



Distance Learning

Department of Geography & Geoinformation Science

GGG 302-A01: Global Environmental Hazards

Summer 2020 – Term Starts 6/1 – 7/4

Instructor Contact Details

Name : Maction Komwa, PhD
Office : Exploratory Hall, Room
Email : mkomwa@gmu.edu
Phone : 703-993-5646

Virtual Office hours:

Tuesdays and Thursdays: 2:30 pm - 3:30 pm or by appointment. Office hours will be through WebEx Conference Call.

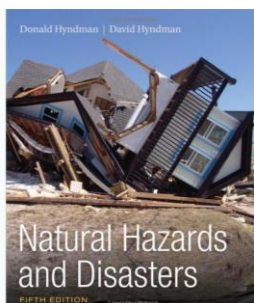
COURSE OVERVIEW

This is a 3-credit course, offered in accelerated format. This means, 16 weeks of material is covered in 5 weeks. Just like any other online courses, this one is also time consuming! You will work at your own pace, applying critical thinking and self-discipline!

COURSE DESCRIPTION

The course 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.

Recommended Prerequisite: 30 hours and undergraduate status



Required Textbook

Natural Hazards and Disasters, 5th ©2017
Donald Hyndman, David Hyndman Publisher:
Brooks Cole
Hyndman/Hyndman
eBook: ISBN 9781337228862

To get the eBook check with GMU Bookstore or Publisher's website: <https://www.cengage.com/>

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 course, students will be able to:

1. become familiar with 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. develop an understanding of techniques used by scientists to predict and assess the risk of natural hazards.

4. discuss ways to mitigate the hazards produced by natural disasters
5. evaluate hazard response case studies from different geographical locations [local, national, and global scale].
6. Communicate effectively in all your writing assignment(s) and discussion forum using appropriate terminologies, supporting evidence and excellent organization.

INSTRUCTIONAL METHODOLOGY & OTHER REQUIREMENTS

- The course is divided into 8 modules corresponding to the main topics in the textbook. It will be an asynchronous, meaning fully online course. The course will be delivered via the course management system - Blackboard site.
- Blackboard Login Page: <https://mymasonportal.gmu.edu> using your Mason email name (e.g. mkomwa@masonlive.gmu.edu) and email password.
- **Technical Problems:** If you need help with Blackboard, contact the ITS Support Center. Check contact details below:
 - Website: <http://itservices.gmu.edu>
 - Email: support@gmu.edu; | Phone: 703-993-8870.
- The course will officially start on June 1- July 4.

Technology Requirements

- Internet Requirements
 - Students must have access to high-speed internet connection with most up-to-date browser.
 - Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. We recommend Chrome and Firefox for Blackboard.
- Adobe Acrobat Reader
 - Students should have access to the most up-to-date Adobe Acrobat Reader.
<https://get.adobe.com/reader/>
- Windows Media Player: <https://windows.microsoft.com/enus/windows/downloads/windows-media-player/>
- Apple Quick Time Player: www.apple.com/quicktime/download/

COURSE COMMUNICATION

- Email communication with your Faculty should only take place through your GM University issued email address. Emails sent from other sources e.g. Gmail or Yahoo Account will not be acknowledged.
- You should feel free to send me email if you have any questions regarding something that you do not understand. Although I will not instantly answer your e-mail, I will reply to your e-mail within 24-48 hours. If you do not get my response, please feel free to remind me or ask to confirm if I have received your email. If it's a general question, you can also use "**Ask your Instructor**" link through the Blackboard. May be my response can benefit other students who might have similar question.

EXPECTATIONS OF THE COURSE

Below is a summary of the course expectations that will help you understand on how you should properly progress through the course.

- All course work will be conducted through Blackboard platform. As you all know, asynchronous courses do not have a "fixed" meeting day, our week will start on MONDAY, and finish on SUNDAY.
- You will work at your own pace as it fits your lifestyle, applying critical thinking, and self-discipline.
- Expectations for your success in this course is not different from the traditional face to face course.

