

## 25204 - Applied economics

### Syllabus Information

**Academic Year:** 2021/22

**Subject:** 25204 - Applied economics

**Faculty / School:** 201 - Escuela Politécnica Superior

**Degree:** 571 - Degree in Environmental Sciences

**ECTS:** 6.0

**Year:** 2

**Semester:** Second Four-month period

**Subject Type:** Basic Education

**Module:**

## 1. General information

### 1.1. Aims of the course

The subject Applied Economics aims to provide students with a series of economic concepts and instruments, both analytical and graphical, that enable them to understand the behaviour of individual and global economic agents in their relationship with natural resources and the environment. This subject provides the notions of environmental economics necessary for the environmentalist to acquire the conceptual bases that will allow him/her to analyse the behaviour of the economic system from different approaches and contexts. It should provide the student with skills to interpret the link between environment and economic reality according to theoretical and conceptual frameworks of economic analysis. Specifically:

- Understand the basic concepts and terminology commonly used in the relationship between economy and natural resources.
- Develop analytical and reasoning skills to interpret and understand economic phenomena.
- Learn to work with the available sources of statistics and economic information, understand their content and correctly analyse and handle the data they contain.

These approaches and objectives are aligned, with several of the Sustainable Development Goals, SDGs, of the 2030 Agenda (<https://www.un.org/Sustainabledevelopment/en/>) and some of its goals, contributing to their achievement. The link of the subject stands out, among others who are also involved in its development, with the following SDGs:

**GOAL 4: QUALITY EDUCATION.** Target 4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development.

**GOAL 8: DECENT WORK AND ECONOMIC GROWTH.** Target 8.4. Improve Progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation.

**GOAL 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE.** Target 9.4. By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

**GOAL 11: SUSTAINABLE CITIES AND COMMUNITIES.** Target 11.6. By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

**GOAL 12: RESPONSIBLE CONSUMPTION AND PRODUCTION.** Target 12.2. By 2030, achieve the sustainable management and efficient use of natural resources.

**GOAL 17: Partnerships for the goals.** Target 17.17. Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.

## 2. Learning goals

### 2.1. Competences

#### Basic Skills

Students are guaranteed to gain at least the following skills, in the case of the Degree, as well as others included in the Spanish Qualifications Framework of Higher Education, (MECES; section 3.3 of Annex I of Royal Decree 861/2010, dated 2 July, amending Royal Decree 1393/2007, dated 29 October):

- **CB3.** That students have the capacity to bring together and interpret relevant data (normally within environmental sciences) in order to make decisions that include a reflection on socially, scientifically or ethically relevant subjects.
- **CB4.** That students can transmit information, ideas, problems and solutions to both an expert and non-expert audience.

#### Specific Skills:

Students that undertake the Degree will be trained to apply the scientific method and the transfer of technology to problem-solving in connection with environment sciences, and will be skilled in:

- **CE4.** Capacity to assess the resources and components in the environment in economic, social, legal and ecological terms. This includes economic and legislative knowledge.
- **CE11.** Capacity to design and apply environmental indicators and sustainability strategies.

#### General Skills:

The four big specific skills that the planning of the degree will be built around include general fundamental skills such as:

- **CG3.** Capacity to solve problems, both generic ones and ones typical of the area, using the interpretation and analysis of relevant data and evidence, the issuing of evaluations, decisions, reflections and pertinent diagnoses, with the consideration suitable to scientific, ethical or social aspects.
- **CG5.** Capacity of critical reasoning (analysis, synthesis and assessment).
- **CG6.** Capacity to apply theoretical knowledge to an analysis of situations

The specific skills CE4 and CE11, as well as the general skills CG3 in the framework of this subject are aligned with the SDGs, in particular with SDGs 8, 9, 12 and 17.

### 2.3. Importance of learning goals

The skills formed by this subject are relevant because they contribute to the basic knowledge of the sustainable market economic system, its functioning and its relations with environmental variables, present in most of the economic activities developed nowadays. These competences implicitly involve the development of skills that enable problem-solving and critical thinking within the framework set by the environmental limits and critical thresholds for the use of natural resources, set out in the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda.

## 3. Assessment (1st and 2nd call)

## 4. Methodology, learning tasks, syllabus and resources

### 4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. It is based on active participation, case studies, teamwork etc. that favor the development of communicative skills and critical thinking. A wide range of teaching and learning tasks are implemented, such as lectures, practice sessions, autonomous work, tutorials, and assessment tasks. Students are expected to participate actively in the class throughout the semester. Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials, including a discussion forum. Further information regarding the course will be provided on the first day of class.

