

Course Syllabus

EE 475 Natural Resource Economics

Semester 2/2020 (January 20 – May 19, 2021)

Number of credits: 3 credits (3-0-6)

Lecture Time: Wednesdays and Fridays, 09.30 – 11.00 AM

Lecture Venue: Google Meet Application

Instructor: Assistant Professor Chol Bunnag

Office: Room 456, 4th Floor, Faculty of Economics,
Tha Prachan Campus

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Google Class enrolment key: qbnpv5w

Course Description:

The concepts of scarcity and economic rental of important natural resources and problems with these resources. Economic theories and tools used in natural resource management, including allocation among current users as well as inter-temporal allocation. Market failure due to deficiencies in the property rights system. Government natural resource policy and measuring its impact on the use of all kinds of natural resources.

Prerequisites: EE311

Course Objectives:

1. To provide students with economic theories for analyzing natural resource issues, especially scarcity and economic rents, intra- and inter- temporal allocation and utilization, market failures arising from resource characteristics and property rights system, and institutional arrangement for sustainable natural resource use

2. To study specific natural resource topics, in particular, depletable resources (minerals) ; recyclable resources (minerals, papers, bottles, e-waste); replenishable but depletable resources (water); a locationally fixed but multi-purpose resource (land), Storable, renewable resources (forests); Common-pool resources (fisheries)

Evaluation

Group Assignments (Group of 3-4 students)

- | | |
|---|-----|
| 1. Situation of your natural resource topic | 20% |
| 2. Recent research of your natural resource topic | 10% |

Individual Assignments

- 4 quizzes throughout the semester (every 4 weeks) 40%

Final Evaluation

- Term Paper 40%

The Flip Classroom: Group Assignments (20%)

The students will form a group of 4-5 students. Then each group has to select a natural resource topic for their assignments. Each group will work on a topic different from the other groups. The topics are the followings:

1. Energy
2. Recyclable Resources
3. Water
4. Land
5. Forest
6. Fisheries

Group Assignment 1 (20 %): Situation of your natural resource topic

Each resource topic has 4 classes, covering a period of 2 weeks. In the first class of that topic, the group has to present the status of that resource in the global and Thailand context. The missions of your group are the followings:

- Provide basic understanding of your natural resource topic to your classmate.
- Illustrate the current status and trends in the past 5 or 10 years of the natural resource both in the global and Thailand context.
- Identify major challenge(s) of the natural resource.

For this assignment, your group has to do the followings

Tasks	Submission	Marks
1. Create an outline for the presentation and assign the sub-topic(s) to the group members	Submit on Wednesday, 1 week before your presentation in the Google Classroom	
2. Each member writes an essay for your responsible sub-topic <ul style="list-style-type: none"> • Specification: <ul style="list-style-type: none"> ○ Word limit: n/a ○ Font: Times New Roman 12 ○ Space 1 • In-text citation and reference 	Submit before/on the day of presentation <u>before your presentation starts</u> in the Google Classroom	10% (Different mark for each member of the group)
3. The group creates a presentation.	Submit before/on the day of presentation <u>before your presentation starts</u> in the Google Classroom	10% (Same mark for the whole group)
4. The Presentation	The group present the presentation to the class. See the presentation date in the teaching plan below.	

Group Assignment 2 (10 %): Article Review

In the last class of the natural resource topic, each member of the group has to find one recent academic paper (within the last 10years), read, and write a summary and comment that paper, as well as present it to the classmate.

For this assignment, your group has to do the followings

Tasks	Submission	Marks
1. <u>Help each other</u> find a recent academic paper (within 5-7 years) for each member of the group.	Submit <u>as a group</u> on Friday, 1 week before your presentation in the Google Classroom	

Tasks	Submission	Marks
<ul style="list-style-type: none"> • <u>The topic must be related to your natural resource topic, and economics, development, policies, or sustainability.</u> • It must be a paper from academic journal only. (Please try searching it in Google Scholar, Science Direct or other academic journal databases) • <u>Papers from scientific or other technical disciplines are not acceptable.</u> • If the papers of any members of the group do not meet the above requirement, you need to find new papers and everyone in the group is deducted 1% each time. 		
<p>2. Each member writes Maximum TWO A4 pages, covering the following issues:</p> <ul style="list-style-type: none"> • Summarize your paper (no more than 1 A4 page). • 3 important things you learn from the paper. • Specification: <ul style="list-style-type: none"> ○ Font: Times New Roman 12 ○ Space 1 	<p>Submit on the day of the presentation.</p> <p>Submit it in the Google Classroom</p>	<p>10% (Different mark for each member of the group)</p>

Quizzes (40%)

Approximately every 4-5 weeks, there will be a quiz, account for 10%. In total there will be 4 quizzes. Each quiz will cover the content of the previous 4 weeks. The quiz will be conducted in class and will be announced in advance.

