

**110. Paleontology (3)**

For geology and biology majors. Prerequisite: Geol 2, and either Biol 1B or Zool 1; or permission of instructor. Structures and development of prehistoric animals; invertebrates and index fossils. May include field trips. (2 lecture, 3 lab hours)

**111. Stratigraphy (3)**

Prerequisite: Geol 2, 101, or permission of instructor. Principles of stratigraphy and of sedimentation as applied to stratigraphy; features, arrangements, fossils, age and distribution of major rock formations of North America. May include field trips.

**112. Optical Mineralogy (3)**

Prerequisite: Geol 13 or permission of instructor. Optical properties of minerals; identification of selected minerals by optical methods. Manipulation and use of petrographic microscope. (2 lecture, 3 lab hours)

**113. Microscopic Petrography (3)**

Prerequisite: Geol 101, 112. Problems of classification of rocks; thin section study with petrographic microscope of igneous, sedimentary, and metamorphic rocks. (2 lecture, 3 lab hours)

**115. Economic Geology (3)**

Not open to students with credit in Geol 115A. Prerequisite: college chemistry, geology major with senior standing; or permission of instructor. Common earth materials essential in industry; geology, mineralogy, origin, distribution, occurrence, extraction, methods of refining, uses. May include field trips.

**116. Petroleum Geology (3)**

Prerequisite: Geol 101, 106. Theories of origin of petroleum, petroleum structures, prospecting, extraction methods; selected petroleum fields. May include field trips.

**117. Ground Water (2)**

Prerequisite: senior standing or permission of instructor. Geologic and hydrologic factors related to occurrence and utilization of ground water.

**118. Geological Maps (2)**

Prerequisite: Geol 106 or permission of instructor. Interpretation of geologic maps; advanced problems in structural geology; stereographic net; structural interpretation from aerial photographs. (1 lecture, 3 lab hours)

**120. Climatology (3)**

Prerequisite: Geol 20 or equivalent. Climates of the earth and their significance to man.

**130. Geological Literature (2)**

Prerequisite: geology major or minor. Primary and secondary source materials; literary background of geology.

**189. Geology of California (2)**

Prerequisite: Geol 1, or Geog 1, or permission of instructor. Origin of geological features of the State; relation of structural, stratigraphic, and mineralogical conditions to geologic features and resources of the State.