



GEOL 010 - Introduction to Geology

DIVISION/DEPARTMENT: COA - Science, Technology, Engineering, and Mathematics / A - PHYSICAL SCIENCES

ORIGINATOR: Olds, Eric Peter

BOARD OF TRUSTEES APPROVAL DATE: 06/05/2021

STATE CONTROL #: CCC000359722

STATE APPROVAL DATE: 09/27/2010

CURRICULUM COMMITTEE APPROVAL DATE: 04/06/2021

REQUISITE VALIDATION:

CURRENT EFFECTIVE DATE: 08/01/2021

1. REQUESTED CREDIT CLASSIFICATION:

COURSE TYPE: D - Credit - Degree Applicable

CB08 BASIC SKILL STATUS (PBS STATUS): N - Not Basic Skills

CB24-PROGRAM COURSE STATUS: 1 - Program Applicable

2. DEPT/COURSE NO:

GEOL 010

3. COURSE TITLE:

Introduction to Geology

4. COURSE:

COA Course Changes only in Non-Catalog Info

TOP NO.: 1914.00 - Geology

5. UNITS:

Variable No

Units (Min) 3.000

Min Total

Lecture Hours (Min) 3.000

52.5

Lab/Studio/Activity Hours (Min)

0

Units (Max) 0.000

Max Total

Lecture Hours (Max) 0.000

0

Lab/Studio/Activity Hours (Max)

0

6. SELECTED TOPIC:

NO. OF TIMES OFFERED AS SELECTED TOPIC:

AVERAGE ENROLLMENT:**7. JUSTIFICATION FOR COURSE:**

Prerequisite for careers in environmental science, geology, geography, archaeology and earthquake engineering. Introduces liberal arts students to Earth structure and materials, natural resources, natural hazards, as well as California and Bay Area geology. Meets physical science requirement.

8. COURSE/CATALOG DESCRIPTION:

Introduction to Earth structure, materials and how the Earth works with an emphasis on plate tectonics. Topics include deep time, minerals, origin and context of igneous, sedimentary and metamorphic rocks, volcanism, earthquakes, weathering and erosion, water and environmental issues.

9. OTHER CATALOG INFORMATION:

a. **Modular:** No

If yes, how many modules:

b. **Open entry/open exit:** No

c. **Grading Policy:** Both Letter Grade or Pass/No Pass

d. **Eligible for credit by Exam:** Yes

e. **Repeatable according to state guidelines:** No

f. **Required for degree/certificate (specify):** Existing

g. **Meets GE/Transfer requirements (specify):** AA/AS area 1; CSU area B1; IGETC area 5

h. **C-ID Number:**

Expiration Date:

i. **Are there prerequisites/corequisites/recommended preparation for this course?** No

10. LIST STUDENT PERFORMANCE OBJECTIVES (EXIT SKILLS):

1. Differentiate the three plate boundary types and their connection with earthquakes and volcanoes.
2. Examine and identify rocks in the classroom and in the field and say something about their origin.
3. Diagram the overall layered structure of the Earth.
4. Describe the geology and plate tectonic environment of California and the Bay Area.
5. Interpret geologic graphs, diagrams, and maps.
6. Develop appreciation for geologic time and the Earth's age.

11. COURSE CONTENT:**LECTURE CONTENT:**

LECTURE CONTENT: List Percents

20% Plate tectonics: How the Earth works.

20% Rocks and minerals.

20% Volcanism: Especially plate boundary context of various types of volcanism.

15% Sediments and stratigraphy: Weathering, erosion and deposition processes producing sedimentary rock.

15% Structure, faulting, earthquakes and mountain building and metamorphism.

10% Deep time.

LAB CONTENT:

N/A

12. METHODS OF INSTRUCTION:

- Discussion
- Distance Education
- Field Trips
- Lecture
- Other (Specify)
- Field Experience
- Activity
- Observation and Demonstration
- Critique
- Visiting Lecturers
- **Other Methods:** Google Earth exercises YouTube videos Websites and other supplementary materials
Online homework. Textbook readings Discussions Optional projects

13. ASSIGNMENTS:

Out-of-class Assignments (List all assignments, including library assignments. Requires two (2) hours of independent work outside of class for each unit/weekly lecture hour. Outside assignments are not required for lab-only courses, although they can be given.)

Override Outside Class Hours: No

Outside-of-Class Hours (Min): 6.000

Outside-of-Class Hours (Max): 0.000

Override Outside-of-Class Hours (Min): 0.000

Override Outside-of-Class Hours (Max): 0.000

Out of class Assignment:

Six hours per week of textbook reading, preparation for quizzes, online homework, field trip reports.

14. STUDENT ASSESSMENT:

- ESSAY (Includes "blue book" exams and any written assignment of sufficient length and complexity to require students to select and organize ideas, to explain and support the ideas, and to demonstrate critical thinking skills.)
- COMPUTATION SKILLS
- NON-COMPUTATIONAL PROBLEM SOLVING (Critical thinking should be demonstrated by solving unfamiliar problems via various strategies.)
- SKILL DEMONSTRATION
- MULTIPLE CHOICE
- **Other:** Online homework Class and field trip participation Quizzes

15. TEXTS, READINGS, AND MATERIALS:

A. Textbooks:

Stephen Marshak. *Essentials of Geology*. 5 edition Norton, 2016.

Scott Wilkerson, Beth Wilkerson, Stephen Marshak. *GEOTOURS Workbook* Norton.

OER Texts as they become available

Field Guides as available

*Date is required: Transfer institutions require current publication date(s) within 5 years of outline addition/update.

B. Additional Resources:

Library/LRC Materials and Services:

The instructor, in consultation with a librarian, has reviewed the materials and services of the College Library/LRC in the subject areas related to the proposed new/updated course

Print Materials were reviewed? Yes

Non-Print Materials were reviewed? Yes

Online Materials were reviewed? Yes

Services were reviewed? Yes

Specific materials and/or services needed have been identified and discussed. Librarian comments:

Please provide a list of recent, recommended supplementary (non-textbook) titles to a COA librarian.

C. Readings listed in A and B above are:

Primarily college level

16. DESIGNATE OCCUPATIONAL CODE:

CB09 SAM Code: E - Non-Occupational

17. LEVEL BELOW TRANSFER:

CB21 Levels Below Transfer: Y - Not applicable

18. CALIFORNIA CLASSIFICATION CODE:

CB11 California Classification Codes: Y - Credit Course

19. NON CREDIT COURSE CATEGORY:

Y - Not Applicable, Credit course

20. FUNDING AGENCY CATEGORY:

CB23 Funding Agency Category: Y - Not Applicable (funding not used to develop course)

REQUISITES AND ADVISORIES: