

Hazards & Humans

FALL 2025

GLY 2890

Course Description

Catalog listing: Uses geologic principles to evaluate earthquake and volcanic hazards. Explores the limits of predictive abilities, the challenges of forecasting weather disasters in a changing climate, and the necessity for decision-making despite scientific uncertainty.

About the course: Natural disasters such as earthquakes, volcanoes, hurricanes, and floods have devastating impacts on human lives. By analyzing recent and historical disasters, we will explore the interactions of natural and built environments before, during, and after major events. This course lays out the geologic mechanisms behind disasters, as well as the role of key players - scientists, engineers, developers, government officials, reporters, first responders, and the public in disaster preparedness and response.

The following questions will be examined during this course:

- How can scientific understanding help us prepare for and minimize the impacts of natural disasters?
- What are the cultural and historical ties to hazardous landscapes around the world and how do those ties influence how populations deal with disasters?
- How do disasters impact different economic/social populations?
- How do our actions (collectively and individually) reduce or exacerbate the impact of a disaster?

Textbook:

Natural Disasters, 12th Edition, 2017 Patrick L. Abbott. Any format (digital or print, new or used) is fine. 11th edition will work also! Any additional readings will be freely available online or provided by the instructor.



When and Where

Lectures M/W 4:05-4:55 pm

Location: XXX

Breakout Labs*, Fridays

Location: XXX

Period 3: 9:35 am - 10:25 am

Period 4: 10:40 am - 11:30 am

Period 5: 11:45 am - 12:35 pm

**Check your class schedule to make sure you attend the right one.*

Contact Info

Dr. Anita Marshall (she/her)

Email: anita.marshall@ufl.edu, or message through Canvas.

Office Phone: See Canvas

Office Location: xxx

Office Hours:

TBA

TA: Samuel Kwafo (he/him)

Email: xxx

Office Hours:

TBA

COURSE DETAILS

Prerequisites and Course Information: There are no prerequisites for this course. This course meets Quest 2(Q) and requirements.

Student Learning Outcomes (SLO):

All Quest 2 courses have SLO related to content, critical thinking, communication and connection. You can see [QUEST SLOs](#) for more details. The course-specific SLOs are:

1. Identify, describe, and explain the basic concepts, theories and terminology of natural hazards and the relevant processes that govern geologic, oceanographic and atmospheric systems. (P)
2. Formulate empirically-testable hypotheses derived from the study of physical processes and apply techniques of discovery and critical thinking effectively to solve scientific problems and to evaluate outcomes. (P)
3. Communicate knowledge, thoughts and reasoning clearly and effectively using evidence and logical reasoning. (P)
4. Synthesize disaster case studies to explore how hazards can impact human lives and how preparation for and response to disasters can be improved. (P,Q)
5. Discuss how human actions reduce or exacerbate the impact of disasters. (P,Q)
6. Reflect on the social context in which disasters occur and how those social contexts interact with disaster preparation and response. (Q)
7. Reflect on your personal progress in the course and your role as an individual and as a member of society in preparing, mitigating, preparing and responding to natural disasters. (Q)

Format: Hazards and Humans is an in-person course that meets 3 times per week: twice for lectures and once for Breakout activities. We will also utilize the Canvas course page for online activities that complement the course. Weekly quizzes and some Discussions will be online.

Content Warning: People get hurt and die in disasters. While we will not dwell on macabre details, it is impossible to discuss hazards without talking about death and human suffering - disasters are called disasters because of the impact on human lives! If you feel you may struggle with this aspect of the course, please contact me as soon as possible so we can determine the best course of action.

COURSE MATERIALS

Textbook: Natural Disasters 12th edition by Patrick L. Abbott in any format (digital or print). You won't need access codes for supporting material, so used copies are fine. You may purchase the book through the UF bookstore or rent/buy through 3rd party sellers. Supplementary reading material will be provided by the instructor.

Materials & Supplies: There is no Supply Fee associated with this course. You will need a way to keep notes in class. Paper notebooks, tablets or laptops are all good options, whatever works best for you. PowerPoint files for lectures will be posted before class starts on the class Canvas page to aid in note-taking. Any other needed materials will be provided.

YOUR RESPONSIBILITIES

- Check the announcements on Canvas and your e-mail regularly - it is the only way I can directly communicate with you outside of class.
- Complete course assignments and activities in a timely fashion.
- Attend and participate in class to the best of your ability.

COURSE DELIVERABLES

A Canvas page for each week lists everything you need to read or do all in one place: reading assignments, PowerPoint files for lectures, links to quizzes, assignment materials, etc. These pages are posted at least a week in advance of any due dates.

Quizzes: Weekly online quizzes encourage you to keep up with readings and assigned videos to be prepared for the week's activities. Quizzes will be due on Monday each week before the start of class. Each quiz is worth 20 points. Your lowest quiz grade will be dropped, even if it's a zero. **Quizzes are worth 20% of your overall grade.**

Assignments: Assignments can be given in lecture or Friday Breakout sessions, or sometimes started in lecture and finished in Breakout sessions. Breakout sessions compliment the reading and lecture material and enable a deeper connection to the concepts of the course by providing a variety of ways of engaging in the material. Most of the work on Assignments will be completed during class time. Each assignment is worth 40 to 50 points and the lowest Assignment grade is dropped, even if it is a zero/missing. **Assignments count for 30% of your overall grade.**

Experiential Learning: As a Quest course, activities in Breakout sessions require active engagement and challenge students as co-creators of knowledge in multi-disciplinary inquiry that uses scientific data to address pressing questions. It can be hard to make these up after the fact, so please do your best to attend Breakouts!

Bridge Questions: At the end of each lecture (on Mon & Wed), the class will define a question that bridges the lecture content to the upcoming lecture or Breakout activities. You will turn in your answer to Monday's question in class on Wednesday, and Wednesday's answer at Friday Breakouts. These must be turned in during class time and cannot be made up. There will be 24 total and 4 will be dropped. You can get a maximum of two points on each Question: one for turning an answer in, one for a correct or on-topic answer. We won't take attendance, but these **Bridge questions are worth 10% of your grade** to encourage your attendance and engagement in class.

Discussions: We will have frequent class discussions on the assigned material. There will be multiple modes of participation so that everyone can feel comfortable contributing. Discussions are worth 20 points each, lowest grade will be dropped. These are easy participation points, so share your thoughts and get your points. Discussions **are worth 20% of your overall grade.**

Discussion Rubric					
Criteria	Scoring Guidelines				Pts
Quality of Posts and Responses	15 pts Full Marks Comments are appropriate, thoughtful, reflective and respectful of others' postings. Posts include supporting content to justify/explain thoughts/opinions.	10 pts Needs improvement Comments are appropriate thoughtful, reflective and respectful of others' postings. Posts do not include sufficient supporting content to justify/explain thoughts/opinions.	5 pts Needs significant improvement Responds with minimum of effort; posted late, states thoughts/opinions without supporting content, but is respectful of others' postings.	0 pts No Marks No posting, or disrespectful post(s).	15 pts Or 30%
Relevance of Posts and Responses	10 pts Full Marks Posts and replies are related to discussion topic and address the prompt(s) in the instructions.	5 Points Could be Improved Posts and replies related to discussion topic, but may not fully address the topic or prompt.	0 pts Needs significant improvement No posting, late posting or post not related to discussion content.		15 pts Or 30%
Replies Replies should follow the "substantive posts" guidelines outlined in the instructions.	20 pts Full Marks Replies follow the "substantive posts" guidelines outlined in the instructions to contribute to a robust conversation.	10 pts Needs improvement Partially follows the "substantive posts" guidelines outlined in the instructions, or is off-topic or incomplete.	0 pts No Marks Does not follow guidelines for a substantive post, or no replies made		20 pts Or 40%
Total Points Possible: 50, or Total Percent possible 100%					

Reflection Essays: We don't have exams in in this course. Instead, you will produce two essays, one in the middle and one at the end of the semester. **Reflection essays give you the opportunity to demonstrate your knowledge and reflect on what you've learned and how you have grown during the course.** You may write or record your thoughts with audio/video. Detailed instructions will be available on Canvas. The following rubric gives you a broad idea of how Essays will be scored. Section Reflections are each worth 10% of your grade for a total of 20% of your overall grade.

