Universitat de Lleida

DEGREE CURRICULUM

RESOURCE MANAGEMENT

Coordination: RIUS CARRASCO, ANTONI

Academic year 2018-19

Subject's general information

<table>
<tr><td>Subject name</td><td>RESOURCE MANAGEMENT</td></tr>
<tr><td>Code</td><td>102356</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>Not informed</td><td>4</td><td>OPTIONAL</td><td>Attendance-based</td></tr>
<tr><td>Bachelor's degree in Industrial Organisation 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><th>PRAULA</th><th>TEORIA</th></tr>
<tr><td>Number of credits</td><td>3</td><td>3</td></tr>
<tr><td>Number of groups</td><td>1</td><td>1</td></tr>
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<tr><td>Coordination</td><td>RIUS CARRASCO, ANTONI</td></tr>
<tr><td>Department</td><td>COMPUTER SCIENCE AND INDUSTRIAL ENGINEERING</td></tr>
<tr><td>Teaching load distribution between lectures and independent student work</td><td>40%
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>Catalan</td></tr>
<tr><td>Distribution of credits</td><td>Theoretical credits 3
Practical credits 3</td></tr>
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Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
PUIG VIDAL, RITA	rita.puig@udl.cat	3	
RIUS CARRASCO, ANTONI	antoni.rius@udl.cat	3	

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

- To have a global vision of the environment, the circular economy and the main management tools available to the company
- Seeing the environmental management as a necessity and an opportunity for the company.
- Knowing how to implement the management tools studied.
- Knowing how to apply the knowledge acquired in the professional field.

Competences

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

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

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

CT4. Apply basic knowledge of entrepreneurship and professional environments.

Subject contents

1.- Circular economy: introduction
1.1 The need to do something
1.2 Historical evolution of environmental management
1.3 What is the circular economy?
1.4 Main axes and strategies

2.- Environmental Management Systems (EMS):
2.1 Introduction to Environmental Management Systems
2.2 EMS models: ISO standards and EMAS model.
2.3 Documentation of the EMS.
2.4 Implementation of a EMS: environmental policy, environmental goals and milestones, environmental aspects and environmental indicators.

3.- Feasibility of environmental improvement actions:
3.1 Technical and economic viability: process analysis.

3.2 Study of the economic viability: pay-back, net present value (NPV) and internal rate of return (IRR).

4.- Case study of Cleaner Production: synthesis exercise.

5.- Management of energy resources

6.- Management of water and other resources

7.- Industrial symbiosis:
7.1 What is this?
7.2 Examples of industrial parks
7.3 Examples of regions
7.4 Practical case-study

8.- Rethinking the product
8.1 Life Cycle Analysis (LCA)
8.2 Eco-design
8.3 Eco-labels
8.4 Practical case-study

Methodology

The classroom activities are divided into two parts that complement each other: theory and problems.

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 presented.

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.

Development plan

Topic	Weeks	Methodology	Hours in class	Hours of autonomous work
1. Introduction	1-2	Master class and problems	8	12
2. Environmental management systems	3-5	Master class and problems	12	18
3. Feasibility	6	Master class and problems	4	6
4. Case study	7	Problems	4	6
Midterm exam	8	Written test	2	3

5. Energy management	9	Master class and problems	4	6
6. Water management	10-11	Master class and problems	8	12
7. Industrial symbiosis	12	Master class and problems	4	6
8. Rethinking the product	13-15	Master class and problems	12	18
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: 70 %

Exercises: 30 % (mandatory)

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 take place during the week proposed in the academic calendar.

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 14001, 2015. Environmental Management Systems Standard. ISO, Geneva, Switzerland.
- Pere Fullana, Rita Puig, “El Análisis del Ciclo de Vida”, Ed. Rubes, Barcelona, 1997, pp 143. ISBN: 84-497-0070-1 Dipòsit legal: B-19627-97.
- Centre d’Activitat Regional pel Consum i la Producció Sostenible (SCP/RAC): http://www.cprac.org
- United Nations Environment Programme: https://www.unenvironment.org
- EMAS (Eco-Management and Audit Scheme): http://ec.europa.eu/environment/emas/
- Manuals d’Ecogestió, 21. Manual d’aspectes econòmics, del pas de la PIME a la PIME sostenible. Marta Roca i Lamolla i Josep Maria Salas i Puig. Departament de Medi Ambient. Generalitat de Catalunya.
- Ellen Mac Arthur Foundation. Circular Economy. Available at: https://www.ellenmacarthurfoundation.org/circular-economy