

GEOL 1410

Natural Disasters and Global Change

Syllabus

Contacting your instructor

For information on contacting your instructor as well as other important information from your instructor see the Instructor Letter in your course website.

Course description

The University of Manitoba *Undergraduate Calendar* describes this course as follows:

GEOL 1410-NAT DISAST GLOBAL CHANGE Discover how and when natural disasters occur, and how to identify and recognize them. Explore the Earth processes that lead to natural disasters and global change. Not to be held with the former GEOL 1360 (007.136).
0.000 TO 3.000 Credit hours

Humans and nearly all aspects of our societies are ultimately dependent upon geology. What we as humans eat and wear, where we live, how we work, and how we move about are all ultimately dependent on geology.

One problem that emerges with this dependence on and living with geology is that there are many geologic situations and natural processes that can be hazardous to humans. Geologic events such as earthquakes, volcanoes, floods or landslides are not inherently problematic but invariably can become hazardous if humans choose to occupy the land being influenced by these processes. This course focuses on natural hazards that can cause disasters and how and why these otherwise normal geologic processes concentrate their energies to adversely affect humans and society.

The modern investigation of natural disasters and catastrophes is a broad subject encompassing virtually every aspect of the traditional topics of Earth science, geology, geophysics, geochemistry, and hydrology, including many associated scientific and engineering subdisciplines.

Course goals

During this term our investigations and discussions of natural disasters will revolve around two major themes:

- the geoscience of natural hazards, and
- hazard prediction and mitigation.

This course has three main goals:

- To present and discuss the role that natural geologic processes play in creating conditions that are detrimental to human activities.
- To assess how best society can mitigate the adverse affects of geologic hazards on local, regional, and global scales.
- To examine the fundamental processes of global climate change (GCC) and the global interconnectedness of the Earth's air, water, rock and life systems as changes occur within and between these components.

Course materials

Required

Bookstore

The following required materials are available for purchase from the [University of Manitoba Bookstore](#). Please order your materials immediately, if you have not already done so. See your [Distance and Online Education Student Handbook](#) for instructions on how to order your materials.

Textbook

Keller, E. A., Blodgett, R. H., and Clague, J. J., (2012). *Natural Hazards: Earth's Processes as Hazards, Disasters, and Catastrophes* (2nd Canadian Edition), Pearson-Prentice Hall, Toronto.

Please note that in addition to the print version, the publisher offers an E-book version of this text (see <http://www.coursesmart.com/natural-hazards-earth-processes-as-hazards/edward-a-keller-robort-h-blodgett-john-j/dp/9780135090541>)

Approximately 80% of this text will be assigned during the term.

Course overview

The course is intended to provide an *overview* of the salient aspects of geologic hazards as they contribute to disasters, some of which are unique to the field, others being shared with allied disciplines such as soil science, engineering geoscience, hydrology, and geochemistry. The ultimate objective of the course is to foster your analytical and critical thinking skills. We will have plenty of facts to learn, but we will always want to go beyond just the bare facts to the societal/environmental implications and interpretations. It must also be emphasized that many of the hazards we will systematically discuss as *separate* processes are actually strongly interconnected.

Learning activities

This online course will utilize the following learning activities:

- Online notes
- Textbook readings that supplement the online notes
- Web links
- Review questions
- Written projects

Evaluation and grading

Grading scale

Letter grade	Percentage range	Description
A+	90 – 100	Exceptional
A	80 – 89	Excellent
B+	75 – 79	Very good
B	70 – 74	Good
C+	65 – 69	Satisfactory
C	60 – 64	Adequate
D	50 – 59	Marginal
F	49 and below	Failure

Please check the academic calendar for the last date for voluntary withdrawal from the course without academic penalty. I am instructed by ROASS policy to advise you to read the academic regulations and policies in the current years University Undergraduate Calendar. In particular, be aware of the policies regarding academic dishonesty, including plagiarism and cheating, examination personation, and attendance at class and debarment. In the case of individual assignments and term projects, specific instructions concerning due dates are provided at the start of the term. If you have any questions, ask.

Distribution of marks

Evaluation	Percentage
2 written projects @ 25%	50%
Final examination	<u>50%</u>
Total	100%

Late assignments and term projects will NOT be accepted.

