

**Study Guide for Exam 2 on November 1, 2006**  
Earth Science 101-80

The exam covers all class material from August 27 through October 30, including reading assignments, laboratory exercises, and lecture notes.

Reading assignments from the textbook includes

- Chapter 2
- Chapter 3
- Chapter 7, pages 188-199
- Chapter 8
- Chapter 9; and Figures in Chapter 10
- Chapter 11, pages 310-314; 322-327

Major Topics (see also Content Objectives on page three of the syllabus).

- Understand the basic structure of the atom; know what isotopes are.
- Know how composition and structure are important for defining a mineral.
- Distinguish between rock-forming minerals and economically important minerals.
- Know the basic mineral properties and the methods used to identify minerals.
- Understand the rock cycle: rock types and the relationships between them.
- Understand how environment can affect igneous rock texture.
- Distinguish between basic rock types (e.g., basaltic vs. granitic).
- Know the basic principles of relative dating of geologic features (e.g., superposition, horizontality, crosscutting).
- Distinguish between the philosophies of uniformitarianism and catastrophism.
- Understand how radioactivity can be used to determine the age of a rock.
- Know basic lines of evidence for continental drift.
- Understand that Earth's lithosphere is made of plates; these lithospheric plates slide over the asthenosphere.
- Distinguish between and understand the three types of plate boundaries.
- Understand plate motion, how plate collisions result in active geologic features (subduction, volcanic arcs, mountains, etc.).
- Study Figures 8.10, 8.11, 8.14, 8.15, 8.16, 8.19, 8.27, 9.29, 10.17, 10.18, 10.20.
- Know basic mechanism causing earthquakes; distinguish between P & S waves.
- Understand that most earthquakes occur at plate boundaries.
- Distinguish between intrusive and extrusive igneous activity (see above).
- Know basic structure of volcanoes; distinguish between types of volcanoes.
- Understand geologic activity (mountains, volcanoes, earthquakes, ocean and continent formation, etc) in the context of plate tectonics.