BACHELOR OF ECONOMICS
THAMMASAT UNIVERSITY

Course Outline

EE375 Applied Economics for Natural Resources and Environment

Semester 1/2022 (August 8th – November 26th, 2022)

Number of Credit: 3

Prerequisite: EE210 or EE211 or EE213 (credits will not be awarded to students who are taking or have completed any 400-level courses in this subfield.)

Course Description: The relationship between economic growth, natural resources allocation and environmental problems. Basic economic theories used for analysis and application in natural resources management and environmental problems. The roles of government, community, and business sectors to control and solve problems in natural resource and environmental exploitation at local, national, and global levels. Concept of sustainable development. Concept of environmental justice. Basic concepts and methodologies in economic valuation of natural resources and environment.

Class Time and Logistic

Class day: Wednesday and Friday

Class time: 14:00 – 15:30

Venue: Room 101, ground floor, Faculty of Economics

Teaching Materials Platform: BE Moodle (Enrollment key for BE Moodle: 0369)

Instructor:

Name: Dr. Supawan Saelim

Office Hours: Wednesday and Friday at 15:30- 17:00 by appointment at Room 452, 4th Floor, Faculty of Economics

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Course Objectives: The course aims to provide fundamental knowledge on what topics are discussed in the fields of natural resources and environment, how economic concepts are applied to analyze issues in these fields, and how to approach a range of natural resource management and environmental problems using economic instruments to inform private and public sector with policy considerations.

Course Schedule and Topics:

Date	Topics	Notes
Aug 10 Aug 12	1. Introduction to natural resource and environmental economics Relationship between economics, natural resources, and environment and key insights	HSW (Ch.1)
Aug 17 Aug 19	2. Economic Approach a. Economic efficiency b. Efficient market allocations c. Externalities and market failure	HSW (Ch.2) TL (Ch.2)
Aug 24, **Aug 25 (3 hrs)** Aug 26	3. Valuing the environment: Concepts and methods a. What 'economic value' means b. Cost-benefit analysis c. Types of valuation methods	HSW (Ch.3, 4) TL (Ch. 3,4)
Aug 31 Sep 2* (Quiz1)	4. Applications: Energy a. Problems and their sources b. Economic and policy instruments	TL (Ch. 7)
Cancelled class 2 weeks during Sep 7, 9, 14, 16 Prepare group Assignment 3		
Sep 21	5. Applications: Water a. Problems and their sources b. Economic and policy instruments	TL (Ch.9)
Sep 22 (3 hrs)	6. Applications: Land a. Problems and their sources b. Economic and policy instruments 7. Applications: Forest a. Problems and their sources b. Economic and policy instruments	TL (Ch. 10) TL (Ch. 11) HSW (Ch.10)
Sep 23	8. Applications: Fishery a. Problems and their sources b. Economic and policy instruments	TL (Ch.12)

Date	Topics	Notes
Mid-term exam on Wednesday Sep 28 at 12:00 – 14:00		
Oct 5 Oct 7	9. Economics of Climate Change	TL (Ch.16) HSW (Ch.9)
Oct 12 Oct 14	10. Economics of Pollution Controls	TL (Ch.14)
Oct 19 Oct 21	11. Applications: Air pollution a. Problems and their sources b. Economic and policy instruments	TL (Ch. 15, 17)
Oct 26 Oct 28	12. Applications: Water pollution a. Problems and their sources b. Economic and policy instruments	TL (Ch. 18) HSW (Ch.11)
Nov 2 Nov 4	13. Applications: Waste and toxic substances 1. Problems and their sources 2. Economic and policy instruments 3. Environmental Justice	TL (Ch.19)
Nov 9	14. Sustainable Development	TL (Ch.20)
Nov 11	Summary and review	
Nov 16, 18 Nov 23, 25	Group project presentations	
Final Exam on Tuesday Dec 13 at 13:30 – 16:30		

Main Reading Lists:

[TL] – Tietenberg, T. and Lewis, L. Environmental Natural Resource Economics, 2015 (10th edition), Pearson.

[HSW] – Hanley, N., Shogren, J. and White, B., Introduction to Environmental Economics 2013 (2nd edition), Oxford University Press.

Additional materials related to the topics will be provided before the class.

Grading Criteria:

Midterm Examination	30%
Final Examination	30%
Group project	15%
Assignment and quiz	25%

Group project: Students will work in groups of 4-5. Each group will identify problems of interests related to natural resources and environment, approach the problems using economic concepts and tools and propose policy considerations. The evaluation will be based on the quality of two deliverables i) A 20-minute group presentation ii) A 5-page policy brief.

Expected Learning Outcomes:

To understand natural resource and environmental problems with the perspectives of an economist and be able to apply economic concepts and tools to analyze and solve the problems in the fields.

Expected learning outcomes	Evaluation Method
1. Moral & virtue 1.1 Students demonstrate integrity and ethics as a researcher 1.2 Students recognizes social responsibility and accountability to the society and the environment 2.4 Students recognize the importance of sustainable development from economic activities	Assignment and discussions in class
2. Knowledge 2.1 Students understand problems related to the fields 2.2 Students can apply economic principles to understand the causes of the problems 2.3 Students understand various economic instruments that can be used to solve the problems in the fields	Assignment and quiz
3. Intellectual skills 3.1 Students improve critical thinking in analyzing the problems 3.2 Students are trained in research skills 3.3 Students demonstrate abilities to analyze and propose policy recommendations using economic concepts and tools	Assignment and quiz
4. Interpersonal skills & responsibility 4.1 Students are responsible for the assigned tasks 4.2 Students work effectively as a team, demonstrating leadership and teamwork 4.3 Students respects other opinions and provide constructive comments	Group project
5. Numeral analytic, communication, and information technology skills 5.1 Students can apply mathematical methods in solving the problems in the fields 5.2 Students communicate effectively and select appropriate presentation approach to deliver discussion points and ideas to solve the problems 5.3 Students use information and communication technologies appropriately to analyze the problems and propose policy recommendations.	Exam and group presentation