Kuwait University
College of Business Administration
Economics Department

Course Syllabus
ECON 309 – Economics of Natural and Environmental Resources
Fall 2023-2024

Prof. Michail Skourtos

Lecture Time and Location
Mon and Wed, 2:00 PM – 3:15 PM, Building BUA-S, Room 1003 / C3

Contact Information
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Office Hours: Monday and Wednesday 13.00 pm – 14.00 pm and by appointment

Course Description
This course examines natural resource and environmental issues emphasizing the role of economics in understanding their importance for both national economies and private business. The discussion takes place in the context of the 'sustainable development' debate. The course begins with a review of core economic concepts. We then consider market failures that can arise with externalities, public goods, and common property resources. We look at static and dynamic models of natural resource allocation, including models used to study optimal management of renewable resources such as fisheries. The models examined provide a framework for examining alternative institutional arrangements (private property, markets, regulations, and public policy) in their capacity to achieve socially optimal outcomes. Issues of conservation ethics and intergenerational justice underpinning the policies will also be considered. Using specific resource sectors as example (fisheries, fossil fuels, oil, renewable energy technologies) the economic models are explained in detail in a way that is intended to raise the learner's confidence in the interpretation and assessment of various policy insights that are derived from the models.

Prerequisites
The official prerequisite for this course is ECON111 [Principles of Macroeconomics]. Nevertheless, it is very important that you have already taken ECON205 [Mathematics for Economics] and have a good understanding of microeconomic concepts.

Course Learning Objectives (CLOs)
Upon successful completion of the course, students will be able to:
CLO1. Describe how different types of economic methods can be used to value natural and environmental resources.
CLO2. Quantitively analyze environmental and natural resource economics from an economic perspective
CLO3. Explain why private markets may fail once environmental quality is considered, and how markets can be used to improve environmental quality.
CLO4. Analyze and evaluate the outcomes of different environmental policy settings
CLO5. Apply economic theory in designing and evaluating policy solutions to environmental problems
CLO6. Apply dynamic optimization in natural resource applications to characterize the efficient allocation of natural resources over time.
CLO7. Describe the different types of institutions that lead to the efficient outcome in open-access natural resources.
CLO8. Prepare an analytical paper that uses economic theory to identify and analyze an environmental or a natural resource problem and demonstrate their analytical and communication skills by presenting and discussing their findings with other students.

CLO Mapping to CBA Skill Based Competency Goals*

* CBA Competency Goals can be found at the end of this document

CLO	Competency Goals			
	Analytical	Communication	Information Technology	Business Ethics
1	I			
2	R			
3	R			R
4	I			
5	I			
6	I			
7	I			
8	R	A	A	A

Type of Emphases:
(I)ntroduce: Students will be introduced to the skill and their grasp of it assessed in the course.
(A)pply: The course will not cover the skill. Students should have a high-level grasp of the skill and are required to apply it in the course.
(R)einforce: Students should have an introductory-level grasp of the skill and the course will improve their mastery to a higher level.

Reading Material

A concise overview of the topics is provided by: Perman, R., Ma, Y., McGilvray, J and Common, M (2003). Natural Resource and Environmental Economics. 3rd edition (available in KU library). Occasionally we will use: Environmental and Natural Resource Economics, by Tom Tietenberg and Lynne Lewis. Lecture slides are available on Moodle. Supplementary reading material will be distributed during the term. Readings are drawn from a variety of sources. You should read them as necessary to thoroughly understand the material. All reading material will be made available on Moodle. **Since we will work with multiple sources it is very important that you attend ALL classes and take notes!**

E-Learning System: MS Teams and Moodle
Course Website: http://moodle.ku.edu.kw

Course Requirements

Students will be assessed based on individual assignments, a midterm exam, a final exam, a team project, academic journal readings and class preparation/ participation.

Exams: There will be one midterm exam (November 1st) and a final exam (January 8th, 8:00 am to 10:00 am; room to be announced). No make-up or early tests will be given. The final is comprehensive including all material that has been taught during the semester.

Individual Assignments: I will assign through Moodle two homework assignments (4th and 10th week). The assignments should be submitted through Moodle on the due days. The problem sets are designed to help you understand the material covered in the lectures and they are valuable resources for test review. All details of your analytical thinking must be given with your answer (be sure to work logically through each problem and identify the basic steps associated with arriving at your answer). Please complete them carefully and turn them in on time. Collaboration with classmates is OK; copying is not. Ask for assistance at any time if you are having trouble with the assignment.

Team Project: The class will be divided into research teams that will then identify and analyse an environmental/natural resource problem. The team will provide a joint paper and present findings to the class. Further instructions will be provided later.

Journal readings: Throughout the course there will be three academic journal readings assigned to you to read before coming to class. You are required to read these three papers before their discussion dates in class. I will assign homework (e.g., questions or a short-written report) for you to turn in before we discuss them in class. These three assignments are meant to encourage you to read academically published papers in Economics Journals. Your grade in this category will be based on the assigned journal reading homework as well as your participation when we discuss them in class. Note: questions about the journal reading we have discussed will be part of your written midterm and final exams.

Participation: The quality of our classroom discussions in large part depends on you. Participation means, among other things: (1) presenting case facts for the problems we discuss, (2) exploring different alternatives, (3) proposing policy plan for action, (4) anything that shows you have prepared yourself to discuss the material in the class.

Class Preparation: To participate, you must be prepared. To ensure comprehension, students will be randomly questioned about the required readings, the chapter under discussion or asked to answer quizzes.

