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:
## Relationship of Course to Science Learning Outcomes:

| 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

## Relationship of Course to General Education Learning Outcomes:

| Composition and Rhetoric 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 |
| Science & Technology 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 |
| Mathematics & Quantitative Skills Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts. | X |
| Society, Diversity, & Connections Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication. | X |
| Human Inquiry & the Past Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills. | X |
| The Arts & Creativity 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.

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