# Syllabus

## Subject

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|---|---|
| **Subject / Group** | 20620 - Environmental Economics / 40 |
| **Degree** | Double degree in Economics and Tourism - Third year<br>Degree in Economics - Third year |
| **Credits** | 6 |
| **Period** | 1st semester |
| **Language of instruction** | English |

### Professors

| **Lecturers** | **Office hours for students** | | | | | |
|---|---|---|---|---|---|---|
| | **Starting time** | **Finishing time** | **Day** | **Start date** | **End date** | **Office / Building** |
| Ángel Bujosa Bestard<br>angel.bujosa@uib.es | 12:00 | 13:00 | Thursday | 01/09/2019 | 31/07/2020 | DB256 (demanar cita prèvia per e-mail) |

## Context

This subject on Environmental Economics is intended to provide students with knowledge on 1) the most important environmental problems and their interpretation from an economic perspective, 2) the analytical techniques for assessing the economic value of the environment, 3) the principles, rules and procedures of sustainable development from an economic view, and 4) the theory and foundations of environmental policy analysis. While these goals aim to provide students with a range of knowledge related to the terminology, methodology, principles and theories of environmental economics, they also attempt to develop in students the ability to apply the information and knowledge learned throughout the Degree in Economics in specific situations and problems of the new economic context. In this way, the instruments provided in the Environmental Economics subject will become a useful tool in their future professional development.

## Requirements

This subject is mainly addresses to students with economic background at an advanced stage of their studies.

### Essential

Students without any economic background are advised to consult professor before enrolling.



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### Recommended

Students with economic background that have not taken courses on Microeconomics, Welfare Economics and Microeconometrics are advised to become familiar with the fundaments and concepts of these fields by means of any textbook related to these areas of knowledge.

## Skills

### Specific

* CE1. Contribute to the good management of the resources' allocation in the private and public scope
* CE4. Assess the consequences of alternative actions and choose the best one based on the objectives
* CE10. Derive relevant data impossible to recognize for non-professionals in Economics

### Generic

* CG3. Apply professional criteria based on the management of technical tools to the analysis of problems
* CG5. Analyze problems with critical thinking, without prejudice, with precision and rigor
* CG8. Contribute, through the exercise of professional activity, to the development of human rights, democratic principles, equal opportunities and universal accessibility, of peace and solidarity, and environmental protection

### Basic

* You may consult the basic competencies students will have to achieve by the end of the degree at the following address: http://www.uib.eu/study/grau/Basic-Competences-In-Bachelors-Degree-Studies/

## Content

The contents of the Environmental Economics program attempts to analyze environmental problems from an economic perspective, the economic value of the environment and the methods for assessing environmental quality, renewable and nonrenewable resources, environmental regulation and the assessment of environmental policies.To achieve these objectives, the course is divided in four modules listed below.

### Range of topics

Module I. Introduction

Unit 1. Introduction to natural resource and environmental Economics
- 1.1 Environmental pressures and tensions
- 1.2 Types of environmental problems
- 1.3 Economics and Ecology
- 1.4 Environmental Economics versus Ecological Economics

Unit 2. The study object: the problematic of the environment
- 2.1 Natural resource definition and classification
- 2.2 Environmental functions and environmental services
- 2.3 The problem: the absence of price
- 2.4 The operation of imperfect markets



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Unit 3. Economics, politics and the environment
- 3.1 Society, property rights and the environment
- 3.2 Society, the market and the environment
- 3.3 Society, State and the environment

Module II. Economic valuation of the environment

Unit 4. The economic value of the environment
- 4.1 The reasons for valuing the environment
- 4.2 What gives value? Who expresses these values? How do we express them?
- 4.3 The total economic value
- 4.4 The limits of the analysis

Unit 5. Measuring welfare changes: the neoclassical legacy
- 5.1 Welfare measures

Unit 6. An overview of economic valuation methods
- 6.1 Criteria for classifying valuation methods
- 6.2 The separability of the utility function
- 6.3 Revealed preference methods
- 6.4 Stated preference methods

Unit 7. The contingent valuation method
- 7.1 Introduction
- 7.2 Biases
- 7.3 Designing a valuation study

Unit 8. The travel cost method
- 8.1 Underlying assumptions
- 8.2 The zonal model
- 8.3 The individual model
- 8.4 Specification of relevant variables

Module III. Natural resource Economics

Unit 9. Natural resource management
- 9.1 Uncertainty and irreversibility
- 9.2 The precautionary principle and the safety minimum standards
- 9.3 Weak and strong sustainability

