

# NATURAL DISASTERS COURSE OUTLINE

## ERTH2415 – Winter 2018

### COURSE OBJECTIVES

1. Explain the energy sources associated with natural disasters.
2. Relate the physical characteristics of a natural disaster to the energy source.
3. Analyze the impact of natural disasters on people and infrastructure.
4. Outline the mitigation strategies applied to minimize the impact of natural disasters.
5. Explain the relationship between plate tectonics and earthquakes, volcanoes, and tsunamis.

A secondary objective is to learn how to extract information from maps, geological cross-sections, and graphs.

### IMPORTANT INFORMATION

Instructor: Dr. Jason Mah ([JasonMah@cunet.carleton.ca](mailto:JasonMah@cunet.carleton.ca))

TAs: 1. Tom Dudgeon ([ThomasDudgeon@cmail.carleton.ca](mailto:ThomasDudgeon@cmail.carleton.ca))  
2. Skyler Mallozzi ([SkylerMallozzi@cmail.carleton.ca](mailto:SkylerMallozzi@cmail.carleton.ca))

Lectures: This is course offered with both in-class lecture and online video. You may following the class lectures in the following ways:

1. There are no in-class lectures

2. CUOL Web Channel

CUOL will play a recorded video of the lecture on their web channel.

<https://vod.cuol.ca/stream/web-channel>

Mon. 01:30 – 04:00 pm

Tue. 04:00 – 06:45 am

3. Video on Demand (VOD)

For a subscription fee, \$50, you can access the recorded video of the lecture at any time.

<https://vod.cuol.ca/vod>

4. CUOL Student Centre (Loeb D299)

Kiosks available to view each lecture for free. Available 24 hours a day, 7 days a week

Availability: 1. No office hours are offered as this course is online. Please email me directly if you would like to meet in person or via WebEx.  
2. I am always accessible via email. I will attempt to reply within 24 hours.  
3. TA will be offering office hours each week.

### IMPORTANT DATES

- |                          |                          |
|--------------------------|--------------------------|
| 1. January 23 - 27       | Quiz 1: Lectures 1 – 6   |
| 2. February 13 - 17      | Quiz 2: Lectures 7 – 11  |
| 3. February 18 - 22      | Spring break             |
| 4. March 02, 12PM – 02PM | Midterm                  |
| 5. March 04 - 08         | Quiz 3: Lectures 12 – 15 |
| 6. March 27 - 31         | Quiz 4: Lectures 16 – 22 |
| 7. April 12 - 27         | Final exams              |

### SCHEDULE

Date	Lecture #	Lecture Topic	Quiz Info
Jan 07	1	Introduction	
	2	Plate tectonics	
Jan 14	3	Disaster and emergency management (guest)	
	4	Plate tectonics and earthquakes	
Jan 21	5	What happens during an earthquake?	Quiz 1
	6	Earthquakes, people and infrastructure	Lectures 1-6
Jan 28	7	Tsunami	Jan 23 - 27
	8	Plate tectonics and volcanoes	
Feb 04	9	Eruptive style and landforms I	
	10	Eruptive style and landforms II	
Feb 11	11	Active volcanism now! (guest)	Quiz 2
		Review before exam #1	Lectures 7-11
Feb 18		No class, enjoy the break!	Feb 13 - 17
Feb 25	12	Geomagnetic hazards	
	13	Impacts with space objects	
<b>Midterm: Saturday March 2, 12 – 2 pm @ Carleton University</b>			
Mar 04	14	Great Canadian impact tour	Quiz 3
	15	Mass movements I	Lectures 12-15
Mar 11	16	Mass movements II	March 06 - 10
	17	Snow avalanches	
Mar 18	18	Guest lecture: Floods	
	19	Guest Lecture: Paleoseismic landslides	
	20	Hurricanes	
Mar 25	21	Floods	Quiz 4
	22	Severe Weather	Lectures 16-22
Apr 01		No class	March 27 - 31
<b>Final Exam period: April 12 - 27, 2019</b>			

## CU LEARN

All course material and administration will be conducted through CU Learn. This includes the online quizzes, announcements, and grades.

In case of problems with CU Learn, go to the [support page](#).

## TEXTBOOK

Mandatory. The textbook will be referenced in the quizzes.

The textbook is electronic, there are no hard copies available.

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

You will need to use this link:

<http://connect.mheducation.com/class/j-mah-winter-2019>

Lecture notes follow the book closely, but the book includes further examples.

## EVALUATION

The course consists of 4 Quizzes and 2 Exams. Attendance of both exams is mandatory to pass the course. The following table presents the course evaluation.

Evaluation			
On-line quizzes	Quiz #1	Lectures 1-6	5 %
	Quiz #2	Lectures 7-11	5 %
	Quiz #3	Lectures 12-15	5 %
	Quiz #4	Lectures 16-22	5 %
Exams	Exam #1	Lectures 1 to 11 inclusive	40 %
	Exam #2	Lectures 12 to 22 inclusive	40 %
TOTAL			100 %

## QUIZZES

- Quizzes are taken via CuLearn and will take 1-2 hours.
- Should you experience problems during your Quiz:
  - Note the time.
  - Take a screenshot of the problem.
  - No accommodation will be made to waive or redo a Quiz unless supporting or substantiating documentation is provided.
- Quizzes will refer to the lecture, textbook, and websites.
- I encourage you to work in teams but each student must submit their own Quiz.

## EXAMS

- Attendance of both exams is mandatory.
- Local students, living within 100km of Carleton, write their exams on campus.
- Distance students, living over 100km from campus, will write exams at either a Carleton University Test Centre or may apply to write the exam at distance with a proctor.
  - Distance students should apply through [CUOL](#) immediately.
- If you miss an exam:
  - A document supporting your absence must be submitted within 5 business days of the exam. Failure to do so may result in 0% in your exam.
  - All missed exams must be substantiated with a medical note or other official documents for a deferred exam to be granted.

## ACADEMIC INTEGRITY

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

<https://carleton.ca/registrar/academic-integrity/>

## ACCOMODATION

### Requests for Academic Accommodation

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

### Pregnancy obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website:

[carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

### Religious obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website:

[carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

### Academic Accommodations for Students with Disabilities

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled

test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. [carleton.ca/pmc](http://carleton.ca/pmc)

### **Survivors of Sexual Violence**

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and is survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: [carleton.ca/sexual-violence-support](http://carleton.ca/sexual-violence-support)

### **Accommodation for Student Activities**

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist.

<https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

For more information on academic accommodation, please contact the departmental administrator or visit: [students.carleton.ca/course-outline](http://students.carleton.ca/course-outline)