The expected dates for the quizzes are presented in the table below.

Term Paper (40%)

Term paper is designed to be the final evaluation, replacing the final exam. The expectation for the paper is high.

The theme of the term paper is “**Challenges, best practice, and policy recommendations**”.

Expected Output:

- An essay of 3,000 words (+/- 500 words) (excluding reference), with proper in-text citation and reference at the end.
- The essay should show high-level of effort and quality, and good command of English.
- The essay should review acceptable sources of knowledge, utilize at least 1 framework or theory from our classes.

Steps during the semester:

1. **Submit: Essay title, Outline and Annotated bibliography** on Wednesday March 11, 2021 (by midnight)
 - **The Essay Title** should represent the key message of the essay.
 - **The Outline** should present topics and sub-topics of the essay with 1-2 sentences explanation of the content to be included in each topic and sub-topic.
 - **Annotated Bibliography:**
 - o Student has to find 10 sources of knowledge, with acceptable quality.
 - o Source of knowledge with acceptable quality refers to academic article, research report, international organization report and publication, government agency report and publication, non-governmental organization (NGOs) report and publications, respectable news agencies and magazines. They can be online source.
 - o Write down the source in the format of citation (Chicago style).
 - o Write key message from each source in 1 paragraph.
 - o See more examples in Google Classroom

2. **Submission of the term paper:** June 1, 2021 (by midnight)

Specification:

- Font: Times New Roman 12 pts.
- Space: 1.5
- Margin: Normal
- No cover, forward, table of content
- In-text Citation and Reference must be used correctly throughout the essay.
- Student must check for plagiarism in TurnItIn system before submission. Please check how to check for plagiarism here: <https://library.tu.ac.th/th/academic-support/plagiarism-checker-turnitin>
- Class ID and Class Enrollment Key for TurnItIn will be announced in Google Classroom.

Students have to submit the followings in the Google Classroom:

- The Term Paper
- Originality Report from TurnItIn system. Please check the instruction for students here: https://library.tu.ac.th/sites/default/files/2018-11/%E0%B8%84%E0%B8%B9%E0%B9%88%E0%B8%A1%E0%B8%B7%E0%B8%AD%E0%B8%81%E0%B8%B2%E0%B8%A3%E0%B9%83%E0%B8%8A%E0%B9%89%E0%B8%87%E0%B8%B2%E0%B8%99%20TURNITIN%20%E0%B8%AA%E0%B8%B3%E0%B8%AB%E0%B8%A3%E0%B8%B1%E0%B8%9A%E0%B8%99%E0%B8%B1%E0%B8%81%E0%B8%A8%E0%B8%B6%E0%B8%81%E0%B8%A9%E0%B8%B2%202018_0.pdf

Teaching Plans

Week	Topics	Remarks
Week 1 Jan 20	- Relationship between Human and Environment - The Economic Approach to Natural Resource Management - Static Efficiency - Scarcity Rent	T*-Ch.2; HO*-Ch.1; TD*-Ch. 1-4
Jan 22		
Week 2 Jan 27	- Market failures - Government Failure - Problem of Public Goods - Common-pool resource management, and community-based natural resource management.	T*-Ch.3, 5; TD*-Ch.6 O*-Ch.1
Jan 29		
Week 3 Feb 3	- Dynamic Efficiency and Sustainable Development - Depletable resources allocation	T*-Ch. 3-4, 6; TD*-Ch.6, 7
Feb 5		
Week 4 Feb 10	- Energy use, global warming, and air pollution: Current Situation	Group Presentation
Feb 12	Energy use, global warming, and air pollution: Application of economic theories to the resource problems	#Quiz 1 T*-Ch.7; TD*-Ch.11
Week 5 Feb 17	Energy use, global warming, and air pollution: Specific theories for Energy Resources	T*-Ch.7; TD*-Ch.11
Feb 19	Energy use, global warming, and air pollution: Article Review Presentations	Group Presentation
Week 6 Feb 24	Recyclable Resources and waste management: Current Situation	Group Presentation
Feb 26	Recyclable Resources and waste management: Application of economic theories to the resource problems	T*-Ch.8; TD*-Ch.12 Additional readings
Week 7 Feb 3	Recyclable Resources and waste management: Specific theories for recyclable resources	T*-Ch.8; TD*-Ch.12 Additional readings
Mar 5	Recyclable Resources and waste management: Article Review Presentations	#Quiz 2 Group Presentation
Week 8 Mar 10	Midterm Week Term Paper: Submit Essay Title, Outline and Annotated bibliography on Wednesday March 11, 2021 (by midnight)	
Mar 12		
Week 9 Mar 17	Water Resource: Current Situation	Group Presentation

