

Mt. San Jacinto College
Integrated Course Outline of Record

Form B

Submitted by:	Cindy Nance	Date:	12/17/2019
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Department	Subject	Course Number	Title
Geography	Geography GEOG	101	Physical Geography

Units/Hours

- Each lecture unit requires 1 hour per week of class time, and 2 hours per week of study outside of class.
- Each laboratory unit requires 3 hours per week of class time.
- Each activity unit requires 2 hours per week of class time and 1 hour per week of study outside of class.

Lecture Units	Total Units
3.00	3.00
Lecture Contact Hours	Total Contact Hours
48.00 - 54.00	48.00 - 54.00
Lecture Homework Hours	
96.00 - 108.00	

Stand Alone:

Program Applicable

AA/AS Degree General Ed Breadth Area(s):

A NATURAL AND PHYSICAL SCIENCES

General Education Justification:

Physical Geography is an examination of the earth, life forms, land formations and human impact to the landscape. This course examines complex issues of physical change to make connections and correlations between past and present events, such as climate change, and draw independent fact-based conclusions using the scientific method (GELO1). Various environmental situations are introduced that enhance student understanding of the evolving world we live in (GELO5). Students integrate technological tools for spatial analysis to identify and demonstrate dependent relationships in physical geography (GELO6).

Maximum Enrollment:	40
Maximum Enrollment Justification:	Justification:
Grading Method:	Letter Grade or P/NP

TOP code:

2206.00

Can be Taken

1

time(s) for credit (max 4)

- Visual or Performing Arts course that is required to meet major requirements for UC/CSU

- Intercollegiate athletics course

- Academic/vocational competition course

Catalog Description:
(Please do not refer to transferability or degree, certificate, or employment concentration applicability. Please only describe the course).
(75 words or less in gray box below).

This course studies the physical environment of the earth's surface and human interaction with that environment. Emphasis is given to global patterns of climate, ecosystems, hydrology, plate tectonics, and various processes of land formation. Controversial topics, such as climate change, introduce students to concerns we have as inhabitants of this planet. A field trip is required.

Schedule Description:
(Please do not refer to transferability or degree, certificate, or employment concentration applicability. Please only describe the course).
(25 words or less in gray box below).

This course studies the physical environment of the earth's surface and human impact on the environment. A field trip is required.

Need for the course:

This course transfers as a physical/natural science to undergraduate colleges and universities - Plan A Natural and Physical Sciences. It is one of two courses required for the ADT in Geography (CID GEOG110). This course is an elective for Associates in Science Environmental Studies, Biology (pending), AA in Child and Adolescent Development, and Liberal Arts: Mathematics and Science Emphasis.

Prerequisite(s):
Prerequisites go through a separate approval process. See Forms E1-E6 for details.
(For further clarification, contact the Prerequisite Subcommittee)

-none-

Corequisite(s):
Corequisites go through a separate approval process. See Forms E1-E6 for details.

-none-

Recommend Preparation:
Recommended Preparation goes through a separate approval process. See Forms E1-E6 for details.

-none-

Other Enrollment Criteria:

-none-

Learning Objectives:
(please number each objective and express in behavioral terms)

Upon the completion of the course the student will be able to do the following:

1. Explain the effects of earth-sun relationships on rotation, revolution, diurnal and seasonal change.
 2. Assess soil and vegetation types as ecosystems dependent on climate and location.
 3. Interpret climate variation based on latitude, altitude, coastal and continental interior locations.
 4. Evaluate the need for fresh water supplies to urban areas while considering the impact of urban development on hydrology, air pollution, and land uses.
 5. Assess fluvial processes, the impact of wind and waves on land formation, and potential future scenarios as a result of climate change.
 6. Examine landscapes created by glaciation and the different types of land modifications created by receding ice over the surface of the earth.
 7. Differentiate land formations that are a result of warped rock layers, running water or wind and the theory of plate tectonics, volcanic eruptions, earthquakes and continental movement.
 8. Distinguish between samples of igneous, metamorphic and sedimentary rocks and identify rock samples as belonging to one of these groups.
 9. Compare and contrast weathering and mass wasting as related to physical or chemical processes.
 10. Interpret world patterns of temperature variation, mechanisms of heat transfer, land and water temperature contrasts and atmospheric heating and cooling processes as global warming concerns.

Course Content:

(please number the outline of main topics and subtopics)

1. Planet Earth
 1. Earth’s shape
 2. Earth rotation
 3. Geographic Grid
 4. Global Time
 5. Revolution
 2. Earth’s Global Energy Balance
 1. Electromagnetic Radiation
 2. Insolation
 3. Latitude Zones
 4. Sensible and Latent Heat
 5. Net Radiation
 3. Air Temperature and Cycles
 1. Air Movement
 2. Daily Cycle of Air Temperature
 3. Temperature
 4. Annual Cycle of Air Temperature
 5. World Patterns of Air Temperature
 6. Global Warming and the Greenhouse Effect
 4. Atmospheric Moisture and Precipitation
 1. Water
 2. Global Water Balance
 3. Humidity
 4. Adiabatic Process
 5. Clouds
 6. Precipitation
 5. Winds and Global Circulation
 1. Atmospheric Pressure
 2. Winds and Pressure Gradients
 3. Global Winds and Pressure Patterns
 4. Local Winds
 5. Winds Aloft

