

# GEOG M01: PHYSICAL GEOGRAPHY

## Originator

rputnam

## College

Moorpark College

## Discipline (CB01A)

GEOG - Geography

## Course Number (CB01B)

M01

## Course Title (CB02)

Physical Geography

## Banner/Short Title

Physical Geography

## Credit Type

Credit

## Start Term

Fall 2022

## Catalog Course Description

Surveys several branches of the natural sciences to provide students with an understanding of the processes responsible for the physical patterns of climate, water, soils, vegetation, and landforms found over the earth. Emphasizes understanding of human-induced agents of change within the physical world and human/environmental relationships. Includes tools of geographic inquiry such as: maps, remote sensing, Geographic Information Systems (GIS), and Global Positioning Systems (GPS).

## Taxonomy of Programs (TOP) Code (CB03)

2206.00 - Geography

## Course Credit Status (CB04)

D (Credit - Degree Applicable)

## Course Transfer Status (CB05) (select one only)

A (Transferable to both UC and CSU)

## Course Basic Skills Status (CB08)

N - The Course is Not a Basic Skills Course

## SAM Priority Code (CB09)

E - Non-Occupational

## Course Cooperative Work Experience Education Status (CB10)

N - Is Not Part of a Cooperative Work Experience Education Program

## Course Classification Status (CB11)

Y - Credit Course

## Educational Assistance Class Instruction (Approved Special Class) (CB13)

N - The Course is Not an Approved Special Class

## Course Prior to Transfer Level (CB21)

Y - Not Applicable

## Course Noncredit Category (CB22)

Y - Credit Course

**Funding Agency Category (CB23)**

Y - Not Applicable (Funding Not Used)

**Course Program Status (CB24)**

1 - Program Applicable

**General Education Status (CB25)**

Y - Not Applicable

**Support Course Status (CB26)**

N - Course is not a support course

**Field trips**

May be required

**Faculty notes on field trips; include possible destinations or other pertinent information**

Field trips may be required to visit areas of local physical geographic interest. Possible destinations include: Long Canyon (Simi Valley), Sycamore Canyon (Newbury Park), Malibu Creek (Calabasas)

**Grading method**

(L) Letter Graded

**Alternate grading methods**

(O) Student Option- Letter/Pass

(P) Pass/No Pass Grading

**Does this course require an instructional materials fee?**

No

**Repeatable for Credit**

No

**Is this course part of a family?**

No

**Units and Hours**

**Carnegie Unit Override**

No

**In-Class**

**Lecture**

**Minimum Contact/In-Class Lecture Hours**

52.5

**Maximum Contact/In-Class Lecture Hours**

52.5

**Activity**

**Laboratory**

**Total in-Class**

**Total in-Class**

**Total Minimum Contact/In-Class Hours**

52.5

**Total Maximum Contact/In-Class Hours**

52.5

**Outside-of-Class**

**Internship/Cooperative Work Experience**

**Paid**

**Unpaid**

**Total Outside-of-Class**

**Total Outside-of-Class**

**Minimum Outside-of-Class Hours**

105

**Maximum Outside-of-Class Hours**

105

**Total Student Learning**

**Total Student Learning**

**Total Minimum Student Learning Hours**

157.5

**Total Maximum Student Learning Hours**

157.5

**Minimum Units (CB07)**

3

**Maximum Units (CB06)**

3

**Student Learning Outcomes (CSLOs)**

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

- |   |   |
|---|---|
| 1 | identify and explain the underlying controls involved in climate zones. |
|---|---|

**Course Objectives**

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

- |    |   |
|----|---|
| 1  | recognize the construction and function of maps and differentiate between common map projections; use and interpret a variety of maps.  |
| 2  | define the components of the atmosphere and its circulation patterns; construct a model of earth's energy budget and describe solar radiation and the heating of the atmosphere.  |
| 3  | describe the nature of wind and portray the effect of pressure on the direction of wind movement; explain the concept of air masses and fronts and their role in the development of weather disturbances such as hurricanes and cyclones.   |
| 4  | identify the major climate zones and list the forces that produce climate zones and the conditions that cause changes in the climate.   |
| 5  | illustrate the hydrologic cycle and identify the major reservoirs of water.   |
| 6  | analyze the distribution of ecosystems by interpreting relationships between soil, climate, and plant life and evaluate ecosystems in terms of their biodiversity and productivity; recognize the role of external processes and their effects on flora and fauna.                                      |
| 7  | explain soil formation and soil properties, horizons, and erosion; illustrate the rock cycle and describe the types of rocks on earth and the processes that fuel the rock cycle.   |
| 8  | describe the processes that form continental and oceanic crust and relate the three types of plate collisions, and identify specific examples of each; describe the relationship between faulting, folding, and igneous activity to the development of landforms and explain the nature of earthquakes. |
| 9  | explain the processes and effects of physical and chemical weathering and mass wasting.   |
| 10 | identify fluvial landforms and explain the processes of erosion and deposition responsible for deltas, lakes, floodplains, etc.; define and identify a drainage system and evaluate river discharge.  |