Essay Rubric					
Criteria	Scoring Guidelines				Pts
Part 1: Course content Demonstrate understanding of scientific ideas from the course.	75 pts Excellent Demonstrates a clear understanding of scientific content. Explanation in students' own words, with proper use of scientific vocabulary and good use of examples.	50 pts Good Overall good content. Partially addresses the prompt, short on details and/or contains some minor factual errors or confusing text.	25 pts Needs work Content is good in places, but also has significant content that is hard to understand or demonstrates a poor mastery of course content.	0 pts No Points Essay does not address the Part 1 prompt.	75 pts Or 37.5%
Part 2: Quest Reflection Consider your growth during the course and reflect on how it applies to you now and going forward.	75 pts Excellent Clearly articulated ideas, well supported with course activities, concepts or ideas.	50 pts Good Ideas are well articulated, but with weak connections to course material or activities. Or some ideas are confusing or not well articulated.	25 pts Needs work Some good content, but major issues with clarity and/or linking ideas to the course.	0 pts No Points Essay does not address the Part 2 prompt.	75 pts Or 37.5%
Writing Quality* Grammar, spelling, etc. *If not a written essay, see alt. guidelines on Canvas	50 pts Excellent Writing is coherent and mostly free of grammar and spelling issues. Clear and easy to follow structure.	25 pts Good Writing contains more than a few grammar or spelling, issues, or a few places where ideas are confusing or hard to understand.	10 pts Needs Work Significant spelling or grammar issues making the essay hard to understand.	0 pts No Points Writing is incoherent or very difficult to understand due to numerous grammatical, spelling and structure issues.	50 pts Or 25%
Total Points Possible: 200, or Total percent possible: 100%					

Extra Credit: Small extra credit assignments may be available to the entire class occasionally. Requests for individual extra credit assignments will not be granted. Extra credit can provide up to a 1% bonus to your grade.

GRADING & ABSENCE POLICIES

Plagiarism: This course encourages collaboration, but you are ultimately responsible for your own work. On all work submitted for credit by students at the University of

Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” See the [UF Conduct Code](#) website for more information. You will receive a zero on plagiarized work and may face other penalties, so please do your own work!

Appropriate Use of Artificial Intelligence: AI programs are not a replacement for human creativity and critical thinking. You are free to use AI tools to enhance your understanding of the course content, but you need to be aware of the potential biases and pitfalls of AI, and its potential to both aid and suppress learning. You are responsible for ensuring that you are providing assignment responses that are high-quality and correct. Simply put: if you write a discussion response or essay using ChatGPT you will not be marked down for using ChatGPT; you will be marked down because the ideas are generic, expressed poorly, or contain elements that uncited, inaccurate or off-base. It is your responsibility to review and ensure the appropriateness and accuracy of assignment submissions.

Weighting: Grades for each type of activity are weighted to balance out how they impact your final grade:

- Quizzes 20% of total
- Assignments 30% of total
- Discussions 20% of total
- Section Reviews 20% of total
- Bridge Questions 10% of total
- Extra Credit 1% of total

Grading Scale: See <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx> for UF grading policies. A minimum grade of C is required for general education credit. Final grades for this course will be assigned with the following criteria:

% Grade	Letter Grade	GPA Value
90 +	A	4.0
85-90	B+	3.33
80-84.9	B	3.0
75-79.9	C+	2.33
70-74.9	C	2.0
65-69.9	D+	1.33
59-65.9	D	1
< 58.9	E	0

Late Policy & Missed Work: Requirements for class attendance and make-up work are consistent with university policies. [See UF Academic Regulations and Policies for more information regarding the University Attendance Policies.](#)

Religious Observances, Military Duty & other Unavoidable Absences: Students who anticipate the necessity of missing deadlines due to religious observances must provide notice of the dates to the instructor, in writing (email is fine) at least one week in advance of the missed class days so accommodations to be made. For other unavoidable absences, contact me as soon as you know the dates. Please do not wait until after you have missed assignments to ask for an exception, as we may not be able to help - especially near the end of the semester. P.S. Personal/family vacations inside the semester don't count as an unavoidable absence!

COURSE SCHEDULE

This schedule is subject to change as the semester progresses. Weekly reading and/or viewing assignments, activities and assignments will be listed on the class website at least one week in advance of the due date.