- Students are expected to be actively engaged in weekly activities (i.e. viewing all course materials, completing course reading, activities, assignments, and participating in course discussions) accordingly.
 - To achieve these expectations, you will require a degree of self-motivation, self-discipline, and technology skills. These additional, make online courses more demanding than traditional course for some students.
 - Small tips that are essential to your success and good performance in this course:
 - complete your readings and all assigned web activities on time [most of the activities do not have make-up!].
- The course content will be divided into weekly modules, which will help control the flow of the course material.
 - Each module will correspond to the presentation of the main topic for that week.
 - The module will then be divided into a variable number of Units which will correspond a specific topic.
 - The module will contain module objectives, reading instructions, discussions, assignments, and other learning materials as well as specific dates for the learning unit.
- Once again, to be a successful distance learner, you must be self-disciplined. I will not always be there to remind you of assignments or of project deadlines.
 - *College life can be demanding, and you will need to train yourself on how to manage time.*
 - *This will be one of those skills needed for you to succeed even after your college.*
- Online classes can be a rewarding, learning experience, and of course more fun, if you are well organized and can work-well independently.

All students are expected to:

- to log into the online class daily and complete all required course activities by deadlines outlined in the syllabus.
- Review the course material and follow the course calendar.
- Work at full pace to avoid missing class activities.
- Be active participants in discussion forum throughout the course period.
- Communicate with you instructor to ask for help or clarification of an assignment or class activities.
- Respect the privacy of other classmates and the instructor in this virtual classroom.
- Re-read your responses in the discussion forum carefully before postings them.
- Express differences of opinion in a polite and sensible way.
- Keep an open mind to the constructive criticism from classmates and use it to improve your work.
 - We are in this class to share information and learning from each other.
 - By sharing and discussing each other's ideas, you will be able to examine your own thoughts and feelings hence, making the course interesting and enjoyable!
- Use good grammar and spelling in all your assignments and discussions.
- Write your messages in formal language.

COURSE STRUCTURE FOR GRADING:

Students are expected to submit high quality assignments during this course via the Blackboard. All assignments are to be completed prior to the next week class meeting or according to the dates outlined in the syllabus.

1. Discussion Forum [40 points]

Class discussion is an important part of any college experience. Ten percent (10%) of your course grade will be determined by weekly postings via "Discussion Forum.

- Participation/discussion forum will consist of:
 - Your substantive initial posting [**4 pts**] – **initial posting due on Wednesday at 11: 59 pm.**

- beginning week 1, you will get a topic with clear expectations for the discussion corresponding to the week's main subject/concept or you will be asked to choose a topic that fits your scientific curiosity but aligning with the topics being discussed for that week. As you post your comments, think about the following questions regarding your posting:
 - is the information accurate?
 - is your post relevant to the topic under discussion?
 - does your post answer the questions required?
 - does your post teach something new or apply a concept in a new way?
 - have you added to the academic atmosphere of this course?
 - Responding to fellow classmates' post **[6 pts] - due on Saturdays at 11: 59 pm.**
 - your response posts should be meaningful and enriches the discussion of the issues, ideas, questions that were raised in the initial posts. Replies to other students ("to simply agree or disagree with other members is not sufficient"). As you draft your response, think about the options given below:
 - share your experience and stating how it relates to the course material or to the initial post.
 - if you agree or disagree with classmate's posting state reasons why you do so.
 - you can also expand your classmate's post to demonstrate that you understand the topic or concept being discussed.
 - you can critically assess the post and make a suggestion or respectfully point out a section that was not fully addressed or needs clarification.
 - share an insight or something you learned from reading your peer's posting.
 - explain how additional information from your classmate has helped you to understand the material or re-think of your initial posting.
 - try to offer an opinion and support it with examples from the concepts under discussion
 - relate the information in the post to your course assignments or concepts.
 - discuss how comments other students made relate to your peer's post.
 - if there are some ideas that are not your own, you should cite your sources accordingly using APA style. If you are not familiar with APA please refer to APA document posted through the Blackboard.
 - both initial and response entries are rated according to their scientific content, relevant, current, and in-depth than what is provided in the course textbook.

2. Reading Reflection [60 pts] – due on Sundays at 11:59 pm

During your studies and beyond, you should expect to read many textbooks, scientific journals, news magazine, etc. In-depth reading requires that the learner reflect on new knowledge and create personal meaning from it.

To help us gain that new knowledge on global environmental hazards and disaster, we will use reading reflections assignment.

All reading assignments are designed to help students engage with course material in more depth.

You should also view this assignment as a technical writing exercises, meaning that it must be accurate, direct, informative, clear, and concise by addressing a specific question or questions.

Ultimately, this assignment will create a strong foundation in your general writing, including

knowledge of common grammar and punctuation conventions for your final research paper.

I will not expect your response to be more than a page, but you should demonstrate and reflect metacognitively on what you have read. Besides specific questions that will be given, these are some general questions that you should know as you complete your weekly readings.

- What was new to you, and did it change the way you think about or perceive things?
- Was there anything you would like to explore further or find out more about?
- Describe at least one connection between the reading and topics from outside class (other classes, news stories you have seen, etc.)?
- Give at least one specific example of an aspect or experience in your personal life that is related to the reading.

3. Two Quizzes [Week 2 (Mock-Test) and Week 4] (30 pts)

4. Exam [100 pts]

There will be only one Exam in week 3. The exam will be mostly objective in nature with questions that will allow students to analyze, apply, and synthesize lecture, videos and homework concepts and reading material. Exam may include multiple-choice, true-false, matching, fill-in the blank, and short answer questions. Exams will be timed and open/available for a 72-hour window. No make-up exams will be given.

Prior to the exam, you will be given a mock-test, which will count towards your quiz grade. If you want to compete in a 5K Turkey Trot & Mashed Potato Mile, you will need a bit of training and preparation for the race. Similarly, mock test will give you that platform to cross the finish line on test day.

5. Class Project due on July 4 [50 pts]

Project Overview

The class research project will count 40% of your final grade. The purpose of this research project is to examine a specific topic on global environmental hazards and disaster. The term paper will have the length of 10 -12 pages and should be turned on the last day of class July 4, 2020. You will take small steps to complete this project.

The following deliverables will be requested before submitting your final research paper: 1) topic description with preliminary bibliography (1%), your near final version (draft) and completion of peer review assignment (4%) (for instructor and classmate to critique).

Brainstorming creative ideas: To begin, you will brainstorm by listing relevant ideas from the topics discussed in this course. For example, natural hazards include earthquakes, floods, droughts, extreme heat, extreme cold, hurricanes, landslides, coastal storms, Tsunami, thunderstorms, wildfires, tornadoes, or disease and poisoning etc. While human-caused disasters could include major transportation accidents, hazardous materials spills, water or sewer failures, laboratory accidents involving biological hazards, etc.

Topic Identification: Then your task will be to identify a type of hazard/disaster that could have an impact to the community/country/region (*specifics will be needed for easy analysis*). You will apply basic principles of the course by conducting an in-depth analysis of your chosen natural hazards and disasters, which must be approved by the instructor at the end of week 2.

Data/information collection: You will collect adequate relevant information with sufficient depth from recent scholarly articles, other documentaries, government records, FEMA, NOAA websites, interview with people familiar with the disaster, examine local maps, as well as reliable web-based sources including magazines that are related to global environmental hazards and disasters.

Develop an outline: Then, you will develop an outline of heading and subheadings that convey key points obtained from your extensive research. Details of each component listed above (topic description and its bibliography) including draft – peer-review assignment will be posted through the blackboard in the “Project Journal Folder”.

