

69752 - Waste and byproducts

Syllabus Information

Academic year: 2024/25

Subject: 69752 - Waste and byproducts

Faculty / School: 100 - Facultad de Ciencias

Degree: 627 - Master's Degree in Circular Economy
655 -

ECTS: 6.0

Year: 01

Semester: First semester

Subject type: Compulsory

Module:

1. General information

The *Waste and By-products* course is designed so that students are able to:

- Contextualise and understand the waste sector in the context of the Circular Economy.
- Know the main leaks of materials in the current economic system.
- Understand the philosophy of waste legislation and the measures it promotes to move towards Circular Economy.
- Recognise and analyse specific problems and inspiring examples of the application of this philosophy in our environment.

The subject is taught from the Public University of Navarra.

2. Learning results

- To analyse waste management systems, including hazardous waste.
- To analyse waste streams and their participation in the biological and technical cycles.
- Critical thinking. To reason reflectively on a subject, being able to deliberate on its validity by submitting one's own and external convictions to debate.
- Permanent self-learning. To use learning continuously and develop autonomous and flexible learning strategies throughout life in order to form part of an active, motivated and integrated citizenship, favouring the improvement of employment or personal development.

3. Syllabus

Tema 1. Is there waste in Circular Economy?

Tema 2. Main "waste" flows.

Tema 3. Legislation: Waste Framework Directive.

Tema 4. Prevention.

Tema 5. Extended Producer Responsibility.

Tema 6. The circle of biological materials (prevention, reuse and recycling).

Tema 7. The circle of technical materials (prevention, reuse and recycling).

Tema 8. Waste at municipal level.

Tema 9. Seminars.

4. Academic activities

Master Classes: 24 hours.

Sessions of 50 minutes each for the entire group. Lecturers explain the theoretical contents and solve representative applied problems. Regular attendance is recommended.

Problem solving and case studies: 36 hours of student work, including 12 face-to-face hours.

The preparation and defense of three reports is required.

Study: 83 hours.

Students must study theory, read supplementary readings and solve problems.

Assessment tests: 7 hours.

There is a final written exam which includes multiple choice, short answer and problem solving questions.

5. Assessment system

The subject is assessed using two evaluation methods: continuous and global. For this purpose, the grades obtained in the following tests will be used:

- Three reports (rated *I1*, *I2* and *I3*). Each of them consists of a report on a work proposed in the class workshops.
- One seminar (graded *S1*). It consists of the preparation of a report, presentation and public defence of an applied work on the subject. The report is made individually or in groups. Assessment criteria for the work will be: innovation and originality, coherent structure and use of an appropriate bibliography, as well as clarity and order in the exposition and maturity in the debate.
- Final short answer, long answer and/or open-ended question test (graded *F*).

The grades obtained by each student in the above assessment activities are weighted according to the following formulas:

Formula 1:

Final grade of the course: $0.15 \times I1 + 0.15 \times I2 + 0.15 \times I3 + 0.30 \times S1 + 0.25 \times F$

Formula 2:

Final grade for the course: F

It is not necessary to achieve minimum grades in the assessment tests for the application of the above formulas. The final grade is calculated as the best grade obtained between those obtained with formulas 1 and 2.

6. Sustainable Development Goals

9 - Industry, Innovation and Infrastructure
11 - Sustainable Cities and Communities
12 - Responsible Production and Consumption