Universitat Autònoma de Barcelona

2022/2023

Environmental Economics

Code: 102472
ECTS Credits: 6

Degree	Type	Year	Semester
2501573 Economics	OT	3	2
2501573 Economics	OT	4	1

Contact

Name: Jesús Ramos Martin
Email: jesus.ramos@uab.cat

Use of Languages

Principal working language: english (eng)
Some groups entirely in English: Yes
Some groups entirely in Catalan: No
Some groups entirely in Spanish: No

Teachers

Claudio Cattaneo

Prerequisites

They have not been established. The contents are complementary to the module "Economia de los Recursos Naturales"

Objectives and Contextualisation

The course has the objective of presenting the most important approaches and concepts developed from the Economic theory to study environmental problems Discuss pollution as "externality", as well as economic policy instruments for internalize externalities Coase and Pigou. Study the concepts of "sustainability" strong and weak.

Discussion about economic growth and steady state. The economy of the ecosystems and the biodiversity Cost-benefit analysis. Multi-criterion evaluation. Debate on the economy of change climatic Environmental management and property rights, the contribution of Ostrom ("governing the commons "). International trade and the environment.

Competences

Economics

- Analyse situation in which there is unequal information between the two sides involved.
- Capacity for adapting to changing environments.
- Demonstrate initiative and work individually when the situation requires it.
- Formulate recommendations of economic policy that improve efficiency and equity in market operations.
- Identify the processes that govern the operation of markets in different competition systems, different scenarios of interrelationship and different timescales.
- Organise the work in terms of good time management, organisation and planning.

- Select and generate the information necessary for each problem, analyse it and take decisions based on that information.
- Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
- Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- Students must develop the necessary learning skills in order to undertake further training with a high degree of autonomy.
- Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
- Take account of social, economic and environmental impacts when operating within one's own area of knowledge.
- Take decisions in situations of uncertainty, demonstrating an entrepreneurial and innovative attitude.

Learning Outcomes

1. A capacity of oral and written communication in Catalan, Spanish and English, which allows them to summarise and present the work conducted both orally and in writing.
2. Analyse the operating conditions of markets and other forms of social interaction.
3. Capacity to adapt to changing environments.
4. Consider formal models which can be used to study situations with information asymmetry between the parts.
5. Demonstrate initiative and work independently when required.
6. Identify the basic elements that characterise the organisation of a market.
7. Identify the conditions and processes that generate externalities as well as the problems posed by public goods.
8. Identify the consequences of the existence of information asymmetry among different economic agents on the way in which these organise themselves and on the efficiency of the relationship they establish.
9. Make decisions in situations of uncertainty and show an enterprising and innovative spirit.
10. Organise work, in terms of good time management and organisation and planning.
11. Propose the optimum design of the institutions regulating the markets and of its equipment.
12. Solve the models formulated to obtain empirically stable predictions.
13. Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
14. Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
15. Students must develop the necessary learning skills in order to undertake further training with a high degree of autonomy.
16. Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
17. Take account of social, economic and environmental impacts when operating within one's own area of knowledge.
18. Use basic optimisation tools and the game theory, and include these elements in a theoretical model.

Content

Content

1. MONETARY VALUATION OF THE ENVIRONMENT

The environment in the history of economic thinking

Difference between ecological value and economic value

Families of monetary valuation methods

Total economic value

Discount rate

2. ENVIRONMENTAL POLICIES AND INTERNATIONAL ENVIRONMENTAL GOVERNANCE

Externalities

Optimum pollution level

Internalization of externalities

Pigou and green taxation

Coase and emission trading

Payment for environmental services

Commerce and the environment

Ecologically unequal exchange

3. COST- BENEFIT ANALYSIS (CBA)

Economic and political democracy

Relationship between efficiency and equity

CBA and sustainable development

Risk, uncertainty and irreversibility

4. SOCIAL MULTICRITERIAL EVALUATION (SMCE)

Methodological foundations

Substantive and procedural rationality

Complexity and Post Normal Science

Multicriteria evaluation and economic theory

Structuring a multicriteria problem

Alternatives and criteria

Weighting of the criteria

Review of the main approaches

Multicriteria evaluation and "social choice"

5. ANALYSIS OF SOCIAL METABOLISM

Flow-fund analysis framework

Material Energy Flow Accounting (MEFA), MultiScale Integrated Analysis of Social and Ecological Metabolism (MuSIASEM), Energy-Landscape Integrated Analysis (ELIA)

Energy flows and materials

Energy policy: peak oil, renewable energies

6. DEGROWTH PRINICPLES

The case for degrowth

7. SUSTAINABLE DEVELOPMENT AND CRITIQUE TO DEVELOPMENT

The concept of sustainability: weak vs. Strong

A critique to development

Methodology

The proposed teaching methodology may undergo some modifications according to the restrictions imposed by the health authorities on on-campus courses

1. Lecture

The teacher will offer an analytical conceptualization and an updated synthesis of each of the topics (except topic n.4) of the didactic units. The purpose of this activity is to facilitate the transmission of knowledge and motivate the analysis of the relationship between human activity and the environment in an active and cooperative learning environment.