Unit 10. Renewable and non-renewable resources
- 10.1 The management of renewable resources: the biological model and the economic model
- 10.2 The management of non-renewable resources: Hotelling's rule

Module IV. Environmental policy

Unit 11. Environmental policy tools
- 11.1 The optimal level of pollution
- 11.2 The Coase theorem
- 11.3 Economic instruments
- 11.4 Command-and-control instruments

## Teaching methodology



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## In-class work activities (1.8 credits, 45 hours)

| Modality | Name | Typ. Grp. | Description | Hours |
|---|---|---|---|---|
| Theory classes | Theoretical Lessons | Large group (G) | The theoretical foundations that students must acquire during the course will be presented in these classes. The theoretical lessons will follow the program presented above. | 24 |
| Seminars and workshops | Seminars | Medium group (M) | The seminars are intended to encourage the exchange of views between participants and to facilitate the use of theoretical knowledge into reality through the study and discussion of case studies. | 3 |
| Practical classes | Practical Lessons | Medium group (M) | The practical classes will be devoted to the presentation, discussion and resolution of case studies and to the presentation and discussion of the projects carried out by the students. | 15 |
| Assessment | Midterm exam 2 | Large group (G) | Midterm exam to evaluate the acquired knowledge. | 1.5 |
| Assessment | Midterm exam 1 | Large group (G) | Midterm exam to evaluate the acquired knowledge. | 1.5 |

At the beginning of the semester a schedule of the subject will be made available to students through the UIBdigital platform. The schedule shall at least include the dates when the continuing assessment tests will be conducted and the hand-in dates for the assignments. In addition, the lecturer shall inform students as to whether the subject work plan will be carried out through the schedule or through another way included in the Aula Digital platform.

## Distance education tasks (4.2 credits, 105 hours)

| Modality | Name | Description | Hours |
|---|---|---|---|
| Individual self-study | Study time | Individual self-study to acquire the contents developed in the course. | 55 |
| Individual self-study | Case study resolution | Individual self-study and resolution of case studies to analyze and solve the problems presented by the professor. | 20 |
| Group self-study | Study time | Group self-study to acquire the contents developed in the course. | 30 |

## Specific risks and protective measures

The learning activities of this course do not entail specific health or safety risks for the students and therefore no special protective measures are needed.

# Student learning assessment



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Frau en elements d'avaluació

In accordance with article 33 of Regulation of academic studies, "regardless of the disciplinary procedure that may be followed against the offending student, the demonstrably fraudulent performance of any of the evaluation elements included in the teaching guides of the subjects will lead, at the discretion of the teacher, a undervaluation in the qualification that may involve the qualification of "suspense 0" in the annual evaluation of the subject".

### Midterm exam 2

| | |
|---|---|
| Modality | Assessment |
| Technique | Short-answer tests **(recoverable)** |
| Description | Midterm exam to evaluate the acquired knowledge. |
| Assessment criteria | The student will be required to apply the knowledge acquired during the course by means of a written exam based on short case studies, readings and/or academic papers. The midterm exam, that represents the 50% of the final grade and requires a minimum grade of 4 points, will cover(approximately) the content of the second part of the course and can be retrieved in the extraordinary period of assessment indicated in the course calendar. |

Final grade percentage: 50%with a minimum grade of 4

### Midterm exam 1

| | |
|---|---|
| Modality | Assessment |
| Technique | Short-answer tests **(recoverable)** |
| Description | Midterm exam to evaluate the acquired knowledge. |
| Assessment criteria | The student will be required to apply the knowledge acquired during the course by means of a written exam based on short case studies, readings and/or academic papers. The midterm exam, that represents the 50% of the final grade and requires a minimum grade of 4 points, will cover (approximately) the content of the first part of the course and can be retrieved in the extraordinary period of assessment indicated in the course calendar. |

Final grade percentage: 50%with a minimum grade of 4

## Resources, bibliography and additional documentation

### Basic bibliography

Callan, S.J., Thomas, J.M. (2010). Environmental economics & management: theory, policy, and applications. Mason (Ohio): South-Western Cengage Learning.
Hanley, N., Shogren, J. F.; White, B. (2007). Environmental economics. In theory and practice. Palgrave McMillan (2nd edition).
Perman, R., Ma, Y., McGilvray, J., Common, M. (2003). Natural resource and environmental economics. Harlow, England: Pearson/Addison Wesley.

### Complementary bibliography

Hanley, N., Shogren, J., White, B. (2013). Introduction to environmental economics. United Kingdom: Oxford University Press



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Pearce, D.W., Turner, R.K. (1990). Economics of natural resources and the environment. Johns Hopkins University Press.



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