Week	Topics	Remarks
Mar 19	Water Resource: Application of economic theories to the problems	T*-Ch.9; TD*-Ch.9 Additional readings
Week 10 Mar 24	Water Resource: Specific Theories for Water Resources Water Allocation Board Game	T*-Ch.9; TD*-Ch.9 Additional readings
Mar 26	Water Resource: Article Review Presentations	Group Presentation
Week 11 Mar 31	Land: Current Situation	Group Presentation
April 2	Land: Application of economic theories to the problems (April 6 is a public holiday. Make-up class is to be announced.)	T*-Ch.10; HO*-Ch.3 Additional readings
Week 12 Apr 7	Land Use, Agricultural Policies, and the Environment	T*-Ch.10; HO*-Ch.3 Additional readings
Apr 9	Land: Article Review Presentations	Quiz 3 Group Presentation
Week 13 Apr 14 Apr 16	Songkran Week Apr 12-18, 2021	
Week 14 Apr 21	Forest and Biodiversity Conservation: Current Situation	Group Presentation
Apr 23	Forest and Biodiversity Conservation: Application of economic theories to the problems	T*-Ch.12; TD*-Ch. 10 Additional readings
Week 15 Apr 28	Forest and Biodiversity Conservation: Specific Theories for Forest Resources	T*-Ch.12; TD*-Ch. 10 Additional readings
Apr 30	Forest and Biodiversity Conservation: Article Review Presentations	Group Presentation
Week 16 May 5	Fishery resources: Current Situation	Group Presentation
May 7	Fishery resource: Application of economic theories to the problems	T*-Ch.13 Additional reading
Week 17 May 12	Fishery resource: Specific theories for forest resources	T*-Ch.13 Additional reading
May 14	Fishery resource: Article Review Presentations	Quiz 4 Group Presentation
	Term Paper Submission June 1, 2021 (by midnight)	

Reading list

Main text

Tietenberg, Tom, and Lewis, Lynne (2011). Environmental and Natural Resource Economics. 9th Edition, MA: Pearson [T]

Tisdell, Clement, A., (2010). Resource and Environmental Economics: Modern Issues and Applications. Singapore: World Scientific. [TD]

Recommended Readings

Harwick, John M. And Olewiler, Nancy D. (1998). The Economics of Natural Resource Use. 2nd Edition, MA: Addison-Wesley. [HO]

Field, Barry C. (2008). Natural Resource Economics. 2nd Edition, Illinois: Waveland Press. [F]

Ostrom, Elinor (1990). Governing the Commons. Cambridge University Press. [O]

ACADEMIC CALENDAR SEMESTER 2/2020

Semester 2/2020 (January 20 - May 19, 2021)	
Classes Begin	January 20, 2021
Add-drop period	January 25 - 29, 2021
Tuition payment period	January 30 - February 2, 2021
<i>Makha Bucha Day*</i>	<i>February 26, 2021</i>
Mid-term Examination Period	March 10 - 16, 2021
Withdrawal period with "W" on record	March 24 - May 6, 2021
<i>Chakri Memorial Day*</i>	<i>April 6, 2021</i>
<i>Songkran Day Festival*</i>	<i>April 12 - 18, 2021</i>
<i>Substitution for Visakha Bucha Day*</i>	<i>April 26, 2021</i>
<i>Coronation Day*</i>	<i>May 4, 2021</i>
<i>Royal Ploughing Ceremony Day*</i>	<i>May 11, 2021</i>
Last day of class for Semester 2/2019	May 19, 2021
Final exam period	May 20 - June 5, 2021
<i>Visakha Bucha Day*</i>	<i>May 26, 2021</i>
<i>Queen Suthida's Birthday*</i>	<i>June 3, 2021</i>

** Public Holiday, No Classes during this period*