- |    |  |
|----|--|
| 11 | review the process of dissolution and landscape features associated with Karst topography; describe weathering, erosion, and transport in arid regions; differentiate between alpine and continental glaciers; identify the components of coastal systems and describe the different types of shorelines and the processes that affect shoreline landscapes. |
| 12 | demonstrate knowledge of GIS, GPS, and remote sensing technology and applications to real world problems in physical geography.  |

## Course Content

### Lecture/Course Content

- (5%) - Introduction to the Earth
  - Overview of the Atmosphere, Lithosphere, Biosphere, and Hydrosphere
- (10%) - Tools of geography
  - Map projections
  - Cartographic principles: Scale, datum, latitude/longitude/UTM
  - GIS, GPS, and Remote Sensing Technologies
- (6%) - Earth's internal processes
  - Earth's internal structure
  - Plate tectonics: Plate boundaries and the driving forces of plate motion
  - Earthquakes and volcanoes
- (6%) - Earth Materials
  - Minerals
  - Rocks
  - Soil
- (7%) - Weathering and Mass Movement
  - Weathering processes
  - Mass movement triggers and risk assessment
- (14%) - Fluvial processes
  - Stream distribution and drainage basin properties
  - Principals of fluvial geomorphology
  - Stream types
  - Flooding causes, recurrence, and mitigation techniques
- (7%) - Groundwater
  - Aquifers and Aquitards
  - Relationship to surface water
- (14%) - Topography
  - Tectonic geomorphology
  - Karst regions
  - Arid areas
  - Glacial terrain
  - Coastal processes: Longshore currents and coastal geomorphology
- (14%) - Atmosphere
  - Insolation and temperature
  - Pressure and wind
  - Atmospheric moisture
  - Transient atmospheric flows and disturbances
- (10%) - Climate
  - Climate zones
  - Controls on climate
  - Tools of climatology and the record of the past
  - Current conditions and future projections
- (7%) - Biosphere
  - Cycles and patterns in the biosphere
  - Terrestrial flora and fauna
  - Primary and secondary production
  - Global population and its relationship to the physical Earth

**Laboratory or Activity Content**

n/a

**Methods of Evaluation**

**Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):**

Written expression  
Skills demonstrations

**Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):**

Essay exams  
Group projects  
Individual projects  
Journals  
Objective exams  
Oral presentations  
Quizzes  
Reports/papers  
Research papers  
Skills demonstrations  
Written analyses  
Classroom Discussion  
Projects  
Participation  
Reports/Papers/Journals

**Instructional Methodology**

**Specify the methods of instruction that may be employed in this course**

Audio-visual presentations  
Case studies  
Class activities  
Class discussions  
Collaborative group work  
Demonstrations  
Distance Education  
Field trips  
Group discussions  
Guest speakers  
Instructor-guided use of technology  
Lecture  
Readings  
Small group activities

**Describe specific examples of the methods the instructor will use:**

- Demonstrate simple GIS techniques using ArcGIS software platforms.
- Explore Earth's physiographic features in Google Earth.
- In class map-reading exercises to explore the limitations of sets of cartographic projections.

**Representative Course Assignments****Writing Assignments**

- Write essays on assigned topics relevant to physical geography.
- Write a narrative that describes the forces and processes shaping a particular landscape. Use the theory of plate tectonics to explain any past or current internal mountain building forces and discuss the external (denudational) forces currently shaping it.

**Critical Thinking Assignments**

- Analyze and relate the history of conflict between two neighboring countries in which physical geography plays a major role (e.g., competition over scarce resources).
- Write a critique of the actions, decisions, and/or agreements made by particular countries concerning an issue of global environmental importance.

