

## **SOME INTENDED STUDENT LEARNING OUTCOMES FOR GEOLOGY 111**

- ✓ Understand the nature of scientific reasoning
- ✓ Know the layers of the earth and how we study them
- ✓ Describe Plate Tectonic Theory and use it to describe specific geographic places on earth
- ✓ Understand the data used to support plate tectonic theory
- ✓ Know the difference between a scientific hypothesis and theory
- ✓ Know the definition of a mineral
- ✓ Describe the chemical properties of minerals and their relationship to physical properties
- ✓ Describe the rock cycle
- ✓ Understand the different types of volcanoes and why some are more dangerous than others
- ✓ Know the precursor events leading up to a volcanic eruption
- ✓ Describe the types of hazards associated with volcanoes
- ✓ Know the plate tectonic setting of volcanoes
- ✓ Describe the formation of the Hawaiian islands and its relationship to a Mantle Hotspot
- ✓ Know how sediment and soil forms
- ✓ Use evidence from sedimentary rocks to describe paleoenvironments
- ✓ Use evidence from metamorphic rocks to determine degree of pressure and temperature change
- ✓ Apply the term “facies” to metamorphic and sedimentary rocks
- ✓ Know the geologic time scale
- ✓ Apply absolute and relative age dating techniques to determine the sequence of events
- ✓ Understand how rocks deform
- ✓ Know different types of folds and faults and understand what processes formed each type
- ✓ Relate folds and faults to different plate tectonic settings
- ✓ Understand how and where earthquakes are generated
- ✓ Describe the hazards associated with earthquakes
- ✓ Describe volcanic and earthquake hazards in Hawaii
- ✓ Know the hydrologic cycle
- ✓ Describe how water moves through its reservoirs
- ✓ Know how glaciers form and move
- ✓ Describe the variation in the earth’s climate.
- ✓ Know how and where oil, gas, and coal are formed
- ✓ Describe the pros and cons of renewable and non-renewable resources
- ✓ Have fun learning about the earth
- ✓ Apply the knowledge gained in this class to your surroundings