

NATURAL DISASTERS COURSE OUTLINE ERTH2415 – Fall 2021

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.
- I am available at any time to meet (virtually) by appointment.

TAs Carling Walsh & Brittany Pegg

- TAs will be available to answer questions on course content via weekly office hours. You may also reach out to them at any time.

IMPORTANT DETAILS

- This course will be offered through Carleton Brightspace. Brightspace is replacing Cu Learn as the online learning platform.
- This course is online. There will be no in-class activities.
- The course material will be provided asynchronously.
 - Each lecture topic will be available as a recorded video on the course page in Brightspace. In addition, the video for each lecture topic has been split into shorter manageable segments for your convenience.
 - In accordance with the Course Schedule, see below, you are expected to watch the videos associated with 2 lecture topics each week.
- 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.
- There will be weekly quizzes to test your knowledge of the course material.

COURSE DESCRIPTION

This course is designed to give the student an overview of geologic catastrophes such as earthquakes, volcanoes, and weather related events. For each type of natural disaster, the lecture will explain (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. The theory of plate tectonics will be reviewed as it provides a framework to understand the occurrences of catastrophic events.

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.

YOUR RESPONSIBILITY

It is the responsibility of the student to:

- Check Brightspace. All course related 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.
- Attend and write the exams. The midterm and final exams are mandatory.

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 11, 12	
	Quiz #6	Covers lectures 13, 14	
	Quiz #7	Covers lectures 15, 16	
	Quiz #8	Covers lectures 17, 18	
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 %
Total			100 %

QUIZZES

- Each quiz will take place **Thursdays from 11:00AM to 11:00PM**
- 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

- Attendance of both exams is mandatory.
- Both exams will take place at a fixed time, this is not negotiable.
 - Should you arrive late, no additional time will be given.
- **The Midterm Exam will occur Tuesday November 2 from 9:30AM to 11:00AM.**
 - Note the midterm occurs during the day and time allocated to EARTH2415 on Central Central. 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 between Dec 11 – 23.

IMPORTANT DATES

1. September 8	Start of term
2. September 23	Quiz 1, start of weekly Thursday quiz
3. September 30	Quiz 2
4. October 07	Quiz 3
5. October 14	Quiz 4
6. October 21	Assignment 1 due
7. October 25-29	Fall break
8. November 02, 9:30AM – 11:00AM	Midterm (attendance mandatory)
9. November 11	Quiz 5
10. November 18	Quiz 6
11. November 25	Quiz 7
12. December 02	Quiz 8
13. December 09	Assignment 2 due
14. December 11-23	Final Exam period

SCHEDULE

Date	Lecture #	Lecture Topic
Sep 14	1	Introduction
	2	Dr. Godsoe: Disaster and emergency management
Sep 21	3	Plate Tectonics
	4	Plate Tectonics & Earthquakes
Sep 23		Quiz 1
Sep 28	5	What happens during an earthquake?
	6	Earthquakes, people and infrastructure
Sep 30		Quiz 2 (Lectures 5-6)
Oct 05	7	Tsunami
	8	Plate Tectonics and Volcanoes
Oct 07		Quiz 3 (Lectures 7-8)
Oct 12	9	Eruptive Style and Landforms I
	10	Eruptive Style and Landforms II
Oct 14		Quiz 4 (Lectures 9-10)
Oct 19	11	Dr. Cousens: Active Volcanism
	12	Review before exam #1
Oct 21		Deadline for Assignment 1
Oct 25-29		Fall Break: No classes
Nov 02	13	Impacts with Space Objects
	14	Canadian Impact Tour
Nov 02, 9:30-11:00		Midterm (Lectures 1 to 11)
Nov 09	15	Geomagnetic Hazards
	16	Mass Movements I
Nov 11		Quiz 5 (Lectures 15-16)
Nov 16	17	Mass Movements II
	18	Snow Avalanches
Nov 18		Quiz 6 (Lectures 17-18)
Nov 23	19	Floods
	20	Dr. Brooks: Landslides & Floods
Nov 25		Quiz 7 (Lectures 19-20)
Nov 30	21	Severe Weather
	22	Hurricanes
Dec 02		Quiz 8 (Lectures 21-22)
Dec 07	23	Climate Change
	24	Review before exam #2
Dec 09		Deadline for Assignment 2
Dec 11-23		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/>

Plagiarism

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.

6

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.
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.

5

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