University of Toronto Scarborough
Department of Physical and Environmental Sciences
EESB18H3 F - Natural Hazards
2021 Outline

Instructor: Mandy Meriano
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Office hours: Thursday 10am – 12pm
Join Zoom Meeting
https://utoronto.zoom.us/j/88618475124
Meeting ID: 886 1847 5124
Passcode: 506945

Lecture time (Online Synchronous): Tuesday 6-9pm (Eastern Time)
Join Zoom Meeting
https://utoronto.zoom.us/j/82552096476
Meeting ID: 825 5209 6476
Passcode: 568418

Notice of video recording and sharing (Download and re-use prohibited)
This course, including your participation, will be recorded on video and will be available to students in the course for viewing remotely and after each session.

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Index of Outline Topics

Required textbook: Keller, E.A., and DeVecchio, D.E. 2019. Natural Hazards Earth's Processes as Hazards, Disasters, and Catastrophes, 5/E. Routledge.

The course textbook is available from the UTSC Bookstore.

Digital version of the textbook can be purchased here:
https://uoftbookstore.vitalsource.com/textbooks?term=9781351673709

Description: This course is an investigation of the geological background and possible solutions to major hazards in the environment. Environmental hazards to be studied include: landslides, erosion, earthquakes, volcanic eruptions, asteroid impacts, flooding, glaciation, future climate change, subsidence, and the disposal of toxic wastes. This may be of interest to a wide range of students in the life, social, and physical sciences and an opportunity for the non-specialist to understand headline-making geological events of topical interest. No prior knowledge of the Earth Sciences is required.

Learning Objectives: By the end of the course students will have developed an understanding of natural hazards. The course aims to give learners a clear conceptualization of the basic issues surrounding the causes, effect and possible management of environmental hazards.

Marking Scheme:

Evaluation Components	% Grade	Key Dates and Deadlines
In-class Quizzes x 5 (2% each)	10	Sept 21; Oct 05, Nov 02; Nov 16, Nov 30
Assignment 1	5	Sept 28
Term Paper	15	Oct 26
Assignment 2	10	Nov 16
Midterm Exam	25	Oct 19 (during class time)
Final Exam	35	TBA
Total Grade Possible	100	

The **midterm** test is based on material covered in lectures and readings up to and including the class before the midterm exam. The midterm test will consist of multiple choice questions.

The **final exam** will be based on all term material (including readings and lectures). The final exam will consist of multiple choice and short answers.

Tentative Course Schedule and Readings: Readings are from your course textbook: Keller and DeVecchio (2019).

Please note that topics may span more than one lecture period.

Week 1: September 07
An overview of the course, expectations, and objectives
A quick look at the textbook
Introduction to Natural Disasters
Ch.1

Week 2: September 14
Plate Tectonics
Ch. 2

Week 3: September 21
Quiz 1 (carried out at the start of class)
Earthquakes
Ch. 3

Week 4: September 28
Assignment 1 (due start of class)
Volcanoes and Tectonics
Ch.5

Week 5: October 05
Quiz 2 (carried out at the start of class)
Mass Wasting
Ch. 7

October 11-15: Reading Week – No Class

Week 6: October 19
Midterm Test – during class time

Week 7: October 26
Term Paper (due start of class)
Subsidence and soil expansion/contraction
Ch.8

Week 8: November 02
Quiz 3 (carried out at the start of class)
Tsunamis
Ch.4

Week 9: November 09
Floods
Ch. 6

Week 10: November 16
Assignment 2 (due start of class)
Quiz 4 (carried out at the start of class)
Coastal erosion
Ch. 11

Week 11: November 23
Climate change
Chs.9, 12

Week 12: November 30
Quiz 5 (carried out at the start of class)
Asteroids and mass extinction
Ch.14

Assignments:

General Information about Assignments
The term assignments have been designed to encourage students to perform literature research, Google Earth exercises, and communicate findings in writing.

***Assignments 1 & 2 (Google Earth^{TM})* - Due: 6pm on Sept 28 and Nov 16.** You will submit your assignments on Quercus.

***Term Paper* - Due: 6pm on October 26.** Your paper should be saved in PDF format and uploaded onto Quercus (*Ouriginal*).

Normally, students will be required to submit their course essays to the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site (https://uoft.me/pdt-faq)."