- Assess the evidence in support of, or in opposition to, controversial projects or topics including dam (de)construction, nuclear energy, climate change, and ozone depletion.

### Reading Assignments

- Read and produce written summaries of professional journal articles on the subject of physical geography.
- Summarize weekly readings from newspaper and journal articles regarding policy decisions relating to the physical world.

### Skills Demonstrations

- Interpret a range of source materials including maps, climographs, and geospatial and time-series data for geographical inquiry.
- Predict the natural patterns of climate, vegetation, soils, and landforms found within an unfamiliar region using geographic principles.

## Outside Assignments

### Representative Outside Assignments

- Read and summarize articles from newspapers, journals, and/or Internet sources regarding climate change.
- Prepare observations of local physiography and processes (i.e., weather, landforms, soil, vegetation).

## Articulation

### C-ID Descriptor Number

GEOG 110

### Status

Approved

### Additional C-ID Descriptor(s)

C-ID Descriptor(s)	Status
GEOG 115 with GEOG M01L	Approved

### Equivalent Courses at 4 year institutions

University	Course ID	Course Title	Units
San Diego State Univ.	GEOG 101	Earth's Physical Environment	3
UC Santa Barbara	GEOG 3B	Land, Water and Life	4
CSU Northridge	GEOG 101	The Physical Environment	3

### Comparable Courses within the VCCCD

GEOG R101 - Elements of Physical Geography  
 GEOG V01 - Elements of Physical Geography

## District General Education

### A. Natural Sciences

### B. Social and Behavioral Sciences

### C. Humanities

### D. Language and Rationality

### E. Health and Physical Education/Kinesiology

### F. Ethnic Studies/Gender Studies

### Course is CSU transferable

Yes

**CSU Baccalaureate List effective term:**

F1995

**CSU GE-Breadth****Area A: English Language Communication and Critical Thinking****Area B: Scientific Inquiry and Quantitative Reasoning**

B1 Physical Science

Approved

**Area C: Arts and Humanities****Area D: Social Sciences****Area E: Lifelong Learning and Self-Development****Area F: Ethnic Studies****CSU Graduation Requirement in U.S. History, Constitution and American Ideals:****UC TCA**

UC TCA

Approved

**IGETC****Area 1: English Communication****Area 2A: Mathematical Concepts & Quantitative Reasoning****Area 3: Arts and Humanities****Area 4: Social and Behavioral Sciences****Area 5: Physical and Biological Sciences**

Area 5A: Physical Science

Approved

**Area 6: Languages Other than English (LOTE)****Textbooks and Lab Manuals****Resource Type**

Textbook

**Description**Hess, Darrel, and Dennis Tasa. *McKnight's Physical Geography: A Landscape Appreciation*. 12th ed., Pearson, 2017.**Resource Type**

Textbook

**Description**Arbogast, Alan. *Discovering Physical Geography*. 4th ed., Wiley, 2017.

## Library Resources

### Assignments requiring library resources

Research and readings in periodical and journal articles related to topics in geography from the Library's print and online resources.

### Sufficient Library Resources exist

Yes

### Example of Assignments Requiring Library Resources

Read and produce written summaries of professional journal articles on the subject of physical geography.

## Distance Education Addendum

### Definitions

#### Distance Education Modalities

Hybrid (1%–50% online)  
Hybrid (51%–99% online)  
100% online

### Faculty Certifications

Faculty assigned to teach Hybrid or Fully Online sections of this course will receive training in how to satisfy the Federal and state regulations governing regular effective/substantive contact for distance education. The training will include common elements in the district-supported learning management system (LMS), online teaching methods, regular effective/substantive contact, and best practices.

Yes

Faculty assigned to teach Hybrid or Fully Online sections of this course will meet with the EAC Alternate Media Specialist to ensure that the course content meets the required Federal and state accessibility standards for access by students with disabilities. Common areas for discussion include accessibility of PDF files, images, captioning of videos, Power Point presentations, math and scientific notation, and ensuring the use of style mark-up in Word documents.

