

University of Toronto Scarborough
Department of Physical and Environmental Sciences
EESB18H3 F - Natural Hazards
2014 Outline

Instructor: Mandy Meriano
Office: SW627C Telephone: 416-208-2775
Office hours: Thursday 1pm to 3pm
Email: mmeriano@utsc.utoronto.ca

Lecture time: Tuesday 6 pm to 9 pm
Location: SW309

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Required textbook: Abbott, P.L. and Samson, C. 2012. Natural Disasters, 2nd Canadian Edition. McGraw-Hill Ryerson Limited, United States. pp. 422

The course textbook is available from the UTSC Bookstore. The CourseSmart ebook version of the Abbott textbook can be purchased directly online at the CourseSmart website at www.coursesmart.com The isbn for the Abbott CourseSmart is 0071094814 and the online price is \$94.22 US for 180-day access.

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: Four assignments: value 40% (4 x 10%); a midterm exam: value 25% (multiple choice); and a final exam: value 35%.

The midterm is based on material covered in lectures and readings up to and including the class before the midterm exam. The midterm will be multiple choice.

The final exam will be based on all term material (including readings and lectures). The final exam will be multiple choice.

Grade Distribution Summary (percentage of total)	
In Class Quizzes x 5 (best 4 @ 5% each)	20
Assignment 1: Annotated Bibliography & Term Paper	15
Assignment 2: Hazard Analysis & Presentation	10
Midterm Exam	20
Final Exam	35
Total Grade Possible	100

Tentative Course Schedule and Readings: Readings are from your course textbook: Abbott and Samson (2012).

Students should note that topics may span more than one lecture period.

Week 1: September 02

An overview of the course, expectations, and objectives
A quick look at the textbook

Introduction to Natural Disasters
Ch.1

Week 2: September 09

Plate Tectonics
Ch.s 2 and 3

Week 3: September 16

Quiz 1 (carried out at the start of class)
Earthquakes
Chs. 4 and 5

Week 4: September 23

Volcanoes and Tectonics
Chs.6, and 7

Due Start of Class: Annotated Bibliography

Week 5: September 30

Quiz 2 (carried out at the start of class)

Mass Wasting
Ch. 13

Week 6: October 07

Midterm Test – during class time

October 14: Reading Week – No Class

Week 7: October 21

Subsidence and soil expansion/contraction
Ch.13

Due Start of Class: Term Paper

Week 8: October 28

Quiz 3 (carried out at the start of class)
Tsunamis
Ch.8

Week 9: November 04

Floods
Ch. 11

Week 10: November 11

Quiz 4 (carried out at the start of class)
Coastal erosion
Ch.s 8, 10, and 11
Due Start of Class: Assignment 2

Week 11: November 18

Quiz 5 (carried out at the start of class)
Climate change
Ch.9

Asteroids and mass extinction
Ch.14

Week 12: November 25

Student Presentations

Assignments:

General Information about Assignments

The term assignments have been designed to encourage students to perform literature research and communicate findings in writing and oral presentations.

Students will be evaluated on the research content, organization, and writing of their individual papers. Students will be provided with a *Library Worksheet Exercise* to help them with their literature search using the library resources.

Assignment 1:

Annotated Bibliography (5%) – Due: 6pm on September 23rd. You will submit a digital copy of your annotated bibliography in Blackboard and will hand in a hardcopy at the START of class.

The objective of the annotated bibliography is to briefly describe and evaluate the source that you will be using in your review/summary paper. Additional information on how to write an annotated bibliography and an example is provided on Blackboard.

Review of an Environmental Hazard (10%) - Due: 6pm on October 21st. You will submit a digital copy of your paper in Blackboard and will hand in a hardcopy at the START of class.

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 may choose any geologic or natural hazard in a case study area OR from the list provided (see *the course Blackboard for a suggested list of topics and additional guidance for writing the term paper*). Your review/summary should be well organized, well referenced with a complete list of sourced materials, and about 5-6 pages long (typed, double-spaced). 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.

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 paper should be no longer than 5-6 pages, typed, double-spaced, excluding title page, reference list, and any figures or tables you wish to include.

Do not use plastic covers or any form of binder.

Do not use a paper clip; just staple your paper.

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 Discussion section.

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. Staple your assignment in the upper left corner; do not use folders, cover slips, or binders.

You are responsible for making sure that your paper is received properly. Students who mail assignments in, place work on the floor outside an office, or slip assignments under a door, do so at their own risk.

Assignment 2:

This exercise is designed to help you understand that the negative consequences of natural hazards may be reduced if we recognize our vulnerabilities and understand how to learn to prepare for them. Students will work in pairs to prepare a two-three page typed, double-spaced report on the effect of natural disasters on human systems (additional information about the assignment will be provided in class and on Blackboard). Students will present their findings to class.

Natural Hazards Analysis Report (5%): Due 6pm on November 11th.

You will submit a digital copy of your paper in Blackboard and will hand in a hardcopy at the START of class.

Presentation (5%): November 25th

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. 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 be 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 be 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: Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, 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 include, but are not limited to:

In papers and assignments:

- 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:

- Using or possessing unauthorized aids.
- Looking at someone else's answers during an exam or test.
- Misrepresenting your identity.

In academic work:

- Falsifying institutional documents or grades.
- 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 <http://www.utoronto.ca/academicintegrity/>).

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 accommodation, please feel free to approach me and/or the *AccessAbility* Services Office as soon as possible. I will work with you and *AccessAbility* Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC *AccessAbility* Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca.

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