Foothill College Course Outline of Record

### Heading
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<tr>
<td>Effective Term:</td>
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<td>Units:</td>
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<td>Hours:</td>
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<td>Advisory:</td>
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### Degree & Credit Status:
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<tr>
<td>Degree &amp; Credit Status:</td>
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<tr>
<td>Foothill GE:</td>
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<tr>
<td>Transferable:</td>
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<td>Grade Type:</td>
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<td>Repeatability:</td>
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### Student Learning Outcomes
- Analyze relationships between humans and the environment
- Apply the major concepts of physical geography to specific locations on Earth. These concepts include climate change, the seasons, landforms, the hydrological cycle, ecosystems, and other major concepts in physical geography.
- Describe spatial patterns observed in maps and remotely sensed images, and explain the physical geography processes that created them.
- Use tools of Geography including maps, graphs and/or Geographic Information Systems (GIS) to analyze and interpret data and draw valid conclusions.

### Description
Study of the Earth's surface, including the earth's dimensions and systems; atmospheric processes; patterns of climate, vegetation and soils; and features, processes and interactions of land, water and various energy sources. Use of maps for interpretation.

### Course Objectives
The student will be able to:
A. Use maps, graphs and Geographic Information Systems (GIS) to interpret data.
B. Explain the causes of season, climate patterns, and major landforms.
C. Describe the function and composition of the atmosphere, and how it affects our daily lives.
D. Discuss the hydrologic cycle, and the distribution and allocation of water resources for humans.
E. Describe the structure of the solid earth and relate it to such phenomena as earthquakes, mountain ranges and volcanoes.
F. Discuss the potentials and limitations of scientific innovations to mitigate natural hazards.

G. Evaluate the effects of the atmosphere and the hydrosphere on the lithosphere.
H. Assess activities through which humans have modified the environment.
I. Relate climate patterns and soils to the Earth's ecosystems.

### Course Content
A. Use maps, graphs and Geographic Information Systems (GIS) to interpret data.
1. The field of physical geography.
   a. The Earth in space; seasons.
   b. The scientific method.
2. The physical Earth.
   a. Instrumentation and methods used to study the Earth.
   b. Remote sensing.
   c. GIS.
   d. Analysis and interpretation of maps.
   e. Analysis and interpretation of graphs and data animations.
3. The atmosphere: weather and climate.
   a. Isolation and the electromagnetic spectrum.
   b. Surface temperature.
   c. Atmospheric pressure and wind.
   d. Air masses.
   e. Classifications of climate.
4. The lithosphere.
   a. Plate tectonics.
   b. Volcanism, earthquakes, orogenesis.
   c. Weathering: atmosphere/hydrosphere/lithosphere interaction.
5. The hydrosphere.
   a. Distribution of water on earth.
   b. The water cycle.
   c. Water resources: distribution and allocation.
6. The biosphere.
   a. Soil formation and classifications.
   b. Ecosystems and biomes.
   c. Range and distribution of plant and animal species on earth.
B. Explain the causes of seasons, climate patterns, and major landforms.
1. The atmosphere: weather and climate.
   a. Isolation and the electromagnetic spectrum.
   b. Surface temperature.
   c. Atmospheric pressure and wind.
   d. Air masses.
   e. Classifications of climate.
2. The lithosphere.
   a. Plate tectonics.
   b. Volcanism, earthquakes, orogenesis.
   c. Weathering: atmosphere/hydrosphere/lithosphere interaction.
3. The hydrosphere.
   a. Distribution of water on earth.
   b. The water cycle.
   c. Fresh water resources: distribution and allocation.
   d. Water resources: distribution and allocation.
   e. Classification of climate.
1. Distribution of water on earth.
2. The water cycle.
3. Fresh water resources: distribution and allocation locally and globally. 
4. Describe the structure of the solid earth and relate it to such phenomena as earthquakes, mountain ranges and volcanoes.
5. Hygrometers
6. Anemometers
7. Seismographs
8. Collection of data
9. Analysis and interpretation of data collected by students
10. Analysis and interpretation of large datasets drawn from the material world
11. Formulation and testing of hypothesis
12. Written laboratory reports which interpret results and draw reasonable conclusions
13. A minimum of one collaborative activity in which students must work effectively in small groups and teams

**Special Facilities and/or Equipment**

A. For laboratory activities, students will need computers with internet access.
B. When taught as an online distance learning section, students and faculty need ongoing and continuous internet and email access.

**Method(s) of Evaluation**

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

A. One comprehensive final exam.
B. One or more additional exam(s) or assessments.
C. Laboratory projects covering areas 4A-4I of expanded description of course content. Projects must include data analysis, interpretation and hypothesis formulation.

**Method(s) of Instruction**

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

A. Lecture
B. Discussion
C. Cooperative learning exercises
D. Electronic discussions/chat
E. Laboratory

**Representative Text(s) and Other Materials**


**Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments**

A. Weekly reading assignments from the textbook and objective quizzes
B. Comprehensive midterm and final examinations
C. Written laboratory reports involving hypothesis formation, interpretation and analysis of data
D. Laboratory projects that involve individual data collection using tools relevant to the discipline.
E. Written assessments that determine student's mastery of course learning outcomes (SLOs)

**Discipline(s)**

Geography