

## Geohazards - Earth in Turmoil

Earth Sciences 104

Section: J100

Term: 2014 Spring

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Discussion Topics: General: REQUIREMENT DESIGNATION: B-Sci

EASC 104 is an introduction to natural hazards that affect Earth, the environment and humanity. Topics include hazards and risks related to earthquakes, tsunamis, volcanic eruptions, landslides, ground subsidence, snow avalanches, floods, severe storms, coastal erosion, wildfires, and climate change. Forecasting, mitigation, and adaptation issues will also be covered.

### Course Topics:

- 1) Introduction to natural hazards and risk, fundamental concepts, and basic geological principles (eg: plate tectonics, basic rock types, rock cycle, hydrologic cycle, biogeochemical cycle)
- 2) Earthquakes and tsunamis
- 3) Volcanic eruptions
- 4) Landslides and snow avalanches
- 5) Permafrost thaw and other types of ground subsidence
- 6) River flooding
- 7) Tornadoes, hurricanes and other types of severe weather
- 8) Coastal erosion and flooding
- 9) Wildfires
- 10) Groundwater contamination
- 11) Climate change
- 12) Impacts and extinction

### Course Organization:

One 3-hour lecture each week.

Grading: Midterm Exam 1 25% (scheduled in evening)

Midterm Exam 2 25% (scheduled in evening)

Final Exam 50% (exam is comprehensive)

Required Texts: Keller, E.A.; Blodgett, R.H.; Clague, J.J.; Natural Hazards, Canadian 2nd Edition, Pearson, 2011. ISBN 978-0-13-2494588

Recommended Texts:

Materials/Supplies:

Prerequisite/Corequisite:

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

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