



El Camino College
COURSE OUTLINE OF RECORD – Official

Course Acronym:	AHSD
Course Number:	524
Descriptive Title:	High School Environmental Science - Ecology
Division:	Adult High School Diploma
Department:	Adult High School Diploma
Course Disciplines:	Adult High School Diploma
Catalog Description:	This noncredit high school level course is an introduction to the study of environmental science, including ecological systems of abiotic and biotic factors and current environmental challenges. Successful completion of this course contributes to progress toward a high school diploma or equivalent. From 1-10 high school credits can be earned in 15-hour modules. Note: This course is open entry/open exit.
Prerequisite:	
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	
Hours Lecture (per week):	.83 to 8.33
Hours Laboratory (per week):	0
Outside Study Hours:	1.66 to 16.66
Total Course Hours:	15 to 150
Course Units:	0
Grading Method:	Pass/No Pass/SP
Credit Status:	Noncredit
Transfer CSU:	No
Effective Date:	
Transfer UC:	No
Effective Date:	
General Education:	ECC
Term:	
Other:	
CSU GE:	
Term:	
Other:	
IGETC:	

Term:	
Other:	
Cal-GETC:	
Term:	
Other:	
Student Learning Outcomes:	Upon completion of the course, students will be able to: 1. diagram the relationships between the biotic and abiotic factors of an ecosystem. 2. critique the environmental issues currently concerning environmental scientists and the techniques being considered to address these issues. 3. Identify potential treatments and solutions to species concerns such as invasive species, extinctions and lack of biodiversity, and mutations/die offs.
Course Objectives:	1. Arrange pathways of relevant abiotic factors that cycle, such as energy and biologically important elements. 2. Relate abiotic factors to biotic life requirements 3. Explain how interactions between biotic and abiotic factors cause the formation of aquatic and terrestrial biomes. 4. Explain the complexity of studying ecological scale systems. 5. Identify and list the cause and effect of atmospheric concerns, such as ozone depletion, acid rain, and greenhouse gasses; and potential treatments. 6. Determine the cause and effect of terrestrial concerns such as heavy metal contamination, deforestation, and mining practices. 7. Analyze the cause and effect of aquatic concerns such as nutrient and herbicide runoff, industrial waste, and oil spills.
Major Topics:	Note that this is high school level content: I. Study of Science A. Scientific Method B. Measurements, Experimental Design, and Scientific Modeling C. Science and Governmental Policies II. Life Requirements A. Energy B. Nutrients and Water C. Food Chains and Webs III. Bacteria, Fungi, Protists, and Lichens IV. Plants A. Plant Structure: Cells, Tissues, Organs B. Photosynthesis

C. Plant Adaptations

D. Nitrogen Cycling

V. Animals

A. Animal Structure: Cells, Tissues, Organs

B. Animal Adaptations

C. Carbon Cycling

D. Diversity and Extinction

VI. Atmosphere and Weather

A. Atmosphere Composition

B. Clouds and Precipitation

C. Ozone Layer and Radiation

D. Greenhouse Gases and Global Warming

E. Weather and Acid Rain

VII. Soil, Land Formations and Structure

A. Soil structure

B. Rocks and Phosphorus Cycling

C. Mountains

D. Terrestrial Systems and Biomes

VIII. Aquatic Systems

A. Freshwater Systems and Biomes

B. Marine Systems

C. Water Cycling

IX. Human Effects on the Environment

A. Fossil Fuels and Renewable Energy

B. Pollution and Remediation

C. Deforestation and Habitat Management

X. Governmental Regulation

A. Process of Environmental Laws

B. History of Environmental Regulation

	C. Parks and Preserves
Total Lecture Hours:	15 to 150
Total Laboratory Hours:	0
Total Hours:	15 to 150
A.1. Primary Methods of Evaluation (Part 1 - CCN courses only):	
A.2. Primary Method of Evaluation (Part 2 - all courses; choose one):	3) Skills demonstration
Typical Assignment Using Primary Method of Evaluation:	Pick two chemical cycles and diagram them. Include in each diagram two environmental concerns and one governmental regulation that relates to that cycle. Write up your findings in a 1–2-page report. Use proper MLA format for any works cited. Be prepared to discuss your findings in class.
Critical Thinking Assignment 1:	Research biomes. Create a presentation, travel brochure, or similar artifact to showcase your biome. Answer the following questions: What kinds of activities could people do in this location? What kinds of plants and animals live there? What kind of clothes should they bring? What's the weather like? What is the best time of year to travel there? What part of the world will they be travelling to? Are there any dangerous elements to traveling there?
Critical Thinking Assignment 2:	Diagram two food webs. Make one for a terrestrial system in a biome of your choice and the other for an aquatic system in a biome of your choice. For each web, include and label two or more of each trophic level: producer, primary consumer, secondary consumer, tertiary consumer, and decomposer. Make sure that your direction of energy flow is clearly labeled.
Other Evaluation Methods:	Completion, Essay Exams, Homework Problems, Matching Items, Multiple Choice, Objective Exam, Presentation, Quizzes, Reading Reports, Written Homework
Instructional Methods:	Demonstration, Discussion, Group Activities, Lecture, Multimedia presentations
If other:	
Work Outside of Class:	Answer questions, Problem solving activity, Required reading, Study, Written work (such as essay/composition/report/analysis/research)
If Other:	
Up-To-Date Representative Texts:	Molles, Manuel and Anna Sher. <i>Ecology: Concepts and Applications</i> , 9th edition. McGraw-Hill, 2022.
Alternative Texts:	
Required Supplementary Readings:	
Other Required Materials:	
Requisite:	
Category:	

Requisite course(s): List both prerequisites and corequisites in this box.	
Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).	
Requisite Skill:	
Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable	
Requisite course:	
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Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	Matthew Kline
Date:	04/02/2024
Original Board Approval Date:	01/13/2025
Last Reviewed and/or Revised by:	Matt Kline
Date:	03/06/2026
Last Board Approval Date:	05/20/2026
Effective Term:	FA 2026