



蘇州大學  
Soochow University

# ECO 570 Environmental Economics

Winter 2024

**Course Credits:** 4

**Contact Hours:** 56 hours

**Instructor:** TBA

**Email:** TBA

## **COURSE OBJECTIVES**

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This course explores quantitative and qualitative research methods used to bridge the relationship between the economy and the environment. Topics throughout the semester will include sustainability, efficiency and optimality of natural resource uses, positive and negative externalities from the environment, cost-benefit analysis and pollution abatement models. This course will also touch upon key macro-economic topics such as international environmental policy and global cap and trade markets.

Upon Completion of this Course, students will be able to:

1. Apply basic theories within the field of environmental- and resource economics;
2. Prepare an analytical policy report that develops knowledge and practical implementation of relevant economic theory in understanding and addressing an environmental or natural resource issue;
3. Develop an understanding of environmental issues and the various mechanisms used to improve upon market outcomes;
4. Evaluate cost-benefit analysis procedures intended to address issues related to preservation and conservation.

## **PREREQUISITES**

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ECO 110 Microeconomics, ECO 120 Macroeconomics

## **GRADING**

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Grades will be determined by accumulating points, with 100 points being the maximum, as follows:



ITEM	POINTS
2 Assignments	10 Points
2 Quizzes	20 Points
Final Paper	20 Points
Midterm Exam	20 Points
Final Exam	30 Points
Total	100 Points

Late submissions will be graded at the end of the course. Grades will be assigned according to the following rule:

$$A \geq 90 > B \geq 80 > C \geq 70 > D \geq 60 > F.$$

We reserve the right to make adjustments to the overall grading policy.

## COURSE MATERIALS

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### **Required Texts:**

Roger Perman, Yue Ma, Michael Common, David Maddison and James McGilvray. *Natural Resource and Environmental Economics*. Addison Wesley, Pearson HE, latest edition.

### **Recommended (Optional) Texts or Other Materials:**

None

## COURSE TOPICS

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MODULE	TASKS
Module 1	<b>Topics:</b> Topic 1: An introduction to natural resource and environmental economics Topic 2: The origins of the sustainability problem Topic 3: Ethics, economics and the environment Topic 4: Sustainability and policy <b>Assessments:</b> Class Discussion Assignment #1



Module 2	<p><b>Topics:</b>  Topic 5: Efficiency and optimality  Topic 6: Allocation in a market economy  Topic 7: Market failure, public policy and the environment  Topic 8: Externalities</p> <p><b>Assessments:</b>  Class Discussion  Quiz #1</p>
Module 3	<p><b>Topics:</b>  Topic 9: Modelling pollution mechanisms  Topic 10: Cost efficiency and cost-effective pollution abatement instruments  Topic 11: Pollution policy with imperfect information  Topic 12: Environmental input–output analysis</p> <p><b>Assessments:</b>  Midterm Exam</p>
Module 4	<p><b>Topics:</b>  Topic 13: Cost–benefit analysis and the environment  Topic 14: The theory of environmental valuation  Topic 15: Option price and option value  Topic 16: Risk and irreversibility</p> <p><b>Assessments:</b>  Class Discussion  Assignment #2</p>
Module 5	<p><b>Topics:</b>  Topic 17: The efficient and optimal use of natural resources  Topic 18: The theory of optimal resource extraction: non-renewable resources  Topic 19: Renewable resources  Topic 20: Forest resources</p> <p><b>Assessments:</b>  Class Discussion  Quiz #2</p>
Module 6	<p><b>Topics:</b>  Topic 21: Environmental indicators  Topic 22: Environmental accounting  Topic 23: Sustainability indicators  Topic 24: Seminar</p> <p><b>Assessments:</b>  Final Paper  Final Exam</p>



## **ATTENDANCE**

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1) Class attendance is required. Missing classes without permission will lead to decrease in overall grade.

Missing less than two classes: no penalty.

Missing more than two classes: 7% will be taken off from the overall grade.

If the instructor reports a student's frequent missing of class to the Soochow University Academic Administration Office, the student might get a written warning and might be prohibited from attending final exam.

2) Participants in this course are expected to arrive in class promptly and adequately prepared. The primary objective of this course is to critically engage with the readings and the subject matter. Therefore, course participants are expected to have completed the reading prior to class and prepare thoughtful reflections/commentaries to share with fellow colleagues.

## **LEARNING REQUIREMENTS**

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- 1) Late assignments are not acceptable and are subjected to grade deductions.
- 2) Assignments submitted in the wrong format will be counted as not submitted.
- 3) Failure to submit or fulfill any required course component results in failure of the class.
- 4) Make-up for midterm and final exams only with valid excuses, as defined by the University.
- 5) In order to earn a Certificate of Completion, participants must thoughtfully complete all assignments by stated deadlines and earn an average quiz score of 50% or greater.

## **TECHNOLOGY POLICY**

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The use of electronic devices in class is distracting, both for the user and for the rest of the class. Only non-programmable calculators can be used in the tests and exam. Any attempts to use cell phones and other electronic communication devices will be seemed as cheating. Laptops are discouraged, unless you use them for activities DIRECTLY related to the course (eg., note taking, reading course documents).



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## **ACADEMIC INTEGRITY POLICY**

Soochow University highly values the academic integrity and aims to promote the academic fairness, honesty and responsibility. Any academic dishonesty behaviors and any attempts to cheats and plagiarism will be reported to the university administration office. A written warning and the relevant penalties will be imposed. The record might be shown on the official university transcript.

## **DISABILITY ACCOMMODATION**

Soochow University is committed to maintaining a barrier-free environment so that students with disabilities can fully access programs, courses, services, and activities at Soochow University. Students with disabilities who require accommodations for access to and/or participation in this course are welcome.

Note:

Please contact the University Administrative Office immediately if you have a learning disability, a medical issue, or any other type of problem that prevents professors from seeing you have learned the course material.