# GEOL 106 Earthquake Country
# Final Study Guide

The final exam will be comprehensive, with approximately 40% of the questions from material that we covered after our second mid-term. Please consider all material on the first two study guides as review material for the final. Also, if you have been a skilled student, you would have been reviewing material the entire semester (looking at the digital presentations and re-reading one's notes). Students that have not spent 6 to 9 hours a week on this class may be more challenged to succeed. Perhaps this is some way that we might learn, in addition to the course material.

**Earthquake Preparedness:**

What are the three phases of earthquake preparedness? What are some things that people can do to prepare their homes/places of work to resist being damaged by earthquakes (what phase of preparedness is this)? What are some key parts of a disaster preparedness plan (what phase of preparedness is this)? What are some actions one may take during an earthquake (what phase of preparedness is this)?

**Mendocino triple junction and regional tectonics:**

What are the different sources of seismic hazard in California? What geographical regions are each of these seismic hazards (could you identify them on a map of the state of California, Oregon, and Washington)?

**Volcanoes:**

What are volcanoes? What types of volcanoes are in the Cascades? What relative Silica content (high, med, or low) are associated with each of these types of volcanoes? Why does the Silica content control the behavior of lava flow? Why does the Silica content control the shape of volcanoes? What type of rock is associated with the different levels of Silica (four types of rock, rank them from low to high Si %)? What is the timeline of events that led to the eruption of Mt. Saint Helens? Where do we find volcanoes? Why are volcanoes found in these places? What are some volcanoes associated with the Cascadia subduction zone? Which Cascade volcanoes erupt more frequently than others? What controls the type of volcanic eruption, the shape of volcano, and the way that lava flows? Which lava/rock type is associated with which of these volcanoes: fissure flow, shield volcano, stratovolcano, lava dome, and caldera?

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**Floods:**

What is a watershed? What is stream discharge (and what units are used for Q)? How are Q and Watershed Drainage Area related? How does one calculate Q? What is a hydrograph (what are on the horizontal and vertical axes)? What does Q=VA tell us? What is the stage of a river or stream? What is the relation between stage and Q? What is lag time? What are some things that make lag time shorter or longer? How do urbanization and river management effect stream/river flow (give two examples)? How does a river/stream change when it is straightened?