Northwest Arkansas Community College

(Science and Mathematics Division)

Discipline Code
GEOL

Course Number
1114H

Course Title
General Geology, Honors

Catalog Description
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. Global Positioning System (GPS) fieldwork techniques introduced. The hours of lecture and 3 hours of laboratory weekly, including field trips. This is an honors course. Please refer to the NWACC Honors Program section in the current catalog for more information.

Prerequisites
None

Credit Hours
4 credit hours

Contact hours
45 lecture contact hours; 45 lab contact hours

Load hours
5 load hours

Semesters Offered
Spring

ACTS Equivalent
GEOL1114 Physical Geology

Grade Mode
A-F

Learning Outcomes
Students completing this course will:

- Use the scientific method in the study of geology.

- Demonstrate a foundation in geology prerequisite for higher level geology course, including concepts of geologic time and dating and how various aspects of plate tectonic theory shape the continents and ocean basins.
- Relate geological principles such as earthquakes and seismology to issues of societal relevance.
- Identify geological processes and underlying structures resulting in different types of landforms.
- Identify geological processes resulting in different types of rocks and soils.
- Identify common rocks and minerals.
- Exhibit a working knowledge of how to read and interpret topographical maps and aerial and satellite images.
- Demonstrate the ability to utilize Global Positioning Systems.
- Explain the occurrence and distribution of metal, nonmetal, and energy resources.

General Education Outcomes Supported

- Students can achieve mathematical literacy.
- Students can write clear, coherent, well-organized documents.

Honors Outcomes

Honors classes (and the Honors Program) promote the following core values:

- Community - Students will demonstrate civic engagement through Service Learning and exploration of local, national, and global communities
- Curiosity - Students will cultivate personal and intellectual curiosity through investigation, discussion and scholarship
- Diversity - Students will explore multiple perspectives through interdisciplinary learning.

Standard Practices

Topics list:

- Basic chemistry of mineral compounds
- Composition, formation, and characteristics of igneous, sedimentary, and metamorphic rocks
- Earthquakes
- Seismology
- Weathering and soil formation
- Geologic structures
- Continental drift, sea floor spreading, and plate tectonics
- Effects of surface water, wind, and ground water
- Geologic time and dating
- Interior of the earth
- Ocean basins and their margins
- Geologic resources
- Scientific method/inquiry
- Mass wasting
- Glacial processes
- Coastline processes

Learning activities

- Courses must, at a minimum, cover the core learning outcomes for each topic. Faculty may add to these outcomes, but may not omit any of them.
- Laboratory exercises should average between 2-3 hours a week and include rock and mineral properties and identification, utilization of remote sensing resources, collection of GPS data, and reading & interpreting topographic maps.

- Lab safety orientation and enforcement of safety protocols is the responsibility of each faculty. A standard lab safety PowerPoint is provided to faculty for training. Scoring 100% on a mandatory department-provided lab safety quiz is required before students may participate in lab.

Assessments

- Students submit a paper contrasting geologic activities at convergent, divergent, and transform tectonic plate boundaries, including plate motion, type of extrusive rocks, and examples. Grammatical and spelling accuracy of the paper is assessed in addition to the geologic accuracy.
- Students answer ten multiple choice questions, usually as part of their final exam, assessing their ability to identify geological processes and underlying structures resulting in different types of landforms. The questions are selected and approved by geology faculty.

Grading guidelines

- Lab activities/exams should comprise approximately 25% of the overall grade.
- For lab practical exams, over 50% of the lab stations should include exhibits and tests performed in lab rather than images. Any images used on practical exams should be of lab exhibits or test results.

Revision Date

February 7, 2022

GEOL 1114H

Degrees affected:

AA
AA – CAST
AA – Elementary Education (UA Transfer)
AA – Global Studies
AA – Bachelor of Arts History
AA – Human Resource & Workforce Dev (UA)
AA – Secondary Education
AA – Special Education
AA - Teaching

AS – LAS
AS – LAS Art History
AS – LAS Business Education (UA, Fayetteville)
AS – LAS Child Advocacy Studies
AS – LAS Elementary Education (UA, Fayetteville)
AS – LAS Environmental Science (ATU)
AS – LAS Family & Consumer Science Education
AS – LAS BA History (UA, Fayetteville)
AS – LAS Global Studies
AS – LAS Human Resource & Workforce Development (UA)
AS – LAS Pre-Engineering General Transfer
AS – LAS Pre-Engineering UA Transfer
AS – LAS Secondary Education Social Sciences (UA, Fayetteville)
AS – LAS Visual Art

AS – AFLS

AS – Business, General Transfer
AS – Business, General Transfer Business Management (ATU)
AS – Business, General Transfer Business Data Analytics (ATU)
AS – Business Administration
AS – Business Administration WCOB-Information Studies
AS – Business Administration UA Walton College of Business Transfer
AS – Business, General Transfer Business Digital Marketing (ATU)

AAS – Environmental Regulatory Science

AAS – Environmental Regulatory Science Environmental Management

TC – Environmental Management & Regulatory Science