

NATURAL DISASTERS COURSE OUTLINE ERTH2415 – Winter 2022

- INSTRUCTOR** Dr. Jason Mah (jason.mah@carleton.ca)
- I will endeavour to reply to emails within 1 business day.
 - General questions regarding the course should be posted on the forum for all students to see. I will not be answering these questions by email.
 - I am available at any time to meet (virtually) by appointment.
- TAs** Joshua Wasserlauf & Andrew Traynor
- TAs will be available via weekly office hours or by appointment.

IMPORTANT DETAILS

- The official class period is Monday 11:35AM to 2:25PM
- However, there are no in-class activities. The course will be online via Brightspace.
- Course material will be provided primarily asynchronously using pre-recorded videos.
 - Each week's 3 hour class covers 2 lecture topics.
 - Each week's 3 hour class has been split into 3 to 4 manageable videos.
- I will hold Zoom meetings with the class throughout the term.
- Each week, there will be a Monday Morning update. The update will remind you of upcoming deadlines, address questions, and discuss the week's material.

YOUR RESPONSIBILITY

It is the responsibility of the student to:

- Check Brightspace. All course activities will be completed on the Brightspace platform.
- Read your emails. Class announcements will be sent by email. It is your responsibility to read your emails to be made aware of important class news.
- Meet the deadlines. The date of each quiz, the date of the midterm, and the deadlines for each assignment are specified in this document.
- Attend and write the exams. The midterm and final exams are mandatory.
- Academic integrity. The rules of academic integrity apply to the exams and assignments. The exams, midterm and final, are closed book. The assignments should be written in your own words without plagiarism.

COURSE DESCRIPTION

This is an information-based course designed to give students an overview of geologic natural disasters such as earthquakes, volcanoes, and weather related events. For each type of natural disaster, information will be shared explaining (1) the science and physics leading to the event, (2) how the events impact human behaviour, and (3) how we attempt to reduce to the damage caused by such events. A fundamental aspect of this course is the theory of plate tectonics as it relates to earthquakes and volcanoes.

Note: a prerequisite for this course is knowledge of high school level math and science.

COURSE LEARNING OBJECTIVES

By participating in and completing this course, you should be able to:

1. Demonstrate a comprehension of Earth's geologic, hydrologic and atmospheric processes;
2. Explain the energy sources associated with natural disasters;
3. Identify the cause and effect relationships between Earth processes and natural disasters;
4. Describe the impact of natural disasters on people and infrastructure; and
5. Outline the mitigation strategies used to minimize the impact of natural disasters.

TEXTBOOK

The course will closely follow the content in the textbook specified below. The textbook is not mandatory.

Abbott, P.L. and Samson, C. 2015 (4th Edition). Natural Disasters – Canadian Edition. McGraw Hill Ryerson.

The Library has an electronic copy of Natural Hazards by Keller and Devecchio on reserve should you wish to support your learning.

LECTURES

The lectures are asynchronous. Each 3 hour class consists of 2 lecture topics. The associated videos will be available on Brightspace for viewing. See the Course Schedule for details.

MONDAY MORNING UPDATES

A brief Monday Morning video will be posted weekly to provide course updates, identify upcoming deadlines or exams, and highlight any current natural disasters. The Midterm and Final Exams may include questions covered in the Monday Morning updates.

EVALUATION

The following table presents the course evaluation.

Quizzes	Quiz #1	You will be asked to go to websites to find the answers	20%
	Quiz #2	Covers lectures 5, 6	
	Quiz #3	Covers lectures 7, 8	
	Quiz #4	Covers lectures 9, 10	
	Quiz #5	Covers lectures 15, 16	
	Quiz #6	Covers lectures 17, 18	
	Quiz #7	Covers lectures 19, 20	
	Quiz #8	Covers lectures 21, 22	
Assignments	Assignment #1	Hand in assignment, topic to be announced,	10%
	Assignment #2	Hand in assignment, topic to be announced	10%
Exams	Exam #1	Lectures 1 to 12 inclusive, Monday Morning updates.	30 %
	Exam #2	Lectures 13 to 24 inclusive, Monday Morning updates.	30 %
Meetings		Zoom meetings will held throughout the term. By attending, you will be able to obtain a bonus 2%	--
Total			100 %

QUIZZES

- Each quiz will take place **Wednesdays from 11:00AM to 11:00PM**
 - **If you miss the quiz will be permitted to complete the quiz with 25% penalty**
- There are 8 quizzes, each worth 2.5%.
- Regarding Quiz 1, you will be asked you to review content found online during the quiz.
- Regarding Quizzes 2 to 8:
 - These quizzes will assess your understanding of the lecture material.
 - You are expected to study the lecture material before hand.
- Only one attempt allowed.
- The results will be available the following Monday.
- Should you experience problems during your Quiz:
 - Note the time and take a screenshot of the problem.
 - No accommodation will be made to waive or redo a Quiz unless supporting or substantiating documentation is provided.

EXAMS

- **The Midterm Exam will occur Monday March 7 from 11:30AM to 1:00PM EST.**
- Attendance of both exams is mandatory.
- The midterm and final exam are closed book. The rules of academic integrity apply.
- Both exams will take place at a fixed time, this is not negotiable.
 - Should you arrive late, no additional time will be given.
 - Note the midterm occurs during our class period. All students are expected to be available without conflict during this time.
- If you miss the Midterm Exam:
 - A document supporting your absence must be submitted within 3 business days of the exam. Failure to do so may result in 0% in your exam.
- The Final Exam will be scheduled by Exam Services during the official exam period.

