

Outcomes Assessment for Geology 318
(Structural Geology)

Course Outcomes	Objectives (SWBAT)
<p>1. Understand how two dimensional images (e.g. maps, photographs) can be conceptualized in 3 dimensions.</p>	<p>1.1 Predict the geometry and location of structures at depth or in areas of poor outcrop</p> <p>1.2 Construct a structurally viable cross section across a geologic map</p> <p>1.3 Present and manipulate data using stereographic projection (stereonet)</p>
<p>2. Understand the geometry of geological structures in deformed continental regions.</p>	<p>2.1 Accurately describe in words and a sketch the structural elements in a hand sample or outcrop.</p> <p>2.2 Describe the geometry of structures shown on a map.</p> <p>2.3 Correctly measure, describe, and plot the orientation of a fold or fault on a map and stereonet</p>
<p>3. Understand the relative timing of formation of structures and the kinematics of deformation</p>	<p>3.1 Interpret the structural history of an area given a geologic map and cross section</p> <p>3.2 Determine the orientation of shortening and extension that produced faults, folds, and fabrics in outcrop, hand sample, or photograph</p>
<p>4. Gain a basic understanding of the material properties of rocks and the theory of their mechanical behavior under ductile and brittle conditions from natural and experimental data</p>	<p>4.1 Distinguish between the concepts of stress and strain</p> <p>4.2 Predict the geometry of structures in an extensional, compressional, or strike-slip regime</p> <p>4.3 Distinguish between structures formed under brittle and ductile conditions</p> <p>4.4 Describe the variables that lead to rock fracture and faulting</p>