Universidad Zaragoza

Academic Year/course: 2023/24

29975 - Environmental sustainability tools to implement the 2030 Agenda

Syllabus Information

Academic year: 2023/24
Subject: 29975 - Environmental sustainability tools to implement the 2030 Agenda
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 430 - Bachelor's Degree in Electrical Engineering
434 - Bachelor's Degree in Mechanical Engineering
435 - Bachelor's Degree in Chemical Engineering
436 - Bachelor's Degree in Industrial Engineering Technology
438 - Bachelor's Degree in Telecommunications Technology and Services Engineering
439 - Bachelor's Degree in Informatics Engineering
440 - Bachelor's Degree in Electronic and Automatic Engineering
470 - Bachelor's Degree in Architecture Studies
476 -
558 - Bachelor's Degree in Industrial Design and Product Development Engineering
581 - Bachelor's Degree in Telecommunications Technology and Services Engineering
ECTS: 4.0
Year: 470 - Bachelor's Degree in Architecture Studies: 5
438 - Bachelor's Degree in Telecommunications Technology and Services Engineering: 4
440 - Bachelor's Degree in Electronic and Automatic Engineering: 4
434 - Bachelor's Degree in Mechanical Engineering: 4
439 - Bachelor's Degree in Informatics Engineering: 4
435 - Bachelor's Degree in Chemical Engineering: 4
430 - Bachelor's Degree in Electrical Engineering: 4
581 - Bachelor's Degree in Telecommunications Technology and Services Engineering: 3
436 - Bachelor's Degree in Industrial Engineering Technology: 4
558 - Bachelor's Degree in Industrial Design and Product Development Engineering: 4
476 - : XX

Semester: Second semester
Subject type: Optional
Module:

1. General information

The purpose of the subject is to educate and make students aware of the causes, nature and extent of environmental deterioration , as well as the international strategy for sustainability: Agenda 2030 and SDGs. To raise awareness of the main sources of international and national environmental information and to provide training in the application of various sustainability tools. In addition to training in the transversal competencies of: teamwork, communication and critical thinking.

These approaches and goals are aligned with the Sustainable Development Goals (SDGs) of the United Nations Agenda 2030 and 2030 Agenda (https://www.un.org/sustainabledevelopment/es/) and specific targets, so that the acquisition of new technologies and the acquisition of the learning results of the subject will contribute to some extent to the achievement of objectives 4.7 (SDG 4); 6.3 and 6.4 (SDG 6); 7.2 (SDG 7); 8.4 and 8.9 (SDG 8); 9.4 (SDG 9); 10.2 (SDG 10); 11.6 (SDG 11); 12.2, 12.4, 12.5, 12.6, 12.7, 12.7 and 12.8 (SDG 12); 13.3 (SDG 13); 14.1 (SDG 14); 15.2 (SDG 15); 16.7 (SDG 16); 17.16 (SDG 17).

2. Learning results

- Learn about the 2030 Agenda and the Sustainable Development Goals (SDGs). Know the means to remain up to date in the knowledge of global environmental problems as well as the various tools developed and applied to achieve sustainable development. Know the concept of sustainable development as well as the current international scheme established for its achievement.
- Learn how to approach the implementation of the 2030 Agenda in the private and public sector.
- Know the main regulatory and economic instruments for environmental protection and know how to apply them.
- Learn about the Environmental Impact Assessment as a prevention tool.
- Know and is able to plan and implement an Environmental Management System.
- Know and is able to plan, in a first approximation, an eco-designed product. Know the concept of
- Life Cycle Assessment and its applicability for product eco-design.
- Learn about the concept of eco-labeling and environmental declaration. Know and applies the EU Ecolabeling Regulation.
- Know the concept and applicability of an environmental indicator. Know global environmental indicators such as ecological and carbon footprint. Know and is able to participate in the development of environmental indicators for an

Agenda 21.
- Be able to work in a multidisciplinary, multicultural and multilingual team.

3. Syllabus

B 1. Environmental Sustainability: Analysis and perspectives.

Unit 1.1.- Introduction to the current environmental problems.. Socioeconomic aspects of environmental protection.

Unit 1.2.- Main environmental problems of character Reference sources of information.

Unit 1.3.- Sustainable development**:** concept and strategy for its achievement.

Unit **1.4.-** Environmental policy: International and European framework. Agenda 2030 and Sustainable Development Goals (SDGs)

B2. Environmental sustainability tools.

Unit 2.1.- Collective Environmental Management. Regulatory and economic instruments for environmental protection.

Unit 2.2.- Environmental Impact Assessment. Concept and procedure.

Unit 2.3.- Environmental management in the company and organizations: Certifiable Environmental Management System (ISO 14001:2015 and EM AS: EU Regulation 1221/2009).

Unit 2.4.- Waste minimization plans in the company and organizations in general.

Unit 2.5.- Introduction to ecodesign and life cycle analysis applied to products.

Unit 2.6.-Ecolabeling systems and environmental declaration**:** the European Ecolabel (EU Regulation 66/2010).

Unit 2.7.- Introduction to Environmental Indicators: Ecological footprint, Carbon footprint, Agenda 21.

4. Academic activities

- **Participative face-to-face classes: 40 hours.**

In these classes, all types of activities that encourage active participation in learning, reflection and initiative of the student body will be interspersed with the presentation of content.

- **Assessment tests**: **5 hours**
- **Special practices: 5 hours**

They will consist of a visit to facilities or places related to the contents of the subject

- **Subject work: 25 hours.**

Both individual and team work are included

- **Theory study**. **15 hours.**
- **Tutorials with the teacher: 10 hours**

5. Assessment system

The assessment will follow the continuous summative and formative assessment modality:

TEAMWORK: 50% of the final grade. The work will be of the white box type, whereby both the process of teamwork, i.e. the transversal competence of teamwork, and the result, which will be the work to be developed, will be assessed. In addition, a part of this grade will correspond to the communication skills that will be established in based on the oral presentation of the work. In any of the three cases a rubric will be used. Minimum grade to average 4 out of 10

CLASS NOTE: 50% of the final grade. In class all kinds of exercises, activities, questionnaires, debates and practical cases to be carried out by the student will be presented, which will give rise to a grade that will represent 50% of the final grade. Note minimumgrade for averaging 4 out of 10

In any case, there will be continuous guidance and feedback from the teacher.

Following the regulations of the University of Zaragoza, a global assessment test will also be scheduled for those students who decide to opt for this second system or who do not pass with the previous modality. This test will consist of an exam on the subject´s syllabus.