Guidelines: The objectives of this project are to research the particular hazards/disaster topic you choose based mainly on existing library and web-based resources (i.e., articles from reputable newspapers and magazines) and to compose a reasonably complete written review/summary of the topic. You can either select a topic from the list provided (*see the course portal for a suggested*

list of topics and additional guidance for writing the term paper), or choose your own topic which will require my approval BEFORE you start your paper.

Consider elements such as the scope of the hazard, the geologic setting, possible methods used to reduce impact, and any framework used to implement hazard management. Which countries appear to be more proactive in their approach to hazards management and response? What do you think is successful or positive about the various management methods/approaches, and what is not? Your paper must include a critical/analytical component as well as descriptive elements.

Your review/summary should be well organized, well referenced with a complete list of sourced materials, and about **5-6 pages long, double-spaced, excluding title page, reference list, and any figures or tables you wish to include**. Take care to proofread your paper in order to correct any faulty grammar and punctuation. Marking will be based on scientific merit/content, style, and organization.

- Use the APA reference format (all sources, including Internet material must be properly referenced).
- There must be a minimum of 3 refereed journal articles used.
- Present your paper in a research paper format.
- The use of section headings is suggested. For example: Introduction; Discussion; Conclusion. Each section may in turn have subheadings. For example the subheadings: *Case Study Area*; and *Management Methods* can appear in the Introduction and Discussion sections, respectively.
- Your paper must have a plain title page with the title of your assignment, your name, course number, the date, your student number, and the professor's name.
- You are responsible for making sure that your paper is received properly (Quercus submissions).

General Information about Your Term Work

Grading: Evaluation of papers takes into account organization and structure, style and presentation, as well as research and content. Writing quality and content are both considered in grading. Assignments will be graded for accuracy. Your work will be graded by a teaching assistant (TA). If you have a question or problem with the grade you receive, consult the TA. Your grade may be revised up or down based on the review.

Late assignments: The late penalty is as follows:
1 day 10%, 2 day 20%, 3 day 30%, 4 day 40%, 5 day 50%, 6 day and after 100%

Absences: If you need to miss a practical or term test for any legitimate reason, you must submit appropriate documentation within **three** business days of your absence. If the reason for your absence is medical, an official UTSC

medical note must completed by a doctor who examined you while you were ill/injured (i.e. not after the fact). The medical note can be downloaded at: http://www.utsc.utoronto.ca/~registrar/resources/pdf_general/UTSCmedicalcertificate.pdf . Note that conditions ranked as mild or negligible will not be considered a valid excuse.

Missed term work: If a legitimate reason prevents you from submitting a piece of term work by its posted deadline, you must submit appropriate documentation within **three** business days of your absence. If the reason is medical, an official UTSC medical note must completed by a doctor who examined you while you were ill/injured (i.e. not after the fact). The medical note can be downloaded at: http://www.utsc.utoronto.ca/~registrar/resources/pdf_general/UTSCmedicalcertificate.pdf . Note that conditions ranked as mild or negligible will not be considered a valid excuse.

Extensions: Requests for an extension on an assignment must be tendered in writing in advance of the due date. In instances of illness, an official UTSC medical note must be completed by a physician (see above). Other notes are not acceptable. Extensions are granted at the discretion of the Professor (and the TA), and may be granted for other significant emergencies.

Academic Misconduct and Academic Dishonesty will not be tolerated. Students engaging in misconduct or dishonest practices on exams, quizzes, or other assignments will be dealt with according to the guidelines established by the university.

Plagiarism: Please consult the University Calendar for a discussion and outline of the policy on plagiarism and academic integrity (also see proceeding section below). The sanctions can be severe. If, after reviewing the University policy, you are uncertain about what constitutes plagiarism, talk to your course instructor.

Academic Integrity: The University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (*http://www.governingcouncil. utoronto.ca/policies/behaveac.htm*) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences.

Potential offences in papers and assignments include:

- Using someone else's ideas or words without appropriate acknowledgement
- Submitting your own work in more than one course without the permission of the instructor
- Making up sources or facts
- Obtaining or providing unauthorized assistance on any assignment.

On tests and exams cheating includes:

- Using or possessing unauthorized aids
- Looking at someone else's answers during an exam or test
- Misrepresenting your identity, or falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see https://utsc.calendar.utoronto.ca/4-academic-integrity).

Please consult the University Calendar for information about grade distribution and academic conduct.

Accessibility: Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office as soon as possible. AccessAbility Services staff (located in Rm SW302, Science Wing) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations 416-287-7560 or email ability@utsc.utoronto.ca. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

Students are encouraged to review the Calendar for information regarding all services available on campus.