

EARTH SCIENCES

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OVERVIEW

Earth Sciences is comprised of the diverse disciplines of Earth Science, Environmental Science, Geography, and Geology. We use the scientific method to understand Earth and its inhabitants on numerous spatial and temporal scales. Students will recognize and explain fundamental Earth science principles; obtain data from online, library, and field experiences; and obtain technical vocabulary and skills. Earth Sciences courses are intended for both majors and general education, providing opportunities for students to meet Physical Science and Social Science CSU/UC transfer requirements. Our transfer students are represented at CSU, UC, and private universities throughout California and beyond.

Department resources include ArcGIS software, minerals, rocks, fossils, maps, and access to a district-owned 250-acre ecological reserve.

Geography is best described as a “spatial science” in that it employs the use of maps and spatial analysis to understand the world. Introductory courses explore both physical and human patterns via spatial analysis. These components of physical geography (Earth’s weather, climate, and landforms) and cultural geography (population, migration, culture, and industry) are synthesized in courses on the geography of California, and soon-to-come mapping and fieldwork courses.

Geologists study the solid Earth, including Earth materials, Earth history, and the internal and external Earth processes. Earth scientists study the components of the Earth system and their interactions, including the geosphere, hydrosphere, and atmosphere.

PROGRAMS OFFERED

AWARD	AWARD TYPE	ACADEMIC PLAN	GE	MAJOR UNITS	FA*
Geography	AA-T	C040897G	IGETC/CSUGE	21	Y
Geology	AS-T	C039789H	IGETC/CSUGE	28	Y

*FA = Financial Aid Eligible. Yes = Eligible for all aid.
No = Ineligible for Federal Pell and Cal Grant, FSEOG, Federal Work-Study, and Federal Loans. Please consult with Financial Aid Office on award eligibility.

Geography

Associate in Arts (AA-T) Degree

Major Units: 21

Total Units: Minimum of 60

(State Code: 40897; TOP Code: 220600; Academic Plan: C040897G)

The Associates in Arts in Geography for Transfer degree is designed to meet the minimum requirements for transfer to a California State University (CSU) Bachelor of Arts Degree program in Geography. The transfer degree assures foundational preparation for transfer opportunities at California State Universities as students pursue a degree in Geography or a related field.

The Geography ADT provides students a transfer curriculum focused on the integration of Physical (GEOG 1) and Cultural (GEOG 2) Geographic knowledge with a spatial perspective that is useful in identifying, understanding, and solving problems of local, regional, and global importance. The degree provides students an opportunity to gain experience gathering, analyzing, and displaying spatial data. Field and map courses weave research design and the scientific method to complement the technical skills learned. Both Physical and Social Sciences are integrated into a framework to apply critical Geographic thought.

The Geography coursework complements coursework in the related disciplines of Geology and Anthropology and helps students develop skills that are applicable to a wide range of careers such as: urban/regional planning, natural resource management, cartography/mapmaking, marketing consulting, epidemiological modeling, natural hazard assessment, social science research, and climatology.

Completion of this curriculum will demonstrate commitment to the field and provide comprehensive preparation for further academic study through upper-division course work. This curriculum specifically prepares the prospective transfer student for upper division coursework in Geography or a similar major at a California State University (CSU) campus. Students should consult a counselor, the Transfer Center and the catalog of the transfer college or university to plan a specific program of study to meet the college or university’s requirements.

To earn the AA-T, students must meet the following requirements:

- Completion of 60 semester units that are eligible for transfer to the California State University by completing the following:
 - The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education-Breadth (CSU GE-Breadth) requirements; and
 - A minimum of 18 semester units in a major or area of emphasis, as approved by the CCC Chancellor’s Office.
- A minimum grade point average of 2.0 or higher. Students completing this degree will have satisfied the lower division major preparation and transfer requirements for priority admission to a local CSU campus.

PROGRAM STUDENT LEARNING OUTCOMES

- Describe how physical and cultural characteristics contribute to a sense of place.
- Obtain spatial data from online sources.
- Obtain original spatial data from geographic fieldwork.
- Create testable hypotheses that integrate a spatial perspective to address social and environmental issues.
- Select and perform spatial analysis techniques in a GIS

computer environment to test hypotheses.

