**GG 101 - Introduction to Geology**
**Review Sheet for the First Exam**

**Origin of Earth**
Big Bang Theory, nucleosynthesis, Solar System, nebular condensation, planetesimal accretion, source of Earth's heat, age of cosmos, Hubble Constant, chemistry of Earth atmospheres, inner rocky and outer gaseous planets, Oort Cloud, impacts, iron catastrophe

**Whole Earth**
Inner core, outer core, sources of heat, convection, chemical differentiation, mantle, Lithosphere, chemical/thermal/physical properties of Earth's interior, distribution of compounds throughout Earth

**Crustal Structure**
Continental composition vs. whole Earth composition, granite/basalt, continental vs. oceanic crust, partial melting

**Plate Tectonics**
Plate boundaries, evidence for plate tectonics, hotspot theory, earthquake epicenters, paleomagnetism, island arcs, volcanic arcs, trenches, ocean/ocean; ocean/continent, continent/continent, rock cycle

**Mineralogy**
Atomic structure, ionization (cation, anion), octet rule, single/double substitution, silicate structure, metallic cations, forming neutral compounds, definition of a mineral, feldspars

**Igneous Rocks**
Mafic/felsic minerals, Bowen's reaction series, compositional terms, texture terms, How does a solid melt? fractional crystallization, common mafic and felsic minerals, classification of igneous rocks (6 types + peridotite)

**Volcanoes**
Six types, explosivity, gas content, volcanic products, pyroclastic flows, lava types, Hawaii history, volcanic shape

**Be able to draw and label:** Bowen's reaction series, all aspects of plate tectonic theory, cross-section of Earth, cross-section of the crust, cross-section of shield volcano and stratovolcano, rock cycle.