Yes

### Regular Effective/Substantive Contact

#### Hybrid (1%–50% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Regular Asynchronous discussion boards will be used to encourage discussion among students where they can compare and contrast/ discuss /identify and analyze elements of course outcomes. Other Discussion boards will also be used for Q&A and general class discussion by students and instructor to facilitate student learning outcomes. E.g. - Students will use the discussion board in Canvas to discuss how the geosphere and hydrosphere influence each other.
E-mail	Email, class announcements and tools such as "Message Students Who" and "Assignment Comments" in Canvas will be used to regularly communicate with all students to clarify class content, remind of upcoming assignments, and provide immediate feedback to students on coursework to facilitate student learning outcomes. Students will be given multiple ways to email instructor through Canvas inbox and faculty provided email account through their own canvas email and school email.



Other DE (e.g., recorded lectures)

Faculty will use a variety of tools and media integrated within the LMS to help students reach SLO such as:

- o Recorded Lectures, Narrated Slides, Screencasts
- o Instructor created content
- o MC Online Library Resources
- o Canvas Peer Review Tool
- o Canvas Student Groups (Assignments, Discussions)
- o 3rd Party (Publisher) Tools (Mastering Geography)
- o Websites and Blogs
- o Multimedia (YouTube, Films on Demand, 3CMedia, Google Earth, Earth.nullschool, etc.)

Synchronous Dialog (e.g., online chat)

Scheduled synchronous sessions may be organized at the instructor’s discretion to demonstrate skills, address problems, and review asynchronous lectures. Synchronous sessions may also be used for students to work on problem sets together. The platform for such sessions may include ConferZoom or any other approved medium for synchronous dialog.

**Hybrid (51%–99% online) Modality:**

<b>Method of Instruction</b>	<b>Document typical activities or assignments for each method of instruction</b>
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Asynchronous Dialog (e.g., discussion board)	Regular Asynchronous discussion boards will be used to encourage discussion among students where they can compare and contrast/ discuss /identify and analyze elements of course outcomes. Other Discussion boards will also be used for Q&A and general class discussion by students and instructor to facilitate student learning outcomes. E.g. - Students will use the discussion board in Canvas to discuss how the geosphere and hydrosphere influence each other.
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**100% online Modality:**

<b>Method of Instruction</b>	<b>Document typical activities or assignments for each method of instruction</b>
Asynchronous Dialog (e.g., discussion board)	Regular Asynchronous discussion boards will be used to encourage discussion among students where they can compare and contrast/ discuss /identify and analyze elements of course outcomes. Other Discussion boards will also be used for Q&A and general class discussion by students and instructor to facilitate student learning outcomes. E.g. - Students will use the discussion board in Canvas to discuss how the geosphere and hydrosphere influence each other.
E-mail	Email, class announcements and tools such as "Message Students Who" and "Assignment Comments" in Canvas will be used to regularly communicate with all students to clarify class content, remind of upcoming assignments, and provide immediate feedback to students on coursework to facilitate student learning outcomes. Students will be given multiple ways to email instructor through Canvas inbox and faculty provided email account through their own canvas email and school email.
Other DE (e.g., recorded lectures)	Faculty will use a variety of tools and media integrated within the LMS to help students reach SLO such as: <ul style="list-style-type: none"> <li>o Recorded Lectures, Narrated Slides, Screencasts</li> <li>o Instructor created content</li> <li>o MC Online Library Resources</li> <li>o Canvas Peer Review Tool</li> <li>o Canvas Student Groups (Assignments, Discussions)</li> <li>o 3rd Party (Publisher) Tools (Mastering Geography)</li> <li>o Websites and Blogs</li> <li>o Multimedia (YouTube, Films on Demand, 3CMedia, Google Earth, Earth.nullschool, etc.)</li> </ul>
Synchronous Dialog (e.g., online chat)	Scheduled synchronous sessions may be organized at the instructor's discretion to demonstrate skills, address problems, and review asynchronous lectures. Synchronous sessions may also be used for students to work on problem sets together. The platform for such sessions may include ConferZoom or any other approved medium for synchronous dialog.

**Examinations****Hybrid (1%–50% online) Modality**

On campus  
Online

**Hybrid (51%–99% online) Modality**

On campus  
Online

**Primary Minimum Qualification**

GEOGRAPHY

**Review and Approval Dates****Department Chair**

11/11/2021

**Dean**

11/12/2021

**Technical Review**

11/18/2021

**Curriculum Committee**

12/07/2021

**DTRW-I**

MM/DD/YYYY

**Curriculum Committee**

MM/DD/YYYY

**Board**

MM/DD/YYYY

**CCCCO**

MM/DD/YYYY

**Control Number**

CCC000432894

**DOE/accreditation approval date**

MM/DD/YYYY