BIOL C106: HUMAN ECOLOGY

Item	Value
Curriculum Committee Approval Date	11/17/2017
Top Code	030200 - Environmental Studies
Units	3 Total Units
Hours	54 Total Hours (Lecture Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Grading Policy	Standard Letter (S), • Pass/No Pass (B)
Local General Education (GE)	• CL Option 1 Natural Sciences (CB2)
California General Education Transfer Curriculum (Cal-GETC)	• Cal-GETC 4 Social & Behavioral Sciences (4)
Intersegmental General Education Transfer Curriculum (IGETC)	• IGETC 4 Social&Behavioral Sci (4)
California State University General Education Breadth (CSU GE-Breadth)	• CSU B2 Life Science (B2)

Course Description

Provides students with an understanding of the biological implication of man's interplay with the planet. The course is focused on the biological prospects of the future as viewed by examining the biosphere and biogeochemical cycles. Future predictions and current topics will be analyzed in relationship to planet management. Enrollment Limitation: ECOL C100; students who complete BIOL C106 may not enroll in or receive credit for ECOL C100. Transfer Credit: CSU; UC: Credit Limitation: credit may be granted for either BIOL C106 or ECOL C100.

Course Level Student Learning Outcome(s)

1. Describe major biological and physical components of the environment.
2. Discuss the implications of global climate change and its anthropogenic causes.
3. Evaluate anthropogenic impact on natural ecosystems and resources.

Course Objectives

- 1. Identify the current major ecological problems facing the human species.
- 2. Evaluate the impact of the human population on Earths natural resources.
- 3. Apply the concept of sustainability to both natural and human communities.

Lecture Content

DEFINITIONS Population Renewable vs nonrenewable resources Habitat Adaptation Range Carrying capacity Pollution Matter Energy Biosphere Ecosystem Biome Climate Climate change ENVIRONMENTAL REGULATION Endangered Species Act Human population dynamics Pollution, industrial waste, and the EPA Ecosystem services Community planning Environmental Impact Carbon footprint and greenhouse gases Habitat reduction Climate change CONSERVATION The scientific process Research-based conservation Setting conservation priorities Island biogeography Corridors National and international conservancy regions Funding conservancy regions Case study of conservation zones in various areas. The US national park model ECOSYSTEMS Definition Types Biotic factors Abiotic factors Energy conversion Oceans MEETING ENERGY DEMANDS Renewable v. non-renewable resources Sustainability Nuclear energy Solar energy Wind energy Geothermal energy Hydroelectric Biotechnology HUMAN HEALTH AND WELLNESS Hazardous waste Disease and risks Stress International change and issues Food production

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)
- Video one-way (ITV, video) (63)

Instructional Techniques

Classroom instruction strategies can include the following: lecturing on course topics using PowerPoint, videos, and animations to present ecological processes; small-group discussing, giving surveys taken with personal response systems, etc. When appropriate, instructors can also present case-studies. Assessments based on exam questions, quiz questions, and student demonstrations and/or discussion participation.

Reading Assignments

Textbook and current scientific articles

Writing Assignments

Discussion forums, short answer questions

Out-of-class Assignments

Textbook readings, discussion forums

Demonstration of Critical Thinking

exam questions, analysis of scientific articles

Required Writing, Problem Solving, Skills Demonstration

short answer questions, discussions

Eligible Disciplines

Biological sciences: Masters degree in any biological science OR bachelors degree in any biological science AND masters degree in biochemistry, biophysics, or marine science OR the equivalent. Masters degree required.

Textbooks Resources

1. Required Rye, C., Wise, R., Jurukovski, V., DeSaix, J., Choi, J., Avissar, Y.. Biology, ed. OpenStax (https://openstax.org/books/biology/pages/1-introduction), 2016 Rationale: Legacy Text Legacy Textbook Transfer Data: Legacy Text 2. Required Bakermans, M., and Pfieffer, J. . Climate Lessons, Environmental, Social, Local, ed. OER Commons. (https://

www.oercommons.org/courses/climate-lessons-environmental-social-local/view), 2021

Other Resources

1. Coastline Library