

## General Education Course Objectives and Learning Outcomes

Course Name: Physical Geology

Course Number: GEOL 1014

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**COMMON COURSE OBJECTIVES AND STUDENT LEARNING OUTCOMES THAT ARE OR WILL BE LISTED ON THE SYLLABUS OF EVERY SECTION OF THIS COURSE:**

<i>Course objectives:</i>	<p>GEOL 1014 is a survey of the earth's features and processes which include minerals, rocks, plate tectonics, geologic time, earthquakes, volcanoes, groundwater, development of landscapes, erosion, and climate change. Laboratory exercises will serve to support/enhance lecture topics.</p>
<i>Student learning outcomes:</i>	<p>Upon satisfactory completion of the course, students will be able to:</p> <ul style="list-style-type: none"> <li>- Demonstrate a fundamental understanding of the Earth's geologic materials and processes, both internal and external.</li> <li>- Apply the scientific method to problem solving.</li> <li>- Develop an understanding of the complexity of the Earth, with special emphasis on the Earth as a resource.</li> <li>- Develop an understanding of geologic time and its effects on landscapes processes.</li> <li>- Understand the relevance of both geologic hazards and global climate change.</li> </ul>

**ADHE ACTS INFORMATION FOR THIS COURSE (IF APPROPRIATE)**

<i>ACTS Course number:</i>	GEOL 1114
<i>Copy the ACTS course objectives and learning outcomes:</i>	<p><b>General Description:</b> The study of the earth and the modification of its surface by internal and external processes. Includes examination of the Earth's interior, magnetism, minerals, rocks, landforms, structure, plate tectonics, geological processes, and resources.</p> <p><b>Expected Student Learning Outcomes:</b> The student will be able to explain, describe, discuss, recognize, and/or apply knowledge and understanding of the following topics:</p> <ul style="list-style-type: none"> <li>- Basic chemistry of mineral compounds</li> <li>- Composition, formation, and characteristics of igneous, sedimentary, and metamorphic rocks</li> <li>- Earthquakes</li> <li>- Seismology</li> <li>- Soil formation</li> <li>- Geologic structures</li> <li>- Continental drift, sea floor spreading, and plate tectonics</li> <li>- Effects of surface water, wind, and ground water</li> <li>- Geologic time and dating</li> <li>- Interior of the earth</li> <li>- Ocean basins and their margins</li> <li>- Resources</li> <li>- Scientific method/inquiry</li> </ul>

**WHICH ATU GENERAL EDUCATION GOALS DOES THIS COURSE FULFILL? (NO MORE THAN TWO)**

Communicate effectively

Written communication

Oral communication

**X Think critically**

Develop ethical perspectives

Diversity

Empathy

Leadership

**X Apply scientific and quantitative reasoning**

**X Scientific reasoning**

**X Quantitative reasoning**

Apply the value of the arts and humanities

Practice civic engagement

**DESCRIPTION OF HOW THIS COURSE MEETS THE GENERAL EDUCATION GOALS CHOSEN ABOVE  
(TO BE INCLUDED ON THE SYLLABUS OF EVERY SECTION OF THIS COURSE)**

This course is designed to support two of the six goals of Arkansas Tech's general education requirements. These goals are to "*think critically*", and "*apply scientific and quantitative reasoning*". Classroom and laboratory lectures, exercises, and exams are specifically designed to assist the student in meeting these goals.