ASSIGNMENTS

- **Assignment 1 is due February 4**
- **Assignment 2 is due April 1**
- The regulations associated with plagiarism apply to Assignment 1 and Assignment 2.
- Each assignment is to be written in your own words.
- For each assignment, you will answer a series of questions (short answer)
- The rubric for each assignment will be provided in advance
- Penalties will apply for:
 - Exceeding the page limit
 - Incorrect formatting
 - Missing references
 - Late submissions

SCHEDULE & IMPORTANT DATES

Date	Lecture #	Lecture Topic
Jan 10	1	Introduction
	2	Dr. Godsoe: Disaster and emergency management
Jan 17	3	Plate Tectonics
	4	Plate Tectonics & Earthquakes
Jan 20	Quiz 1 (Lectures 3 and 4)	
Jan 24	5	What happens during an earthquake?
	6	Earthquakes, people and infrastructure
Jan 27	Quiz 2 (Lectures 5 and 6)	
Jan 31	7	Tsunami
	8	Plate Tectonics and Volcanoes
Feb 03	Quiz 3 (Lectures 7 and 8)	
Feb 04	Assignment 1 Due	
Feb 07	9	Eruptive Style and Landforms I
	10	Eruptive Style and Landforms II
Feb 10	Quiz 4 (Lectures 9 and 10)	
Feb 14	11	Dr. Cousens: Active Volcanism
	12	Review session
Feb 21-26	Winter Break: No classes	
Feb 28	13	Impacts with Space Objects
	14	Canadian Impact Tour
Mar 07	Midterm (Lectures 1 to 11) No lectures this week	
Mar 14	15	Geomagnetic Hazards
	16	Mass Movements I
Mar 17	Quiz 5 (Lectures 15-16)	
Mar 21	17	Mass Movements II
	18	Snow Avalanches
Mar 24	Quiz 6 (Lectures 17-18)	
Mar 28	19	Floods
	20	Dr. Brooks: Landslides & Floods
Mar 31	Quiz 7 (Lectures 19-20)	
Apr 01	Assignment 2 Due	
Apr 04	21	Severe Weather
	22	Hurricanes
Apr 07	Quiz 8 (Lectures 21-22)	
Apr 11	23	Climate Change
	24	Review before exam #2
April 14-28	Final Exam (Lectures 13 to 23)	

ACADEMIC INTEGRITY

It is your responsibility to review Carleton's policy on Academic Integrity - Section 14 of the Calendar.

<http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/acadregs/univ14/>

The midterm and final exam are closed book. The rules of academic integrity apply to the midterm and final exam.

PLAGIARISM

The regulations associated with plagiarism apply to Assignment 1 and Assignment 2.

The instructor is required to report all incidents (or suspected incidents) of plagiarism to the Dean. **All work handed in must be your own.** Plagiarism and cheating are viewed as being particularly serious and the sanctions imposed are accordingly severe. Students are expected to familiarize themselves with and follow the Carleton University Student Academic Integrity Policy. The Policy is strictly enforced and is binding on all students. Plagiarism and cheating – presenting another's ideas, arguments, words or images as your own, using unauthorized material, misrepresentation, fabricating or misrepresenting research data, unauthorized co-operation or collaboration or completing work for another student – weaken the quality of the graduate degree. Academic dishonesty in any form will not be tolerated. Students who infringe the Policy may be subject to one of several penalties including: expulsion; suspension from all studies at Carleton; suspension from full-time studies; a refusal of permission to continue or to register in a specific degree program; academic probation; or a grade of Failure in the course.

REQUESTS FOR ACADEMIC ACCOMMODATION

Please review the Carleton's Student Guide to Academic Accommodations at

<http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf>, and the websites therein.

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For Students with Disabilities:

"The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your **Letter of Accommodation** at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation. After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website (www.carleton.ca/pmc) for the deadline to request accommodations for the formally-scheduled exam . "

For Religious Observance:

1. As soon as you receive your course syllabus, identify any potential conflicts between your religious obligations and course requirements.

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2. Make a formal written request to your instructor indicating the nature of the religious obligation and suggest possible alternative dates and/or means of satisfying the academic requirements.

NOTE: Such request should be made during the first two weeks of the term, or as soon as possible after a need for accommodation is known to exist, but in no case later than the second last week of classes for that term.

For detailed information on Religious Obligations please visit our website at:
carleton.ca/equity/accommodation/

For Pregnancy or Parental Leave:

A. For final exams. Identify and discuss your needs for final examinations with your professors. When an agreement is reached fill out and submit the online Pregnancy Accommodation Final Exam Request Form at: carleton.ca/equity/accommodation. Equity Services will forward the request to Exam Services to coordinate the accommodation.

B. For in-class accommodations ONLY. If you anticipate you will only require in-class accommodations, discuss them directly with your course instructor. This request should be made in the first two weeks of the academic term. For detailed information on pregnancy and parental leave policies please visit the website at:
carleton.ca/equity/accommodation/academic/

Parental leave:

Either parent may request up to three terms of leave, which must be completed within 12 months of the date of birth or custody or request for leave for health-related family responsibilities.

For detailed information on pregnancy and parental leave policies please visit the website at:
<https://carleton.ca/equity/policies-procedures/>

Equity and PMC Contact information:

- Department of Equity and Inclusive Communities
613-520-5622
3800 Carleton Technology & Training Centre
equity@carleton.ca
Website: carleton.ca/equity
- Paul Menton Centre for Students with Disabilities
613-520-6608
pmc@carleton.ca
500 University Centre
Website: carleton.ca/pmc