

University of Toronto Scarborough  
Department of Physical and Environmental Sciences  
EESA05H3 F - Environmental Hazards  
2011 Outline

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Lecture time: Tuesday 7 pm to 10 pm  
Location: AA112

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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.

**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 environmental 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:** A major assignment on an environmental hazard and possible and comparative management methods/approaches: value 20%; group presentation: value 5%; group participation: value 5%; a midterm exam: value 25% (multiple choice); a final exam: value 40%; and class participation 5%.

**Bonus Marks:** This year, I have assigned up to 5% for attending *the Michael Allder Lecture Series* (Wednesdays 7-10pm in IC130 - see Blackboard for information on lecture dates and content). Each attendance will be worth 0.5% for up to a total of 5% for attending all ten lectures. **Note that students attending the September 19th lecture will receive 1% (see 'Week 2' below).** Attendance will be recorded on an "Attendance sheet" (see Blackboard to get a copy of it and make sure to bring it along with you to the *Allder lecture*) which will have to be submitted to the TAs by the end of the term for approval and grade entry.

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.

**Tentative Lectures 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 11**

An overview of the course, expectations, and objectives

A quick look at the textbook (presentation by the Publisher's representative)

Library Worksheet Exercise (download a copy from the course Blackboard and complete before the October 2nd lecture).

Introduction to Natural Disasters

Ch.1

### **Week 2: September 18**

No class. I will be away at a conference this week.

Students are encouraged to attend Michael Allder's lecture "One Ocean" on Wednesday September 19th. Bonus Mark will be given for attending this lecture (see 'Bonus Marks' above for details).

### **Week 3: September 25**

Plate Tectonics

Ch.s 2 and 3

**Week 4: October 02**

Earthquakes  
Chs. 4 and 5

Ms. Sarah Forbes from UTSC Library will give a short briefing to help with your library worksheet exercise.

**Week 5: October 09**

Volcanoes and Tectonics  
Chs.6, and 7

**Week 6: October 16**

Mass Wasting  
Ch. 13

**Week 7: October 23**

Subsidence and soil expansion/contraction  
Ch.13

**Week 8: October 30**

Tsunamis  
Ch.8

**Week 9: November 06**

Floods  
Ch. 11

**Week 10: November 13**

Coastal erosion  
Ch.s 8, 10, and 11

Group Presentations

**Week 11: November 20**

Climate change  
Ch.9

Group Presentations

**Week 12: November 27**

Asteroids and mass extinction  
Ch.14

Group Presentations

**Major Assignment:**  
***Critical Review of an Environmental Hazard (Value 20 marks)***

The major assignment has been designed to encourage students to perform literature research and communicate findings in a short essay.

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.

**Due: October 30**

Prepare a critical paper that describes an environmental hazard , and discusses possible and comparative management methods and approaches. You may choose any geologic or natural hazard in a case study area. Refer to your course textbook and other general materials to develop an analysis of the hazard used in your case study areas.

Consider elements such as the scope 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.

You must demonstrate that you are familiar with the hazard and its management in your case study.

Your paper should be no longer than 5 pages, double spaced, single sided excluding title page, reference list, and any figures or tables you wish to include. Be sure to attach your Library worksheet Exercise to the end your paper.

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.

There must be a minimum of 3 references 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.

The use of internet material in your research content is not permitted but may be used to highlight news coverage or photographs. Such sources must be properly referenced.

### **General Information about Presenting Your Assignment**

**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 teaching assistants (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.

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.

**Late assignments:** A late penalty of 1.0 mark is assessed for each late weekday. For example, if the assignment is handed in one day late and the original grade is 18.0/20 then the grade would be lowered by 1.0 to 17.0/20. Papers are not accepted later than 2 weeks after the due date.

**Group Presentation ("*Thesis in Five*"):** Students will be assigned to groups comprising of five members. This information will be posted on the course Blackboard within the first two weeks of the course. A strictly enforced "five-minute long" presentation given during class time will be graded by the instructor and the TAs.

Please make sure to check with your TA for the feasibility of an 'unconventional' presentation method BEFORE you start working on it. Disapproval of a presentation method will require you to choose a different method to present your material to the class.

Presentations must be submitted to the TAs, the latest, on the day before the scheduled presentation. For example, if your presentation is scheduled to take place on November 13th then you have to submit your presentation file to the TA no later than November 12th.

**Group Participation:** The Group Presentation exercise has been designed to encourage group work among students. Students are to contribute to the group effort in putting together a presentation. Students will grade each other on their level of participation in the group. The grading will use a 1 to 5 ranking system - 1

being inadequate and 5 being wholly adequate (a superstar). Students will submit their peer evaluation in writing and in confidence to the TAs - using the "Peer Evaluation Form" available on Blackboard.

**Class Participation:** Students are to attend class during group presentations. Due to limited available time however, we will not be able to accommodate questions following presentations. i>Clicker will be used to track attendance.

**i>clicker User Guides:** <http://www.iclicker.com/support/userguides/>

**Plagiarism:** Assignments are checked for 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.

**Extensions:** Requests for an extension on a paper must be tendered in writing in advance of the due date. In instances of illness, a supporting medical certificate must be completed by a physician at the University Student Health Centre. Other notes are not acceptable. Extensions are granted at the discretion of the Professor, and may be granted for other significant emergencies.

**Handing In Assignments:** You are responsible for making sure that your TAs receive your work. 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.

**Lost or misplaced assignments:** It is your responsibility to keep a photocopy of your work, and to make more than one disk copy of your work. Excuses are not accepted in the case of lost or misplaced work.

**References:** You are required to use the APA style for referencing. The use of footnotes and endnotes for referencing is not acceptable. Students may be required to submit their written work in electronic form and have it checked for plagiarism.

**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](mailto:ability@utsc.utoronto.ca).

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