

## GEOL1996-501 Syllabus – Geological Disasters – 3 credit hours

**Instructor:** Dr. Kevin Hobbs   **E-mail:** [khobbs84@unm.edu](mailto:khobbs84@unm.edu)   **Office:** A132a   **Phone:** 925-8876

**Office hours:** Tuesdays and Thursdays: 10:30-12:00 and 4:20-5:00; Wednesdays: 9:00-10:40

**Class meeting time and location:** Tuesdays and Thursdays, 9:00-10:15, room VAHS108 (H108; geology lab room)

**Textbook:** Natural Disasters (10<sup>th</sup> Ed.), P.L. Abbott, 2017, McGraw-Hill.

**Supplies:** Notebook/File-folder containing lined paper; pens and/or pencils

### Schedule:

Class Days	Topic	Reading	Assignment
Week 1 (Tues, 1/21)	Course Introduction	Chapter 1	Online Quiz #1
Week 1 (Thurs, 1/23)	Plate Tectonics	Chapter 2	Online Quiz #2
Week 2 (Tues, 1/28) Week 2 (Thurs, 1/30) Week 3 (Tues, 2/4) Week 3 (Thurs, 2/6) Week 4 (Tues, 2/11)	Ground Deformation; Earthquakes	Chapter 3  Chapter 4  Chapter 5	Online Quiz #3  <b>EQ hazards in NM exercise due 2/11</b>
Week 4 (Thurs, 2/13) Week 5 (Tues, 2/18) Week 5 (Thurs, 2/20) Week 6 (Tues, 2/25)	Tsunami	Chapter 8	Online Quiz #4  <b>Tsunami exercise due 2/25</b>
Week 6 (Thurs, 2/27) Week 7 (Tues, 3/3) Week 7 (Thurs, 3/5) Week 8 (Tues, 3/10) Week 8 (Thurs, 3/12)	Plate Tectonics recap; Volcanoes	Chapter 6  Chapter 7	Online Quiz #5  <b>Volcanic hazard response exercise due 3/12</b>
Week 9 (Tues, 3/17) Week 9 (Thurs, 3/19)	Spring Break Spring Break	<b>No Class</b> <b>No Class</b>	Avoid hazards at all costs!
Week 10 (Tues, 3/24) Week 10 (Thurs, 3/26) Week 11 (Tues, 3/31)	Severe Weather & Tornadoes	Chapter 10	Online Quiz #6 <b>Tornado exercise due 3/31</b>
Week 11 (Thurs, 4/2) Week 12 (Tues, 4/7)	Hurricanes	Chapter 11	Online Quiz #7
Week 12 (Thurs, 4/9) Week 13 (Tues, 4/14) Week 13 (Thurs, 4/16) Week 14 (Tues, 4/21)	Flooding	Chapter 13	<b>Hurricane exercise due 4/9</b> Online Quiz #8 <b>Flooding exercise due 4/21</b>
Week 14 (Thurs, 4/23) Week 15 (Tues, 4/28) Week 15 (Thurs, 4/30)	Wildfires	Chapter 14	Online Quiz #9 <b>Trigo Fire exercise due 4/30</b>
Week 16 (Tues, 5/5) Week 16 (Thurs, 5/7)	Mass Movements	Chapter 15	Online Quiz #10 <b>MM exercise due 5/7</b>
<b>Finals Week</b>	<b>Your other classes</b>	<b>Good luck!</b>	<b>Pass your other classes</b>

## Course Description:

This course will incorporate an overview of the geological processes that result in natural disasters and the input humans have on the amplification or mitigation of these natural disasters. We will examine past catastrophes and discuss the probability of such disasters occurring again. Hazards investigated will include, but not be limited to: earthquakes, volcanoes, tsunamis, hurricanes, floods, landslides, and wildfires. We will investigate the data obtained from recent disasters and explore the costs in human and economic terms.

## Course Goals:

- 1) To give you greater understanding of Earth processes and how human activities serve to exacerbate or diminish hazards to human life and property caused by these processes.
- 2) To help you develop your writing and presentation skills as well as your ability to think scientifically.
- 3) To examine the ways that individuals, communities, and societies can prepare for and respond to geological disasters, especially in consideration of data-based risk assessment.
- 4) To explore the links between the science of natural hazards and the roles, responsibilities, rights, and expectations of scientists in the larger context of human societies.

## Student Learning Outcomes:

- 1) Understand the causes of natural hazards and how human activities can exacerbate or reduce risk.
- 2) Understand the disaster management cycle and activities that promote individual, family, and community resilience.
- 3) Understand how climate change has affected natural hazards and what possible future effects will be.
- 4) Analyze and assess recent and historical natural disasters, their impacts on societies, ecosystems, and natural systems, and how they might inform preparation for future events.

## Reading:

You bought the textbook so you may as well do the assigned reading. The reading is not meant to be busywork but is designed to help you gather the basics such that you can accomplish the assignments and quizzes that will be given to you throughout the semester. I will attempt to better direct what reading you should do from each chapter as we go through the course.

