



MASTER COURSE OUTLINE

Prepared By: Mariah Whitney, Kathleen Duvall

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COURSE TITLE

Survey of Environmental Science

GENERAL COURSE INFORMATION

Dept.: ENVS&

Course Num: 100

(Formerly: ENV 101)

CIP Code: 30.0101

Intent Code: 11

Program Code: N/A

Credits: 5

Total Contact Hrs Per Qtr.: 55

Lecture Hrs: 55

Lab Hrs: 0

Other Hrs: 0

Distribution Designation: Natural Science NS

COURSE DESCRIPTION (as it will appear in the catalog)

An introduction to the fundamental principles of environmental science, topics of study include some of the following topics: environmental, science, and information literacy, human population growth, environmental health, ecological economics and consumption, solid waste, ecosystems and nutrient cycling, population and community ecology, evolution and extinction, biodiversity and preserving biodiversity, freshwater resources and water pollution, food resources and sustainable agriculture, coal and petroleum, air pollution and climate change, nuclear power, alternative energy sources, environmental policy, and urbanization and sustainable communities.

PREREQUISITES

None

TEXTBOOK GUIDELINES

A recent edition of an introductory environmental science text such as *Environmental Science for a Changing World*, 3rd Edition, by Houtman, Karr, and Interlandi, W. H. Freeman and Company. The text used must have departmental approval.

COURSE LEARNING OUTCOMES

Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:

1. Explain the nature of environmental science and discuss its interdisciplinary scope.
2. Explain and discuss the scientific basis of current environmental problems.
3. Describe the connections between current environmental problems.
4. Discuss the effects of human activities on the environment.
5. Analyze the impact of environmental problems and their solutions on human populations.
6. Explore and evaluate possible solutions to current environmental problems.
7. Define and explain the concept of sustainability and list possible sustainable choices of individuals, communities, and nations.

INSTITUTIONAL OUTCOMES

None

COURSE CONTENT OUTLINE

1. Sustainability
Environmental Literacy and the Goal of Sustainability – On the Road to Collapse
Managing Solid Waste – A Plastic Surf
Urbanization and Sustainable Communities – The Ghetto Goes Green
2. Agriculture and Population
Human Populations – One-Child China Grows Up
Feeding the World – A Gene Revolution
Sustainable Agriculture: Raising Crops – Farming Like an Ecosystem
3. Pollution
Water Pollution – Into the Gulf
Air Pollution – The Youngest Scientists
Information Literacy and Toxicology – Toxic Bottles?
4. Biodiversity and Climate Change
Community Ecology – What the Stork Says
Biodiversity – Palm Planet
Climate Change – When the Trees Leave
5. Energy
Coal – Bringing Down the Mountain
Oil and Natural Gas – The Bakken Oil Boom
Sun, Wind, Water, and Earth Energy – Fueled by the Sun

Each unit only needs 2 of the 3 topics, may include more if time permits

Additional/Replacement Topics Can Include:

Science Literacy and the Process of Science – Science and the Sky
Environmental Health – Eradicating a Parasitic Nightmare
Ecological Economics and Consumption – Wall to Wall, Cradle to Cradle
Ecosystems and Nutrient Cycling – Engineering Earth
Population Ecology – The Wolf Watchers
Evolution and Extinction – A Tropical Murder Mystery
Preserving Biodiversity – A Forest Without Elephants
Freshwater Resources – Toilet to Tap
Nuclear Power – The Future of Fukushima
Environmental Policy – Counterfeit Cooling

DEPARTMENTAL GUIDELINES *(optional)*

- The overall course percentage will be based on the following weighted categories:
 - Lecture exams (including 3-5 tests) collectively worth 60-70%,
 - Student integration project worth 10%, and
 - Class assignments/quizzes collectively worth 20-30% of the overall score
- A standard grade scale will be used for this course with a 2.0 grade point corresponding to 70-72%.
- All exams are proctored. When possible, exams are held on campus. Online and hybrid courses may have exams online; they may or may not be proctored.
- PO4 should be assessed: Students will be able to recognize or articulate personal/interpersonal aspects of, or connections between, diverse cultural, social, or political contexts.
- PO5 should be assessed: Students will be able to solve problems by gathering, interpreting, combining and/or applying information from multiple sources.

DIVISION CHAIR APPROVAL

DATE