COURSE DATA

DATA SUBJECT

Code: 36133
Name: Environmental economics
Cycle: Undergraduate Studies
ECTS Credits: 6
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
1316 - Degree in Economics	Facultat d'Economia	4	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1316 - Degree in Economics	Pathway: economic analysis	ELECTIVES

COORDINATION

RUBIO JORGE SANTIAGO JOSE

SUMMARY

Environmental economics is concerned with the impact of the economy on the environment, the importance of the environment to the economy, and the appropriate way to regulate economic activity so that a balance between environmental, economic, and social objectives is achieved. What distinguishes a morally neutral chemical like sulphur dioxide from the polluting sulfur dioxide is economics. Polluting firms that emit sulphur dioxide do so because it is an output associated with the production of a good that consumers desire; consumers derive utility from the good associated with sulphur dioxide but at the same time suffer the harm caused by sulphur dioxide pollution, which reduces their utility. Thus, the essence of the environmental problem is economics¿the behaviour of firms and the desires of consumers. Without economics, most environmental issues are simply matters of interest to chemists or biologists with no political relevance. This course will present the main models developed to analyse the economic dimension of environmental problems and design regulatory policies that make it possible to reconcile a society's economic objectives with the necessary preservation of the natural environment, considering both national and transnational environmental problems.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

OTHER REQUIREMENTS

The student should have approved Microeconomics I and II as well as first-grade mathematics. It is also advisable to have passed the Game Theory and Strategic Behavior subject.

COMPETENCES / LEARNING OUTCOMES

-

Apply the principles of economic analysis (rational decision) to the diagnosis and resolution of problems.

Be able to learn autonomously.

Have decision-making skills and be able to apply knowledge to practice.

Know and understand the main market failures (public goods and externalities), their private and public solutions and their influence on the environment and natural resources.

Recognise strategic conflicts and know how to use basic strategic principles to obtain cooperation and coordination in incentive problems.

Show critical thinking skills.

Understand and apply the scientific method, which involves formulating hypotheses, deducing verifiable results and contrasting them with empirical and experimental evidence.

Understand the effects of different market structures on efficiency and equity and the influence of regulatory policies.

Understand the effects of the existence of private information in relation to quality and productivity on the functioning and performance of markets and enterprises, as well as their possible private and public solutions.

Understand the keys to the functioning of market economy, the difference between normative and positive reasoning and between the concepts of equity and efficiency.

DESCRIPTION OF CONTENTS

1. Externalities

1.1 Relationship between economics and environment
1.2 Efficiency and market failures
1.3 A polluting competitive industry
1.4 Environmental regulation: taxes versus standards

[K] Chapter 1 and Section 4.III
[PR]Sections 8.1-8.6, 9.1, 9.2 and 18.1-18.2

2. Taxes, standards and subsidies

2.1 Taxes versus standards: cost efficiency
2.2 Taxes versus subsidies: long-run effects
2.3 Taxes versus subsidies: imperfect competition
2.4 Second-best taxes: investment in abatement

[K] Sections 12.I-12.IV and 15.II
[PR] Sections 8.7, 8.8 and 18.2

3. Pollution permits markets

3.1 A simple model of pollution with two firms
3.2 Coase theorem
3.3 Pollution permits: cost efficiency
3.4 Pollution permits markets with a dominant firm

[K] Chapter 13
[PR] Section 18.4

4. International environmental problems

4.1 Non-cooperative emission control policies
4.2 International environmental agreements without colateral payoffs
4.3 International environmental agreements with colateral payoffs
4.4 Binding agreements and participation

[K] Section 19.III.C-D
[PR] Section 18.6

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	30,00
Classroom practices	30,00
Total hours	**60,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	35,00
Independent study and work	55,00
Preparation of lessons	0,00

Preparation for assessment activities	0,00
Resolution of case studies	0,00
Total hours	**90,00**

TEACHING METHODOLOGY

The course is organized into theoretical and practical classes. During the course, the student will have to solve practical exercises of the problem sets. The subject materials (class notes and problem quizzes) will be available in the virtual classroom. In the practical classes, the teacher will invite the students to participate in the resolution of the exercises.

