



Course Outline

EE476 Environmental Economics

Semester 1/2024 (August 13 - December 2, 2024)

Lecture Time: Wednesday, 09.00 – 12.00 hours

Lecture Venue: 203 Thaprachan

Teaching Materials Platform: MS Team

Instructor:

Name: Asst.Prof. Dr.Anin Aroonruengsawat

Office Hours: By appointment

Email: anin@econ.tu.ac.th

Number of Credit: 3 Credits (3-0-6)

Prerequisite: EE311

Course Description:

Important environmental problems and related theories, the concepts of efficiency and cost-benefit analysis. The effectiveness of policies, measures, and tools to control and solve environmental problems. The estimation of effects of various economic development projects on environment. The concept of sustainable development, social welfare indicators that incorporate environmental impacts.

Course Objectives:

The course explores the relationship between economic activities and environmental outcomes, focusing on the concepts of market failure, externalities, and public goods. Students will learn to evaluate environmental policies, assess the costs and benefits of environmental protection, and explore sustainable development strategies. The ultimate objective is to enable students to apply economic reasoning to develop solutions that balance economic growth with environmental sustainability.

Expected Learning Outcomes

1. Morality and Ethics

Applicability	Expected Learning Outcomes	Evaluation Method
●	1. Students demonstrate integrity.	
●	2. Students prioritize social and public benefits over personal ones.	
●	3. Students are punctual and comply with the code of conduct of the institution and society at large.	
○	4. Students are responsible and accountable to society, the nation, and the subject of economics.	
○	5. Students realize the cultural and environmental value of a sustainable society.	

2. Knowledge

Applicability	Expected Learning Outcomes	Evaluation Method
●	1. Students know and understand modern economics principles and theories, and are up to date with new developments.	
●	2. Students know and understand Thai and global economic structure and the importance of major international economic events.	
○	3. Students know and understand the instruments of economic analysis.	
●	4. Students know and understand applied fields in economics, including monetary, public, international, business, natural resource, and environmental, industrial, agricultural, cooperative, political, developmental, and entrepreneurial economics as well as agribusiness.	
○	5. Students are informed about related fields including sociology, business administration, education, law policy, and science.	

3. Intellectual Development

Applicability	Expected Learning Outcomes	Evaluation Method
●	1. Students have developed individual critical thinking.	
●	2. Students are sufficiently trained in research skills.	
●	3. Students demonstrate an ability to analyze and synthesize data, as well as	

	appropriately integrate economics concepts to understand the causes of current economic problems in Thailand. Based on analysis and synthesis, students demonstrate an ability to propose policy guidelines to resolve problems.	
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4. Interpersonal Skills and Responsibilities

Applicability	Expected Learning Outcomes	Evaluation Method
●	1. Students are responsible for assigned tasks and work in groups effectively.	
●	2. Students have problem-solving skills.	
○	3. Students show leadership skills and team spirit.	
●	4. Students are always improving themselves.	
○	5. Students have good interpersonal skills, adapt, and work under different conditions.	

5. Quantitative Analysis, communication, and information technology

Applicability	Expected Learning Outcomes	Evaluation Method
○	1. Students select and apply appropriate statistical and mathematical methods for data processing, interpretation, conclusions, and recommendations to resolve problems.	
○	2. Students communicate effectively and select appropriate presentation methods.	
○	3. Students use information and communication technologies appropriately to gather data as well as process, interpret, and present results.	

Remark: ● Primary expected outcome ○ Secondary expected

Main Text: Main Textbook

1. Hussen, A. (2018). *Principles of environmental economics and sustainability: an integrated economic and ecological approach*. 4th edition, Routledge. [H]
2. Harris, J. and Roach, B.(2018). *Environmental and natural resource economics: a contemporary approach*. 4th edition, Routledge. [HR]

Grading Criteria:

Mid-term examination	35%
Final examination	45%
Group project	20%

Tentative Class Schedule:

