Foundations of Ecological Economics

Code: 42407
ECTS Credits: 9

2024/2025

Degree	Type	Year
4313784 Interdisciplinary Studies in Environmental, Economic and Social Sustainability	OT	0

Contact

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Teachers

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Lewis Carl King

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Sergio Villamayor Tomas

Teaching groups languages

You can view this information at the end of this document.

Prerequisites

No aplica.

Objectives and Contextualisation

The course will introduce the field of ecological economics, paying attention to theoretical, methodological and empirical issues. Classic themes, important debates and recent research foci will receive attention. At the end of the course the student is expected to have a good understanding of the main themes, theories and methods addressed by ecological economics, including:

- the origins and principles of ecological economics;

- core differences between how environmental and ecological economics conceptualize environmental problems and derive solutions;

- concepts and typologies of welfare, externalities and (quasi-)public goods;

- the performance of environmental and climate policy instruments;

- theory and methods of environmental valuation;

- property rights theory as applied to natural resource management

- modes of environmental governance

- institutional analysis of natural resource management

- the concept of socio-ecosystem metabolism

- multi-scale integrated assessment and social multi-criteria evaluation;

- assessment and valuation of ecosystem services;

- proposals to go beyond GDP

- the growth-versus-environmental debate and the ideas of degrowth and agrowth;

Competences

The following competences are aimed for:

1. Differentiate between the approaches to problems of environmental, ecological and institutional economics.
2. Understand, associated and synthesize knowledge based on scientific ecological economics literature.
3. Develop strategies for autonomous learning and teamwork.
4. Communicate well in English, both orally and in writing.
5. Position within debates and defend own position using existing evidence
6. Work in an international, multidisciplinary context.

Learning outcomes

1. Adopt a comprehensive and systemic perspective on the relationship between the economy and biophysical systems.
2. Apply knowledge of environmental and ecological and institutional economics to concrete environmental challenges.
3. Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
4. Develop critical thinking on current environmental issues

Competences

- Apply knowledge of environmental and ecological economics to the analysis and interpretation of environmental problem areas.
- Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
- Communicate orally and in writing in English.
- Continue the learning process, to a large extent autonomously.
- Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
- Seek out information in the scientific literature using appropriate channels, and use this information to formulate and contextualise research in environmental sciences.
- Work in an international, multidisciplinary context.

Learning Outcomes

1. Adopt a holistic perspective on the relationship between the economy and biophysical systems.

2. Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
3. Communicate orally and in writing in English.
4. Continue the learning process, to a large extent autonomously.
5. Differentiate between the approaches to environmental problems of environmental and ecological economics.
6. Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
7. Know the role of the institutions in environmental governance.
8. Seek out information in the scientific literature using appropriate channels, and use this information to formulate and contextualise research in environmental sciences.
9. Work in an international, multidisciplinary context.

Content

The FEE course involves a series of 3-hour lectures organized in four main sub-modules under the responsibility of specific teachers. Some teachers may provide slides in advance through the CV but others may not. All readings will be available on Moodle or provided in electronic format by the teacher through other means.

Introduction (JvdB)

1. Principles of ecological economics and comparison with environmental economics (22/10)

Sub-Module 1: Environmental and climate economics (JvdB & LK)

1. Welfare, markets, externalities and public goods (24/10)
2. Theories and methods of environmental valuation (29/10)
3. Environmental policy instruments (31/10)
4. Challenges of climate change mitigation (5/11)
5. Global climate policy (7/11)

Sub-Module 2: Institutional economics and environmental applications (SV)

1. Introduction institutional economics (12/11)
2. Basics of game theory and coordination problems (14/11)
3. Property rights and the theory of the commons (19/11)
4. Environmental governance: Markets, governments and communities (21/11)
5. An institutional economics view of environmental policy instruments: the case of Payment for ecosystem services (26/11)

Sub-Module 3: Methods for integrated assessment (JR & CM)

1. Social multi-criteria evaluation - SMCE (28/11)
2. Biophysical Input-Output analysis (3/12)
3. Analysis of the metabolism of societies (5/12)
4. Case studies of metabolism of societies (10/12)

Sub-Module 4: Ecological macroeconomics (LK)

1. Economics of wellbeing (12/12)
2. Alternatives to green growth (17/12)
3. Environment vsgrowth class debate (19/12)
4. Exam (9/1)

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
In-class activities and discussion in class	8	0.32	2, 3, 4, 6, 9
Lectures	46	1.84	4, 6
Type: Supervised			
Mandatory readings	60	2.4	4, 5
Type: Autonomous			
Reading articles, books and studying for each of the given lectures and the final exam	48	1.92	1, 4, 5, 6, 7, 9
Three short essays which involve reading the necessary literature to write the essays	60	2.4	4, 6, 8, 9

Lectures will involve time for questions/ answers, debates, role-play exercises and video-material. Students will be expected to prepare for the class by going in advance through the compulsory readings suggested in the bibliography. Participation, tests and essays may involve individual and group work.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
3 short essays	50%	0	0	2, 3, 4, 5, 6, 7, 8, 9
Final Exam	50%	3	0.12	1, 2, 3, 4, 5, 6, 7, 8, 9

This module does not offer a single assessment, as agreed with the coordination of the degree and with the Dean's Office of the Faculty of Sciences.

Students will be assessed on the basis of a closed-book exam and three essays:

The exam contributes to 50% of the final mark. It will cover aspects of each module of the course. Students will have limited space to answer each of these questions and will have to show that they have understood and mastered key concepts and ideas introduced during the course. The contributing teachers will evaluate the exam together.

ESSAYS

A 500-word essay explaining one's position in the environment-versus-growth debate, corresponding to the last lecture of the course. To be submitted as a hard copy in class to Lewis King. This contributes to 10% of the final mark.

A 1000-word critical essay based on the experimental game, to be submitted by email to Sergio Villamayor. This contributes to 20% of the final mark.

A 1000-word critical essay based on an online workshop, to be submitted by email to Cristina Madrid and Jesús Ramos. This contributes to 20% of the final mark.

EXAM

Students who do not take the exam cannot be evaluated.

Students who fail the exam (less than 50% of all available points in the exam) will have a chance to retake it two weeks after the exam grades are posted. This applies also if students fail the exam but they still pass the course (after averaging with the essay marks). In other words, passing the exam is a necessary condition to pass the module. If students fail the exam for a second time, they will fail the module.

Bibliography

The literature marked with (*) is obligatory and must be read prior to each lecture as it forms the basis for discussions in the respective class. While the other literature mentioned serves as voluntary background reading, students are encouraged to read as much of it as they can.

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(*) Vatn, A., (2007), 1. Institutions the web of human life, in Vatn, A. *Institutions and the Environment*: Edward Elgar Publishing (pp. 1-20).

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Hall, P. A., andR. C. R. Taylor (1996), Political Science and the Three New Institutionalisms*, *Political Studies*, 44(5), 936-957.

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Software

None

Language list

Name	Group	Language	Semester	Turn
(TEm) Theory (master)	1	English	first semester	morning-mixed