Writing Style: Students must refer to MLA writing style for their assignments and report writing. Refer to the English Language Center for help. Provide me all your HWs in Word files named as: "Name_Surname_309_AssignX"

Course Policies

Attendance and Participation: Every student in this course must abide by the Kuwait University Policy on Attendance (published in the Student Guide, Chapter 3, Section 13). A copy of the student guide can be accessed online on: http://www.kuniv.edu/cs/groups/ku/documents/ku_content/kuw055940.pdf

Cheating and Plagiarism: Every student in this course must abide by the Kuwait University Policy on Cheating and Plagiarism (published in the Student Guide, Chapter 3, Section 2). A copy of the student guide can be accessed online on: http://www.kuniv.edu/cs/groups/ku/documents/ku_content/kuw055940.pdf Please carefully note all sources and assistance when you turn in your work. Under no circumstances should you take credit for work that is not yours. You should neither receive nor give any unauthorized assistance on any deliverable. If you have any questions about what constitutes "unauthorized assistance" please email me before the deliverable is submitted.

Grading

Your final, total score will be the weighted average of the following items:

Weight	Description
30%	Midterm
40%	Final
10%	Individual Assignments
10	Team Project
5%	Journal readings
5%	Class Preparation and Participation
100%	TOTAL

Grade Distribution:

Grade	Range
A	≥ 95
A-	≥ 90 and < 95
B+	≥ 87 and < 90
B	≥ 83 and < 87
B-	≥ 80 and < 83
C+	≥ 77 and < 80
C	≥ 73 and < 77
C-	≥ 70 and < 73
D+	≥ 65 and < 70
D	≥ 60 and < 65
F	< 60

Course Outline

Title	Topics	Reading	Week
Introduction	Basic facts about the state of environment; modelling the interaction between economy and natural environment; framing the problem in economic terms; how much protection? tragedy of the commons; the issue of intergenerational justice	Perman et al ch. 1	1
Sustainability	Different forms of sustainability; biophysical and economics approaches; sustainability in practice;	Perman et al ch. 4	2
Welfare economics and the environment I	Efficiency in the market; private cost and benefit; consumer surplus; deadweight loss; market structures	Perman et al ch. 5	3
Welfare economics and the environment II	Market failures; public goods; externalities; free riders; imperfect information; social welfare functions	Perman et al ch. 5	4
Pollution control: Targets	Pollution as externality; optimum pollution; ambient standards; the cost of pollution; the cost of preventing pollution	Perman et al ch. 6	5
Pollution control: Instruments I	Criteria for choosing policy instruments; prices versus quantities; taxes and subsidies	Perman et al ch. 7	6
Pollution control instruments II	Cap and trade; market creation; Payment for Ecosystem Services (PES)	Perman et al ch. 7	7
Valuing the environment I	Environmental values; the role of demand functions; revealed preference techniques	Perman et al ch. 12	8
Valuing the environment II	Stated preference techniques	Perman et al ch. 12	9
Efficient and optimal use of natural resources	Production with NRs; is NRs essential? Resource substitutability; application to oil extraction	Perman et al ch. 14	10

Nonrenewable resources	A two-period model; resource extraction in competitive markets; resource extraction in a monopolistic market; comparison of market structures;	Perman et al ch. 15	11
Renewable resources	Biological growth processes; open access fishery; private property fishery; socially efficient resource harvesting; safe minimum standard	Perman et al ch 17	12
Environmental accounting	Environmental indicators; environmental accounting; sustainability indicators; environmental accounting in international perspective	Perman et al ch 19	13

Important Dates

Date	Event
Sept 18th, 2023	Beginning of classes
Oct 11th, 2023	1st Assignment Out
Oct 18th, 2023	1st Assignment In
Nov 1st, 2023	Midterm exam
Nov 22nd, 2023	2nd Assignment Out
Nov 29th, 2023	2nd Assignment In
Dec 20th, 2023	Last day of classes
Jan 8th, 2024	Final exam

CBA Competency Goals

1. Analytical Competency: A CBA graduate will be able to use analytical skills to solve business problems and make a well-supported business decision.

Student Learning Objectives:

1.1. Use appropriate analytical techniques to solve a given business problem.
1.2. Critically evaluate multiple solutions to a business problem.
1.3. Make well-supported business decisions.

2. Communication Competency: A CBA graduate will be able to communicate effectively in a wide variety of business settings.

Student Learning Objectives:

2.1. Deliver clear, concise, and audience-centered presentations.
2.2. Write clear, concise, and audience-centered business documents.

3. Information Technology Competency: A CBA graduate will be able to utilize Information Technology for the completion of business tasks.

Student Learning Objectives:

3.1. Use data-processing tools to analyze or solve business problems.

4. Ethical Competency: A CBA graduate will be able to recognize ethical issues present in business environment, analyze the tradeoffs between different ethical perspectives, and make a well-supported ethical decision.

Student Learning Objectives:

4.1. Identify the ethical dimensions of a business decision.
4.2. Recognize and analyze the tradeoffs created by application of competing ethical perspectives.
4.3. Formulate and defend a well-supported recommendation for the resolution of an ethical issue.

5. General Business Knowledge: A CBA graduate will be able to demonstrate a basic understanding of the main business disciplines' concepts and theories.

Student Learning Objectives:

5.1. Acquire a fundamental understanding of knowledge from the main business disciplines (e.g. finance, accounting, marketing, and management information systems, among others).