EVALUATION

The qualification of the **first call** will correspond to 10% with the mark obtained from the resolution of the practices, 20% with the mark of the mid-semester exam and 70% with the mark obtained in the final exam. To pass the subject, a minimum of 30% of the subject's mark must be obtained in the final exam. All these continuous assessment activities are recoverable. The delivery of practical exercises is not prerequisite to attending the exams, although the value of the practical exercises not presented will be deducted from the final grade. The midterm exam will not be eliminatory so the final exam will cover the theoretical and practical contents of the whole subject. The type of questions in both exams will be selected so that the total score of different questions reflects the attendance activities corresponding to the workload specified in this guide. If the student does not take the final exam, the grade that will be recorded in the official document will be that of not presented, unless the student requests in writing the continuous evaluation grade appears.

As all continuous evaluation activities are recoverable, the grade of the **second call** will correspond 100% with the grade obtained from the completion of a written exam. The exam will cover the contents of the theoretical and practical classes, and the type of questions will be selected so that the total score of different questions corresponds to the volume of work devoted to the theory classes and classroom practices.

REFERENCES

- Kolstad, Charles D. (2010). Environmental Economics. 2ª ed., Oxford University Press. [K]

- Pindyck, Robert S. and Daniel L. Rubinfeld (2018). Microeconomía. 9ª ed., Pearson/Prentice Hall. [PR]

- Riera, Pere, Dolores García, Bengt Kriström and Runar Brännlund (2016). Manual de Economía Ambiental y de los Recursos Naturales. 3ª ed., Paraninfo.

- Azqueta, Diego (2007). Introducción a la Economía Ambiental. 2ª ed.,[1ª ed., 2002] McGrawHill.

- Baumol, W.J. and Oates, W.E. (1988). The Theory of Environmental Policy. 2ª ed., [1ª ed., 1975], Cambridge University Press. Existe trad. cast. de la 1ª ed., La Teoría de la Política Económica del Medio Ambiente. Antoni Bosch, editor, 1982.

- Field, Barry C. and Martha K. Field (2020). Environmental Economics. 8ª ed. McGraw-Hill. Existe trad. cast. de la 3ª ed., Economía Ambiental. McGraw-Hill. 2003.

- Hanley, Nick, Jason Shogren and Ben White (2019). Introduction to Environmental Economics, 3ª ed., Oxford University Press.

- Karp, Larry (2017). Natural Resources as Capital. MIT Press.

- Kolstad, Charles D. (2011). Intermediate Environmental Economics. International Edition, 2ª ed., Oxford University Press.

- Labandeira, Xavier, Carmelo J. León and María José Vázquez (2007). Economía Ambiental. Pearson/Prentice Hall.

- Pearce, David W. and R. Kerry Turner (1989). Economics of Natural Resource and Environment. Johns Hopkins University Press. Existe trad. cast. Economía de los Recursos Naturales y del Medio Ambiente. Editorial Celeste, Colegio de Economistas, 1995.

- Phaneu, Daniel J. and Till Requate (2017). A Course in Environmental Economics. Theory, Policy, and Practice. Cambridge University Press.

- Romero, Carlos (2007). Economía de los Recursos Ambientales y Naturales. 2ª ed. ampliada, Alianza Editorial.

- Sandmo, Agnar (2006). The Public Economics of the Environment. Oxford University Press.

- Stavins, Robert N. (2019). Economics of the Environment. Selected Readings. 7ª ed., [1ª ed., 1972], Edward Elgar.

- Tietenberg, Tom and Lynne Lewis (2024). Environmental & Natural Resource Economics. 12ª ed., Routledge.

- Conrad, Jon M. (2010). Resource Economics. 2ª ed., Cambridge University Press.