting of sexual assault, interpersonal violence, and stalking:

As a faculty member, I am designated as a "Responsible Employee," and must report all disclosures of sexual assault, interpersonal violence, and stalking to Mason's Title IX Coordinator per University Policy 1412. If you wish to speak with someone confidentially, please contact one of Mason's confidential resources, such as Student Support and Advocacy Center (703-380-1434) or Counseling and Psychological Services (CAPS) (703-993-2380). You may also seek assistance from Mason's Title IX Coordinator by calling 703-993-8730 or emailing cde@gmu.edu.

University Services

George Mason University has several academic support and other resources to facilitate your success. Some of these resources are presented below:

- i. Counseling and Psychological Services [<http://caps.gmu.edu/>]
- ii. Learning Services, University Career Services [<http://careers.gmu.edu/>]
- iii. The Writing Center [<http://writingcenter.gmu.edu/>] and other Learning Services within GMU.
- iv. University Catalog: <http://catalog.gmu.edu/> |
- v. University Policies: <http://universitypolicy.gmu.edu/>

Course Schedule

You should be referring to this course schedule and blackboard site for specific additional readings, activities, assignments, and announcements.

Week 1: Module 1:	
Unit I Introduction to Natural Hazards and Geological Time Unit II Earthquakes – Effects, Forecasting, and Mitigation <ul style="list-style-type: none">○ Case Studies<ul style="list-style-type: none">○ Selected earthquake case studies – in Haiti, Chile, and the Great Tohoku Earthquake of 2011	Chapter 1 & Chapter 3 Geologic Hazards Science Center https://www.usgs.gov/centers/geohazards Earthquake Hazards Program and significant Earthquakes, - USGS https://earthquake.usgs.gov/ Class Discussion: Global disaster response Programs
Week 2: Module 2:	
Unit I Volcanic eruptions– Mitigation and Prediction <ul style="list-style-type: none">○ <i>Why do the Hawaiian Islands form a chain of volcanoes?</i>○ <i>Remote Sensing of Volcanoes (Introduction)</i>	Chapter 6 & Chapter 7 U.S. Volcanoes and Current Activity Alerts https://volcanoes.usgs.gov/index.html Preparedness, Safety, and Resiliency https://volcanoes.usgs.gov/vhp/education.html Class Discussion: Geographic distribution of volcanoes and why they occur at certain locations across the globe.
Unit II Tsunami <ul style="list-style-type: none">○ Earthquake-generated Tsunami○ Tsunami Movement○ Tsunami Hazard Mitigation○ The 2004 Sumatra earthquake-generated Tsunami	Chapter 5 & Chapter 10 Amateur Japan and Indonesia Tsunami Footage http://www.asiantsunamivideos.com/ Tsunami Data and Information https://www.ngdc.noaa.gov/hazard/tsu.shtml
Week 3: Module 3:	
UNIT I Introduction to global climate change Impacts, and Mitigation UNIT II Flooding, Effects and Mitigation <ul style="list-style-type: none">○ Land-use planning & Early Warning Systems – Flood reducing mechanism	Chapter 12 & Chapter 14 NOAA Climate http://www.noaa.gov/climate Class Discussion: CO ₂ sequestration, what it is, the various ways to sequester CO ₂ potential costs. Effect of urbanization and the possibility of flash floods

EXAM – End of WEEK 3	
Week 4: Module 4	
UNIT I Hurricanes <ul style="list-style-type: none"> ○ Formation and Movements ○ Prediction and Planning UNIT II Wildfires, Monitoring and Mitigation <ul style="list-style-type: none"> ○ Process and Behavior ○ Wildfire Management and Mitigation 	Chapter 16 & Chapter 17 Class Discussion: Katrina, what happened, how things could/should have been handled differently in the relief effort, etc. A Gift and a Curse: Wildfires in the Yellowstone National Park plus other Case Studies
Week 5: Module 5	
UNIT I <ul style="list-style-type: none"> • Understanding Landslides and other Downslope Movements ----- Chapter 8 • Final Paper due June 22 	

Syllabus Changes

The course instructor reserves the right to make changes as necessary to the course content during the course of the summer session. If these changes are made, they will be immediately notified to students through individual emails or the blackboard explaining the nature of the change(s). You should be checking weekly announcements through Blackboard from time to time.