

# GEOLOGY (GEOL)

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## Courses

### **GEOL 505 ENVIRONMENTAL GEOLOGY (4)**

Earth's natural surface systems (hydrologic, atmospheric and climatic): causes and extent of human modifications; potential solutions to resulting problems. Introduction to standard field and laboratory methods in environmental geology. Field trips required. Three lecture hours and three lab hours. Prerequisite: GEOL 121.

### **GEOL 515 HYDROGEOLOGY (4)**

Geologic aspects of ground water; origin, occurrence and movement. Field trips required. Prerequisites: CHEM 132/ CHEM 132L (CHEM 111), PHYS 211 or 241. Recommended: GEOL 321 and GEOL 443. Lab/Class fee will be assessed.

### **GEOL 521 STRUCTURAL GEOLOGY (4)**

The identification and analysis of tectonic forms to determine the physical conditions of formation and the context of historical geological events in which they occur. Three lecture hours and three laboratory hours. Field trips required. Prerequisites: GEOL 121 and PHYS 211 or equivalent.

### **GEOL 531 MINERALOGY (4)**

The study of minerals with emphasis on crystallography, crystal chemistry and chemical-structural classification. Laboratory identification of minerals both in hand specimen and thin section by application of principles of optical mineralogy, by chemical analysis, and by X-ray diffraction analysis. Three lecture hours and 3 laboratory hours. Prerequisites: GEOL 121 and CHEM 131/CHEM 131L (CHEM 110).

### **GEOL 533 PETROLOGY OF IGNEOUS AND METAMORPHIC ROCKS (4)**

Study of the properties and genesis of two major rock groups. Megascopic and microscopic techniques in rock classification. Environments of formation. Case studies from the Maryland Piedmont. Three lecture hours and three laboratory hours. Prerequisite: GEOL 331.

### **GEOL 543 SEDIMENTOLOGY AND STRATIGRAPHY (4)**

Production, transport and deposition of sediments and sedimentary bodies for the development of facies models useful in interpretation of the stratigraphic records. Prerequisite: GEOL 121 and CHEM 131/ CHEM 131L (CHEM 110). Not open to students who have successfully completed PHSC 443.

### **GEOL 557 PHYSICAL OCEANOGRAPHY (3)**

Physical, chemical and geologic characteristics of ocean basins, boundaries and sea water including origin and behavior of waves and currents. Prerequisite: PHYS 211 or PHYS 241 and CHEM 131 / CHEM 131L (CHEM 110), or consent of instructor.

### **GEOL 570 SPECIAL TOPICS IN GEOLOGY (1-4)**

The study of special topics in the Geosciences. Special topics will be determined by their need for study and relevance to existing courses. May be repeated for a maximum of 6 units provided a different topic is covered. Special permit required.