

GEOL 372 Structural Geology

Instructor: John Singleton

Course Description:

- Structural geology is the study of Earth's deformation at scales ranging from atoms within crystals to mountain ranges. During this course you will learn about geologic structures that record deformation, including fractures, faults, folds, and ductile fabrics. We will discuss how and why the Earth deforms in different ways, and how structural analysis can provide significant insight into the geologic history of regions and plate tectonic processes. In addition to being a fundamental course in any geologic education, structural geology can be very useful to society. For example, exploration of natural resources such as oil/gas, ores, and groundwater, and assessment of earthquake hazards and slope stability require an understanding of geologic structures.

Learning Outcomes: you will:

- Become comfortable measuring structures with a Brunton compass
- Gain experience observing and interpreting structures in the field and in rock samples
- Learn to interpret deformation histories from rocks
- Learn to use stereonet to document and interpret structures
- Learn quantitative techniques for solving structural problems
- Become comfortable reading and interpreting geologic maps and constructing geologic cross sections
- Develop your ability to think in 3-dimensions
- Become fluent in the language of structural geology