

GEOG 144 Internet Mapping and Application Development (3)

2½ hours lecture - 1½ hours laboratory

Prerequisite: A minimum grade of 'C' in GEOG 120**Transfer acceptability:** CSU; UC

Involves the design, creation, configuration, and optimization of geospatial services and applications to deliver content across the Internet. The student will construct web mapping applications with a variety of user interfaces.

GEOG 150 Geographic Information Science and Spatial Reasoning (3)

2 hours lecture - 3 hours laboratory

Prerequisite: A minimum grade of 'C' in MATH 60**Transfer acceptability:** CSU; UC

An introduction to spatial analyses and spatial distribution theories within the field of Geographic Information Science (GISci). Students will learn about fundamentals of cartography, GIS theory, global positioning systems, spatial relationships, and remote sensing in this course. Students will analyze environmental problems and the human landscape by using open-source GIS software packages to visualize, query, manipulate, and interpret temporal and spatial data.

GEOG 195 Regional Field Studies in Geography (1, 2, 3)

½, 1, or 1½ hours lecture - 1½, 2, 2½, 3, 3½, 4, or 4½ hours laboratory

Transfer acceptability: CSU; UC – Credit determined by UC upon review of course syllabus.

C-ID GEOG 160

Extended field studies of the geography of selected regions. Emphasis upon field observation and interpretation of climate, meteorology, vegetation, soils, and landforms.

GEOG 295 Directed Study in Geography (1, 2, 3)

3, 6, or 9 hours laboratory

Prerequisite: Approval of project or research by instructor**Transfer acceptability:** CSU; UC – Credit determined by UC upon review of course syllabus.

C-ID GEOG 160

Independent study for students who have demonstrated skills and/or proficiencies in geography subjects and have the initiative to work independently on projects or research outside the context of regularly scheduled classes. Students will work under the personal supervision of an instructor.

Geology (GEOL)

Contact the Earth, Space, and Aviation Sciences Department for further information.

(760) 744-1150, ext. 2512

Office: NS-110G

Associate in Science Degrees -

AS Degree requirements are listed in Section 6 (green pages).

- Geology

PROGRAMS OF STUDY**Geology**

Provides the student with sufficient background to begin upper division coursework and will prepare the student for entry-level jobs that require basic geologic knowledge. The student is advised to check with the school to which he/she may wish to transfer for additional courses which may be required.

A.S. DEGREE MAJOR**Program Requirements****Group One**

	Units
GEOG 100 Basic Geology	3
GEOG 100L Basic Geology Laboratory	1
GEOG 150 Dinosaurs and Earth History	3
GEOG 150L Dinosaurs and Earth History Laboratory	1
GEOG 195 Regional Field Studies in Geology	2

Group Two (Select at least two sets of courses listed below)**Set 1**

MATH 140 and	Calculus/Analytic Geometry, First Course	5
MATH 141	Calculus/Analytic Geometry, Second Course	4

Set 2

PHYS 120 and		
PHYS 121	General Physics	8
or		
PHYS 230 and		
PHYS 231	Principles of Physics	10

Set 3

CHEM 110	General Chemistry	3
CHEM 110L	General Chemistry Laboratory	2
CHEM 115	General Chemistry	3
CHEM 115L	General Chemistry Laboratory	2

Group Three (Select at least 8 units)

Any other courses in Group Two not taken above		8-10
GEOL 110	General Geology: National Parks	3
GEOL/		
GEOG 125	California Geology and Geography	3
GEOL 195	Regional Field Studies in Geology	1, 2, 3
GEOL 197	Geology Topics	1, 2, 3
GEOL 295	Directed Study in Geology	1, 2, 3
ASTR 100	Principles of Astronomy	3
BIOL 100	General Biology	4
MATH 205	Calculus/Analytic Geometry, Third Course	4
MATH 206	Calculus/Differential Equations	4
OCN 100	Oceanography	3
OCN 100L	Oceanography Laboratory	1
PHYS 232	Principles of Physics	4

TOTAL UNITS**35 - 38****COURSE OFFERINGS****GEOL 100 Basic Geology (3)**

3 hours lecture

Note: Together with GEOL 150, a prerequisite to upper division courses in Geology**Transfer acceptability:** CSU; UC

Principles of physical geology. Plate tectonics, rocks and minerals, weathering, mass-wasting, surface and ground water, wind, waves and currents, glaciation, mountain building, volcanoes and other igneous activity, deformation and resulting structures, earthquakes, Earth's interior, geologic time, and earth resources.

GEOL 100L Basic Geology Laboratory (1)

3 hours laboratory

Prerequisite: A minimum grade of 'C' in GEOL 100, or concurrent enrollment in GEOL 100**Note:** May be offered as a field laboratory; satisfies lab requirement in Physical Science**Transfer acceptability:** CSU; UC

Laboratory and field identification of rocks and rock forming minerals. Study of geologic processes by means of geologic and topographic maps.

GEOL 110 General Geology: National Parks and Monuments (3)

3 hours lecture

Transfer acceptability: CSU

Geologic history and processes of formation of our natural landscape. Principles of physical and historical geology as revealed in the structure, stratigraphy, and rock types of the parks and monuments.

GEOL 120 Planets, Moons, and Comets (3)

3 hours lecture

Note: Cross listed as ASTR 120**Transfer acceptability:** CSU; UC

The astronomy and geology of the solar system, observations, dynamics, relativ-

istic ideas, including theories of formation and evolution. Comparative survey of the atmospheres, surface features, and interiors of planets and satellites. Minor objects, such as comets and asteroids, will be included.

