UAE University
Faculty of Science
Department of Biology

Principles of Environmental Science (BIOE240)

Instructors:

Course Description
This course attempts to provide an overview of environmental science from a global perspective: the interactions between humans and the environment, with an emphasis on the natural science elements of environmental issues pertaining to the UAE, the region as well as the world. More specifically, this course is an introduction to the various ways that humans depend on the earth's natural resources, and how human activities directly and indirectly affect the earth and its human and non-human inhabitants. You will learn how to apply the scientific method to investigate natural flows of chemicals, water and energy in terrestrial, aquatic, and atmospheric systems, and how humans impact these natural flows and systems. In addition, you will assess how policy, individual behavior, and technology can prevent, control and reverse environmental harm. Finally, we will explore how human wants, needs, and values against a background of limited resources contribute to these problems, as well as the potential for managing these problems within the sociopolitical reality of our modern world.

Course Objectives:
Upon successful completion of ***Principles of Environmental Science***, Students will be able to

1. Comprehend how the earth's natural system operate and interrelate with one another.
2. Describe how human activities impact natural systems from a global perspective.
3. Delineate natural flows of chemicals, minerals, water and energy.
4. Explain how human activities alter or degrade natural flows.
5. Evaluate a wide range of cultural and social approaches and how they apply to environmental issues.
6. Delineate geographic distributions of environmental impacts.
7. Explain concepts of environmental justice.
8. Summarize major environmental policies and regulations.
9. Assess the effect and importance of individual behavior in environmental issues.
10. Classify technologies that prevent, control and reverse environmental harm.

11. Develop informed views based on critical evaluation of information sources.
12. Engage in problem solving of environmental issues.

Textbook

- Cunningham, W.P. & Cunningham, M. 2009 (Fifth Edition). Principles of Environmental Science – Inquiries and Applications. McGraw Hill: London.

Recommended Reference Book

- Environmental Science: A Global Concern. 2008. William P Cunningham, Mary Ann Cunningham, Barbara Woodworth Saigo. McGraw Hill.

Course Assessment

Proposed grading of the course is as follows:

1. Class participation	10 %
2. Quizzes	20 %
3. Report and presentation	20%
4. Midterm exam	20 %
5. Final exam	30 %

Total	100%

Syllabus

Week 1	Introduction to Environmental Science	Chapter 1
Week 2-3	Principles of Ecology	Chapter 2
Week 4-5	Human Populations	Chapter 4
Week 6-7	Biomes and Biodiversity	Chapter 5
Week 8	Environmental Conservation	Chapter 6
Week 9-10	Food and Agriculture	Chapter 7
Week 11-12	Air: Climate and Pollution	Chapter 9
Week 13-14	Water: Resources and Pollution	Chapter 10
Week 15-16	Energy	Chapter 12