

GEOG 4 Course Outline as of Fall 2021**CATALOG INFORMATION**

Dept and Nbr: GEOG 4 Title: PHYSICAL GEOGRAPHY

Full Title: Physical Geography

Last Reviewed: 3/8/2021

Units	Course Hours per Week		Nbr of Weeks		Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	5	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

Catalog Description:

Physical Geography is an introduction to the study of the Earth and the processes that form and shape its physical features and landforms. Topics include Earth dimensions and motions, map reading and map use, Earth-Sun relationships, weather and climate, and tectonic and surface processes. Emphasis is placed on recognizing, describing, and interpreting the spatial distribution of Earth features and the processes that shape these features.

Prerequisites/Corequisites:**Recommended Preparation:**

Eligibility for ENGL 100 or ESL 100 or appropriate placement based on AB705 mandates

Limits on Enrollment:**Schedule of Classes Information:**

Description: Physical Geography is an introduction to the study of the Earth and the processes that form and shape its physical features and landforms. Topics include Earth dimensions and motions, map reading and map use, Earth-Sun relationships, weather and climate, and tectonic and surface processes. Emphasis is placed on recognizing, describing, and interpreting the spatial

distribution of Earth features and the processes that shape these features. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 or ESL 100 or appropriate placement based on AB705 mandates

Limits on Enrollment:

Transfer Credit: CSU;UC.

Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area		Effective:	Inactive:
	C	Natural Sciences	Fall 1981	

CSU GE:	Transfer Area		Effective:	Inactive:
	B1	Physical Science	Fall 1981	

IGETC:	Transfer Area		Effective:	Inactive:
	5A	Physical Sciences	Fall 1981	

CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:
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UC Transfer:	Transferable	Effective:	Fall 1981	Inactive:
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CID:

CID Descriptor:	GEOG 110	Introduction to Physical Geography
SRJC Equivalent Course(s):		GEOG4

Certificate/Major Applicable:

Both Certificate and Major Applicable

COURSE CONTENT

Student Learning Outcomes:

Upon completion of the course, students will be able to:

1. Describe fundamental geographic concepts and techniques.
2. Use, analyze and interpret maps.
3. Examine the dynamic relationship between the Earth and Sun and how this relationship affects the Earth system.
4. Identify Earth's physical features, explain the processes that shape them and interpret their spatial distribution.

Objectives:

Students will be able to:

1. Define the nature of geography as a science.
2. Identify and describe fundamental geographical tools.
3. Find and describe locations on maps.
4. Identify and evaluate map features.
5. Draw and interpret isolines.
6. Explain Earth seasonality, variation in day lengths, and time zones.
7. Describe the mechanisms of heat transfer and apply this knowledge to the Earth's radiation budget, greenhouse effect, ozone depletion and climate change.
8. Define and describe the major components of climate and weather and recognize and interpret their global distribution.

9. Analyze climates using climate classification models.
10. Analyze the origin, structure, and spatial distribution of the Earth's physical features and the processes that form them.

Topics and Scope:

Topics will include, but are not limited to:

- I. Introduction to Science, the Scientific Method and Geography as a Science
- II. Introduction to Earth
 - A. Environmental spheres
 - B. Geographic grid
 - C. Earth movements
 - D. Seasons and seasonality
 - E. Time
- III. Geographic Techniques and Tools
 - A. Maps and mapmaking
 1. Types
 2. Scale
 3. Projections
 4. Isolines
 - B. Geographic Information Systems (GIS)
 - C. Other
- IV. Atmosphere
 - A. Composition
 - B. Vertical structure
- V. Global Energy Systems
 - A. Electromagnetic spectrum
 - B. Mechanisms of heat transfer
 - C. Insolation
 - D. Energy budget
- VI. Surface Temperatures
 - A. Controlling factors
 - B. Global and seasonal patterns
- VII. Atmospheric Pressure
 - A. Pressure, density, and temperature
 - B. Mapping pressure
 - C. Cyclones and anticyclones
 - D. Global and seasonal patterns
- VIII. Wind
 - A. Direction
 - B. Speed
 - C. Global, seasonal and local patterns
- IX. Water and Atmospheric Moisture
 - A. Properties
 - B. Hydrologic cycle
 - C. Humidity
 - D. Adiabatic processes
 - E. Clouds and cloud formation
 - F. Fog and fog formation
 - G. Stability
 - H. Precipitation formation
 - I. Global precipitation patterns

X. Weather

- A. Air masses
- B. Midlatitude
- C. Tropical and Severe

XI. Climate

- A. Classification
- B. Global distribution
- C. Global climate change

XII. Earth Processes and Physical Features

- A. Earth structure
- B. Rock cycle
- C. Plate tectonic theory
- D. Folding, faulting and earthquakes
- E. Volcanism

XIII. Weathering, Mass Wasting and Erosion

Optional topics may include:

XIV. Geomorphology

- A. Fluvial
- B. Coastal
- C. Arid and aeolian
- D. Glacial
- E. Karst

XV. Biosphere

- A. Biogeochemical cycles
- B. Biomes
 - 1. Controlling factors
 - 2. Global distribution

XVI. Soils

- A. Formation and factors
- B. Characteristics and properties
- C. Profiles and classification
- D. Global distribution

Assignment:

1. Textbook and other readings (10-20 pages per class meeting)
2. Homework assignments (written and problem solving) (5-15)
3. In-class and/or online activity(ies) (0-18)
4. Exams (3-6)
5. Map and/or other quiz(zes) (0-18)
6. Face-to-face and/or virtual field trip(s) (0-2)

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Homework assignments

Writing 0 - 10%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework assignments, in-class and/or online activities

Problem solving
20 - 40%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None

Skill Demonstrations
0 - 0%

Exams: All forms of formal testing, other than skill performance exams.

Map and/or other quiz(zes) and exams

Exams
50 - 80%

Other: Includes any assessment tools that do not logically fit into the above categories.

Participation in class activities. Field trip attendance and participation (face-to-face and/or virtual)

Other Category
0 - 10%

Representative Textbooks and Materials:

McKnight's Physical Geography: A Landscape Appreciation. 13th ed. Hess, Darrel and Dennis G. Tasa, Illustrator. Prentice Hall. 2022

Geosystems: An Introduction to Physical Geography. 10th ed. Christopherson, Robert and Ginger H. Birkleand. Prentice Hall. 2018

Elemental Geosystems. 9th edition. Christopherson, Robert and Ginger H. Birkleand. Prentice Hall. 2019

Discovering Physical Geography. 4th ed. Arbogast, Alan F. John Wiley & Sons. 2017

Living Physical Geography. 2nd ed. Gervais, Bruce. W.H. Freeman & Co. 2019