Note: All final grades are subject to departmental review.

Assignments

Term projects

GEOL 1410 Natural Disasters and Global Change is designed to fulfill the University's "written English"(W) requirement through the submission and evaluation of **two** significant written assignments or term projects. Each of these projects is worth 25% of your total mark; each will be evaluated and graded on the following criteria and weighting:

- i. Annotated bibliography (30%). An annotated bibliography is an alphabetical listing of sources that are important or critical for your research project and that you will likely be using in your paper. Each reference item must be listed in the required reference citation format and includes a short paragraph or several sentences ("annotation") that describe the usefulness of the reference, its contribution and/or importance. The required citation format is outlined in the course notes. **Be sure to follow this format.** Importantly, one of the main objectives of preparing an annotated bibliography is to demonstrate that you have done the required research on your project topic. As such, it should be as complete as possible. Indeed, often the annotated bibliography list will be longer than the reference list that is actually submitted as part of your paper.
- ii. Quality of writing and presentation (25%). This includes clarity of sentences and paragraphs, organization and coherence of ideas, structuring, style, grammar, punctuation, use of English and use of figures/tables.
- iii. Scientific content and information (20%).
- iv. References and use of references (25%). This includes the scholarly level and soundness of the references, how effective the references are used and cited in the paper, and adherence of correct format for citation and referencing. The REQUIRED reference citation format for both of your projects (including the format for the references in your annotated bibliography) is outlined in the course notes. **You should NOT use any other referencing format.**

It is expected that your papers are original. If a paper, or any part of a paper, is identified as not being original, and/or not done by the student, the paper may receive a zero. Anything that is not your own thoughts/concepts must be cited explicitly in the text. Every source you use must be cited within the text of the final paper. The University of Manitoba has an exceptional Library system with a large number of quality peer-reviewed scientific journals available both in-house and on-line. Use of non-refereed, non-reviewed sources (including most 'encyclopedias') is generally not acceptable in scientific writing at the university level. **In particular, use of non-refereed on-line sources such as ask.com, about.com, Wikipedia, etc. is not permitted for these projects.**

The topics for the term projects are provided in the course notes. You should start working on these projects soon; do not wait until the last minute to start the projects because they both demand a considerable amount of research time. If you have not done a university-level term paper or a term project write-up, it is recommended you contact the Writing Tutor Program of the Academic Learning Centre (<http://umanitoba.ca/student/academiclearning/>).

Your paper will need to be submitted digitally through the course website. Do not wait until the last day to submit your paper because the system periodically goes down or there may be technical issues which might result in your paper not being submitted on time. **Late papers are not accepted and will receive a mark of zero.** Required style/format guidelines are posted on your course website; please consult these and follow the guidelines closely, particularly with respect to referencing and reference citation format.

BOTH assignments must be completed, and a minimum grade of 25 out of 50 on the assignments achieved, along with a passing grade for the final examination, to achieve a passing grade for the course. The mark on the first assignment will constitute written feed-back prior to the voluntary withdrawal date for the course.

Final examination

Note: If you need to write the final exam at a location other than the University of Manitoba Campus, please submit the “Application Form for Examination at a Location Other than the University of Manitoba Campus” immediately.

At the end of the course an invigilated final examination will be written which will be worth 50% of your final mark. This examination will be designed to test not only your grasp of the theoretical concepts of hazard geoscience, but also the more practical critical evaluation and problem-solving abilities you have acquired. Normally, the final examination is weighted approximately equally between material covered in the course notes and that covered in the assigned textbook readings.

Plagiarism, cheating, and examination impersonation

You should acquaint yourself with the University’s policy on plagiarism, cheating, and examination impersonation as detailed in the General Academic Regulations and Policy section of the University of Manitoba *Undergraduate Calendar*. Note: These policies are also located in your *Distance and Online Education Student Handbook* or you may refer to Student Affairs at <http://www.umanitoba.ca/student>.

Distance and Online Education (DE) Student Resources

In your course website there are links for the following:

- Contact Distance and Online Education Staff
- Distance and Online Student Handbook
- Distance and Online Education Website

Acknowledgements

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