

## **Review for Physical Geology Lecture Final (Thursday, April 30th - 4:20 to 7:20 p.m.)**

### **Geologic Time**

terms - geologic time, relative geologic time, absolute geologic time, Principle of Superposition, Law of Cross-cutting Relationships, Law of Inclusions, geologic events, radiation, isotope, radioactive isotope, isotopic dating, radioactive decay curve, half-life, parent isotope, daughter isotope, age resetting, carbon dating, uranium-lead dating, igneous intrusions

- how we apply the 3 laws of relative time to the study of geologic time
- how to use a 'generic' radioactive decay curve to date a rock
- what are some problems/errors involved in determining a radioactive age date?

### **Geologic Structures**

- stress, compression, tension, shear, brittle rocks, ductile rocks, geologic structures, fold, anticline, syncline, core, joint, fault, fault strike, fault dip, hanging wall, footwall, fault plane, strike slip, dip slip, normal fault, reverse fault, sinistral fault, dextral fault

- how does stress affect brittle rocks? ductile rocks?
- how do you recognize an anticline? a syncline?
- what are the 'parts' of a fault?
- how to use slip movement to identify a fault
- what types of faults are produced by the different stresses (compression, tension, shear)

### **Seismology and the Earth's Interior**

- focus, epicenter, seismology, seismograph, seismogram, geophone, seismic waves, body waves, surface waves, P-wave, S-wave, amplitude, Richter Magnitude Scale, mantle, core, outer core, inner core, asthenosphere, continental crust, oceanic crust, peridotite, granite, basalt, Fe-Ni metal, Moho

- how does rock density relate to seismic wave velocity?
- how to read a seismogram
- how the Richter Magnitude Scale is determined
- What P and S waves tell us about the composition of the different layers within the earth
- what are the fundamental differences between continental crust and oceanic crust?

### **Overview of Plate Tectonics**

Plate tectonics, seafloor spreading, continental drift, continental crust, oceanic crust, convection cells, Pangea, paleomagnetism, ilmenite, magnetic normals, magnetic reversals, convergent plate boundaries, divergent plate boundaries, transform plate boundaries, mid-oceanic ridge, deep sea trench, subduction, Benioff zone

- The evidences for continental drift
- The evidences for seafloor spreading
- How paleomagnetism works

### **Hydrologic Cycle & Rivers and Streams**

Hydrologic Cycle, hydrology, reservoirs, fluxes, infiltration, runoff, evaporation, precipitation, groundwater, ultimate base level, stream head, stream mouth, channel, banks, drainage basin, stream load, bed load, suspended load, dissolved load, intermittent stream, downcutting, 'V'-shaped valleys, perennial river, 'U'-shaped valleys, sidecutting, meander, floodplain, natural levee, lowland river, upland stream, point bar, cutbank

- the reservoirs and fluxes in the hydrologic cycle
- how does downcutting alter the shape of a river valley?
- how does sidecutting alter the shape of a river valley?
- what are the geologic features formed by a lowland river ?... an upland stream?

### **Groundwater**

groundwater, water table, perched water table, spring, soil, bedrock, saturated zone, unsaturated zone, permeability, porosity, artesian wells, aquifer, aquitard, recharge area, karst topography, limestone, sinkhole, sinkhole lake, cave, dripstone, stalactite, stalagmite

- how does water flow underground?
- how are artesian wells formed?
- how does karst topography form?
- how does a cave form ?