

**SOUTHEAST COMMUNITY COLLEGE  
DIVISION OF ARTS AND SCIENCES**

**Sciences**

**Revision Date: 07-01-23**

**I. CATALOG DESCRIPTION**

Course Number: GEOL1010

Course Title: Physical Geology

Prerequisite(s): None

Catalog Description: The course covers the composition of the solid Earth and the complex interaction between the Earth interior and surface with the atmosphere, hydrosphere, cryosphere, and biosphere. This course will explore the formation of the early earth and planets, plate tectonics, the internal structure of the earth, rocks and minerals, earthquakes, volcanoes, surficial earth processes, geologic time, structural geology and mountain building, energy and mineral resources, oceans and coast, glaciers, and global change.

Credit Hours: 4.0

Class Hours: 45

Lab Hours: 30

Total Contact Hours: 75

**II. COURSE OBJECTIVES: *Course will:***

A. Explain surficial earth processes to students.

B. Explain internal earth processes to students.

C. Teach students how to read topographic maps, geologic maps, and aerial photographs.

D. Explain what is going on in the physical world through topical lectures and by having students research current event news articles dealing with the environment and geology.

**III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES**

A. Student Learning Outcomes: *Student will be able to:*

1. Identify minerals and rocks, read a variety of types of topographic maps dealing with varying earth processes, understanding stream flow, earthquakes, volcanoes, and surficial processes.

2. Understand and explain the theory of plate tectonics, earthquakes and seismology, structural geology, how deserts form, features and structures of shorelines and the ocean floor, how glaciers form and rework the surface of the earth, interpretation of geologic time, and how groundwater and surface water interact.

B. General Education Learning Outcomes

1. GELO #3: Critical Thinking & Problem Solving

Outcome: Collect, identify, interpret and analyze data.

Outcome: Synthesize information to arrive at reasoned solutions to problems.

Outcome: Evaluate ideas presented in writing, media, speech, or artistic presentations.

Outcome: Evaluate the validity of arguments, alternatives, data, outcomes, and/or impacts of actions.

2. GELO #5: Analytical, Quantitative, and Scientific Reasoning

Outcome: Manipulate formulas, data sets, graphs, tables, etc. in a way to produce a meaningful outcome.

**IV. CONTENT/TOPICAL OUTLINE (*course outline may provide more detailed information*)**

A. Minerals

B. Igneous, Sedimentary, & Metamorphic Rocks

- C. Surficial Earth Processes (Weathering, rivers, glaciations, volcanoes, mass movement, climate change)
- D. Shorelines/Ocean floor
- E. Geologic time
- F. Internal earth processes (earthquakes, earth's interior, plate tectonics, & mountain building)

## V. INSTRUCTIONAL MATERIALS

- A. Required Text(s):
  - 1. Marshak, Stephen. *Earth: Portrait of a Planet*, 6<sup>th</sup> ed., W.W. Norton, 2019. ISBN: 9780393665512.
  - 2. Wilkerson, M.S., Wilkerson, M.B., Marshak, S., *Geotours Workbook*, 2<sup>nd</sup> ed., W.W. Norton, 2017. ISBN: 9781324000969.

## VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:
  - 1. Assignments
  - 2. Current events
  - 3. Power points

## VII. METHODS OF EVALUATION

- A. Methods of evaluation typically include a combination of the following:
  - 1. Lecture
  - 2. Labs
  - 3. Exams
  - 4. Assignments
- B. SCC GRADING SCALE
 

|    |        |    |       |   |            |
|----|--------|----|-------|---|------------|
| A+ | 95-100 | C+ | 75-79 | F | 59 or less |
| A  | 90-94  | C  | 70-74 |   |            |
| B+ | 85-89  | D+ | 65-69 |   |            |
| B  | 80-84  | D  | 60-64 |   |            |

## VIII. SPECIFIC COURSE REQUIREMENTS

- A. None.