GEOL 102. Introduction to Geology. 4 units
2020-21 or later catalog: GE Area B1
2019-20 or earlier catalog: GE Area B3
Processes responsible for the Earth's minerals, rocks, and structure surface features. Volcanism; mountain building; plate tectonics; weathering. Erosion and deposition by streams, glaciers, wind and waves. Geological resources, earth hazards, and interaction of man with global processes. 3 lectures, 1 discussion. Fulfills GE Area B1 (GE Area B3 for students on the 2019-20 or earlier catalogs).

GEOL 200. Special Problems for Undergraduates. 1-2 units
Prerequisite: Consent of department chair.
Individual investigation, research, studies, or surveys of selected problems. Total credit limited to 4 units, with a maximum of 2 units per quarter.

GEOL 201. Physical Geology. 3 units
Prerequisite: MATH 119.
Processes responsible for the Earth’s rocks, structural surface features, geologic hazards, and natural resources, with emphasis on interactions with human activities. 3 lectures.

GEOL 203. Fossils and the History of Life. 4 units
2019-20 or earlier catalog: GE Area B5

GEOL 205. Earthquakes. 4 units
2020-21 or later catalog: GE Area B1
2019-20 or earlier catalog: GE Area B3

GEOL 241. Physical Geology Laboratory. 1 unit
Corequisite: GEOL 102 or GEOL 201.
Properties and identification of minerals and rocks. Topographic maps and landform analysis. Geologic maps and interpretation of rock structure. 1 laboratory.
GEOL 400. Special Problems for Advanced Undergraduates. 1-2 units
Prerequisite: Consent of department chair.

Individual investigations, research, studies, or surveys of selected problems. Total credit limited to 4 units, with a maximum of 2 units per quarter.

GEOL 401. Field-Geology Methods. 4 units
Prerequisite: GEOL 102 or GEOL 201, GEOL 241, GEOL 415, ERSC 223, ERSC 323.

Collecting and interpreting field-geologic data. Description of sedimentary rocks and construction of stratigraphic columns. Mapping geologic structures in the field. Surficial geologic stratigraphy and surficial geologic mapping. Understanding geologic processes through field study. Communicating results of field study. 1 lecture, 3 activities. Crosslisted as ERSC/GEOL 401.

GEOL 402. Geologic Mapping. 4 units
Prerequisite: ERSC/GEOL 401.

Bedrock geologic mapping on topographic maps and aerial photos. Surficial geologic mapping on topographic maps and aerial photos. Correlating and defining surficial geologic map units on the basis of soil development. Understanding landscape evolution using soil development. 4 activities. Crosslisted as ERSC/GEOL 402.

GEOL 404. Research Experience for Advanced Undergraduates. 1-2 units
CR/NC
Prerequisite: Consent of department chair.

Individual investigations, research, studies, or surveys of selected problems. Credit/No Credit grading only. Total credit limited to 4 units, with a maximum of 2 units per quarter.

GEOL 415. Structural Geology. 4 units
Prerequisite: GEOL 241 and ERSC 223.

Recognition, interpretation, and depiction of geological structures. Understanding rock deformation through the study of faults and folds. 3 lectures, 1 laboratory. Required weekend field trips.

GEOL 420. Applied Geophysics. 3 units
Prerequisite: GEOL 201 and PHYS 141.

Introduction to geophysical exploration of the shallow subsurface: seismic refraction, seismic reflection, electrical resistivity, magnetic and gravity methods. Application to determination of subsurface structure, groundwater and mineral resources. Field trip required. 2 lectures, 1 laboratory.

GEOL 470. Selected Advanced Topics. 1-4 units
Prerequisite: Consent of instructor.

Directed group study of selected topics for advanced students. Open to undergraduate and graduate students. The Class Schedule will list topic selected. Total credit limited to 8 units. 1 to 4 lectures.

GEOL 471. Selected Advanced Laboratory. 1-4 units
Prerequisite: Consent of instructor.

Directed group laboratory study of selected topics for advanced students. Open to undergraduate and graduate students. The Class Schedule will list topic selected. Total credit limited to 8 units. 1 to 4 laboratories.