Week	Topic
1: Breakouts 8/22 <i>*No M/W class with Thursday start.</i>	Introduction to Disasters <u>To Do:</u> <ul style="list-style-type: none"> Read the Syllabus before class on 8/22 Discussion - The More Who Die, the Less we Care [SLO 6]
Section 1 Tectonic Hazards	
2: 8/25 + 8/27 Breakouts 8/29	Plate Tectonics <u>To Do:</u> <ul style="list-style-type: none"> Read: Ch 2 – Internal Energy and Plate Tectonics, pgs 23-45 Reading Quiz - Plate Tectonics [SLO 1] Bridge Questions 1 (due 8/27) & 2 (due 8/29) [SLO 3] Breakout Activity: Exploring Plate Tectonics [SLO 1,2]
3: 9/1* + 9/3 Breakouts 9/5 <i>*Mon 9/1 is Labor Day, no classes.</i>	Earthquakes Part 1 <u>To Do:</u> <ul style="list-style-type: none"> Read: Ch 3 - Earthquake Geology and Seismology, pgs 47-74 Reading Quiz: Earthquakes part 1 [SLO 1] Bridge questions 6 (due 9/17) and 7 (due 9/19) [SLO 3] Breakout Activity: Geolocating Earthquakes [SLO 1,2,3]
4: 9/8 + 9/10 Breakouts 9/12	Earthquakes Pt 2 <u>To Do:</u> <ul style="list-style-type: none"> Read: Ch 4 – Plate Tectonics & Earthquakes, pgs 78-105 Reading Quiz: Earthquakes part 2 [SLO 1] Bridge Questions 8 (due 9/24) and 9 (due 9/26) [SLO 3] Discussion: Who's At Fault? [SLO 4,5,6] Breakout Activity: Earthquake Impacts & Recovery [SLO 4,5,6]
5: 9/15 + 9/17 Breakout 9/19	Volcanoes Part 1 <u>To Do:</u> <ul style="list-style-type: none"> Read: Ch 6 - Volcanic Eruptions, pgs 143-170 Reading Quiz: Volcanoes part 1 [SLO 1] Bridge Question 3 (due 9/5) [SLO 3] Breakout Activity: Volcano in a Cup [SLO 2]
6: 9/22 + 9/24 Breakouts 9/26	Volcanoes Part 2 <u>To Do:</u> <ul style="list-style-type: none"> Read: Ch 7, Volcano Case Histories, pgs.185-200 Reading Quiz: Volcanoes part 2 [SLO 1] Bridge Questions 4 (due 9/10) and 5 (due 9/12) [SLO 3] Breakout Activity: Reading Volcanic Rocks [SLO 1,3]

Section 2: Weather, Climate and Erosional Hazards	
7: 9/29 – 10/1 Breakouts 10/3	Severe Weather <u>To Do:</u> <ul style="list-style-type: none"> • Read: Ch 10 – Tornadoes & Lightning, pgs 151-181 • Reading Quiz: Severe Weather [SLO 1] • Bridge Questions 10 (due 10/1) and 11 (due 10/3) [SLO 3] • Breakout Activity: Weather Forecasting around the World [SLO 3,6] • REFLECTION 1 DUE 10/4 [SLO 1,3,4,5,6,7]
8: 10/6 + 10/8 Breakouts 10/10	Hurricanes and Typhoons 1 <u>To Do:</u> <ul style="list-style-type: none"> • Read: Ch 11 – Hurricanes, pgs 238-250 • Reading Quiz: Hurricanes & Typhoons [SLO 1] • Bridge Questions 12 (due 10/8) and 13 (due 10/10) [SLO 3] • Breakout Activity: Interpreting Hurricane Data [SLO 1, 2, 3]
9: 10/13+ 10/15 No Breakouts* <i>*Fri 10/17 is Homecoming, no classes.</i>	Hurricanes and Typhoons 2 <u>To Do:</u> <ul style="list-style-type: none"> • Read: Ch 11 - Hurricanes, 251-312 • Reading Quiz: Hurricanes & Typhoons pt 2 [SLO 1] • Bridge Question 14 (due 10/15) [SLO 3] • Discussion: Stay or Go? Evacuations & Decision Making [SLO 4,5,6]
10: 10/20 – 10/22 Breakouts 10/24	Extreme Heat and Cold <u>To Do:</u> <ul style="list-style-type: none"> • Read: Ch 10 – Heat and Cold, pgs 252-257 & 279-281 • Reading Quiz: Heat and Cold [SLO 1] • Bridge Question 15 (due 10/22) and 16 (due 10/24) [SLO 3] • Breakout Activity: Hazards and Warming Oceans [SLO 1,2,3]
11: 10/27 – 10/29 Breakouts 10/31	Wildfires <u>To Do:</u> <ul style="list-style-type: none"> • Read: Ch 14 - Wildfires, pgs 382-407 • Reading Quiz: Wildfires [SLO 1] • Bridge Questions 17 (due 10/29) and 18 (due 10/31) [SLO 3] • Breakout Activity: Fire Forecasting [SLO 2,3,5]
12: 11/3 + 11/5 Breakouts 11/7	Landslides & Mass Wasting <u>To Do:</u> <ul style="list-style-type: none"> • Read: Ch 15 – Mass Movements, pgs 409-439 • Reading Quiz: Landslides [SLO 1] • Bridge Question 19 (due 11/5) and 20 (due 11/7) [SLO 3] • Breakout Activity: Hazardous Hillsides [SLO 1,2,3]
13: *11/10 + 11/12 Breakouts 11/14	Subsidence & Sinkholes <u>To Do:</u> <ul style="list-style-type: none"> • Read: Ch 15, pgs 440-443 & this webpage about Sinkholes • Reading Quiz: Sinkholes [SLO 1] • Bridge Question 21 (due 11/15) [SLO 3]