Tentative structure of the Research Project: Your research paper should follow the format/organization given below:

- Title Page
- Introduction
- Frequency of occurrence, magnitude, location and spatial extent, duration, seasonal pattern, etc.
- Scientific causes of the issue under investigation
- Identify existing warning mechanisms
- Social and economic effects of the issue
- Mitigation of related or disaster recovery of the issue
- Limitation of your research project
- Conclusion
- 10 References Cited and Citations in the Text

Course Assignment Requirements Description	Percentage (%)
Unit Quizzes (only 2)	5%
Discussion / Participation [5 initial posting; 2-3 response to classmates] – Week 1-5	10%
Reading Reflection [4] – Week 1-4	20%
Exam [1]	25%
Class Project	40%

Grades will be assigned based on the distribution scheme below

Range	Letter Grade	Grade description	Range	Letter Grade	Grade description
93 - 100	A	Excellent	77 - 79	C+	Above satisfactory
90 - 92	A-	Very Good	70 - 76	C	Unsatisfactory
87 - 89	B+	Good With merit	60 - 69	D	Unsatisfactory
83 - 86	B	Good	<60	F	Failure
80 - 82	B-	Above satisfactory			

Policy on Late Submissions and Quizzes, Assignments

Due dates are listed in the course schedule below. Please do not wait until the last minute (**11:59 pm**) for you to complete your assignment. 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.

- Due dates and times are firm, meaning all discussion, reading reflection, quizzes and exam will become unavailable on Blackboard site after the due date and time.
- I will accept late submission for your Research Project assignment [topic description, draft and peer review, etc.) though late submission will be subject to 5 points penalty on each day and will not be graded in detail. All submission should be posted through the blackboard – email submission is discouraged!

Withdraw from the course

If for some reasons you decide to discontinue with this course, students should follow the official GMU procedures and policies of course withdraw. By informing the instructor your intention to withdraw from the course or by just stop attending – both “NOT SUFFICIENT” for GMU to accept the withdraw from the course. If you name still appears on the official roster for the class and you have earned a “0” grade, you will get “F” as your final grade.

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 University 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.

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 (CAPS) [<http://caps.gmu.edu/>]
- ii. Learning Services, University Career Services [<http://careers.gmu.edu/>]
- iii. The George Mason University Writing Center staff [<http://writingcenter.gmu.edu/>]
- iv. University Libraries Catalog: <http://catalog.gmu.edu/> |
- v. University Policies: <http://universitypolicy.gmu.edu/>

Course Schedule Summer 2020

MODULE 0: COURSE INFORMATION MODULE		
Week 0 [May 25 – May 31]		Assignment description and due date
NA	Module 0: Unit 1 <ul style="list-style-type: none"> Meet Dr. Maction Komwa Review the Course Syllabus and Assignments Introduce yourself to the class Take the Syllabus Quiz 	<> Self-introduction <> Syllabus Quiz due end of week 0 (May 31 st)
WEEK 1 [Jun. 1 – June 7] MODULE I: FOUNDATION/INTRODUCTION		
Chapter 1	Unit I: Introduction Natural Hazards and disasters Weblink: Geologic Hazards Science Center https://www.usgs.gov/centers/geohazards FEMA: https://www.fema.gov/ Natural Disasters General Maps: https://www.adt.com/natural-disasters/declaration-analysis Unit II: Mitigating Hazards Unit III: Understanding GIS Tools for Disasters and Emergency Management	<ul style="list-style-type: none"> Discussion/Participation Forum # 1 <ul style="list-style-type: none"> Initial posting <> 6/3 Response <> 6/6 Reading Reflection # 1 <> 6/7
Week 2 [Jun. 8 – June 14] MODULE II: Earthquakes		
Chapter 3 & 4	Unit I: Earthquakes and their causes Unit II: Earthquakes and Mitigations Weblink: Earthquake Hazards Program and significant Earthquakes, - USGS: https://earthquake.usgs.gov/ FEMA: https://www.safety.com/earthquake-safety/ Cases in Point: Deadly Collapse of poorly constructed heavy masonry Buildings – Haiti [page 89]	<ul style="list-style-type: none"> Discussion/Participation Forum # 2 <ul style="list-style-type: none"> Initial posting <> 6/10 Response <> 6/13 Reading Reflection # 2 <> 6/14 Topic description and preliminary bibliography <> 6/14 Mock Quiz [Will be available for 72 hours i.e. from 6/12 [12:01 am] – 6/15 [11:59 pm]
Week 3 [Jun. 15 – Jun. 21: MODULE III TSUNAMI & MODULE IV: VOLCANOES		
Chapter 5 & 6	Module III: Tsunami Unit I: Tsunami Overview Unit II: Tsunami Hazard Mitigation Read all Cases in Point: Massive Tsunami from a subduction zone Earthquake -Sendai, Japan [Pages 113-116] Amateur Japan and Indonesia Tsunami Footage http://www.asiantsunamivideos.com/	<ul style="list-style-type: none"> Discussion/Participation Forum # 3 <ul style="list-style-type: none"> Initial posting <> 6/17 Response <> 6/20 Reading Reflection # 3 <> 6/21 EXAM [Will be available for 72 hours i.e. from 6/19 [12:01 am] – 6/21 [11:59 pm]