## Online Quizzes:

During the semester I will post 10 quizzes to UNMLearn. These online quizzes will each be worth 3% of your final grade. I assign them to gauge your understanding of the basic subject material. Often they are out of 10 points (5 questions) and you may take the quiz as many times as you like (although you may not see the same 5 questions each time you take the quiz).

## Grading:

Your final grade will be based on a series of homework and in-class assignments as well as a series of online quizzes. Grading is as follows:

Homework Assignments: eight, each worth 10 percent	80 %
<i>Minus your lowest Homework Assignment score</i>	-10 %
Online Quizzes: ten, each worth 3 percent	<u>30 %</u>
Total available points	100 %

Grade scale:            98+ = A+      92-97 = A      90-91 = A-  
                              88-89 = B+      82-87 = B      80-81 = B-  
                              78-79 = C+      72-77 = C      70-71 = C-  
                              68-69 = D+      62-67 = D      60-61 = D-            0-59 = F  
Note: to score an "A+", a student must attend each class meeting.

**Attendance:**

Attendance is required. If you miss more than **4** class sessions, without doctor's notes (or other certified documents) to justify your absence, you can be dropped from the class.

**Office Hours:**

**Office A-132A:** Tuesdays and Thursdays: 10:30-12:00 and 4:20-5:00; Wednesdays: 9:00-10:40  
My office is room 132a in the Academics building. Please **do not be afraid** to come and talk to me about issues relating to this class. That is what my office hours are for. I will also be available via e-mail to answer your questions, but I cannot guarantee to be as fast as if we talked during office hours.

**Communication:**

Official communication regarding this course will be through the UNM email system, using the UNM email address on file for each student. You must check this email frequently in order to stay abreast with the course schedule. UNM's email system frequently blocks emails that come from an outside service (like Gmail, Yahoo, etc.). The best way to email me is through your UNM email account.

**Reading:**

This course covers a broad range of topics from many fields of Earth science. It would be impossible to give fair treatment to all topics with lectures alone. Therefore, successful students must read from the textbook and other sources in preparation for class meetings. It is essential to read *before* class meetings. Most online quizzes will be taken from the reading materials that will be discussed in class on the due date of the online quiz. I encourage you to take notes while reading, including writing down questions that arise during reading that you would like to discuss in class. Re-reading after the class meeting has been shown to improve comprehension and success.

**Late work policy:**

I accept late work but deduct 10% per day that the work is late. After five days, 50% will be deducted no matter how late the work is turned in. If you need extra time for an assignment, please discuss with me before the assignment is due.

**Class Participation Expectations:**

This is a challenging course. It is important that you not only know the material but understand it as well. I list below some things that you can do to increase your chances of successfully completing this course.

1. Come to class. This is the single most important predictive factor for success, those students who regularly come to class succeed at a much higher rate than those who don't (this seems like a no-brainer but it is an important factor)
2. Study. Students tend to underestimate the amount of material covered in this course as well as the depth of understanding that is required. This is not high school; you cannot cram in one night. It is necessary to keep up with the material (meaning to review it every day!!). A good rule of thumb is that you should spend 2 hours preparing for each hour you spend in class. Thus, you should expect to spend 8-10 hours per week on this course in order to pass.
3. Read your text. The text has been selected to match the information in the lectures and reading the text will only help you understand the material.
4. Use all the help available. Come to office hours and come prepared with questions. Bother your instructor with incessant relevant questions (not necessarily during lecture, sometimes it is important to get through the material, but I am happy to answer even slightly relevant questions after class, in office hours, by email, etc.)

I expect that each of you will come to class prepared and willing to work, this includes: reading the chapter before the lecture, participating in discussions, asking questions where appropriate, being courteous to others, and being willing to think and to be challenged intellectually.

### **Plagiarism and cheating:**

Discussion of ideas is a crucial skill in science, and I encourage you to talk with one another about the topics and assignments in this class. However, all work that you submit must be your own. If you use information from outside resources, such as the textbook, newspapers, the internet, or journals, you must cite it. Plagiarism will result in a "0" on the assignment. If you are concerned about what does or does not constitute plagiarism, I'm happy to help – just ask me after class, via email, or in office hours.

Here is the link to the UNM Academic Dishonesty Policy: <https://policy.unm.edu/regents-policies/section-4/4-8.html>. The policy states:

*Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.*

Academic Dishonesty is defined as:

*"Academic dishonesty" includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.*

**Electronic devices:**

Do not use cell phones during class. Mute or turn off anything that can provide any distraction before class begins.

**Equal Opportunity and Non-Discrimination:**

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered “responsible employees” by the Department of Education (see pg 15 - <http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf>). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: <https://policy.unm.edu/university-policies/2000/2740.html>

**Accommodation Statement:**

If you have a documented disability, the Equal Access Services office will provide me with a letter outlining your accommodations. I will then discuss the accommodations with you to determine the best learning environment. If you feel that you need accommodations, but have not documented your disability, please contact Yolando Pino, the coordinator for Equal Access Services at 925-8910 or [pino@unm.edu](mailto:pino@unm.edu).