

**GEOL 102 Physical Geology Laboratory**

**Credit Hours:** 1

**Scheduled hours per week**

Lecture: 0

Lab: 2

Other: N/A

**Catalog Course Description:** The laboratory study of rocks and minerals, interpretation of topographic and geologic maps, earth structures, earthquakes, economic resources, and local geology with field trips.

**Pre-requisites:** N/A

**Co-requisites:** GEOL 101 Physical Geology

**Course Learning Outcomes:**

- Ability to demonstrate critical thinking by analyzing data to infer logical conclusion.
- Demonstrate and practice the scientific method of investigation of a problem or idea.
- Ability to collect accurate scientific data by practicing accurate data collecting techniques.
- Practice experimentation and/or observation of nature in order to evaluate scientific questions or scientific problems.
- Ability to analyze data by using graphing and other techniques to infer general trends in data and make inductive inferences.
- Ability to make hypothetical-deductive predictions relative to scientific concepts and understand how to test those predictions.
- Capability to correctly practice the steps involved in solving problems with the scientific formulas.
- Ability to take measurements and do calculations using the basic metric system of measurement.
- Learn and practice methodical study and work habit.
- Ability to understand demonstrate, and analyze Geologic Time.
- Ability to identify rocks and fossils.
- Demonstrate and understanding of Earth's origin, history, composition, and internal and external process.
- Demonstrate an understanding of the relationship of Earth to the Universe as a whole.

**Topics to be studied:**

- Rocks and minerals,
- Weathering and erosion
- Running water and groundwater
- Glaciers and deserts
- Plate tectonics, volcanic activity, earthquakes, and mountain building
- Geologic time, relative and radiometric dating techniques,
- Structural geology, geologic and topographic maps,
- Earth resources and environmental issues
- Origin of the earth and solar system.
- Local geology through field trips

**Relationship of Course to Program or Discipline Learning Outcomes:**

<b>Relationship of Course to Science Learning Outcomes:</b>	
Students will learn the process and reasoning behind the Scientific Method and be able to conduct experiments that meet the requirements of the model.	X
Students exhibit the basic safety-related rules and regulations of working in the lab.	X
Students be able to recount the basic safety tenants associated with a specific scientific discipline.	X
Students will become proficient at Science Writing.	X
Students will recognize and identify the applications of their specific discipline in the 'real world.'	X
Students will accurately recount important milestones in the history of scientific inquiry in their discipline.	X
5/3/2016	

<b>Relationship of Course to General Education Learning Outcomes:</b>	
<b>Composition and Rhetoric</b> Students illustrate a fundamental understanding of the best practices of communicating in English and meet the writing standards of their college or program-based communication requirements.	X
<b>Science &amp; Technology</b> Students successfully apply systematic methods of analysis to the natural and physical world, understand scientific knowledge as empirical, and refer to data as a basis for conclusions.	X
<b>Mathematics &amp; Quantitative Skills</b> Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts.	X
<b>Society, Diversity, &amp; Connections</b> Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication.	X
<b>Human Inquiry &amp; the Past</b> Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills.	X
<b>The Arts &amp; Creativity</b> Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art.	X
5/3/2016	

**Special requirements of the course:**

N/A

**Additional information:**

GEOL 102 Physical Geology Laboratory is a separate grade from GEOL 101.

**Prepared by:** Valerie Keinath

**Date:** 10/20/2017