



5055 Santa Teresa Blvd
Gilroy, CA 95023

Course Outline

COURSE: GEOG 1 **DIVISION:** 10 **ALSO LISTED AS:**

TERM EFFECTIVE: Spring 2023

CURRICULUM APPROVAL DATE: 04/11/2023

SHORT TITLE: PHYSICAL GEOG L/L

LONG TITLE: Physical Geography

<u>Units</u>	<u>Number of Weeks</u>	<u>Type</u>	<u>Contact Hours/Week</u>	<u>Total Contact Hours</u>
4	18	Lecture:	3	54
		Lab:	3	54
		Other:	0	0
		Total:	6	108

Out of Class Hrs: 108.00

Total Learning Hrs: 216.00

COURSE DESCRIPTION:

An introductory study of the basic physical elements of geography including climate, land forms, soils, water, and natural vegetation, The laboratory will include the tools and methods of geographers. (C-ID: GEOG 115)

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

L - Standard Letter Grade

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

02 - Lecture and/or discussion

03 - Lecture/Laboratory

04 - Laboratory/Studio/Activity

047 - Laboratory - LEH 0.7

05 - Hybrid

71 - Dist. Ed Internet Simultaneous

72 - Dist. Ed Internet Delayed

73 - Dist. Ed Internet Delayed LAB

737 - Dist. Ed Internet LAB-LEH 0.7

STUDENT LEARNING OUTCOMES:

By the end of this course, a student should:

1. Construct, analyze, and interpret a variety of maps, charts, and diagrams depicting physical geographic phenomena in each of the Earth's major subsystems. In addition, Earth's subsystems and connecting processes will be demonstrated in lab experiments utilizing various provided tools associated with the field of geography.
2. Relate rock and mineral provenance to plate tectonic mechanisms, volcanism, and Earth's internal structure.
3. Identify and explain how the cycles of earth's landscape and atmosphere operate and continue to evolve over time, especially with considerations to climate change and Anthropocene.

COURSE OBJECTIVES:

By the end of this course, a student should:

1. Use maps, graphs and Geographic Information Systems (GIS) to interpret data
2. Relate climate patterns and soils to the Earth's ecosystems.
3. Explain the causes of season, climate patterns, and major landforms.
4. Describe the function and composition of the atmosphere, and how it affects our daily lives.
5. Discuss the hydrologic cycle, and the distribution and allocation of water resources for humans.
6. Describe the structure of the solid earth and relate it to such phenomena as earthquakes, mountain ranges and volcanoes.
7. Discuss the potentials and limitations of scientific innovations to mitigate natural hazards.
8. Evaluate the effects of the atmosphere and the hydrosphere on the lithosphere.
9. Assess activities through which humans have modified the environment.

COURSE CONTENT:

Curriculum Approval Date: 04/11/2023

LECTURE CONTENT:

3 Hours & 15 minutes

CONTENT: Global Systems and the Geographic Grid

Students will identify, describe, contrast and compare the interrelationships within the four Earth Systems of Atmosphere, Hydrosphere, Lithosphere and Biosphere.

Students will identify and describe how the planetary motions relate to time zones and seasonal changes.

Students will identify and distinguish the attributes of qualitative and quantitative approaches to Earth's landscape, while understanding how both data approaches can coincide with any given natural phenomena.

Students will distinguish the concepts of abstract space and place, while using coordinate functionality as a tool.

3 Hours & 15 minutes

CONTENT: Portraying Earth & Map Projections

Students will subjectively utilize various map projections in 2D and 3D layouts in order to understand the various ways land size representation & displays are not perfect, but are evolving frameworks.

Students will understand the role of map scales as it applies to desired information needed from map projections.

Students will contrast the differences and uses of traditional map projections versus modern map-making technology. This will include distinctions between map distortion and refinement with modern data retrieval methods associated with GIS, GPS, GNSS, and Remote Sensing technology.

3 Hours & 15 minutes

CONTENT: Earth's Atmosphere

Students will identify all the components of Earth's atmosphere and its change over time.

Students will identify and understand how gases influence Earth's atmosphere.