Week 3 [Jun. 15 – Jun. 21: MODULE III & IV TSUNAMI & VOLCANOES Continued		
Chapter 5 & 6	Module IV: Volcanoes	
	Unit I: Introduction to Volcanoes Unit II: Eruptions and types of volcanoes Weblinks Oregon State University: Volcano World: http://volcano.oregonstate.edu/ Preparedness, Safety, and Resiliency https://volcanoes.usgs.gov/vhp/education.html U.S. Volcanoes and Current Activity Alerts https://volcanoes.usgs.gov/index.html	Same as above
Week 4 [Jun. 22 – June 28]: MODULE V: WEATHER, THUNDERSTORMS AND TORNADOES MODULE VI: CLIMATE CHANGE IMPACTS AND MITIGATION		
Chapter 10 & 12	Module V: Weather	
	Unit I: Basic Elements of Weather Unit II: Drought, Dust and Desertification Unit III: Thunderstorms and Tornadoes Weblink Tornadoes: https://usatoday30.usatoday.com/weather/resources/2006-04-03-tornado-basics_x.htm Module VI: Climate Change Impacts & Mitigation Unit I: Effects on Oceans Unit II: Impacts on Animals, Plants, and Humans Unit III: Mitigation of Climate Change Weblink: NOAA Climate http://www.noaa.gov/climate	<ul style="list-style-type: none"> • Discussion/Participation Forum # 4 <ul style="list-style-type: none"> • Initial posting <> 6/24 • Response <> 6/27 • Reading Reflection # 4 <> 6/28 • Final Quiz [Will be available for 72 hours i.e. from 6/26 [12:01 am] – 6/28 [11:59 pm] • Draft due 6/25 • Peer Review due 6/29
Week 5 [Jun 29 – Jul. 4]: MODULE VII FLOODS AND HUMAN INTERACTIONS AND MODULE VIII: WILDFIRE		
Chapter 14 & 17	Module VII: Floods and Human Interactions	
	Unit I: Development Effects on Floods Unit II: Reducing Flood Damage Module VIII: Wildfire Unit I: Fire Process, Management and Mitigation Unit II: GIS Application and Wildfire management (Basic application)	<ul style="list-style-type: none"> • Discussion/Participation Forum # 5 <ul style="list-style-type: none"> • Initial posting <> 7/1 Response <> 7/3 <p>Final Research Paper 7/4</p> <p>NO FINAL EXAM</p>

Faculty reserves the right to make changes as necessary to the course content with notification to students through email or the blackboard explaining the nature of the change(s). I encourage you all to be checking the Learning Management System – Blackboard site every day! All grading rubrics will be posted in the assignment folder.