2. Team Based Learning

Topic 4 (SMCE) will follow the "Flipped Classroom" methodology, in particular Team-Based Learning. Students will work in group, first by studying the tutorial booklet at home then, at class, they will first complete an individual and then a team test based on the contents of the booklet in order to pass to the main phase which is the practical application of the SMCE

3. Practical sessions.

They are based on group work. In some sessions teams will present the summary and analysis of one documentary, suggested by the teacher and to be watched at home. In other sessions stuents will complete exercises related to post-growth. All practical sessions are related to the theory seen in class

4. Tutorials

The process of learning and acquisition of competences will be supervised by the teacher through individual or group tutoring. The teacher will be available for resolving questions and doubts and for following the evolution of the learning and acquisition process.

5. Virtual campus

The virtual space is a useful learning tool that complements face-to-face class interaction. Here students can access important materials for advancing in the learning process.

CoVid adaptation: in case of limitation in developing the course via the face-to-face format, there will be a switch to Teams or Zoom platforms for the delivery of the course. Classes will be held respecting the ordinary schedule. Eventually, a recording of the presentation will be available in advance via virtual campus for students to come prepared to the virtual classroom

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.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			

Lecture	32.5	1.3	2, 3, 1, 6, 7, 8, 5, 10, 4, 9, 11, 12, 18
Practical sessions: Development of group work, presentation and discussion in class	17	0.68	2, 1, 5, 10, 9, 12
Type: Supervised			
Tutorials and follow-up of the work to be carried out.	7.5	0.3	2, 3, 1, 6, 7, 8, 5, 10, 4, 9, 11, 12, 18
Type: Autonomous			
Study	87	3.48	2, 1, 6, 8, 10, 12

Assessment

The proposed evaluation activities may undergo some changes according to the restrictions imposed by the health authorities on on-campus courses.

The evaluation will be a continuous process testing a student's knowledge and competence acquisition and it will consist of 10 parts:

- 8 tests in classroom, with first an individual part and then a team part. each week or second week, one test. Each test will weight approx 10% on the final mark. total weight of the tests; 80%

- team based learning evaluation :elaboration and presentation in class or in the virtual classroom of an environmental conflict for the EJ Atlas 10% of the final mark

- oral group presentation in class or in the virtual classroom and submission of a written dossier (10% of the final mark) related to watching a documentary / analysis of the degrowth vocaboulary.

Students who have not assisted to any of the scheduled tests will be treated as "not evaluable".

Calendar of evaluation activities

The dates of the evaluation activities (midterm exams, exercises in the classroom, assignments, ...) will be announced well in advance during the semester.

The date of the final exam is scheduled in the assessment calendar of the Faculty.

"The dates of evaluation activities cannot be modified, unless there is an exceptional and duly justified reason why an evaluation activity cannot be carried out. In this case, the degree coordinator will contact both the teaching staff and the affected student, and a new date will be scheduled within the same academic period to make up for the missed evaluation activity." ***Section 1 of Article 115. Calendar of evaluation activities (Academic Regulations UAB).*** Students of the Faculty of Economics and Business, who in accordance with the previous paragraph need to change an evaluation activity date must process the request by filling out an Application for exams' reschedule
https://eformularis.uab.cat/group/deganat_feie/application-for-exams-reschedule

Grade revision process

After all grading activities have ended, students will be informed of the date and way in which the course grades will be published. Students will be also be informed of the procedure, place, date and time of grade revision following University regulations.

Retake Process

"To be eligible to participate in the retake process, it is required for students to have been previously been evaluated for at least two thirds of the total evaluation activities of the subject." Section 3 of Article 112 ter. The recovery (UAB Academic Regulations). Additionally, it is required that the student to have achieved an average grade of the subject between 3.5 and 4.9.

The date of the retake exam will be posted in the calendar of evaluation activities of the Faculty. Students who take this exam and pass, will get a grade of 5 for the subject. If the student does not pass the retake, the grade will remain unchanged, and hence, student will fail the course.

Irregularities in evaluation activities

In spite of other disciplinary measures deemed appropriate, and in accordance with current academic regulations, *"in the case that the student makes any irregularity that could lead to a significant variation in the grade of an evaluation activity, it willbe graded with a 0, regardless of the disciplinary process that can be instructed. In case of various irregularities occur in the evaluation of the same subject, the final grade of this subject will be 0"*. ***Section 10 of Article 116. Results of the evaluation. (UAB Academic Regulations).***

Students will be awarded a mark of ¨No avaluable¨ (not assessed) in case they sat less than one-third of the assessed workfor the course.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Applied work	30	2	0.08	2, 3, 1, 6, 7, 8, 5, 10, 4, 9, 11, 14, 13, 12, 18
Final Examination	35	2	0.08	17, 3, 6, 8, 5, 4, 15, 18
First Examination	35	2	0.08	2, 1, 7, 9, 11, 16, 12

Bibliography

Bibliography and on-line materials

Daly, H. and Farley, J., 2004. Ecological economics. Principles and Applications. Island Press.
http://indomarine.webs.com/documents/Ecological_Economics_Principles_And_Applications.pdf

Core Project. Economics for a changing world.
http://www.core-econ.org/the-economy/book/text/0-3-contents.html

further material will be made available via virtual campus -SMCE tutorial booklet, papers

Tutorial booklet on Social Multicriteria Evaluation (available at the virtual campus)

D'Alisa, G., Demaria, F. and Kallis, G., 2014. Degrowth: A vocabulary for a new era. Routledge, London.
https://vocabulary.degrowth.org/

For the applied work: Beyond growth: https://www.endlich-wachstum.de/kapitel/materials-in-english/

Documentary material available at: docus-ecoeco.net

Software

There is no need for specific software.