

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA

ACADEMIC SENATE

GENERAL EDUCATION COMMITTEE

REPORT TO

THE ACADEMIC SENATE

GE-013-167

GEO 1010 – Physical Geography

General Education Committee

Date: 05/10/2017

Executive Committee
Received and Forwarded

Date: 05/10/2017

Academic Senate

Date: 05/17/2017
First Reading
05/31/2017
Second Reading

BACKGROUND:

This is a revisioned course for the semester calendar.

RESOURCES CONSULTED:

Faculty

Department Chairs

Associate Deans

Deans

Office of Academic Programs

DISCUSSION:

The GE Committee reviewed the attached ECO for this course and found it to satisfy the GE Student Learning Outcomes and other requirements for GE Area B1.

RECOMMENDATION:

The GE Committee recommends approval of GE-139-156, URP 4820 – California Water (See attached ECO).

GEO - 1010 - Physical Geography

C. Course - New General Education* Updated

General Catalog Information

Department*	Geography and Anthropology	
Semester Subject Area*	GEO	Semester Catalog Number* 1010
Quarter Subject Area	GEO	Quarter Catalog Number 101
Course Title* Physical Geography		
Units* (3)		
C/S Classification * C-01 (Large Lecture)		

To view C/S Classification Long Description click: http://www.cpp.edu/~academic-programs/scheduling/Documents/Curriculum%20Guide/Appendix_C_CS_Classification.pdf

Component*	Lecture	
Instruction Mode*	Face-to-Face Fully Asynchronous	
	Hybrid w/Asynchronous Component Web-Assisted	
Grading Basis*	Graded Only	
Repeat Basis*	May be taken only once	
If it may be taken multiple times, limit on	1	
number of enrollments		
Cross Listed Course Subject Area and Catalog Nbr (if offered with another department)		
Dual Listed Course Subject Area and Catalog number (If offered as lower/upper division or ugrd/grad)		

Choose appropriate type(s) of course(s)*

- Major Course
- Service Course
- GE Course
- None of the above

General Education Area / Subarea*

B1

To view the General Education SubArea definitions, click <http://www.cpp.edu/~academic-programs/scheduling/Documents/Ch.3-GeneralEducationProposals.pdf>.

I. Catalog Description

Catalog Description

Basic principles of physical geography. Significance of earth-related distribution patterns with reference to their effect on human activities. 3 lecture discussions. Meets GE requirement in Area B1.

II. Required Coursework and Background

Prerequisite(s)

Corequisite(s)

**Pre or
Corequisite(s)**

Concurrent

III. Expected Outcomes

**List the
knowledge,
skills, or abilities
which students
should possess
upon completing
the course.***

The student will have the ability to:

- Understanding the breadth of physical geography and its related themes of systems and environment
- Appreciate the interconnectedness of natural processes occurring on Earth, both spatially and temporally
- Identify absolute and relative locations on the Earth's surface
- Use some of the quantitative tools and methods used to explore and model natural phenomena
- Comprehend major concepts related to systems and cycles of weather and climate, the solid earth, landform evolution, glaciations, and the biosphere
- Perform basic scientific writing and research skills
- Evaluate different approaches to physical geography study and methods of geographic observation.

If this is a course for the major, describe how these outcomes relate to the mission, goals and objectives of the major program.

The course helps students to obtain knowledge in the physical geography area (GEO SLO1); to be introduced to research, analysis and communication skills (GEO SLO2, SLO3).

Explain how the course meets the description of the GE SubArea(s). Please select appropriate outcomes according to the GE Area/SLO mapping.

This course meets GE Area B1 requirements by introducing scientific theories and concepts that govern the processes in the earth's atmosphere, lithosphere, hydrosphere, and biosphere. Through applications of scientific methods, students will learn to connect observable phenomena in their surrounding physical environment to the scientific principles and concepts in earth sciences and gain quantitative and qualitative analytical thinking skills. How GEO 1010 meets each of the GE area B1 requirements is detailed below.

Describe how these outcomes relate to the associated GE Learning Outcomes listed below.*

(GE SLO 1a, 1d) Identify and articulate major concepts related to the four spheres of the natural environment (atmosphere, lithosphere, hydrosphere, and biosphere) and their graphic based interactions.

(GE SLOs 1e, 2a) Use some of the quantitative tools and methods to explore, model, and draw conclusions on natural environmental phenomena

(GE SLOs 1a, 1d,1e) Identify and articulate absolute and relative locations on the Earth's surface and their significance associated with the physical environment and human activities

(GE SLOs 1a, 1d) Identify and articulate the interconnectedness of natural processes occurring on Earth, both spatially and temporally

(GE SLOs 1a, 2a) Perform basic scientific writing and research skills

**General
Education
Outcomes*****Ia. Write effectively for various audiences****Id. Construct arguments based on sound evidence and reasoning to support an opinion or conclusion.****Ie. Apply and communicate quantitative arguments using equations and graphical representations of data.****IIa. Apply scientific methods and models to draw quantitative and qualitative conclusions about the physical and natural world.**

To view the mapping, click <https://www.cpp.edu/~academic-programs/Documents/GE%20SLO%20Mapping.pdf>

IV. Instructional Materials

Provide bibliography that includes texts that may be used as the primary source for instruction, and other appropriate reference materials to be used in instruction. The reference list should be current, arranged alphabetically by author and the materials should be listed in accepted bibliographic form.

