

GEOG 60B: GEOGRAPHY FIELD STUDIES: ECOLOGICAL SYSTEMS

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Fall 2026
Units:	1.5
Hours:	1 lecture, 1.5 laboratory per week (30 total per quarter) This course does not meet a full 12 weeks.
Advisory:	GEOG 1 and GEOG 2.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Student Learning Outcomes

- Apply the major concepts of human and physical geography to study areas identifying patterns and processes
- Discuss human-environment relationships occurring at study areas
- Use tools of geography, including maps, graphs and/or Geographic Information Systems (GIS) to describe spatial patterns, to analyze and interpret data, and draw valid conclusions
- Synthesize collected data, interpret results, and communicate conclusions to a broad audience

Description

Study the spatial distribution of ecosystems and species through biogeography and ecological principles. Students analyze how climate, terrain, and human activity shape ecosystems, and how species adapt to environmental changes and ecological stressors such as climate change. Field studies involve using the tools and perspective of geography to observe, measure, and evaluate the landscape. This includes the ability to describe and interpret spatial patterns, the ability to collect and analyze spatial and non-spatial data, and the ability to draw valid conclusions as to the processes responsible for those patterns. This course will have elements of both human and physical geography and a focus on human-environment relations.

Course Objectives

The student will be able to:

1. Read topographic, thematic, and reference maps of the region
2. Use GPS and GIS technology for navigation and data collection
3. Identify biogeographic landscapes
4. Collect and document ecological field data
5. Relate observations to biogeographic processes

Course Content

1. Basic concepts and terms required for geographic studies
 - a. Pattern and process, including spatial and temporal perspectives
 - i. Describe the field of geography
 - ii. Diffusion, distance, spatial interaction, and accessibility
 - iii. Scale, boundaries, and borders
 - iv. Interdependence and systems theory related to humans and the environment
 - v. Quantitative and qualitative methodologies
 - b. Spatial analysis related to reading and interpreting maps and graphs
 - i. Identify locations using the geographic grid
 - ii. Identify physical and cultural features using map symbols
 - iii. Identify landforms using contour lines on a topographic quadrangle
 - iv. Plot locations using GPS
 - v. Use Geographic Information Systems (GIS) for mapping and basic spatial analysis
2. Basics of field methods, surveying, and data collection
 - a. Identify flora and fauna, and measure biodiversity
 - b. Identify threats to biodiversity, such as invasive species and habitat loss
 - c. Use compass readings or bearings to document the location and direction of sampling sites
3. Analyze data and storytelling related to human-environment phenomena
 - a. Conduct research on a topic related to humans and their environment
 - b. Use of library and internet resources
 - c. Use of ArcGIS, QGIS, Excel, and/or other data analysis tools
 - d. Development and implementation of project design
 - e. Synthesis and presentation of information for public or classroom display
 - f. Peer critiques of research presentations

Lab Content

Students will perform data collection, such as surveying and field methods using geographic techniques. Students will analyze their data and create a small project on their chosen topic related to class content. Lab field trips will focus on ecological systems.

Special Facilities and/or Equipment

Students need internet access to access the course's Learning Management System and computers to use data analysis software, such as GIS or a spreadsheet.

Method(s) of Evaluation

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

Completion of fieldwork
Field records or journals
Projects or reports

Method(s) of Instruction

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

Lecture
Discussion
Field work
Oral presentations
Demonstrations
Field trips

Representative Text(s) and Other Materials

Selby, William. Rediscovering The Golden State. 2018.

Although this text is older than five years, it remains relevant to the field, as it covers both the physical and human geography of California and connects the two. No equivalent text is available for California.

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

1. Students will keep a field journal and engage in data collection and analysis.
2. Students will be required to complete background reading assignments related to laboratory topics.
3. Students will create a short presentation on a geographic topic of their choice and share their research with the class.

Discipline(s)

Geography