ARCH A102: INTRODUCTION TO ENVIRONMENTAL STUDIES

Item	Value
Curriculum Committee Approval Date	12/02/2020
Top Code	030300 - Environmental Technology
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)

Course Description

This course is designed to present an overview of the environmental studies field to students from multiple disciplines. A basic understanding of issues related to the environmental components of air, soil and water; historic development of ecological issues; economic, political, and cultural concepts; regulations, and technology will be presented. An overview of career opportunities and paths within the environmental industry will also be covered. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Understand the relationships between economic development and the management of natural resources, including knowledge of environmental regulatory sources and references.
2. Be able to interpret and determine the scope of environmental legislation and policies.
3. Identify and analyze generic industrial processes and waste streams, hazardous materials, toxic substances, industrial toxicology, industrial hygiene, occupational health hazards, and appraise pollution prevention and waste management techniques.
4. Identify different environmental career opportunities and paths.

Course Objectives

- 1. Recognize the relationships between economic development and management of natural resources.
- 2. Identify environmental regulatory sources and references.
- 3. Interpret and determine the scope of environmental legislation.
- 4. Analyze generic industrial processes and waste streams.
- 5. Identify types of hazardous materials.
- 6. Appraise the health effects of toxic substances.
- 7. Distinguish between industrial toxicology, industrial hygiene, occupational health hazards and risk management.
- 8. Appraise pollution prevention and waste management techniques.
- 9. Differentiate environmental career opportunities and paths.

Lecture Content

Lecture Content: Environmental studies introduction Historical perspectives Career path options Environmental laws and regulations Environmental compartments Ecology and natural resources Biosphere interactions Community and ecosystems Natural resources management Air Carbon, Oxygen and Nitrogen Cycles Air pollution and health Air pollution control techniques Regulatory framework Water Hydrologic cycle Water sources Water Pollution Wastewater and water treatment processes Water quality laws Land Soil concepts Land pollution Regulatory framework Environmental health and safety Occupational safety Toxicology and Industrial Hygiene Risk Managment Hazardous materials Hazardous materials and substances Identification and labeling Transportation requirements Disposal of materials Regulations of hazardous materials and substances Pollution prevention Waste management Source reduction and waste minimization Waste reduction technologies Waste management legislation Environment and economic development Ecotourism and sustainable development Renewable energies Industrial ecology Environmental education Environmental justice

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)

Instructional Techniques

Lecture, discussion, small group work.

Reading Assignments

Required readings from text, instructor handouts.

Writing Assignments

Students will be assigned reports and small group projects that will include research and writing, as well as analytical reports and/or case studies.

Out-of-class Assignments

Research and reports on environmental topics. Field visits and analysis reports on industry site visits, community lectures, environmental events, and conferences/industry events as available each semester.

Demonstration of Critical Thinking

Problem-based learning activities (define, analyze, synthesize, communicate, report, evaluate) requiring independent research and group collaboration.

Required Writing, Problem Solving, Skills Demonstration

Reports and analytical case studies, oral presentations and summary of research findings, and demonstration of knowledge of environmental concerns and procedures through reports and exams.

Eligible Disciplines

Architecture: Any bachelors degree and two years of professional experience, or any associate degree and six years of professional experience. Environmental technologies (environmental hazardous material technology, ha...: Any bachelors degree and two years of professional experience, or any associate degree and six years of professional experience.

Textbooks Resources

1. Required Boyce, Ann. Introduction to Environmental Technology, Latest ed. John Wiley and Sons, Inc. , 1996 Rationale: This book is used across the state for Environmental Technology training (including for OSHA training). There is no more current edition, nor is there a more current book that covers all this material. Instructor will check for newer text when course is scheduled. 2. Required McDonough, William; Braungart, Michael. Cradle to Cradle, Current ed. New York: North Point Press, 2002 Rationale: This is an industry foundation text for Circular Economies and Closed Loop Systems. It has not been updated as a text, but the website www.c2c.org gives updated and current context for the text.