

**NRM 12 Course Outline as of Fall 2021****CATALOG INFORMATION**

Dept and Nbr: NRM 12 Title: INTRO TO ENVIRON CONSERV

Full Title: Introduction to Environmental Conservation

Last Reviewed: 1/25/2021

Units	Course Hours per Week		Nbr of Weeks		Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	3	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly: NRM 10

**Catalog Description:**

An introduction to principles and techniques for the management, conservation, and sustainable use of natural resources. Includes an examination of the causes, consequences, and solutions of contemporary issues affecting environmental conservation.

**Prerequisites/Corequisites:****Recommended Preparation:**

Eligibility for ENGL 1A or equivalent or appropriate placement based on AB705 mandates

**Limits on Enrollment:****Schedule of Classes Information:**

Description: An introduction to principles and techniques for the management, conservation, and sustainable use of natural resources. Includes an examination of the causes, consequences, and solutions of contemporary issues affecting environmental conservation. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 1A or equivalent or appropriate placement based on AB705 mandates

Limits on Enrollment:

Transfer Credit: CSU;UC.

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>		<b>Effective:</b>	<b>Inactive:</b>
	C	Natural Sciences	Fall 1981	
	H	Global Perspective and Environmental Literacy		
<b>CSU GE:</b>	<b>Transfer Area</b>		<b>Effective:</b>	<b>Inactive:</b>
	B2	Life Science	Fall 2003	
	E	Lifelong Learning and Self Development		
	B2	Life Science	Fall 1981	Fall 2003
<b>IGETC:</b>	<b>Transfer Area</b>		<b>Effective:</b>	<b>Inactive:</b>
<b>CSU Transfer:</b>	Transferable	<b>Effective:</b>	Fall 1981	<b>Inactive:</b>
<b>UC Transfer:</b>	Transferable	<b>Effective:</b>	Fall 1981	<b>Inactive:</b>

### **CID:**

#### **Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

### **Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Evaluate and prioritize sustainable management principles for the conservation of natural resources.
2. Discuss the causes, consequences, and solutions of contemporary issues affecting environmental conservation.
3. Apply scientific inquiry and ecological concepts to natural resource conservation.

### **Objectives:**

At the conclusion of this course, the student should be able to:

1. Define the nature of scientific inquiry and apply to contemporary environmental issues affecting natural resource conservation.
2. Describe the values, themes, methods, and history of environmental conservation.
3. Define and discuss terms related to environmental issues and natural resource conservation.
4. Recognize and identify ecological inter-relationships between living and non-living components of the ecosystem.
5. Make decisions that affect natural resources based on evaluating basic ecological and scientific principles.
6. Recognize characteristics and general distributions of California ecosystems and determine how humans have impacted ecosystem functions.
7. Summarize the causes and consequences of human population growth on the environment, including natural resource depletion and climate change.

8. Describe the major categories, sources, and hazards of air and water pollution.

## **Topics and Scope:**

### **I. Introduction**

- A. Concepts of Ecology and Sustainability
  - 1. Ecology as science
  - 2. Scientific inquiry to natural resource problems
  - 3. Terms and issues related to environmental conservation
- B. Biological and Physical Principles of Ecosystem Management
  - 1. Mineral cycling and nutrient uptake
  - 2. Photosynthesis and energy transfer
  - 3. Ecological succession
- C. Historical Development of Resource Utilization

### **II. Natural Resources**

- A. Soil
    - 1. Physical, chemical, and biological properties of soil
    - 2. Soil erosion and conservation
  - B. Forest and Fire Management
    - 1. Silvicultural techniques of sustainable forest management
    - 2. The role of fire in natural ecosystems and forest management
  - C. Range
    - 1. History of range use in the United States
    - 2. Analysis and evaluation of range condition and range trend
    - 3. Range management techniques
  - D. Wildlife Ecology
    - 1. Principles and characteristics of wildlife populations
    - 2. Methods of controlling wildlife populations
    - 3. Principles of habitat management
    - 4. Economic importance of the fish and game resource
  - E. Biodiversity
    - 1. Trends, threats, and contemporary issues affecting biodiversity
    - 2. Conservation practices of biodiversity
  - F. Wilderness and Outdoor Recreation
    - 1. The role of federal, state, and regional governments for multiple-use management of public lands
  - G. Water Resources
    - 1. Analysis of the hydrologic cycle
    - 2. Groundwater and surface water management principles
    - 3. Water in California
  - H. Fisheries
    - 1. Aquatic ecology
    - 2. Commercial fishery management techniques
    - 3. A study of the conflict of uses
- ### **III. Role of Human Populations**
- A. Population Dynamics, Distribution, and Control
  - B. Agriculture
    - 1. Analysis of the environmental impacts of industrial and sustainable agriculture
    - 2. Assess methods of sustainable agriculture
  - C. Air and Water Pollution
    - 1. Fossil fuels and greenhouse gas emissions
    - 2. Sources and management of water pollution

3. Analysis of pollution impacts on environmental health
- D. Climate Change
  1. Analysis of the causes, consequences, and solutions of climate change
  2. Assess the effectiveness of solutions of climate change
- E. Environmental Policy
  1. A study of the role of policy in environmental conservation
  2. Overview of major environmental policies and organizations

**Assignment:**

1. One report on Natural Resource Management (2-3 pages)
2. Weekly reading assignments (10-20 pages)
3. Weekly online discussion assignments
4. One written evaluation of credible scientific information
5. One book review (5-6 pages)
6. Weekly quizzes
7. One final research project including written paper (3-4 pages)
8. One oral presentation (15 minutes)

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Report on Natural Resource Management, book review, discussion assignments	Writing 20 - 30%
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**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Written evaluation of credible scientific information	Problem solving 20 - 30%
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**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Final research project, oral presentation	Skill Demonstrations 20 - 30%
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**Exams:** All forms of formal testing, other than skill performance exams.

Quizzes	Exams 15 - 20%
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**Other:** Includes any assessment tools that do not logically fit into the above categories.

None	Other Category 0 - 0%
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**Representative Textbooks and Materials:**

Natural Resource Conservation Management for a Sustainable Future. 10th ed. Chiras, Daniel and Reganold, John. Prentice Hall. 2010 (classic)

The Post Carbon Reader: Managing the 21st Century's Sustainability Crises. Heinberg, Richard and Lerch, Daniel. Watershed Media. 2010 (classic)

Instructor prepared materials