6. Create a map, complete with appropriate cartographic elements, that communicates spatial information.

PROGRAM REQUIREMENTS

Requirements for the Geography Associate in Arts transfer degree may be met by completing: (a) 8 units of major core courses, 7 units from "List A," and 6 units from "List B" with a grade of "C" or better; (b) all CSU GE-Breadth requirements of which Subject Areas A1, A2, A3, and B4 (The "Golden Four") must be completed with a grade of "C-" or better; (c) a minimum of 60 degree-applicable units with a cumulative grade point average of 2.0 or higher; and (d) a minimum of 12 units must be taken at LACC.

MAJOR CORE COURSES (8 UNITS)

GEOG 001	PHYSICAL GEOGRAPHY.....	3
GEOG 015	PHYSICAL GEOGRAPHY LABORATORY.....	2
GEOG 002	CULTURAL ELEMENTS OF GEOGRAPHY.....	3

LIST A: SELECT THREE COURSES (7 UNITS)

GEOG 014	GEOGRAPHY OF CALIFORNIA.....	3
GEOG 004	MAP READING AND INTERPRETATION.....	3
GEOG 020-1	GEOGRAPHIC FIELD STUDIES (MOUNTAINS).....	1

LIST B: SELECT TWO COURSES (6 UNITS)

ANTHRO 102	HUMAN WAYS OF LIFE: CULTURAL ANTHROPOLOGY.....	3
GEOLOGY 001	PHYSICAL GEOLOGY.....	3
OR ANY "LIST A" COURSE NOT ALREADY USED		

Geology

Associate in Science (AS-T) Degree

Major Units: 28 Total Units: Minimum of 60
(State Code: 39789; TOP Code: 191400; Academic Plan: C039789H)

The Geology Associate in Science transfer degree is designed to meet the minimum requirements for transfer to a California State University (CSU) Bachelor of Science Degree program in the Geological Sciences. The transfer degree assures foundational preparation for transfer opportunities at CSUs as students pursue a degree in Geology or a related field. The major provides students with a comprehensive view of the geological history of Earth and its inhabitants in the context of dynamic internal and external processes, including tectonism, formation of Earth materials, and climate systems. Students develop skills in spatial analysis, quantitative thinking, and the scientific inquiry; learn to recognize the importance and impacts of water, energy, and mineral resource production; and gain an understanding of the natural world through supportive STEM coursework. Completion of this curriculum will demonstrate commitment to the field and provide comprehensive preparation for further academic study through upper-division course work. Students should consult a counselor, the Transfer Center, and the catalog of the transfer college or university to plan a specific program of study to meet the college or university's requirements.

To earn the AS-T, students must meet the following requirements:

- a. Completion of 60 semester units that are eligible for transfer to the California State University by completing the following:

- The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education-Breadth (CSU GE-Breadth) requirements; and
 - A minimum of 18 semester units in a major or area of emphasis, as approved by the CCC Chancellor's Office.
- b. A minimum grade point average of 2.0 or higher. Students completing this degree will have satisfied the lower division major preparation and transfer requirements for priority admission to a local CSU campus.

PROGRAM STUDENT LEARNING OUTCOMES

1. Apply scientific reasoning to problem solving.
2. Employ vocabulary of geological subjects.
3. Acquire, synthesize, and interpret geological data.
4. Recognize and explain fundamental geologic principles, including plate tectonics theory, deep time, and formation of natural resources.

PROGRAM REQUIREMENTS

Requirements for the Geology Associate in Science transfer degree may be met by completing: (a) 28 units of major core courses with a grade of "C" or better; (b) all CSU GE-Breadth requirements of which Subject Areas A1, A2, A3, and B4 (The "Golden Four") must be completed with a grade of "C-" or better; (c) a minimum of 60 degree-applicable units with a cumulative grade point average of 2.0 or higher; and (d) a minimum of 12 units must be taken at LACC.

MAJOR CORE COURSES (28 UNITS)

GEOLOGY 001	PHYSICAL GEOLOGY.....	3
GEOLOGY 006	PHYSICAL GEOLOGY LABORATORY.....	1
GEOLOGY 002	EARTH HISTORY.....	3
GEOLOGY 007	EARTH HISTORY LABORATORY.....	1
CHEM 101*	GENERAL CHEMISTRY I.....	5
CHEM 102	GENERAL CHEMISTRY II.....	5
MATH 261**	CALCULUS I.....	5
MATH 262	CALCULUS II.....	5

*CHEM 060 (Introduction to General Chemistry) is a prerequisite for CHEM 101.

**MATH 260 (Precalculus) or MATH 260S (Precalculus with Support) is a prerequisite for MATH 261.