Topics	Readings
1. Introduction <ul style="list-style-type: none"> • Related economics concepts • Economy and the environment 	[H]Ch. 1,2,3 [HR]Ch. 1,2
2. The theory of environmental externalities <ul style="list-style-type: none"> • The theory of externalities • Welfare analysis of externalities • Common property and public goods • The environment as a public good 	[H]Ch. 3 [HR]Ch. 3,4
3. The economic theory of pollution control: the optimal level of pollution <ul style="list-style-type: none"> • Marginal abatement cost • Marginal damage cost • The optimal level of pollution 	[H]Ch. 4 [HR]Ch. 8
4. The economics of environmental regulation <ul style="list-style-type: none"> • Emission standards • Effluent charges • Transferable emission credits • Assessing pollution control policies 	[H]Ch. 5, 6 [HR]Ch. 8
Mid-term Wednesday, October 2, 2024 : 09.00-12.00 hrs.	
5. Frameworks for the economic appraisal of environmental project: Cost-Benefit Analysis <ul style="list-style-type: none"> • The welfare foundation of cost-benefit analysis • Discounting and intergenerational equity • The net present value criterion • Other environmental project evaluation criteria • Cost-Benefit Analysis Example 	[H]Ch. 8 [HR]Ch. 7

Topics	Readings
<p>6. Economic valuation of environmental goods and services</p> <ul style="list-style-type: none"> • Valuation of environment amenities and avoided damage • Revealed Preference Methods <ul style="list-style-type: none"> • Travel cost method • Hedonic pricing method • Stated Preference Methods <ul style="list-style-type: none"> • Contingent valuation method • Choice experiment 	<p>[H]Ch. 8 [HR]Ch. 6</p>
<p>7. The economics of climate change</p> <ul style="list-style-type: none"> • The science behind climate change and its impacts • Economic analysis of climate change: theoretical framework of policy guidance • Climate change adaption and mitigation • Climate change policy in practice 	<p>[H]Ch. 9 [HR]Ch. 12 & 13</p>
<p>8. World trade and the environment</p> <ul style="list-style-type: none"> • Environment impacts of trade • Trade and environment: policy and practice • Trade agreements and the environment 	<p>[HR]Ch.21</p>
<p>9. The economics of sustainability</p> <ul style="list-style-type: none"> • Population and the environment • The concept of sustainable development • Weak sustainability • Strong sustainability 	<p>[H]Ch. 12 [HR]Ch. 15 & 22</p>
<p>10. Green accounting and indicators of sustainability</p> <ul style="list-style-type: none"> • Environmentally adjusted system of national income accounting • Indicators of economic and environment sustainability • Creating a green economy 	<p>[H]Ch. 13,14 [HR]Ch. 10,14</p>

Mid-Term Examination: Wednesday, October 2, 2024 : 09.00-12.00 hrs.

Final Examination: Wednesday, December 11, 2024: 13.30-16.30 hrs.

(Please note that no lectures will be given during the Mid-term week of February 25 - March 4, 2024)

ACADEMIC CALENDAR & HOLIDAY SEMESTER 1/2024

Semester 1/2024 (August 13 – December 2, 2024)	
Create Plan from Quota via TU Greats App (*ID.64 – 66)	July 9 – 11, 2024
Registration via TU Greats App (*ID.64 – 66)	July 9 – 11, 2024
Tuition Fee Payment Period (Via TU Greats App) (*ID.64 – 66)	July 9 – August 9, 2024
Classes Begin	August 13, 2024
Add-drop period	August 13 – 26, 2024 <i>(from 9.00 AM of August 13 to 10.30 PM of August 26)</i>
Tuition Fee Payment Period (Via TU Greats App) <i>(All *ID)</i>	August 13 – 27, 2024 <i>(9 AM - 10.30 PM)</i>
Mid-term Examination Period	September 29 – 30, October 1 – 6, 2024
<i>Substitution for H.M. King Bhumibol Adulyadej The Great Memorial Day*</i>	<i>October 14, 2024</i>
<i>King Chulalongkorn's Day*</i>	<i>October 23, 2024</i>
Withdrawal period with "W" on record	August 29 – October 20, 2024 <i>(from 9.00 AM of August 29 to 10.30 PM of October 20)</i>
Special Withdrawal with "w" on record	October 21 – November 20, 2024
Last day of class for Semester 1/2024	December 2, 2024
Final exam period	December 3-4, 6-9, 11-19, 2024
<i>H.M. King Bhumibol Adulyadej The Great's Birthday*</i>	<i>December 5, 2024</i>
<i>Constitution Day*</i>	<i>December 10, 2024</i>
Submitting Forms for Degree Conferral	August 13 – 26, 2024

Remark * Holiday, No classes during this period

Updated: June 14, 2024