



El Camino College
 COURSE OUTLINE OF RECORD – Official

Course Acronym:	GEOG
Course Number:	1
Descriptive Title:	Physical Geography
Division:	Natural Sciences
Department:	Geography
Course Disciplines:	Earth Science, Geography
Catalog Description:	This course describes and explains the physical elements of geography. The topics include maps, earth-sun relationships, elements of weather and climate, vegetation patterns, soil types, plate tectonics, volcanism, tectonic activity and related landforms, weathering and mass wasting, and the landforms created by running water, glaciers, waves and wind.
Prerequisite:	
Co-requisite:	
Recommended Preparation:	Eligibility for English 1A
Enrollment Limitation:	
Hours Lecture (per week):	3
Hours Laboratory (per week):	0
Outside Study Hours:	6
Total Course Hours:	54
Course Units:	3
Grading Method:	Letter Grade only
Credit Status:	Credit, degree applicable
Transfer CSU:	Yes
Effective Date:	Prior to July 1992
Transfer UC:	Yes
Effective Date:	prior to 1992
General Education: ECC	Area 1 - Natural Sciences
Term:	
Other:	
CSU GE:	Area B1 - Physical Universe and its Life Forms: Physical Science
Term:	
Other:	

	IGETC: Area 5A - Physical Science
	Term:
	Other:
Student Learning Outcomes:	<p>SLO #1 Basic Knowledge</p> <p>Students can identify the salient features of the basic concepts of physical geography. (This includes the ability to recall the definitions of the specialized vocabulary of physical geography.)</p> <p>SLO #2 Relationship with Their Environment</p> <p>Students recognize and can accurately articulate how their physical environment affects humans' lives and how human activities affect their physical environment.</p> <p>SLO #3 Nature of Science</p> <p>Students can identify the key elements of the scientific method (hypotheses, tests, observations, conclusions/interpretation of observations) in popular accounts of scientific research in magazines, newspapers, etc.</p>
Course Objectives:	<ol style="list-style-type: none"> 1. Explain basic characteristics of the earth such as size, shape, meridians and parallels, longitude and latitude, time zones, earth-sun relationships and seasons, and the atmosphere. 2. Compare and contrast the basic elements of weather and climate such as air temperature, air pressure, winds, clouds and precipitation, air masses and storms. 3. Explain the interrelationships among the climate, natural vegetation, and soil of many natural environments. 4. Compare and contrast the major rock classes of the earth's crust, plate tectonics, volcanism and tectonic activity (and related landforms), and weathering and mass wasting. 5. Evaluate the erosional agents (water, ice, waves, and wind) and resulting landforms. 6. Prepare and analyze maps, graphs, and cross-sections. 7. Utilize the scientific method to create a logical reasoning from observation to conclusion.
Major Topics:	<p>I. Introduction to physical geography (3 hours, lecture)</p> <ol style="list-style-type: none"> A. Scientific method B. Earth's shape and size C. Meridians and parallels D. Longitude and latitude E. Time zones <p>II. Earth-sun relationships and seasons (3 hours, lecture)</p> <ol style="list-style-type: none"> A. The atmosphere B. Heating and cooling of the earth's surface and atmosphere <p>III. Atmospheric Components and Processes (12 hours, lecture)</p>

- A. Atmospheric composition, temperature, moisture, and pressure
- B. Global circulation and winds
- C. Air masses, cyclonic systems, and weather
- D. Disturbances (e.g. hurricanes, thunderstorms, tornadoes)

IV. Climate Types of Climate Change (6 hours, lecture)

- A. Koppen climate classification
- B. Climate types: temperature, precipitation, vegetation
- C. Climate change

V. Geology and the Lithosphere (6 hours, lecture)

- A. Rock classes, formation processes, rock types
- B. Soil types
- C. Volcanism and tectonic activity
- D. Related landforms