**Instructional
Materials***

1. R.W. Christopherson and M.L. Byrne. 2014. Geosystems: An Introduction to Physical Geography (Pearson Prentice Hall: New York)
2. James F. Petersen, Dorothy Sack, and Robert E. Gabler, 2012. Physical Geography (Brooks Cole: Florence, KY)
3. Darrel Hess. 2014. McKnight's Physical Geography: A Landscape Appreciation (Pearson Prentice Hall: New York)
4. Alan Strahler. 2013. Introduction to Physical Geography (Wiley: New York)

Examples of primary climate data sources students will use in class:

Climate data through California Irrigation Management Information System (CIMIS) (<http://www.cimis.water.ca.gov/>)

NOAA National Centers for Environmental Information (<https://www.ncdc.noaa.gov/>)

Faculty are encouraged to make all materials accessible. Indicate with an asterisk those items that have had accessibility (ATI/Section 508) reviewed. For more information, <http://www.cpp.edu/~accessibility>

V. Minimum Student Material

List any materials, supplies, equipment, etc., which students must provide, such as notebooks, computers, internet access, special clothing or uniforms, safety equipment, lockers, sports equipment, etc. Note that materials that require the assessment of a fee may not be included unless the fee has been approved according to University procedures.

**Minimum
Student**

Material* Textbook, access to internet, computers with basic academic software.

VI. Minimum College Facilities

List the university facilities/equipment that will be required in order to offer this class, such as gymnastic equipment, special classroom, technological equipment, laboratories, etc.

**Minimum College
Facilities***

Smart classroom, library, computer labs

VII. Course Outline

Describe specifically what will be included in the course content. This should not be a repetition of the course description but an expansion that provides information on specific material to be included in the class, e.g. lecture topics, skills to be taught, etc. This should not be a week-by-week guide unless all instructors are expected to follow that schedule.

Course Outline*

Introduction

Themes in Physical Geography

Topographic Maps

Atmospheric Processes

○

Structure of the Atmosphere

○

Global Energy and Water Budget

○

Solar and Infrared Radiation

○

Climate Controls

○

Jet streams

○

- Air Masses

-

- Weather

-

- Air Temperature

-

- Pressure

-

- Humidity

-

- Precipitation

Hydrospheric Processes

-

- Water budget

-

- storage

-

- runoff

-

- stream-flow

-

- drainage

Geomorphologic Processes

-

- Plate Tectonics and the Earth Energy System

-

- Folding, Faulting, Earthquakes and Volcanoes

-

- Lithosphere, Earth Materials (minerals, rocks, soils) and Structure

-

- Landforms

-

- Chemical weathering, mechanical weathering, mass wasting erosion

-

- Fluvial, glacial, coastal and Aeolian systems

Biogeographic Processes

-

- Biosphere, including Earth-Atmosphere processes (e.g.) transpiration

-

- Ecosystems—components, relationships, communities, succession

Environmental Issues

- Global Climate Change
- Local Pollution

VIII. Instructional Methods

Describe the type(s) of method(s) that are required or recommended for the instruction of this course (lectures, demonstrations, etc.). Include any method that is essential to the course, such as the use of particular tools or software.

Instructional Methods*

1. Lectures/discussions
2. Problem solving sessions
3. Group and individual assignments/Projects, include computer based exercises and field observations
4. Writing assignments and in class oral presentations
5. Videos and other supplemental materials. Guest speakers and non-classroom assignments, as appropriate.

IX. Evaluation of Outcomes

Describe the methods to be used to evaluate students' learning, i.e. written exams, term papers, projects, participation, quizzes, attendance, etc.*

Subjective and objective examinations aimed at assessing student's ability of identifying the basic physical elements and laws that govern the physical geography processes, describe the interactions between human activities and these processes in historical and contemporary contexts, compare and contrast different physical processes in different scales, interfaces, and geographic regions, and solve quantitative and qualitative problems.

Assignments (may including problem solving with math and physical equations, computer based exercises, and field observation) to assess student's problem solving abilities and data observation and collection skills.

Written assignments with feedback process during the semester focusing on assessing the student's ability in finding, evaluating, and using data to construct arguments on environmental issues based on data analysis or computer models and to draw a sound conclusion

student's oral communication skills and the ability to identify climatic processes and the underlying physical elements.

Describe the meaningful writing assignments to be included.* Meaningful writing components: Students receive feedback from sequential assignments and lab reports with writing components that they can improve through the semester.

Discuss how these methods may be used to address the course and program outcomes, as appropriate. Include or attach a matrix to align the evaluation methods to the outcomes.

GEO Department Objective No

Activity	1	2	3	4
Written assignments	I	I		I
Class discussion	I	I	I	
Quizzes	I			
Midterm Exam		I		
Final Exam		I		

If this is a general education course, discuss how these methods may be used to address the associated GE Learning Outcomes listed below. Include or attach a matrix to align the evaluation methods to the outcomes.*

Gen. Ed. Outcomes	1a	1b	1d	1e	2a
Written assignments	I		I		I
Quizzes				I	
Exams				I	I
Problem Solving Assignments			I	I	I
Class discussion		I			
Oral presentations		I			

X. This OPTIONAL Section is for describing Course/Department/College specific requirements.

**Department/
College Required
ECO Information
(Optional)**