Students will identify the Anthropogenic forces that are rapidly inducing atmospheric change, with ozone depletion as a highlight.

3 Hours & 15 minutes

CONTENT: Insolation & Temperature

Students will understand variations in global atmospheric temperature as they relate to the distribution of sun warmth/insolation.

Students will identify the types of energy released from the Earth and the types of energy provided by the sun by utilizing tools such as the electromagnetic spectrum.

Students will identify and distinguish greenhouse gases from different types of radiation associated with landscape insolation.

Students will understand how the movement of energy in various capacities influences isolation and temperature patterns globally.

3 Hours & 15 minutes

CONTENT: Atmospheric Pressure & Wind

Students will understand how the dynamics of high and low pressure systems influence wind, atmospheric, and surface conditions.

Students interpret and utilize tools for identifying pressure systems.

Students understand the importance of the Coriolis Effect in relation to gravitational and atmospheric influences upon the Earth's surface.

Students identify various components of Earth's energy budget and factors of average albedo rates.

COURSE CONTENT(CONTINUED):**LECTURE CONTENT(CONTINUED):**

3 Hours & 15 minutes

CONTENT: Atmospheric Moisture

Students will identify properties that influence water in the atmosphere.

Students will identify, relate, and identify the factors of latent and specific heat in mobility within Earth's realm.

Students will identify the components of the Hydrologic Cycle and water vapor distribution in the atmosphere.

3 Hours & 15 minutes

CONTENT: Atmospheric Disturbance & Weather Patterns

Students will identify, describe and contrast the development of hurricanes, tornadoes, monsoons, thunderstorms, and weather fronts.

Students will identify how air masses and fronts oppose one another, thus creating atmospheric disturbance variations between different climate classifications.

Students will understand how atmospheric disturbances impact human and ecosystem settlements within Earth's realm.

3 Hours & 15 minutes

CONTENT: Climate Classification, Climate Change, and Vegetation Zones

Students will identify, compare and contrast the different global climates and how they affect the distribution of vegetation zones.

Students will identify various regions on Earth based upon climate classifications and understand the factors of classification.

Students will identify tools and interpret historical data to understand ongoing events aiding climate change in the Anthropocene age.

3 Hours & 15 minutes

CONTENT: The Hydrosphere

Students will identify the processes associated with Hydrologic Cycle and water distribution between the atmosphere and the Earth's landscape.

Students will identify aspects of total moisture, water movement, and water deposition throughout Earth's realm.

Students will identify the abundant characteristics of ocean waters in contrast to elements of freshwater.

Students will identify the importance and utility of groundwater sources developed through the Ice Ages and current ages of depletion.

3 Hours & 15 minutes

CONTENT: Cycles & Patterns in the Biosphere

Students will identify the functionality that makes water, carbon, oxygen, and nitrogen move throughout the biosphere.

Students will identify factors that influence the distribution of plants and animals throughout Earth's realm.

Students will identify aspects that influence biodiversity, food chains, extinction events, primary and secondary plant succession cycles.

3 Hours & 15 minutes

CONTENT: Soils

Students will identify factors that influence soil formation, layering, fertility, and erosion.

Students will classify soil types and understand how soil types are mapped.

Students will identify biological and chemical factors that influence soil makeup and global distribution.

COURSE CONTENT(CONTINUED):**LECTURE CONTENT(CONTINUED):**

3 Hours & 15 minutes

CONTENT: Plate Tectonics & Internal Processes

Students will identify and describe how plate tectonics control landform development. Students will compare and contrast the different types of plate boundaries.

Students will identify, describe, compare and contrast the basic elements of faulting and earthquake activity. Students will demonstrate an understanding of the general pattern.

of global seismicity as it relates to plate tectonics.

Students will identify and describe landforms developed from faulting. Students will identify, describe, contrast and compare volcanic processes, types of volcanoes and eruptions.

3 Hours & 15 minutes

CONTENT: Weathering & Mass Wasting

Students will identify how mass wasting, weathering, and erosion changes the Earth's landscape collectively.