VI. Weathering, mass wasting, and erosion (3 hours, lecture)

- A. Diastrophism
- B. Causes and types of weathering, mass wasting, erosion
- C. Resulting landforms

VII. Plate Tectonics (3 hours, lecture)

- A. Plate tectonics theory, mechanisms, landforms
- B. Earthquakes

VIII. Fluvial Processes (3 hours, lecture)

- A. River erosion and deposition, and associated landforms
- B. Cycle of erosion
- C. Flooding

IX. Water and the Environment (3 hours, lecture)

- A. Karst topography, processes, and landforms
- B. Hydrothermal processes and associated landforms

X. Glaciers (6 hours, lecture)

- A. Types of glaciers
- B. Erosional and depositional landforms
- C. Climate change effects

XI. Arid Topography (3 hours, lecture)

- A. Wind erosion and deposition
- B. Mesa and scarp terrain
- C. Wind power

	<p>XII. Coastal Geography (3 hours, lecture)</p> <p>A. Ocean erosion and deposition B. Coastal landforms C. Coral reefs</p>
Total Lecture Hours:	54
Total Laboratory Hours:	0
Total Hours:	54
Primary Method of Evaluation:	2) Problem solving demonstrations (computational or non-computational)
Typical Assignment Using Primary Method of Evaluation:	Calculate the average environmental lapse rate at different elevations for two mountains. If the ELR is a constant, calculate the average, then calculate it for other elevations by subtracting/adding proportionally. With your partner, brainstorm what a negative lapse rate would be and think of an example for when one might occur. Submit individual written responses that include your calculations.
Critical Thinking Assignment 1:	Select three of four possible weather station datasets to complete three climographs. Using temperature and precipitation data, plot the numbers on the graphs with red and blue colored pencils. With the aid of the Koppen Climate Classification map and chart, identify the major climate group for all three graphs. Finally, use the textbook descriptions matched to the data and climographs to explain why certain climates have the conditions they do (e.g. the relationship between arid climates and air stability). Submit three different climographs to the instructor.
Critical Thinking Assignment 2:	Order a stream network to find how large it is. Once the stream order is found, write a paragraph explaining 1) the relationship between stream order and the amount of discharge, and 2) one way humans can modify streams that would alter its order. Submit the ordered stream network and a paragraph explaining the concepts to the instructor.
Other Evaluation Methods:	Completion, Essay Exams, Homework Problems, Matching Items, Multiple Choice, Objective Exam, Quizzes, Reading Reports, Term or Other Papers, Written Homework
Instructional Methods:	Demonstration, Discussion, Lecture, Multimedia presentations
If other:	Internet Presentation/Resources Wall Maps
Work Outside of Class:	Answer questions, Problem solving activity, Required reading, Study, Written work (such as essay/composition/report/analysis/research)
If Other:	
Up-To-Date Representative Texts:	Darrell Hess and Redina Finch. McKnight's Physical Geography: A Landscape Appreciation (13th Edition) Pearson, 2021. Fundamentals of Physical Geography. OER Textbook (2nd Edition), 2018. http://www.physicalgeography.net/fundamentals/contents.html
Alternative Texts:	
Required Supplementary Readings:	
Other Required Materials:	

Requisite:	
Category:	
Requisite course(s): List both prerequisites and corequisites in this box.	
Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).	
Requisite Skill:	
Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable	
Requisite course:	
Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).	
Requisite Skill:	Eligibility for English 1A
Requisite Skill and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s). If applicable	<p>Students should be able to read, comprehend, and analyze college-level reading materials. Written responses to text are also required.</p> <p>Read and apply critical thinking skills to college-level expository prose for the purposes of writing and discussion.</p>
Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	Jeanne Garrison
Date:	10/01/1961
Original Board Approval Date:	FALL 1961
Last Reviewed and/or Revised by:	Julienne Gard
Date:	09/19/2023
Last Board Approval Date:	12/18/2023
Effective Term:	FALL 2024