## 4.2. Learning tasks

This is a 6 ECTS course organized as follows:

- **Lectures.** The fundamental concepts of the topics of the syllabus will be explained by the teacher.
- **Practice sessions.** Two kind of activities will be used:
  - Activities to learn theoretical concepts but with the active participation of the students, because they will apply already acquired knowledge in order to understand new concepts.
  - Resolution of practical exercises.
- **Autonomous work.** Students do tasks such as study, readings, preparation of practice sessions and seminars, and summative assignments.
- **Tutorials.** Will allow a more direct and personal support to students in order to answer questions about the contents of the course and guide them in their studies and in the resolution of exercises. These tutorials may be individual or in a group.
- **Assessment tasks.** A final written examination.

## 4.3. Syllabus

This course will address the following topics:

### Lectures

#### Section I. Basic Economics

- Topic 1. What is Economics? (2030 Agenda)
- Topic 2. How markets work. The market. Supply and Demand (SDG 8,9 y 12)
- Topic 3. Market structure: Perfect and imperfect competition (SDG 8 y 9)

#### Section II. Environmental Economics

- Topic 4. Government failure. Externalities, public goods and natural resources (SDG 13 y 17)
- Topic 5. Economic growth and environment. Sustainable development (SDG 6, 8, 9 y 12)
- Topic 6. Environmental Valuation. Revealed preference and declared preferences environmental (SDG 3, 6 y 7)
- Topic 7. Cost Benefit analysis (CBA) and Cost Efficiency analysis (ACE) (SDG 3, 15 y 17)
- Topic 8. Environmental policies. Efficiency and equity (SDG17)

### Practice sessions

Each theory topic related to a practical dossier that includes problems, documents or short texts for analysis and other questions of all the contents affected in the corresponding topic. And they will be carried out either in the computer room, or in the ordinary classroom. Each of the practices will involve the implementation and learning of one or more goals of the different sustainable development goals (SDGs). The student must first identify each of them as a previous step to solving the task and later while solving the problems be able to show that they have acquired the skills and attitudes necessary to integrate and link the content of the theoretical and practical explanations of the Applied Economics subject with the specific goals of the SDGs and with the challenges of sustainable development, challenges for the 2030 Agenda.

## 4.4. Course planning and calendar

Activities/ week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	
<b>Classroom activities</b>																						<b>60</b>	
Lectures	2	2	2	2	2	2	2	2	2		2		2	2	2								26
Practice sessions		2	2	2	2	2	2	2	2		2		2	2	2								24
Tutorials							2							2									4
Exams												2				2			2				6
<b>Non-classroom activities</b>																						<b>90</b>	
Autonomous	4	4		4	4	4	4	5	5	4	6	4	4	6	6	6	6	6	8	4			90

TOTAL 6 8 8 8 8 8 10 9 9 4 10 6 8 10 10 8 6 8 6 0 0 150

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the EPS website (<https://eps.unizar.es>)

#### 4.5. Bibliography and recommended resources

- BB** AZQUETA OYARZUN, D. Introducción a la economía ambiental. 2ª ed. [s. l.]: McGraw-Hill, 2007. ISBN 9788448160586.
- BB** CALAFAT, M. C.; PUERTAS MEDINA, R. Lecciones de economía política?: teoría y ejercicios. 1ª edición. [s. l.]: Tirant lo Blanch, 2020.
- BB** Manual de economía ambiental y de los recursos naturales / Pere Riera ... [et al.] . 3ª ed. Madrid : Paraninfo, D.L. 2016
- BB** SAMUELSON, P. A.; NORDHAUS, W. D. Economía ?: con aplicaciones. 19ª ed. rev. y act. [s. l.]: McGraw-Hill Interamericana, 2019.
- BB** Vázquez, M. X. Labandeira, X. y León, C. J. (2007). Economía ambiental. Pearson Educación.
- BC** Fernández-Bolaños Valentín, Antonio. Economía y política medioambiental : situación actual y perspectivas en la Unión Europea / Antonio Fernández- Bolaños Valentín . Madrid : Piramide, 2002
- BC** KRUGMAN, P. R. et al. Fundamentos de Economía. 3ª ed., reimp. [s. l.]: Reverté, 2017. ISBN 9788429126464.
- BC** Martínez Alier, J. y Roca Jusmet, J. (2014). Economía ecológica y política ambiental. FCE - Fondo de Cultura Económica

The updated recommended bibliography can be consulted in:

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?id=10967>