Students will identify the components of mechanical and chemical weathering, in addition to identifying the main types of mass wasting.

Students will identify the cause of mass wasting events as it relates to natural hazards and calamities.

3 Hours & 15 minutes

CONTENT: Fluvial Processes

Students will identify the differences and relationship between streamflow and overland flow.

Students will understand why flooding events are important to erosional and depositional developments of streams.

Students will identify stream formations of different valley types.

3 Hours & 15 minutes

CONTENT: Glacial Landforms and Processes

Students will identify and describe the different types of glaciers.

Students will compare and contrast the glacial processes and how they produce erosional and depositional glacial landforms.

Students will identify and describe the triggers of global ice ages.

Students will identify the causes of the Pleistocene glacial formation age compared to the transition of glacial retreats in the current Anthropocene age.

3 Hours & 15 minutes

CONTENT: Coastlines and Coastal Processes

Students will identify and describe the basic types of coastlines and the processes of erosion and sediment transport by waves.

Students will identify, compare and contrast erosional and depositional coastal landforms.

Students will understand how reefs, atolls, beaches, spits, and shorelines develop and transform.

COURSE CONTENT(CONTINUED):**LAB CONTENT:**

Lab 1: Geographic Grid, Time Zones (6 hours)

Lab 2: Energy Flow and Air Temperature (6 hours)

Lab 3: Atmospheric Moisture, Weather Systems, Climate (9 hours)

Lab 4: Plate Tectonics (6 hours)

Lab 5: Earthquakes, Faulting, Vulcanism (9 hours)

Lab 6: Hydraulic Cycle (3 hours)

Lab 7: River Systems (3 hours)

Lab 8: Desert (6 hours)

Lab 9: Coastal Processes and Landforms (3 hours)

Lab 10: Glacial Landforms (3 hours)

METHODS OF INSTRUCTION:

Lecture/Discussion. Laboratory Exercises.

OUT OF CLASS ASSIGNMENTS:

Required Outside Hours 54

Assignment Description

Completing assigned reading from text or other documents.

Required Outside Hours 54

Assignment Description

Written papers, case studies, action plan proposals, and problem solving exercises.

METHODS OF EVALUATION:

Writing assignments

Evaluation Percent 40

Evaluation Description

Percent range of total grade: 40 % to 60 %

Written Homework

Problem-solving assignments

Evaluation Percent 40

Evaluation Description

Percent range of total grade: 40 % to 60 %

Homework Problems

Objective examinations

Evaluation Percent 20

Evaluation Description

May include multiple choice, short answer, essay, or oral demonstration.

REPRESENTATIVE TEXTBOOKS:

McKnight's Physical Geography: A Landscape Appreciation, 13th edition, Hess, Darrel and Tasa, Dennis., Pearson, 2021.

ISBN: 9780135827147

Rationale: Or other college level text.

Physical Geography Laboratory Manual, 13th edition, Hess, Darrel, Pearson, 2021.

ISBN: 9780135923900

Rationale: This is an e-text lab manual to accompany McKnight's Physical Geography: A Landscape Appreciation, 13th edition

12+ Grade Verified by: Nicholas Park

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:

GAV B1, effective 202550

GAV B3, effective 202550

GAV Area 5 = Natural Sci, effective 202550

CSU GE:

CSU B1, effective 202550

CSU B3, effective 202550

IGETC:

IGETC 5A, effective 202550

IGETC 5C, effective 202550

CSU TRANSFER:

Transferable CSU, effective 202550

Not Transferable

UC TRANSFER:

Transferable UC, effective 202550

Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education:

Program Status: 1 Program Applicable

Special Class Status: N

CAN: GEOG6

CAN Sequence: XXXXXXXX

CSU Crosswalk Course Department: GEOG

CSU Crosswalk Course Number: 115

Prior to College Level: Y

Non Credit Enhanced Funding: N

Funding Agency Code: Y

In-Service: N

Occupational Course: E

Maximum Hours:

Minimum Hours:

Course Control Number: CCC000637684

Sports/Physical Education Course: N

Taxonomy of Program: 220600