

## Geohazards - Earth in Turmoil

Earth Sciences 104

Section: J100

Term: 2012 Spring

Instructor: Dr. Lionel Jackson  
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Discussion Topics: General: REQUIREMENT DESIGNATION: B-Sci

EASC 104 is a non-technical introduction to the science of geological hazards (geohazards). Geohazards are Earth-surface processes that have direct and often sudden and violent impacts on humanity. We will study the causes and potential ramifications of a diverse spectrum of geohazards. We will also investigate the forecasting and possible mitigation of geohazards.

### Course Topics:

- 1) Introduction to geohazards and risk as well as some basic geological principles (eg: plate tectonics, basic rock types, hydrologic cycle, and other earth systems)
- 2) The hazards, monitoring techniques and mitigation of earthquakes and volcanic events
- 3) The impact of landslides and other mass wasting events
- 4) Coastal hazards, tsunamis and flooding
- 5) Groundwater related problems and hazards
- 6) The hazards related to geological material such as asbestos, natural radon emissions and radioactivity.
- 7) Hazards from space and mass extinctions
- 8) Understanding human induced climate change and its local and global impacts

### Course Organization:

Three 1-hour lectures

Grading: Weekly written assignments 35%

Midterm Exam 25%

Final Exam 40% (exam is comprehensive)

Required Texts: Keller, E.; Blodgett, R.; Clague, J.; Natural Hazards, Canadian Edition, Pearson, 2008. ISBN 978-0-13-223202-9

N.B. Additional readings (handout material or from the INternet) will be assigned on an irregular basis.

### Recommended Texts:

### Materials/Supplies:

### Prerequisite/Corequisite:

Notes: Students with credit for GEOG 312 may not take this course for additional credit.

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