Number: BIOL G110  
TITLE: Ecology And Field Biology

ORIGINATOR: Instructor Placeholder AAA  
EFF TERM: Fall 2011

FORMERLY KNOWN AS:

DATE OF OUTLINE/REVIEW: 11-28-2006

CROSS LISTED COURSE:  
TOP NO: 0301.00

COURSE OUTLINE OF RECORD

SEMESTER UNITS: 3.0
HRS LEC: 36.0  
HRS LAB: 54.0
HRS OTHER: 0.0
CONTACT HRS TOTAL: 90.0
STUDY NON-CONTACT HRS RECOMMENDED: 72.0

CATALOG DESCRIPTION:
This course is a survey course that integrates lectures, laboratory experiences and field trips to emphasize the natural environment, ecological processes of Southern California, and the roles that humans assume as they change the environment and ecology of the areas from which resources are taken. This course is recommended to meet the laboratory requirement for an associate in arts degree.

JUSTIFICATION FOR COURSE:

PREREQUISITES:

COREQUISITES:

ADVISORIES:

ASSIGNED DISCIPLINES:
Biological sciences
Ecology

MATERIAL FEE: Yes [ ] No [X] Amount: $0.00

CREDIT STATUS: Noncredit [ ] Credit - Degree Applicable [X] Credit - Not Degree Applicable [ ]

GRADING POLICY: Pass/No Pass [ ] Standard Letter [X] Not Graded [ ] Satisfactory Progress [ ]

OPEN ENTRY/OPEN EXIT: Yes [ ] No [X]

TRANSFER STATUS: CSU Transferable[X] UC/CSU Transferable[X] Not Transferable[ ]

BASIC SKILLS STATUS: Yes [ ] No [X]  
LEVELS BELOW TRANSFER: Not Applicable

CALIFORNIA CLASSIFICATION CODES: Y - Not Applicable

NON CREDIT COURSE CATEGORY: Y - Not applicable, Credit Course

OCCUPATIONAL (SAM) CODE: E

REPEATABLE ACCORDING TO STATE GUIDELINES: No [X] Yes [ ] NUMBER REPEATS:

REQUIRED FOR DEGREE OR CERTIFICATE: No [ ] Yes [X]
Liberal Arts: Emphasis in Science(Associate in Arts)

GE AND TRANSFER REQUIREMENTS MET:
IGETC Area 5: Physical and Biological Sciences
5B: Biological Science
x
x

CSU GE Area B: Scientific Inquiry and Quantitative Reasoning
B2 - Life Science
B3 - Laboratory Sciences
COURSE LEVEL STUDENT LEARNING OUTCOME(S) Supported by this course:

1. discuss in detail the major themes in ecology and evolution including population dynamics and interactions within a community, modes of evolution, speciation and species concept

2. relate the steps that may be taken to preserve species listed as endangered using both ecosystem and species approaches to preserving biodiversity

3. distinguish differences and accurately describe the characteristics of ocean life zones (both near shore and deep sea) and major terrestrial biomes

4. apply critical thinking and analytical skills to correctly interpret data.

5. demonstrate an understanding of the core concepts and methods in science

COURSE OBJECTIVES:

1. Become knowledgeable in the roles of humans as they interact with their environment.

2. Obtain first hand experience with the biomes found throughout Southern California.

3. Witness the communities and differences in biodiversity in different ocean life zones.

4. Become familiar with a few methods of sampling for biodiversity and the mathematical calculations appropriate for biodiversity data.

5. Obtain a working knowledge of PowerPoint.

6. Become familiar with the steps that may be taken to preserve species listed as endangered.

7. Obtain a working knowledge of how living things of all types interact with each other within a community.

8. Have knowledge of population ecology.

9. Obtain a general knowledge of policies and practices used by current industries that allow sustainable use of natural resources.

10. Learn to respect the environment in which he/she lives and learn to make informed decisions as a member of a community and a voting resident of Orange County.

COURSE CONTENT:

LECTURE CONTENT:

1. Generalizations of science including basic chemistry and physics including the basic laws of each.

2. Scientific method and outside motivations that may spoil results of experiments.

3. Ecosystems: the cycling of matter and the flow of energy through ecosystems

4. Communities and community interactions

5. Populations and population ecology

6. The activities involved in human population size and growth

7. Management of ecosystems

8. Sustaining aquatic biodiversity

9. The species approach to maintaining terrestrial biodiversity

10. The life zones associated with marine intertidal areas

11. The affects of climate and weather on the distribution of terrestrial biomes

12. Biome study: Grasslands, chaparral, deserts, and tundras

13. Biome study: mountains and forests

14. Freshwater life zones

15. Evolution

LABORATORY CONTENT:

1. Generalizations of science including basic chemistry and physics including the basic laws of each.

2. Scientific method and outside motivations that may spoil results of experiments.

3. Ecosystems: the cycling of matter and the flow of energy through ecosystems

4. Communities and community interactions
5. Populations and population ecology
6. The activities involved in human population size and growth
7. Management of ecosystems
8. Sustaining aquatic biodiversity
9. The species approach to maintaining terrestrial biodiversity
10. The life zones associated with marine intertidal areas
11. The affects of climate and weather on the distribution of terrestrial biomes
12. Biome study: Grasslands, chaparral, deserts, and tundras
13. Biome study: mountains and forests
14. Freshwater life zones
15. Evolution

METHODS OF INSTRUCTION:
A. Lecture:
B. Lab:
C. Video One Way – Audio Two Way:
D. Field Experience:
E. Independent Study:

INSTRUCTIONAL TECHNIQUES:

COURSE ASSIGNMENTS:
Reading Assignments
Reading assignment in text: Essentials of ecology by Miller (constantly)
Field trip reporting with format outlined in class syllabus (weekly)
Laboratory reporting using given handout (twice)
Five lecture reinforcement questions that are to be answered and turned in 1 week after the appropriate lecture is delivered (constantly)

Out-of-class Assignments
1. Library research project
2. Class presentation on a local or state conservation issue of the student's choice.

Writing Assignments
Students must complete reports on data collected from laboratory and field. The students will also demonstrate a mastery of the course objectives by taking essay examinations.

METHODS OF STUDENT EVALUATION:
Midterm Exam
Final Exam
Written Assignments
Essay Examinations
Objective Examinations
Report
Projects (ind/group)
Oral Presentations

Demonstration of Critical Thinking:
After gathering data in the laboratory and field, the student must organize and analyze these data. Students must analyze the factors that determine the different natural ecosystems found in California and the adaptations of plants and animals to these systems and their living conditions.

Required Writing, Problem Solving, Skills Demonstration:
Students must complete reports on data collected from laboratory and field. The students will also demonstrate a mastery of the course objectives by taking essay examinations.
TEXTS, READINGS, AND RESOURCES:

TextBooks:

Other:
1. Laboratory handouts
2. Syllabus
3. Lecture handouts

LIBRARY:

Adequate library resources include:

Comments:

Attachments:

[Attached Files](#)