

## **UW-GEOLOGY, STRUCTURAL GEOLOGY UNIT TEST REVIEW SHEET**

This test is multiple choice, true/false, and matching (scantron) with a few slides and short answers. The following list is a *GUIDE* to help you study & is not all inclusive of the topics covered on the exam.

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- Earthquake anatomy: fault scarp, epicenter, focus, fault plane.
- Understand the differences between body waves (P- and S-waves) and surface waves (Love & Raleigh).
- With what equipment do scientists detect earthquakes?
- How do scientists use seismic waves to determine the location of an earthquake?
- How is the moment magnitude scale different from the Mercalli Index?
- How does an increase on the moment magnitude scale relate to the increase in the amount of shaking or energy released?
- How do seismic waves allow us to understand the stratification of the earth (P-wave and S-wave shadows)?
- How are tsunamis caused?
- What is liquefaction?
- What is the earthquake threat to WA State?
- Be able to explain the differences between stress and strain.
- Know the three types of stresses, their resulting strains, and what that strain means (looks like).
- Understand elastic, ductile, and brittle rock behavior (what it is and when it happens).
- Be able to identify folds and faults in a drawing and also on a geologic map.
- Know how to identify the direction of plunge on an anticline or syncline based on map patterns.
- Know the difference between a dome and a basin and be able to tell them apart on a geologic map.
- Know the differences between open, isoclinal, overturned, and recumbent folds.
- Be able to interpret and apply a strike and dip symbol as well as other geologic map symbols.
- How are joints and faults different?
- Know the differences between dip-slip and strike-slip faults, normal and reverse faults, left-lateral and right-lateral faults, thrust faults, and oblique faults. Be able to identify them in drawings and on geologic maps.
- What is a horst and graben structure?
- Know the similarities in characteristics of major mountain belts.
- What is a craton? Where is the North American craton?
- Understand the 3 stages of evolution for a mountain belt.
- How is deposition different in an open-ocean basin and at a convergent boundary?
- Know how orogenies are different in ocean-continent convergence, arc-continent convergence, and continent-continent convergence.
- What types of faults are associated with gravitational collapse?
- Where do you find reverse faults in ocean-continent convergence?
- How does the direction of subduction change in arc-continent convergence? How does the location of the trench change in arc-continent convergence?
- Be able to explain isostatic adjustment (isostasy).
- Be able to explain the orogeny of the Appalachian Mountains and the growth of Washington State.
- What is a terrane and terrane accretion? Exotic terrane vs. accreted terrane?
- Understand the accretionary history of WA state and approximate ages of the Columbia River basalts, glaciation, and the present day volcanoes.
- Understand the difference between geologic resources and reserves.
- What are the different types of petroleum?
- What are the conditions needed in order to have an oil pool?
- Be able to explain the different types of oil traps.
- Be able draw a geologic cross-section based on surface data.