



Academic year	2013-14
Subject	20620 - Environmental Economics
Group	Group 40, 1S, GECCO
Teaching guide	D
Language	English

## Subject identification

<b>Subject</b>	20620 - Environmental Economics
<b>Credits</b>	1.8 in-class (45 hours) 4.2 distance (105 hours) 6 totals (150 hours).
<b>Group</b>	Group 40, 1S, GECCO(Campus Extens)
<b>Teaching period</b>	1st semester
<b>Teaching language</b>	English

## Lecturers

Lecturers	Timetable for student attention					
	Starting time	Finishing time	Day	Start date	Finish date	Office
Àngel Bujosa Bestard <a href="mailto:angel.bujosa@uib.es">angel.bujosa@uib.es</a>	11:00h	12:00h	Thursday	23/09/2013	30/09/2014	DB256 (demanar cita prèvia per e-mail)

## Degrees where the subject is taught

Degree	Character	Course	Studies
Degree in Economics	Compulsory	Third year	Degree

## Contextualisation

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

### Essential requirements

This subject is mainly addresses to students with economic background at an advanced stage of their studies. Students without any economic background are advised to consult professor before enrolling.





## Recommendable

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

## Skills

### Specific

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

### Generic

1. CG3. Apply professional criteria based on the management of technical tools to the analysis of problems.
2. CG5. Analyze problems with critical thinking, without prejudice, with precision and rigor.
3. 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.

## 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, the role of companies to environmental problems and the dilemma growth-environment. To achieve these objectives, the course is divided in six modules listed below.

### Theme content

#### 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

##### 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

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## **Teaching methodology**

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### **In-class work activities**





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Modality	Name	Typ. Grp.	Description
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.
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.
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.
Assessment	Case study	Large group (G)	Completion of case studies to evaluate the acquired knowledge.
Assessment	Final exam	Large group (G)	Final exam to evaluate the acquired knowledge.

## Distance education work activities

Modality	Name	Description
Individual self-study	Case study resolution	Individual self-study and resolution of case studies to analyze and solve the problems presented by the professor.
Individual self-study	Study time	Individual self-study to acquire the contents developed in the course.
Group self-study	Project	Work in-group to elaborate a project where it will be necessary to apply the theoretical and practical content of the course. The evaluation of the project will have into account the search of relevant information, data analysis, the development of new data and the oral and written presentation of the project.

## 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.

## Workload estimate

Modality	Name	Hours	ECTS	%
<b>In-class work activities</b>		<b>45</b>	<b>1.8</b>	<b>30</b>
Theory classes	Theoretical Lessons	22	0.88	14.67
Seminars and workshops	Seminars	3	0.12	2
Practical classes	Practical Lessons	15	0.6	10
<b>Total</b>		<b>150</b>	<b>6</b>	<b>100</b>





Modality	Name	Hours	ECTS	%
Assessment	Case study	2	0.08	1.33
Assessment	Final exam	3	0.12	2
Distance education work activities		105	4.2	70
Individual self-study	Case study resolution	20	0.8	13.33
Individual self-study	Study time	55	2.2	36.67
Group self-study	Project	30	1.2	20
Total		150	6	100

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 Campus Extens platform.

## Student learning assessment

### Case study

Modality	Assessment
Technique	Objective tests ( <b>Non-retrievable</b> )
Description	Completion of case studies to evaluate the acquired knowledge.
Assessment criteria	Analysis of short case studies where the student, based on specialized readings, will be required to apply the knowledge acquired during the course.

Percentage of final qualification: 30% following path A

### Final exam

Modality	Assessment
Technique	Objective tests ( <b>Retrievable</b> )
Description	Final exam to evaluate the acquired knowledge.
Assessment criteria	Written examination to assess the knowledge acquired by students using short-answer questions and the resolution of case studies. This exam represents the 50% of the final grade and can be retrieved in the extraordinary period of assessment indicated in the course calendar.

Percentage of final qualification: 50% following path A

### Project

Modality	Group self-study
Technique	Papers and projects ( <b>Non-retrievable</b> )
Description	Work in-group to elaborate a project where it will be necessary to apply the theoretical and practical content of the course. The evaluation of the project will have into account the search of relevant information, data analysis, the development of new data and the oral and written presentation of the project.
Assessment criteria	Work in-group to elaborate a project where the student has to apply the knowledge acquired during the course. The assessment of the project will also take into account its oral exposition in class. Optionally, part of the project grade can be based on the development of an analysis related to the attendance of conferences/seminars





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on Environmental Economics. Such conferences and/or seminars can take place outside of the ordinary class time.

Percentage of final qualification: 20% following path A

## **Resources, bibliography and additional documentation**

### **Basic bibliography**

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

Perman, R.; Ma, Y.; McGilvray, J.; Common, M. (2003). Natural resource and environmental economics. Harlow, England: Pearson/Addison Wesley.

Hanley, N., Shogren, J. F.; White, B. (2007). Environmental economics. In theory and practice, Palgrave Macmillan (2nd edition).

Callan, S.J.; Thomas, J.M. (2010). Environmental economics & management: theory, policy, and applications. Mason (Ohio): South-Western Cengage Learning.

### **Complementary bibliography**

### **Other resources**

