GEOL C105: GENERAL GEOLOGY

Item	Value
Curriculum Committee Approval Date	10/06/2023
Top Code	191400 - Geology
Units	3 Total Units
Hours	54 Total Hours (Lecture Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Grading Policy	Standard Letter (S), • Pass/No Pass (B)
Local General Education (GE)	• CL Option 1 Natural Sciences (CB1)
California General Education Transfer Curriculum (Cal-GETC)	• Cal-GETC 5A Physical Science (5A)
Intersegmental General Education Transfer Curriculum (IGETC)	• IGETC 5A Physical Science (5A)
California State University General Education Breadth (CSU GE-Breadth)	• CSU B1 Physical Science (B1)

Course Description

Formerly: GEOL C100. An introduction to the principles of geology with emphasis on Earth processes. This course focuses on the internal structure and origin of the Earth and the processes that change and shape it. Transfer Credit: CSU; UC: UC Credit Limitations: GEOL C105, C105L and GEOL C106 combined: maximum credit, 4 units. C-ID: GEOL 100.**C-ID:** GEOL 100.

Course Level Student Learning Outcome(s)

1. Use the major concepts and theories of geology to explain common geological features and processes.
2. Support opinions and ideas through effective written and/or verbal communication using appropriate research, observations, reasoning, and the scientific method.
3. Critically analyze and evaluate information to make informed decisions about environmental issues and/or current events using the principles and methods of geology and the scientific method.

Course Objectives

- 1. Explain the scientific method.
- 2. Demonstrate a conceptual understanding of fundamental concepts, principles, and interactions of Earths systems applicable to the Geological Sciences.
- 3. Apply understanding of the internal and external processes that shape and form the Earth.
- 4. Demonstrate an understanding of the rock cycle and identify and describe the basic properties of rocks and minerals.
- 5. Demonstrate an understanding of plate tectonics and Earths resources.
- 6. Demonstrate an understanding of how geological environments are formed, changed and eroded through geological time.
- 7. Communicate complex course concepts effectively in writing and diagrams and apply critical thinking and problem solving skills to make informed decisions in life.

Lecture Content

The Scientific Method History of Geology Plate Tectonics and the Rock Cycle Earthquakes Minerals Volcanism and Igneous rocks Weathering, Sediment and Sedimentary Rocks Metamorphism and Metamorphic Rocks Soils Mountain Building and Geologic Structures Geologic Time Relative and Absolute Dating Fossils and Fossilization Mass Wasting and Erosion Groundwater Oceans and Coastlines Deserts Glaciers Earths Natural Resources

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)
- Video one-way (ITV, video) (63)

Instructional Techniques

Lecture, discussion, question-and-answer sessions, small-group problem solving, and case-study reviews based on real-life situations. Classroom instruction will be supplemented, where appropriate, by PowerPoint presentations, use of Internet technology, guest speakers, and field trips.

Reading Assignments

Several textbook chapters are assigned each week. There are also library and/or web-based reading assignments.

Writing Assignments

Report on the geology of a National Park or other geologically significant area; Written responses to guiding questions, media, and guest speakers.

Out-of-class Assignments

Practice exercises on various theories and lesson content; review tutorials on the more challenging concepts; and conduct library and/or web-based research.

Demonstration of Critical Thinking

Exam and essay guiding questions require knowledge of several concepts to be applied to reach a conclusion and select/present the correct response.

Required Writing, Problem Solving, Skills Demonstration

Analysis of landscapes; reviews of expert interviews; responses to guiding questions; presentations and responses to content presented by others may be assigned

Eligible Disciplines

Earth science: Masters degree in geology, geophysics, earth sciences, meteorology, oceanography, or paleontology OR bachelors degree in geology AND masters degree in geography, physics, or geochemistry OR the equivalent. Masters degree required.

Textbooks Resources

1. Required Plummer, C.; Carlson, D.; Hammersley, L. Physical Geology, 17th ed. McGraw Hill, 2022 2. Required Marshak, S. Essentials of Geology, 7th ed. W.W. Norton, 2022

Other Resources

1. Coastline Library