



Universitat de Lleida

DEGREE CURRICULUM  
**AGRI-ENVIRONMENTAL POLICY  
AND RURAL DEVELOPMENT**

Coordination: MILLAN GOMEZ, JOSE SEBASTIAN

Academic year 2022-23

## Subject's general information

<b>Subject name</b>	AGRI-ENVIRONMENTAL POLICY AND RURAL DEVELOPMENT			
<b>Code</b>	14424			
<b>Semester</b>	1st Q(SEMESTER) CONTINUED EVALUATION			
<b>Typology</b>	Degree	Course	Character	Modality
	Master's Degree in Agronomic Engineering	1	COMPULSORY	Attendance-based
<b>Course number of credits (ECTS)</b>	4			
<b>Type of activity, credits, and groups</b>	<b>Activity type</b>	PRAULA	TEORIA	
	<b>Number of credits</b>	2	2	
	<b>Number of groups</b>	1	1	
<b>Coordination</b>	MILLAN GOMEZ, JOSE SEBASTIAN			
<b>Department</b>	BUSINESS ADMINISTRATION			
<b>Important information on data processing</b>	Consult <a href="#">this link</a> for more information.			
<b>Language</b>	Spanish Learning materials in Spanish, Catalan and English			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
MILLAN GOMEZ, JOSE SEBASTIAN	jose.millan@udl.cat	4	

## Learning objectives

To know how to apply economic models for management of environmental and natural resources:

- Time allocation of non-renewable resources.
- Optimal and sustainable levels of renewable resources. Regulation tools.
- Optimal pollution level. Regulation tools.

To be able to develop critical thinking about European Common Agricultural and Rural Development Policies.

## Competences

CB6 To possess and understand knowledge that provides a basis or opportunity to be original in the development and / or application of ideas, often in a research context.

CB7: That students know how to apply the acquired knowledge and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study.

CB8: That students are able to integrate knowledge and face the complexity of formulating judgments based on information that, being incomplete or limited, includes reflections on social and ethical responsibilities linked to the application of their knowledge and judgments.

CB9: That students know how to communicate their conclusions –and the knowledge and ultimate reasons that support them– to specialized and non-specialized audiences in a clear and unambiguous way.

CB10: That students possess the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.

CG4: Ability to apply the knowledge acquired to solve problems posed in new situations, analyzing information from the environment and synthesizing it efficiently to facilitate the decision-making process in companies and professional organizations in the agri-food sector.

CG6: Ability to direct or supervise multidisciplinary and multicultural teams, to integrate knowledge in complex decision processes, with limited information, assuming social, ethical and environmental responsibility for their professional activity in tune with the socioeconomic and natural environment in which they operate.

CG7: Ability to develop the skills necessary to continue autonomously or directed learning, incorporating new concepts, processes or methods derived from research, development and innovation into their professional activity.

CE2: Agroindustrial constructions, infrastructures and rural roads. Planning and management of the agrarian territory and landscape integration. Agricultural and rural development policies. Study, intervention and management.

## Subject contents

Lesson 1: Principles.

Environmental, renewable and non-renewable resources.

Discounting, equimarginality and Lagrange multipliers.

Lesson 2. Economic Theory of Environmental Policy.

Optimal pollution level.

Regulation: price and quantity mechanisms.

Coase's theorem.

Cost-effectiveness: tradable permits.

Lesson 3. Renewable resources.

Bioeconomic model.

Regulation.

Lesson 4. Non-renewable resources.

Hotelling's principle.

Optimal depletion: graphical analysis.

Lesson 5: Economic analysis of rural development projects.

Cost-benefit analysis.

Risk, uncertainty and irreversibility.

Impact analysis of development projects.

## Methodology

Face to face activities are splitted in two complementary parts:

Master classes: explanation of principals by the teacher without active participation of the students.

Problems and case study solving: the teacher presents a complex question and the students work, alone or in group, to solve it.

Activity	Face to face activity	Time	Non face to face activity	Time	Total time
	Classwork	hours	Homework	hours	hours
<b>Master class</b>	Explanation of principals	10	Learning, understanding and summarising concepts.	30	50
<b>Problems and case studies</b>	Problems and case studies solving	20	Learning, understanding and solving problems and case studies	40	50
<b>Totals</b>		30		70	100

## Development plan

The theoretical contents of each session will be previously available on the virtual campus and students must

consult them before each class.

The first hour of each class is devoted to reviewing the basic aspects of the topic raised.

In the second hour there will be exercises and other practical activities.

In the third hour the exercises will be solved and the solutions will be discussed.

At the end of each session additional exercises and activities will be proposed. The students will use the "Shared space" of the virtual campus to deliver the answers.

Week 1 - Basic principles of economics and optimization.

Week 2 - Property rights, externalities and public goods.

Week 3 - Evaluation tools. Cost-benefit analysis.

Week 4 - Environmental valuation.

Week 5 - Renewable Resources. The problem of free access.

Week 6 - Non-renewable resources. "Optimal Exhaustion".

Week 7 - Environmental policy. Optimum level of contamination.

Week 8 - Environmental policy. Regulation mechanisms.

Week 9 - Environmental policy. Cost effectiveness.

Week 10 - Presentation of impact evaluation works.

## Evaluation

Course grades results from the application of the following weights to the different items evaluated:

Final written examination: 25%

Homework lesson 2: 25%

Homework lesson 3: 12.5%

Homework lesson 4: 12.5%

Homework lesson 5: 25%

## Bibliography

Basic:

- Gertler Paul J., Martínez Sebastián., Premand Patrick, Rawlings Laura B., Vermeersch Christel M.J. (2011) La evaluación de impacto en la práctica. Banco Mundial.
- OECD (2018) Cost-Benefit Analysis and the Environment: Further Developments and Policy Use. OECD Publishing, Paris.
- Pearce, David W. i R.Kerry Turner (1995) Economía de los recursos naturales y del medio ambiente. Celeste.
- Romero, Carlos (1997) Economía de los recursos ambientales y naturales. Alianza Universidad Textos, 11.

Complementary:

- Conrad, Jon M. (1999) Resource Economics. Cambridge University Press.

- Carlson, Gerald A.; Zilberman, David i Miranowski, John A. (1993) Agricultural and Environmental Resource Economics. Oxford University Press.
- Norton, Roger D. (2004) Política de desarrollo agrícola. Conceptos y principios. FAO.
- Roura Horacio y Cepeda Horacio (1999) Manual de identificación, formulación y evaluación de proyectos de desarrollo rural. ILPES. Santiago de Chile.
- Tietenberg, Thomas H.; Lewis, Lynne (2018) Environmental and natural resource economics. Routledge. London.

Desenvolupament rural (<http://www.gencat.cat/desenvolupamentrural>).

Desarrollo rural (<http://www.magrama.gob.es/es/desarrollo-rural/temas>).

Agricultura y Desarrollo Rural ([http://ec.europa.eu/agriculture/index\\_es.htm](http://ec.europa.eu/agriculture/index_es.htm)).