

ERTH 2415 – Natural Disasters Course Outline

Summer 2021

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Office hours: Tues. 10:00 am -12:00 pm (noon)
(or set up an appointment by email)

Course Description:

This course is designed to give the student an overview of geologic catastrophes (i.e., earthquakes, tsunamis, volcanoes, climate change etc.), with an emphasis on (1) understanding why and how these processes occur from a physical science standpoint, and (2) developing an ability to understand how these hazards affect us in everyday life. The course also explores how we are trying to prevent, predict, and remedy catastrophes. After an introduction to natural disasters we will start by discussing the Grand Unifying Theory in Geology – *Plate Tectonics* – as it provides the framework to understand occurrences of major catastrophes.

Learning Outcomes:

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 hazards
4. Assess the associated risks of natural disasters on human societies and identify when a hazard becomes a catastrophe
5. Discuss if and how geological catastrophes can be predicted, mitigated, and avoided

Prerequisites: None; knowledge from high school level math and science is expected, and relevant earth sciences materials will be reviewed in introductory lectures.

Grading:

Quizzes:	25%
Exam 1:	35%
Exam 2:	40%

Important details & Brightspace Website:

- The Brightspace site is where you will find all the important course information, lecture slides, announcements, quizzes, exams, and grades
- The course consists of two lectures and one quiz per week
- There is a midterm and final exam
- It is the student's responsibility to check Brightspace, and their email, for deadlines and to stay up to date in the course

Important Dates:

1. July 9 -10	Quiz 1
2. July 16 - 17	Quiz 2
3. July 24 th , 4-6 pm	Midterm Exam
4. July 30 - 31	Quiz 3
5. August 6 - 7	Quiz 4
6. August 13 - 14	Quiz 5
7. August 19 - 25	Final Exam period

Textbook:

Natural Hazards: Earth's processes as hazards, disasters, and catastrophes, 5th or 4th Edition
Edward A. Keller & Duane E. Devecchio

Or

Natural Disasters – Canadian Edition, 4th edition
Abbott, P.L. and Samson, C. 2015

The textbook is *suggested*, it is not mandatory to purchase. The lecture notes will follow the first book listed closely, however the second book is an excellent resource as well. ***All material on quizzes and exams will be taken from in-class topics only.***

An ebook of the textbook is available on ARES:

<https://library.carleton.ca/services/library-reserves-students/e-reserves-ares>
<https://reserves.library.carleton.ca/ares/>

Lectures:

This course is offered as a completely online course. However, the lectures will be released on fixed days throughout the semester:

Monday, Wednesday (MW)

MediaSpace

You can access the recorded videos of the lectures at any time on your MediaSpace account – there is a link on the Brightspace course page.

Quizzes

The course consists of 5 quizzes, each worth 5%, and are taken via Brightspace. Each quiz is 20 **multiple choice** questions and will be based on lecture material only. You have 45 minutes to complete the quiz.

There is one quiz per week and it will be open every **Friday from 11:00 am** and closes on **Saturday at 6:00 pm**.

It is your responsibility to check Brightspace for the quiz and complete it on time, as quizzes will become unavailable after the due date. Once you have started the quiz it will be open only for the allotted time; closing the browser will **not** stop the clock! These open-book quizzes will gauge your understanding of the material and help you prepare for exams.

You will have only **ONE** attempt, and only the allotted time from start to finish to complete each quiz. Doing the quizzes is a good way to test what you have learned and if you know where to find the necessary information.

After you finish a quiz you will **NOT** see how you scored, or which questions you got right or wrong, until the deadline for that quiz has passed. After that you can access the quiz and the evaluation of your responses in the Gradebook.

While the quizzes are open-book, you **CANNOT** discuss the questions with other students until the quiz has closed. It is unethical to take the quizzes together with another student, and this counts as plagiarism and cheating and results in an **automatic** F for the course.

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
- Email the instructor immediately with the screenshot attached

Midterm and Final Exams

There will be two exams and both will be multiple choice. The exams are non-cumulative.

The Midterm Exam will occur on July 24th from 4:00 – 6:00 pm, and will cover material in Lectures 1-5.

The Final Exam will occur during the final exam period and will cover material in Lectures 6-12.

- Attendance of both exams is mandatory
- Both exams will be taken online

If you miss an exam:

- A document supporting your absence must be submitted within **3 days** of the exam. Failure to do so will 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.
- To defer the midterm exam, please contact the Instructor, to defer the final exam you must contact the registrar

Note: NO questions/emails regarding exams will be answered the day of the actual exam.

Schedule

Below is the tentative course breakdown, it is subject to change.

Date	Lecture #	Lecture Topic
July 2 nd	0	Welcome & Course Information
July 5 th	1	a) Introduction b) Internal structure of the Earth
July 7 th	2	Plate Tectonics
July 9 - 10		Quiz 1: Lectures 1 & 2
July 12 th	3	Earthquakes
July 14 th	4	Tsunamis
July 16 - 17		Quiz 2: Lectures 3 & 4
July 19 th	5	Volcanoes
July 21 st	6	Mass Wasting
July 24 th		Midterm (4:00 – 6:00 pm) : Lectures 1-5
July 26 th	7	Floods
July 28 th	8	Atmospheric processes & severe weather
July 30 - 31		Quiz 3: Lectures 6 & 7
Aug 2 nd		Holiday – No lecture
Aug 4 th	9	Hurricanes & Extratropical Cyclones
Aug. 6 - 7		Quiz 4: Lectures 8 & 9
Aug. 9 th	10	Coastal Hazards
Aug. 11 th	11	Impacts & Mass Extinctions
Aug. 13 - 14		Quiz 5: Lecture 10 & 11
Aug. 16 th	12	Climate and Climate Change

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/acadregsuniv14/>

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.

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.

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