



## **CURRICULUM GUIDE 2012-2013**

### **GEOLOGY**

#### **Associate in Science in Geology**

The Associate in Science in Geology offered by Ohlone College is designed to prepare students for studying Geology at most universities. The core courses required in the Associate in Science in Geology will fulfill the lower division requirements for most campuses of the UC and CSU systems. This program will enable students to develop a strong foundation in geology, physics, chemistry, and mathematics. Furthermore, the theoretical knowledge and laboratory skills acquired by students in this program will also enhance their success with obtaining entry-level jobs that require two years of college-level science and math.

Since some curriculum requirements may vary among transfer universities, it is imperative that students entering Ohlone's Associate in Science in Geology meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to transfer to the university of their choice. Counselors will also advise students on the General Education plan that best prepares them for future transfer.

#### **Requirements for Associate in Science Degree:**

- a) Complete the Major Field courses with a grade of C or better.
- b) Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- c) Complete at least 60 degree-applicable units with a 2.0 grade point average.
- d) Complete at least 12 units at Ohlone College.
- e) Complete at least 50% of the Major Field courses at Ohlone College.
- f) Complete GEOL-101, GEOL-102/102L, and GEOL-103/103L at Ohlone College.

#### **Student Learning Outcomes**

1. Demonstrate scientific literacy by defining and explaining the major steps in the scientific method of investigation, specifically the difference between empirical data, interpretation, testable hypothesis, theory, paradigm, speculation, and pseudo-science.
2. Apply general math skills such as unit conversion, ratios, and percentages to solving simple rate problems; evaluate data, produce, and interpret tables and graphs; apply the metric system of measurement.
3. Demonstrate an understanding of the geologic time scale and methods of measuring geologic time.
4. Identify and classify the common earth materials, such as most common minerals, rocks, and fossils in the lab and in the field and their basic relationship to common natural resources.

- List, explain, and evaluate global and local (county-wide) geological hazards such as earthquakes, volcanoes, landslides, and seismic sea waves in terms of appropriate geological processes and the theory of plate tectonics.

**MAJOR FIELD**

CHEM-101A	General Chemistry	5
CHEM-101B	General Chemistry	5
GEOL-101	Introduction to Geology	4
MATH-101A	Calculus with Analytic Geometry	5
MATH-101B	Calculus with Analytic Geometry	5
MATH-101C	Calculus with Analytic Geometry	5
PHYS-140	Mechanics	4

Select one of the following course combinations:		4
GEOL-102	Introduction to Oceanography AND	(3)
GEOL-102L	Oceanography Laboratory OR	(1)
GEOL-103	Paleontology and Dinosaurs AND	(3)
GEOL-103L	Earth History and Paleontology Laboratory	(1)

Select one of the following Physics courses:		4
PHYS-141	Electricity and Magnetism OR	(4)
PHYS-142	Optics, Heat, and Modern Physics	<u>(4)</u>
Total Required Units:		41

**RECOMMENDED COURSES**

The following courses are recommended because they are required in the lower division of some baccalaureate-granting universities:

BIOL-101A	Principles of Biology--Molecular and Cellular	(5)
BIOL-101B	Principles of Biology--Organisms and Systems	(5)
MATH-103	Introduction to Linear Algebra	(3)
MATH-104	Differential Equations	(5)
MATH-159	Introduction to Statistics	(5)