



ANTELOPE VALLEY COLLEGE

Academic Affairs Office  
Course Outline of Record

**COURSE SUBJECT & NUMBER:** GEOG 101

**COURSE NAME:** \*Physical Geography: Earth's Surface Landscapes (formerly Physical Geography)

**COURSE UNITS:** 3

**COURSE HOURS:** 3

**COURSE REQUISITES:** *(Follow format of similar courses found in the college catalog.)*

Advisory: Eligibility for College Level Reading and ENGL 101 or completion of ENGL 101, and Eligibility for MATH 102.

**COURSE DESCRIPTION:** *(Write a short paragraph providing an overview of topics covered. Be sure to identify target audience—transfer, major, GE, degree/certificate, etc. If repeatable, state the number of times at end of description).*

An introduction to the processes at work shaping Earth's surfaces. Students will explore the role of plate tectonics, volcanism and earthquakes in building our landscape. Students will also examine the forces that erode and modify Earth's surfaces. The interactions between location, climates, soils and bioregions will also be explored.

**COURSE OBJECTIVES:** *(Should be stated as performance-based, measurable expected student outcomes. Use Bloom's taxonomy to formulate clear and concise objectives. These objectives are common to all students; they must be clearly related to course content, assignments, and methods of evaluation.)*

Upon completion of course, the successful student will be able to:

1. Use geographic skills to describe locations and discuss methods used to map and diagram geographic data.
2. Define science and explain how the scientific method is applied.
3. Compare and contrast applications of scientific theories associated with heat transfer and waves in creating Earth's surface landscapes.
4. Discuss the history of Earth, Earth's location in the universe and geologic time.
5. Compose a model of the interior structure of Earth.
6. Define the terms: mineral & rock and diagram the rock cycle.
7. Describe the three major categories of rocks and explain how each is formed.
8. Compare and contrast the endogenic processes shaping Earth's surface including volcanism, faulting and other tectonic activities.
9. Compare landform features created by each of the endogenic processes.
10. Evaluate impacts of the exogenic forces shaping Earth's surface including karst and limestone landscapes, rivers and fluvial action, aeolean processes, glaciation and coastal landforms.
11. Compare the erosional & depositional features resulting from the following types of geomorphic processes: karst, fluvial and aeolean processes, glaciation and coastal landforms.
12. Evaluate the spatial relationships between Earth's climates, bioregions and soils.

**COURSE CONTENT:** *(Enter course content in terms of specific topics or a specific body of knowledge that each instructor must cover. Put topics in outline form with major and minor headings. Title 5 requires that each instructor covers all material listed here.)*

**SPATIAL RELATIONSHIPS & MAP BASICS**

What is Geography?  
Defining "spatial relationships"  
Flat maps and their limitations  
Characteristics of commonly used projections  
Locations from Longitude/Latitude & Township/Range grid  
Types of maps: topographic, planimetric, GIS

**BASIC PRINCIPLES OF SCIENCE**

Science and the scientific method  
Characteristics of P & S seismic waves  
Fundamental forces of gravity, electromagnetic, and their roles in physical geography  
Methods of heat transfer including conduction, convection & radiation

**EARTH'S HISTORY**

Currently accepted scientific theory of the formation of the universe, galaxy & our solar system  
Earth's place in the solar system  
Earth's history and the foundation of the geologic time line  
Relative and absolute dating techniques  
Uniformitarianism and catastrophism

**EARTH'S COMPOSITION**

Minerals and rocks  
Rock cycle  
Formation processes of igneous, sedimentary & metamorphic rocks  
Characteristics of Earth's crust, mantle & core  
Earth's magnetic field

**SHAPING EARTH'S SURFACES:**

**THE ENDOGENIC PROCESSES**

Plate tectonics & continental drift  
Relationships of volcanism with tectonic activity and describe volcanic landscapes  
Relationships between faulting and folding and tectonic activity  
Landscapes created by folding and faulting  
Hazards these phenomenon present to humans

