Geohazards - Earth in Turmoil

Earth Sciences 104

Section: J100

Term: 2011 Spring

Instructor: Jeff Zurek
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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 divers spectrum of geohazards. We will also investigate the forecasting and possible mitigation of geohazards.
Course Topics:
1) Introductin to geohazards and risk
2) Basic geological principles (plate tectonics, rock types, hydrologic cycle, etc.)

3) Earthquakes and linkages with other geohazards
4) Volcanoes and associated geohazards
5) Landslides and other mass wasting events

6) Subsidence (slow or rapid downward movement of Earths surface)
7) River flooding
8) Severe weather and linkages with other geohazards
9) Coastal hazards (tsunamis, tropical cyclones, erosion, etc.)

10) Wildfires and associated geohazards
11) Climate change and its effect on our province and beyond
12) Extra-terrestrial impacts and mass extinctions
Course Organization:

One 3-hour lecture.

Grading: Class Participation 10% (five 2-point exercises)
Midterm Exam 1 25%

Midterm Exam 2 25%

Final Exam 40% (exam is comprehensive)

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

Recommended Texts: None.

Materials/Supplies: None.

Prerequisite/Corequisite: None.

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Notes: Students with credit for GEOG 312-4 cannot take this course for further credit.