

# Geology

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## **GL100 Introduction to Earth Science**

**Cr-4**

This course is intended for non-science major students. It provides an introduction to the primary components of Earth science: oceanography, meteorology, geology, and astronomy.

## **GL101 Physical Geology**

**Cr-4**

This course explores the composition and formation of minerals and rocks that make up the Earth. Additionally, the primary surface and subsurface properties that continually shape the Earth are discussed. In the laboratory, the common rock-forming minerals as well as igneous, sedimentary, and metamorphic rocks are examined. Additionally, the concepts of surface and groundwater flow are discussed as well as topographic map interpretation and construction. Field trips may be taken during laboratory periods.

## **GL102 Historical Geology**

**Cr-4**

This course explores the physical and biological aspects of the Earth's dynamic past over the last 4.6 billion years of its existence. Emphasis is placed on the geologic time scale, the concepts of physical and biological evolution, and plate tectonics. Laboratory topics include fossilization and taphonomy as well as the biological evolution and diversity of the Earth's organisms through identification and examination of fossil specimens. Field trips may be taken during laboratory periods. An end-of-semester visit to the American Museum of Natural History in Manhattan is encouraged. Prerequisite: GL101 Physical Geology.

## **GL201 Introduction to Field Geology**

**Cr-2**

This course provides students the opportunity to experience various aspects of field geology. It consists of two full weeks of geology immersion with an additional week of travel to and from Colorado and New Mexico. Students work in the field with topographic maps for navigation and observation purposes. Geologic features are identified and background knowledge is applied to explain the development and formation of said geologic features. Full days are spent in the field as the students hike through changing geology constantly applying their knowledge along the way.

## **GL202 Earth Science for Childhood Education Majors**

**Cr-4**

This course is an exploration of Earth Science for students enrolled in the SUNY Oneonta Childhood Education transfer program. Instruction emphasizes learning through inquiry. Content is consistent with the core ideas and learning outcomes prescribed by the Earth and Space Sciences (ESS) core standards, grades 1-6, of the Next Generation Science Standards (NGSS), and the National Science Teachers' Association (NSTA). Lecture along with individual and collaborative laboratory activities illustrate various Earth and planetary science phenomena and topics. (Spring only offering).

## **GL203 Topics in Geology: A Tectonic History of North America**

**Cr-4**

This course explores the orogenic history of the earth and the tectonic events that shaped the planet, North America, and a selected focus locality in the United States. The laboratory portion of this course includes an embedded, post-semester 18 day field work experience at selected sites. The laboratory portion of this course involves rigorous physical activity. Please see the "course policies" for further discussion of this activity and accessibility. Topics include orogenic uplift, subduction mechanics, island arc formation, tectonism, primary sedimentary features, deformation processes, erosional features, and depositional environments. This course has a lab fee to cover the costs associated with travel. Prerequisite: GL 101 Physical Geology Corequisite: PE 151 Personal Fitness.