	<ul style="list-style-type: none"> Breakout Activity: Campus Sinkhole Tour [SLO 2,3,5]
14. 11/17 + 11/19 Breakouts 11/21	Floods <u>To Do:</u> <ul style="list-style-type: none"> Read: Ch 13 - Floods, pgs 351-380 Reading Quiz: Floods [SLO 1] Bridge Question 22 (due 11/19) and 23 (due 11/21) [SLO 3] Breakout Activity: Flooding on the Brazos [SLO 2,4,5,6]
15. 11/24-11/28	FALL BREAK – no classes
16: 12/1-12/3 *Fri 12/5: Reading Day, no Breakouts	Global Change & Wrap-up <u>To Do:</u> <ul style="list-style-type: none"> Read: Ch 12 – Climate Change, pgs 320 - 348 Quiz 12: Climate Change [SLO 1] Bridge Question 24 (due 12/3) [SLO 3]
17: 12/8 - 12/10	FINALS WEEK No class meetings, no final exam. <ul style="list-style-type: none"> Second Reflection Essay due 12/10 [SLO 3,4,5,6,7]

ACCESSIBILITY, INCLUSION & RESPECT

Respect & Inclusion: Everyone should feel welcome to share their thoughts in a respectful way in this class. If something in the course material, instruction or class interactions make you feel excluded or uncomfortable, please let me or the TA know so we can address it. We will do our best to call you by the name you prefer and with the correct pronunciation. You can specify your pronouns on the Canvas course page, privately to us, or in class. Please correct us if we say your name or pronouns incorrectly – we want to get it right.

UF Statement on Accommodating Students with Disabilities: Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center. Click here to get started with the Disability Resource Center: <https://disability.ufl.edu/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

My Personal Statement on Accessibility: We all learn differently. You don't have to have a formally recognized disability to find yourself having difficulty with some aspect of the college learning environment. Please let me know if something in the course material presents a barrier to your full participation so we can work together to find a reasonable solution – *even if you don't have, or don't yet have, a formal accommodation letter*. And please contact me during the semester if your accommodation needs change so we can re-adjust.

Masking Policy: Masking is optional on campus and welcome in my classroom, especially if you are sick. There will be no tolerance for harassment regarding mask wearing. Medically vulnerable students, staff and faculty are part of our campus community and deserve access to educational spaces like everyone else.

NEED HELP?

Office Hours: Office hours are for your benefit - ask questions, get assignment help, discuss class topics or geoscience degrees and career options, or just say hello. Office hours are hosted on Zoom with live captioning available, or drop by Dr Marshall's office (Samuel's office hours are Zoom only unless you've made arrangements otherwise). If office hours don't work for you, you can set up an appointment at a time that works for you.

Emailing the Instructor: I teach multiple large classes – my inbox can get out of hand at times. I try my best, but please don't expect an immediate reply to emails. Please tell me which class you are in somewhere in the email -it's very helpful! If it's not regarding sensitive info (like grades or accommodations), faster replies are often achieved by emailing the TA, or by posting your question on the Class Questions Discussion thread on Canvas where anyone can answer.

Mental Health and well-being: College life can take a toll on your mental health. If you are mentally or emotionally struggling for any reason, you can contact the [Counseling and Wellness Center](#). They have one-click access to people who can help. If these struggles are negatively impacting your performance your courses, I encourage you to contact the [Dean of Students Care Area](#) - a support team that facilitates temporary accommodations, authorization to make up missing course work, etc. Additionally, if you are comfortable doing so, please reach out to me and I will provide any accommodations in this course that I can.

Food Pantry: The Field and Fork Pantry is a resource on the University of Florida campus committed to supporting anyone in the UF community experiencing food insecurity. <https://pantry.fieldandfork.ufl.edu/>

Financial Assistance: UF's [Aid-A-Gator](#) program has small grants available to help students with unexpected financial needs.

Technical Support: For issues with technical difficulties with the Canvas page, please contact the UF Help Desk: <http://helpdesk.ufl.edu>, or (352) 392-4357.

UF POLICIES

University Policies on academic misconduct and honesty, class recording, course evaluation and academic resources can be found here: <https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/>

UF Undergraduate Student Handbook: The student handbook has all the details on UF policies for students. <https://dso.ufl.edu/resources/student-handbook/>

That was a ton of information – thanks for reading to the end!