- 6. Ocean Currents
- 7. Poleward Transport of Heat and Moisture
- 6. Weather Systems
 - 1. Traveling Cyclones and Anticyclones
 - 2. Tropical and Equatorial Weather Systems
- 7. Global Climates
 - 1. Global precipitation
 - 2. Climate classification
 - 3. Low-latitude climates
 - 4. Mid-latitude climates
 - 5. High-latitude climates
- 8. Global Ecosystems
 - 1. Energy flow in ecosystems
 - 2. Organisms and environment
 - 3. Natural vegetation
 - 4. Terrestrial ecosystems – the biomes
- 9. Global Soils
 - 1. The nature of the soil
 - 2. Soil development
 - 3. Global scope of soils
- 10. Earth Materials
 - 1. The Crust and its Composition
 - 2. Igneous Rocks
 - 3. Sediments and Sedimentary Rocks
 - 4. Metamorphic Rocks
 - 5. Geologic Time Scale
 - 6. Cycle of Rock Change
- 11. The Lithosphere and Plate Tectonics
 - 1. Structure of the earth
 - 2. Major relief features of the Earth's surface
 - 3. Plate tectonics
 - 4. Continents of the past
- 12. Volcanic and Tectonic Landforms
 - 1. Landforms
 - 2. Volcanic Activity
 - 3. Landforms of tectonic activity
 - 4. Earthquakes
- 13. Weathering and Mass Wasting
 - 1. Slopes and regolith
 - 2. Physical weathering
 - 3. Chemical weathering and its landforms
 - 4. Mass wasting
 - 5. Induced mass wasting
- 14. Fresh Water of the Continents
 - 1. Ground water
 - 2. Limestone solution by ground water
 - 3. Problems of ground water management
 - 4. Surface water
 - 5. Surface water as a natural resource
- 15. Landscapes made by running water
 - 1. Fluvial processes and landforms
 - 2. Slope erosion
 - 3. The work of streams
 - 4. Stream gradation

5. Fluvial processes in and arid climate

6. The landscape of mountainous deserts

16. Landforms and Rock Structure

1. Rock structure as a landform control

2. Landforms of horizontal strata and coastal plains

3. Landforms of warped rock layers

4. Landforms developed on other landmass types

17. Landforms made by Waves and Wind

1. The work of waves

2. Tidal currents

3. Types of coastlines

4. Wind action

5. Sand dunes

6. Loess

18. Glacial Landforms and the Ice Age

1. Glaciers

2. Alpine glaciers

3. Ice sheets of the present

4. Sea ice and ice sheets

5. Investigating the Ice Age

Methods of Instruction:

Methods of instruction may include, but are not limited to the following:

- **Method:** Lecture

Integration: Lecture and audio-visual presentations emphasize physical processes of the earth’s surface, human modification of these processes and terminology used in physical geography.

• **Method:** Observation and Demonstration

Integration: In-class demonstration with instructor-guided interpretation, analysis and comparison emphasize physical geography landscape features and processes.

• **Method:** Student presentations

Integration: Students present topics that expand upon processes of physical geography or current events which are related to the assigned reading and scheduled lecture topic.

• **Method:** Discussion

Integration: Class discussions present an opportunity for students to demonstrate their ability to apply terminology, concepts and physical processes of the environment to a variety of physical/geographical scenarios.

• **Method:** Field Trips

Integration: Field trips to nature reserves, state or national parks, or facilities involved with modification of earth processes will provide the students with real world experience.

Methods of Evaluation:

A student's grade shall be determined by the instructor using multiple measures of performance related to the course objectives. Methods of evaluation may include but are not limited to the following:

- **Method:** Exams/Tests

Integration: Tests are comprised of multiple-choice, true or false and matching of terms or short essays and are designed to determine whether or not students comprehend the various processes that contribute to the physical geography of the earth’s surface.

• **Method:** Oral Presentation

Integration: Student presentations are assessed for content, organization and conveyance of information relevant to the assigned reading in the physical geography text.

• **Method:** Papers

Integration: A summary report of field experiences will evaluate the student's ability to integrate physical processes with physical geography concepts and terms, as related to the site visited.

- **Method:** Class Participation
Integration: Student participation in discussions will be evaluated for integration of physical geography processes, concepts and terms, and demonstrated assimilation of information from presentations, lectures and assigned readings.

Examples of Assignments:

Students will be expected to understand and critique college level texts or the equivalent. Reading and writing, as well as out of class assignments are required. These assignments may include but are not limited to the following:

1. Using Google Earth, identify three locations in the United States that will demonstrate distinct interior-continental and coastal weather patterns. Using an onlien weather service, list the weather conditions for today for each of your chosen locations. Discuss the heat index as related to specific and relative humidity. Analyze the differences between dew point, cloud cover, temperature and precipitation for each location. Turn in a one page table that represents each location (four columns) that contrasts and compares weather conditions for the three locations. Beneath the table, write a brief summary of your findings and references (web sites) you used.
2. Create a model or block diagram that illustrates plate tectonics for a specific physical landscape feature. For instance, depict the hot zone beneath Mount St. Helen’s and the aftermath of the volcano eruption. The formation of an island chain or an earthquake fault zone are also good topics. You must choose a real scenario that is exemplary of a particular type of plate tectonic movement and event. In a two-page written report (double-page) describe the characteristics of your plate tectonic feature as unique due to location or physical characteristics.
3. While watching the video on hurricanes, outline at least six positive and six negative impacts to the earth’s surface from cyclonic events. Use at least 1 physical geography term for each impact.

Textbooks:

- Hess, D (2017). *Physical Geography: A Landscape Appreciation* Pearson. ISBN: 9780134245546

Other Resources:

- Access Code to MasteringGeography tests and exercises, with optional etext purchase

Minimum Qualification

- Geography (Masters Required)