Universitat de Lleida

DEGREE CURRICULUM

ECOINNOVATION

Coordination: PUIG VIDAL, RITA

Academic year 2023-24

ECOINNOVATION 2023-24

Subject's general information

<table>
<tr><td>Subject name</td><td>ECOINNOVATION</td></tr>
<tr><td>Code</td><td>102357</td></tr>
<tr><td>Semester</td><td>2nd Q(SEMESTER) CONTINUED EVALUATION</td></tr>
<tr><td>Typology</td><td>
<table>
<tr><th>Degree</th><th>Course</th><th>Character</th><th>Modality</th></tr>
<tr><td>Bachelor's degree in Industrial Organization and Logistics Engineering</td><td>4</td><td>OPTIONAL</td><td>Attendance-based</td></tr>
<tr><td>Not informed</td><td>4</td><td>OPTIONAL</td><td>Attendance-based</td></tr>
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<tr><td>Course number of credits (ECTS)</td><td>6</td></tr>
<tr><td>Type of activity, credits, and groups</td><td>
<table>
<tr><th>Activity type</th><td>PRAULA</td><td>TEORIA</td></tr>
<tr><th>Number of credits</th><td>3</td><td>3</td></tr>
<tr><th>Number of groups</th><td>1</td><td>1</td></tr>
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<tr><td>Coordination</td><td>PUIG VIDAL, RITA</td></tr>
<tr><td>Department</td><td>INDUSTRIAL AND BUILDING ENGINEERING</td></tr>
<tr><td>Teaching load distribution between lectures and independent student work</td><td>40% teaching
60% autonomous work</td></tr>
<tr><td>Important information on data processing</td><td>Consult this link for more information.</td></tr>
<tr><td>Language</td><td>English</td></tr>
<tr><td>Distribution of credits</td><td>Theoretical credits 2
Practical credits 4</td></tr>
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ECOINNOVATION 2023-24

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
PUIG VIDAL, RITA	rita.puig@udl.cat	7,2	

Subject's extra information

Continuous work during the semester is recommended in order to achieve the aims of the subject. It is also important to visit frequently the virtual space associated with the subject.

Learning objectives

In this subject, the following objectives are to be achieved:

- To know what is and what is not eco-innovation
- Knowing the added value of eco-innovation for a company.
- Financial support for eco-innovation projects and how to write an application.
- How to apply eco-innovation to existing products / services of different types.
- How to apply eco-innovation in the design of new products / services.

- How to evaluate the environmental impact of a product or a system.

The final goal is that the student achieves the necessary criteria to be able to Eco-innovate within his future job.

Competences

The most significant skills that will be worked on in this subject are:

B03. Students will have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include reflection on relevant issues of a social, scientific or ethical nature.

CE16. Define the basic knowledge and applications of environmental technologies and sustainability.

CT4. Apply basic knowledge of entrepreneurship and professional environments.

Subject contents

The program is structured in 5 topics with a teaching load of 60-hour and a total student-dedication of about 150h. The subjects are the following:

- TOPIC 1. INTRODUCTION TO ECOINNOVATION.
Have clear concepts such as: innovation, eco-design, eco-efficiency, eco-innovation, etc., and describe several examples.

- TOPIC 2. FINANTIAL SUPPORT TO ECOINNOVATION.
Seeing different existing programs and grants for companies that implement eco-innovation projects. Training on how to present a specific project to a specific call.

- TOPIC 3. CARBON FOOTPRINT AND OTHER TOOLS.
Different tools will be described, especially the carbon footprint, that can help us to Eco-innovate or to quantify the

environmental and economic improvements achieved with an eco-innovation project. Their specific regulations will be applied (ISO or others).

- TOPIC 4. INTERNATIONAL POLICIES.
The international climate change summits and the European policies of "single market for green products" will be studied.

- TOPIC 5. LIFE CYCLE ASSESSMENT AND DESIGN FOR SUSTAINABILITY

Extension to more complete ecodesign tools.

- TOPIC 6. SOFTWARE FOR ECOINNOVATION.

Methodology

The teaching activities are divided into four parts that complement each other: theory, problems, practices and project.

Master class: in the theory classes, the most relevant theoretical concepts and results are introduced, illustrating them with examples and exercises.

Problems: in the classes of problems, exercises of gradual difficulty will be solved to consolidate the concepts and the notions developed in the theory classes. Problems with real data will be presente

Experimental practices: a series of practical sessions will be carried out using a specific software for eco-innovation.

Project: throughout the course students will carry out (in groups) a project in a fairly open statement, where they will work on different contents of the subject.

Evaluation: In the evaluation tests or evidences the theoretical concepts and the resolution of problems and practices that have been explained in the face-to-face activities will be evaluated. There will be two written tests and some follow-up tests.

In addition, students will be responsible for reinforcing their knowledge autonomously based on the teaching material provided or recommended by the teacher.

Both the theoretical classes and the problems and practices will be taught in small groups of students. These smaller groups of students stimulate the dialogue and their participation.

Software: GaBi software (Sphera) will be used as a cutting-edge solution to support eco-efficiency, eco-design and value chain sustainability.

Development plan

Topic	Weeks	Methodology	Hours in class/online	Hours of autonomous work
1.Introduction	1-3	Master class and problems	12	18
2.Eco-innovation financial support	4-6	Master class and problems	12	18
3.Carbon footprint	7-8	Master class and problems	8	12
Midterm Exam	9	Written test	2	3
4.International Policies	10-11	Master class and problems	8	12

5. LCA 6. Software	12-15	Master class and practices	16	24
Final Exam	16	Written test	2	3
		TOTAL	60	90

Evaluation

The evaluation of the subject will take into account the exam and exercises grades with the following weight:

Exams: 50%

Exercises: 25%

Project: 25%

Anyone who has not passed the course at the first opportunity will be able to take a **Final Recovery Exam** that will include all the contents of the subject. This recovery exam will be held **during the week proposed in the academic calendar** and your mark will replace the grade of the previous exams

Students who have the approval to be assessed through **alternative assessment** (see requirements and procedure in the assessment regulations) must carry out the following activities: Project (25%) and Final Written Exam (75%). The Final Written Exam can be recovered through the Final Recovery Exam.

Bibliography

The main resource are the notes of the subject.

Further reading:

- ISO 14040, 2006. Environmental management, Life cycle assessment, Principles and framework. ISO, Geneva, Switzerland.
- ISO 14044, 2006. Environmental Management - Life Cycle Assessment – Requirements and Guidelines. International Organization for Standardization, Geneva, Switzerland.
- Pere Fullana, Rita Puig, “El Análisis del Ciclo de Vida”, Ed. Rubes, Barcelona, 1997, pp 143. ISBN: 84-497-0070-1 Legal deposit: B-19627-97.
- Guia pràctica per al càlcul d’emissions d’efecte hivernacle (GEH). Oficina catalana de canvi climàtic. Març, 2018.
- BSI PAS 2050. Specification for the assessment of the Life Cycle Greenhouse Gas Emissions of goods and services, Carbon Trust. British Standards Institution, London, 2011.
- IPCC. Intergovernmental Panel on Climate Change. Guidelines for National Greenhouse Gas Inventories. National Greenhouse Gas Inventories Programme, 2006.
- ISO 14067, 2013. Greenhouse Gases – Carbon footprint of products – Requirements and guidelines for quantification and communication. International Organization for Standardization, Geneva, Switzerland.
- ISO 14064, 2006. Greenhouse Gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals. International Organization for Standardization, Geneva, Switzerland.