SPECIAL NOTE:
This brief syllabus is not intended to be a legal contract. A full syllabus will be distributed to students at the first class session.

TEXT AND SUPPLEMENTARY MATERIALS USED IN THE COURSE (if any):

Please check with the LCC bookstore [http://www.labette.edu/bookstore](http://www.labette.edu/bookstore) for the required texts for this class.

**COURSE NUMBER:** PHSC 101

**COURSE TITLE:** PRINCIPLES OF GEOLOGY

**SEMESTER CREDIT HOURS:** 5

**DEPARTMENT:** Physical Science

**DIVISION:** General Education

**PREREQUISITE:** Reading Essentials

**REVISION DATE:** 5/4/2013

**COURSE DESCRIPTION:**
Principles of Geology studies planet Earth and its physical, chemical and biological attributes. Emphasis will be on the mid-continent geographic region and Kansas in particular. Locally minerals, rocks and hydrological systems will be investigated.

**COURSE OUTCOMES AND COMPETENCIES:**
Students who successfully complete this class will be able to:

1. Execute a working knowledge of Earth’s sphere, the sea floor and crustal tectonic plates.

   - Collate the interior spheres of Earth.
   - Assemble the parts of the sea floor.
2. Portray movement of crustal rocks in mountain belts and earthquake zones and depict the resulting geologic structures.

- Classify types of mountain ranges and their causes.
- Characterize types of geologic structures, their geometry and their causes.
- Reveal how earthquakes zones are related to tectonic plates, their intensities, and the mechanics of their actions and how they affect humanity.

3. Illustrate the exactness of mineralogy, movement of new lava from the Earth’s interior to the surface and cooling of hot liquids converting to solidify into rocks.

- Determine how atoms coalesce, forming minerals.
- Demonstrate how material is added to Earth’s surface and how life on Earth is affected by the geologic processes involved.
- Evaluate the chemistry of igneous rocks, their physical attributes and how we utilize them.

4. Delineate Earth’s accumulation of sediment and its conversion into rock, changing of rock into a differing rock by heat and pressure, and the breakdown of rock into component parts.

- Distinguish between sediment types, determine their source and recognize the rocks into which, they were converted.
- Recognize rocks that were changed from a parent rock by burial in Earth’s subsurface, where heat and pressure carried out a complete chemical and physical rearrangement.
- Present the disintegration of rocks into smaller particles by weathering and soil development.

5. Demonstrate how fresh water is stored and moved, the surface movement of water in streams and flooding cycles, and the geologic process of glaciations.

- Delineate the ground water portion of the hydrological sphere of Earth, how rocks and sediments store and allow flow of water and the ever present contamination of this resource by humans.
- Display movement of surface fresh water, storage of water in natural and artificial lakes and the contamination of water by humans.
- Portray storage of fresh water by glaciers, both in continental ice sheet and mountain glaciers, and how cyclical processes control sea levee.