

Traces the evolution of the earth and life through time. Presents scientific theories of the origin of the earth and life and interprets rock and fossil record. Prerequisite: GE 111 >>BDC

physical and natural world. Students enhance their observational and critical thinking skills through the analysis and interpretation of physical and graphical data. This course covers the origins of the solar system and evolution of Earth's structure, the relationship between life and

- o Recognize and interpret the growth and movement of continents and the Wilson Cycle of supercontinent formation and dispersal
- o Describe and date the formation and breakup of the supercontinents of Rodinia and Pangaea

#### Evolution

- o Describe Darwinian evolution and the basic life forms that evolved over geologic time
- o Explain the basic concepts in macroevolution and relate evidence from the fossil record to them
- o Trace the events leading to the origins of life and distinguish between their forms
- o Distinguish between common types of fossilization, including the origins of fossil fuels

#### Earth Materials

- o Identify those most common sedimentary rocks
- o Explain how detrital and chemical sedimentary rocks are formed
- o Determine grain size, rounding, and sorting for detrital sedimentary rocks
- o Determine depositional environment for sedimentary rocks and sedimentary structures
- o Identify sedimentary structures and describe their origin and depositional setting
- o Identify those most common metamorphic rocks
- o Explain the different types of metamorphism
- o Identify index minerals to determine the degree or grade of metamorphism
- o Identify foliated metamorphic rocks and describe their origin

#### Geologic Time

- o Describe the hierarchical time units of the geologic time scale
- o Identify the geologic time periods of the paleozoic, mesozoic, and cenozoic eras

#### Geologic Structures

- o Identify and describe the formation of geologic structures, such as anticlines and synclines
- o Identify and describe different types of faults, such as strike-slip faults and dip-slip faults
- o Determine the type of stress responsible for geologic structures and faults
- o Identify and describe shallow intrusive structures, such as dikes and sills

#### Relative Dating

- o Utilize the principles of relative dating to determine the sequence or order of geologic events

#### Absolute Dating

- o Explain how radioactive isotopes are used to calculate the absolute age of igneous and metamorphic rocks

Quantitative Literacy  
Scientific Literacy  
Civic Engagement  
Critical Thinking  
Scientific Method  
Geologic Time  
Plate Tectonics  
Evolution  
Earth Materials  
Earth Origin  
Early Earth  
Earth and Life History  
Climate Change  
Laboratory Topics

- o General Skills
- o Rocks and Minerals
- o Geologic Time
- o Geologic Structures
- o Relative Dating
- o Absolute Dating
- o Stratigraphy
- o Paleontology
- o Geologic Maps