**THE EXOGENIC PROCESSES**

Dynamic equilibriums  
Slopes & mass wasting processes  
Aquifers & karst topography  
Erosional & depositional features created by the following land formation processes:  
Rivers and fluvial landscapes  
Desert landscape processes  
Glacial land formations  
Coastal formation processes including tides & tsunamis  
Effects of natural hazards on natural and human habitats

**CLIMATE, SOIL & BIOMES**

Koppen's climate classification system  
Soil classification systems  
Relationships between climates, soils & biomes  
Earth's changing climates & possible explanations  
Ecosystem components, energy cycles & biodiversity  
Ecosystem classification into major biome regions

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**TYPICAL READING, WRITING, AND COMPUTATIONAL ASSIGNMENTS**

*This material is necessary for all credit courses. Assignments should be clearly related to course objectives, content, and methods of evaluation. (See sample of a "Model Outline" in the AP&P Standards & Practices handbook.) Include a range of assignments (minimum of three) from which faculty may choose when designing their syllabus.*

**1. Describe nature and frequency of typical reading assignments if applicable; note if any are required:**

Students will be required to read geography text book weekly and use other sources such as reference books, periodicals for reference scientific journals, and websites to supplement assigned readings.

**2. Describe nature and frequency of typical writing assignments if applicable; note if any are required:**

Students will write short answers to questions preparing for exams. Students will take notes and answer questions describing and documenting land formation processes.

**3. Describe nature and frequency of typical computational assignments if applicable; note if any are required:**

Students will regularly use basic mathematical computations associated with mapping and analysis of geomorphic processes.

**4. If course is degree applicable/transfer, describe those critical thinking skills that are required; be sure that they reflect course objective. (Title 5 requirements can be found in the AP&P Standards and Practices book.)**

Students will analyze hazards presented by potential tectonic activity on natural and human habitats. Students will analyze predictions concerning erosion made by geomorphologists. Students will appraise potential geologic hazards facing California residents.

**5. Describe other types of assignments that students may be asked to complete:**

Students will independently observe subject matter discussed in lecture in their surrounding environment: i.e. the San Andreas Fault.

**6. For each of the above categories, describe the estimated time per week it would take a student to complete typical out-of-class assignments. Title 5 uses the Carnegie formula for establishing units using a 2:1 ratio as follows: 1 hr. lecture = 2 hrs. homework; 2 hrs. lecture = 4 hrs. homework; etc. For example: reading text—2 hours; writing reports—3 hours**

**Reading:** Students will spend three hours reading texts.

**Writing:** Students will spend three hours on writing assignments.

**Computational:** Students will spend one half hour analyzing maps of geomorphic processes.

**Other:** Students will spend one hour using the internet or doing field observations.

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**METHODS OF INSTRUCTION:** *(Methods must be consistent with content and appropriate to objectives; state in terms of what instructor will be doing in order to present course content to students.)*

Lecture and discussion are the primary methods of instruction. Instructors may also include hands-on activities, everyday examples, maps, slides, videos and other visuals to demonstrate and illustrate geographic concepts.

**METHODS OF EVALUATION:** *(These must be clearly related to course content, assignments, and objectives, in order to comply with Title 5 requirements. Describe what instructor will be looking for when evaluating assignments and tests in order to determine whether students have met course objectives. Grades must be based on demonstrated proficiency in subject matter and determined, where appropriate, by essays, objective and essay tests, research papers, problem solving exercises, or skills' demonstrations.)*

Student assessment will be based on a minimum of three exams consisting of multiple questioning modes, such as multiple choice, fill in blanks, matching, short answer questions or essay questions.

Assessment will be based on :

- comprehension of materials presented in class,
- demonstrated ability to apply theories or models to observed phenomeon,
- evaluation of written papers or summaries of readings to related subjects assigned from outside the textbook,
- completed homework assignments,
- documentation of field observations.

**Suggested Texts or other Instructional Materials** *(include title, author, publisher, date, and edition):*

Geosystems: An Introduction to Physical Geography. Robert Christopherson, Prentiss Hall, 2003, 6th Edition.

**Effective Date:** \_\_\_\_\_  
(date course can first be offered to be filled in by Office of Academic Affairs)