

ES 10 - Introduction to Environmental Science (Lecture)

Ateneo de Manila University
First Semester 2001-2002
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I. Course Description

This is a 3-unit natural science course for non-science majors. It touches on the basics of environmental science, combining the interdisciplinary knowledge of Chemistry, Biology, Physics and other sciences. The course focuses on global and local environmental problems, and the various scientific, technological, economic and social issues connected with them.

The course has four (4) main parts. The introductory part explains the definition, scope and approach of environmental science. It also gives an overview of the entire course. The second part deals with basic ecology, which provides the student the basic context within which environmental issues exist. The third part presents a framework for understanding human impact on the environment. It then deals comprehensively with specific issues such as air pollution, global climate change, soils and agriculture, water resources management, and solid waste generation. Finally, the fourth part touches on concepts and principles of environmental management and sustainable development.

II. Course Objectives

The course aims to enhance:

1. familiarity with the scientific, technological and socio-economic aspects of local and global environmental problems and issues;
2. critical and analytical skills for evaluating environmental issues and problems; and
3. lifestyle integration of relevant environmental concepts and principles.

III. Course Outline

WEEK	TOPIC OUTLINE	EXAM	EXAM DATE
1	A. Introduction		
2 3-4 5-6 7	B. The Natural Environment Biogeochemical Cycles Biological Systems Ecology and Ecosystems Population Dynamics	1	
8-9 10-11 12-13 14-15 16	C. Human Impact on the Environment: An Overview The Atmosphere and Air Pollution Soils and the Use of the Land Our Water Resources and Its Management Wastes	2	
17	D. Environmental Management and Sustainable Development	3	

IV. Grading System

Requirements:

Assignments/quizzes	20%
Participation in class	10%
Long exams (3)	30%
Project	20%
Final Exam	<u>20%</u>
	100%

Grade Equivalents:

A	92-100
B+	87-91
B	83-86
C+	79-82
C	72-78
D	60-71

V. Class Policies

Attendance. Two records of tardiness will be equivalent to one absence. You are allowed **9 cuts** for MWF classes and **6 cuts** for TTh classes; no distinction is made between excused and unexcused absences. Students who exceed the allowable number of cuts will get a grade of **W**.

Class Decorum. Turn beepers and cellphones off during class, otherwise they shall be confiscated. Your physical and mental presence in class is highly valued, as well as your opinions and ideas. The fruitfulness of the semester very much depends on your openness, discipline and creativity.

Requirements. You are expected to submit requirements on time. Late submissions will be accepted but shall be marked two grades lower than the deserved one.

Exams. Anyone caught cheating will get a grade of **F** for that particular exam. Anyone suspected to be cheating shall be given a written reprimand. No make-up exams will be administered unless in case of illness (provide a medical certificate as proof).

VI. References

Any Environmental Science book, ES handouts

VII. Consultation Hours

Consultation hours will be every WF 1.30-2.30 p.m. at the ES Program Office, Manila Observatory. Please set an appointment before coming. Students are allowed to set appointments outside the consultation hours but at a time convenient to the teacher.

ES 10 Project First Semester, SY 2001-2002

The class project is intended to be a vehicle for students to obtain valuable learning beyond the classroom to pursue environmental topics of interest. The project involves a thorough investigation of a current local environmental concern such as wildlife conservation, municipal waste management, or corporate environmental management.

The project will have two components:

1. *Written report.* This shall include the following:
 - ✍ Title
 - ✍ Topic Outline (or table of contents)
 - ✍ Objectives
 - ✍ Significance of the Study
 - ✍ Methodology
 - ✍ Discussion Proper
 - ✍ References
 - ✍ Process Documentation
2. *Oral Presentation.* This is a 20-minute highlight of the project plus a 10-minute open forum. Presentations are expected to be informative, creative and effective.

The project shall be graded with the following criteria:

Written report

Content of material and potential contribution	30%
Research effort and strategy	30%
Organisation and presentation of the written report	10%

Oral presentation

Overall impact of report	20%
Mastery and responses to questions	<u>10%</u>
	100%

The value of a project as a learning tool can only be maximised if it is well-planned in advance. Excellent projects take time to develop and must be accomplished in stages. Below is a prescribed timetable for the project:

<i>Task</i>	<i>Deadline</i>
Topic Proposals	25 June 2001
Project Proposal	9 July 2001
Three-Level Outline	27 July 2001
Draft Paper	15 August 2001
Final Paper	31 August 2001
Oral Presentation	10, 17 & 24 September