GEOL 125 California Geology and Geography (3)
3 hours lecture

Note: Cross listed as GEOG 125

Transfer acceptability: CSU; UC

Emphasizes the physical geographic and geologic factors that have combined to form the varied landscapes of California. Climate and vegetation patterns, as well as the various geomorphic processes will be studied.

GEOL 150 Dinosaurs and Earth History (3)
3 hours lecture

Prerequisite: A minimum grade of 'C' in GEOL 100, 110 or 125

Transfer acceptability: CSU; UC

Principles of historical geology. The origin and evolution of Earth and its biosphere, incorporating plate tectonics, stratigraphy, paleontology, and geologic dating. Together with GEOL 100, a prerequisite to upper division courses in geology.

GEOL 150L Dinosaurs and Earth History Laboratory (1)
3 hours laboratory

Prerequisite: A minimum grade of 'C' in GEOL 150, or concurrent enrollment in GEOL 150

Transfer acceptability: CSU; UC

Laboratory and field identification of rocks and fossils. Elements of stratigraphic methods and of vertebrate and invertebrate paleontology. Study of geologic and topographic maps in relation to earth history.

GEOL 195 Regional Field Studies in Geology (1, 2, 3)
½, 1½ hours lecture - 1½, 4½ hours laboratory

Prerequisite: A minimum grade of 'C' in GEOL 100, 110 or 125 or GEOG 100

Transfer acceptability: CSU; UC – Credit determined by UC upon review of course syllabus.

C-ID GEOG 160

Extended field studies of the geology of western North America over weekends and during vacation and summer sessions. Emphasis upon field observation and interpretation of rock types, landforms, and structure. Localities visited may vary from year to year.

GEOL 197 Geology Topics (1-3)

Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture and/or laboratory may be scheduled by the department. Refer to Class Schedule.

Note: Graded only

Transfer acceptability: CSU

Topics in Geology. See Class Schedule for specific topic offered. Course title will designate subject covered.

GEOL 295 Directed Study in Geology (1, 2, 3)

Arrange 3, 6, or 9 hours laboratory with department chairperson

Prerequisite: A minimum grade of 'C' in GEOL 150

Transfer acceptability: CSU – UC Credit determined by UC upon review of course syllabus.

Individual study in field, library, or laboratory for interested students.

German (GERM)

Contact the World Languages Department for further information.
(760) 744-1150, ext. 2390
Office: F-5

COURSE OFFERINGS

For students who have completed foreign language course work at the high school level, and need clarification regarding placement in college level course work, contact the Counseling Center. Universities have varying policies regarding the granting of transfer credit when there is a combination of high school and college level course work.

GERM 101 German I (5)

5 hours lecture - 1 hour laboratory

Note: Corresponds to two years of high school study.

Transfer acceptability: CSU; UC

This course is the first semester of German. This elementary level course is a study of the German language and German-speaking cultures, with emphasis on the development of communicative skills and basic structures. Course combines in-class instruction and practice with self-paced study in the Foreign Language Laboratory. This beginning-level course is for students with no previous course-work in German.

GERM 102 German II (5)

5 hours lecture - 1 hour laboratory

Prerequisite: A minimum grade of 'C' in GERM 101 or two years of high school German

Transfer acceptability: CSU; UC

This course is the second semester of German. This elementary level course is a study of the German language and German-speaking cultures, with continued emphasis on the development of communicative skills and basic structures. Course combines in-class instruction with self-paced study in the Foreign Language Laboratory.

GERM 201 German III (5)

5 hours lecture - 1 hour laboratory

Prerequisite: A minimum grade of 'C' in GERM 102 or three years of high school German

Transfer acceptability: CSU; UC

This course is the third semester of German. This intermediate level course is a study of the German language and German-speaking cultures, focusing on intermediate level structures and readings of culturally relevant authentic materials. Emphasis is on developing oral, listening, reading and writing skills in order to acquire proficiency in German. Class is largely conducted in German.

GERM 202 German IV (5)

5 hours lecture

Prerequisite: A minimum grade of 'C' in German 201 or four years of high school German

Transfer acceptability: CSU; UC

This course is the fourth semester of German. This intermediate level course is a study of the German language and of special topics on the culture of the German-speaking world. Emphasis is on further development of cross-cultural awareness, as well as, the development of oral, listening, reading and writing skills in order to improve communicative competence in German. Class is largely conducted in German.

Graphic Communications (GC)

See also Graphic Communications - Imaging & Publishing, and Graphic Communications - Multimedia & Web

Contact the Graphic Communications Department for further information.
(760) 744-1150, ext. 2452

Office: MD-114

For transfer information, consult a Palomar College Counselor.

COURSE OFFERINGS

GC 100 Graphic Communications (3)

3 hours lecture

Transfer acceptability: CSU

Explores the history and theory of effective mass communication from prehistoric cave art, to invention of the printing press, and modern graphic communication techniques using computers and the Internet. The class examines communication models revolving around imagery, type, delivery systems, and technology. The students will be able to understand and establish the effects of a clear visual message. Learning modules include slideshow, field trips, guest speakers, discussion, lectures and hands-on application with computers and the Internet to promote an understanding of graphic communications and visual messages and their impact on society.