Objectives

This course has several overarching and content goals. Overarching goals are outlined below and insert several of the Goals and Objectives for GE Courses in the sciences as outlined in the 2013-2014 Curriculum Guide.

I. Overarching Goals/Objectives

After completion of this course students will be able to:

1. Articulate the role of the planetary nature of the Earth Sciences and the importance of its role in their and others everyday life (Goal 1 - Objective 2 and 3)

2. Articulate key technological advances along with the collection of a myriad of observational and analytical data over the last 200 years and how initially the interpretation of the Earth (original Act 1) 413 years ago, and that its development has been pacified by several major plate tectonics that brought about present day society and the planet's geology (Goal 2 - Objective 3)

3. Articulate key laboratory experimentation that lead to an enhanced understanding of dynamic earth processes such as faults and earthquakes, and, as a result, how the Earth Sciences have improved its and others quality of life (Goal 2 - Objective 2, Goal 3 - Objective 3)

4. Articulate how the scientific method is used to infer the causes of global-scale changes that have affected planet Earth over time (Goal 2 - Objective 2, 3)

5. Articulate examples of everyday observations that indicate the Earth is dynamic and ever changing, and how those observations impact daily life (Goal 4 - Objective 1, 2, 3)

The above overarching goals are intertwined with the following specific content goals.

II. Content Goals/Objectives

To meet content goals students will be able to:

1. Articulate the role that biogeographic plates and their movements play in shaping the Earth's landscapes and ocean basins, and the internal compositional and mechanical attributes of planet Earth

2. Identify from their physical and chemical characteristics the common minerals in the non-silicate mineral groups

3. Distinguish the three major rock groups based on their physical characteristics and means of formation

4. Articulate the distribution of the 12 major rock series within the various states, and convey the major climate or seasonal controls on this distribution

5. Convey the various of geologic time, key biological and physical events that have affected Earth through time, the terminology used to distinguish times from the rocks and sediments deposited during a specific time interval, and the role of the fossil and radiometric dating in establishing the temporal framework for the geologic timescale

6. Identify the different types of faults and demonstrate an understanding of their origin, distribution, and relationship to earthquakes

7. Identify the different types of folds from their geological and stratigraphic character, and the various map symbols used to locate and characterize them on geologic maps

8. Identify the various landforms displayed on topographic maps, articulate location in township and range format, and convey the differences between magnetic and geographic north

9. Articulate the role of the Earth, Moon, and Sun in producing tides, the role of wind in producing waves, and the physical characteristics of deep and shallow water waves

10. Articulate that Earth's climate has been different in the past as exemplified by the Great Ice Ages, and that the Earth's climate is influenced by a variety of mechanisms including the precession and obliquity of the Earth's axis rotation and the eccentricity of the orbit around the sun along with large volcanic eruptions and viable impacts