

# Geology 171 – Earth Science

## Exam 4 study guide

You should do fine on Exam 4 if you study factual information on the following:

Wind pattern (vertical & horizontal movement) associated with high and low pressure systems.  
Facts about warm and cold fronts.

Names given to transformations of H<sub>2</sub>O and some examples.  
Relationship between air temperature and amount of water vapor air can hold.  
What is meant by relative humidity, saturation, and dew point temperature.

Main mechanism for saturating air with water vapor.  
Three common ways to cool air.  
Variation in relative humidity during a typical day (24 hour period).  
What makes clouds.  
Why small droplets of liquid water don't fall from the atmosphere (air is too turbulent!).  
Two reasons why deserts often occur on the leeward side of a mountain range.

Differences between elastic strain, plastic strain, and failure.  
The two "strains" involved in earthquake formation.  
Factors affecting whether rocks show plastic strain or failure.  
Terms used to define various locations associated with earthquakes.  
Facts about P-waves, S-waves, and surface waves.

Information needed to locate the epicenter of an earthquake.  
Facts about the Richter magnitude scale used in earthquake measurement.  
Facts about the Mercalli intensity scale used in earthquake measurement.

The most common way a tsunami is formed in the oceans (plus two other less common mechanisms).  
Facts about the Tsunami Warning System.

Names given to folded rocks.  
How to recognize and name normal, reverse, thrust dip-slip faults (*see handout*).  
How to recognize and name left-lateral and right lateral strike-slip faults (*see handout*).  
Relationship between type of fault and tectonic setting.

Lines of evidence for uplift of rocks.  
Facts about a modern-day continent-continent collision (Himalaya).  
Facts about a modern-day ocean-continent collision (Andes).  
Facts about and consequences of isostatic uplift.