



GEOLOGICAL DISASTERS

GEOL/ENVS 111XW
Summer 2024

Instructor Chris Harding
Contact information charding@iastate.edu

Office Hours Thurs. 1-2, by appointment only
Use webex: <https://iastate.webex.com/meet/charding>

COURSE DESCRIPTION

Geological Disasters is an introduction to the catastrophic geologic processes that disrupt ecosystems and human activity. Most geology courses emphasize processes that have occurred over millions of years. Our focus will be on surface and near-surface catastrophic processes that occur over human time scales and sometimes require only seconds or minutes. These are processes that cause rapid devastation like earthquakes, volcanic eruptions, landslides, and floods. This devastation increases with time as human population grows and expands into more regions where geologic hazards are great. Recent tragic events remind us that these events are not abstract or academic curiosities: their human, economic, and environmental impacts are direct and often overwhelming. In this course you will:

- Gain an understanding of the driving forces that lead to catastrophic events.
- Study specific events that have had a major impact on our world.
- Appreciate the relationship between the earth's processes and its inhabitants.

The course is divided into 7 Modules each covering a separate topic. The content in this course is located under the **MODULES** tab and consists of OVERVIEWS, CASE STUDIES, and VIDEOS (20-50 minutes each, with captions) related to each topic. Begin with the **OBJECTIVES & ASSIGNMENTS** page at the beginning of each module and review the listed and linked material prior to completing homework or quizzes.

There is no required text book for this course, however, if you are looking for more in-depth information and additional types of natural disasters I recommend: [*Natural Disasters: Hazards of a Dynamic Planet* by Stephen Marshak, Robert M. Rauber, Neil E. Johnson, W. W. Norton, 2021, ISBN 0393921972 \(650 pages\)](#).

I will post important information throughout the semester under the **ANNOUNCEMENTS** tab on Canvas. Make sure to set up your [notification preferences](#) on Canvas to receive this information via text or email.

COURSE SCHEDULE			HOME WORK	QUIZZES	DEADLINES
Topic 1	Jun 10	Natural Hazards & Plate Tectonics	Hwk 1	Syllabus, Q1	Jun 17
Topic 2	Jun 17	Earthquakes & Tsunami	Hwk 2	Q2, Q3	Jun 24
Topic 3	Jun 24	Volcanoes	Hwk 3	Q4	Jul 1
		MIDTERM EXAM			Jul 1
Topic 4	Jul 1	Climate Change	Hwk 4	Q5	Jul 7
Topic 5	Jul 7	Landslides & Subsidence	Hwk 5	Q6	Jul 14
Topic 6	Jul 14	Streams & Floods	Hwk 6	Q7	Jul 21
Topic 7	Jul 21	Coastal Processes & Hazards	Hwk 7	Q8	Jul 28
	Jul 28	FINAL EXAM			Aug 2

Please do your best to adhere to the deadlines in order to avoid falling behind and work piling up. However, in order to give you some flexibility, **all assignments (except the Syllabus quiz, which is due Jun 17!) and exams will be available until Aug 2 EOD and I will not penalize you for handing in work late.** However, note that Aug 2 is a hard deadline that I cannot extend! **You must have all your work handed in by the end of day on Aug 2 to get it graded!**

GRADING & ASSIGNMENTS

Your grade will be based on quizzes, homework, and exams. **These assessments are open-book/open-note and can be accessed on any computer with a stable internet connection.** Grades will post immediately after you complete the assignment or exam. The course grade reported to the registrar is rounded (e.g. 84.4 will be 84% and 84.5 will round up to 85%).

Syllabus Quiz		7 pts
Homework	7 @ 10 pts	70 pts
Quizzes	7 (out of 8) @ 12 pts	84 pts
Midterm Exam		40 pts
Final Exam		60 pts
TOTAL		261 pts

If you have questions about the course requirements or the course material, email me. I am not able to confirm or discuss specific grades via email.

SYLLABUS QUIZ: Before you begin the course modules, you must complete the syllabus quiz **within the first week of the course**. This quiz is accessed through the MODULES tab. To receive credit for this quiz you must receive a perfect score, so you may take the quiz as many times as necessary. **NOTE: This is the only quiz you must repeat until you receive 100%!**

HOMEWORK: Homework can be accessed through the MODULES tab, OBJECTIVES & ASSIGNMENTS page, or SYLLABUS Course Summary. Each homework (Hwk) consists of 10 multiple choice and true/false questions related to a topic or Case Study. Review the specified content (pdf, video) to complete the assignment. Homework assignments do not have timers, so they can be accessed and updated prior to grading. If you are not finished with the homework but want to edit the assignment later, use the back button on your browser to close the homework. Select SUBMIT at the bottom of the assignment when you're ready to submit it for grading. If you are not satisfied with the score you receive on your first attempt, you are allowed a **second attempt**. The highest score out of the 2 attempts will count towards your grade. **NOTE:** You may receive different questions on the second attempt.

QUIZZES: Quizzes can be accessed through the MODULES tab, OBJECTIVES & ASSIGNMENTS page, or SYLLABUS Course Summary. Each quiz consists of 12 multiple choice and true/false questions related to specific topics and case studies. You have 20 minutes to complete each quiz and the timer will start once you open the quiz. You may use your notes. You will only

have **one attempt per quiz**. There are 8 quizzes. The **lowest quiz score will be dropped**, so only 7 quizzes will count towards your grade. You may choose to not take a quiz and use it as your dropped lowest score.

EXAMS: Exams are accessed through the Modules tab. All exams are open-note/open-book and will consist of multiple-choice questions. **The exams will not be proctored** and can be completed on any computer with a stable internet connection providing access to Canvas.

- **Midterm Exam:** This exam will cover all the material in the first part of the course (Topic 1-3). You will have 40 minutes to answer 40 questions (multiple choice and true/false).
- **Final Exam:** This exam is comprehensive but focused on topics **after** the Midterm Exam (Topics 4-7).
 - 25% of the questions will be from Topics 1-3
 - 75% of the questions will focus on Topics 4-7Most of the questions will focus on general concepts but there will be questions about the case studies and assigned videos. You will have 60 minutes to answer 60 questions.

Note: Don't use Safari as it won't show images on Hwks, quizzes or exams!

Extra Credits/Class Climate Evaluations: There will be no extra credit opportunities available for this course. However, if **more than 70% of all students** fill out the Class Climate Evaluations all will receive a 1% increase to their final course grade.

Grade Breakdown:

A	100% to 93%
A	<93% to 90%
B+	<90% to 87%
B	<87% to 83%
B-	<83% to 80%
C+	<80% to 77%
C	<77% to 73%
C	<73% to 70%
D+	<70% to 67%
D	<67% to 63%
D-	<63% to 60%
F	<60% to 0%

For information on academic conduct, accessibility, freedom of expression, etc. please see the Syllabus Statements on the left side on Canvas.