

Academic Year/course: 2022/23

29975 - Environmental sustainability tools to implement the 2030 Agenda

Syllabus Information

Academic Year: 2022/23

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

581 - Bachelor's Degree in Telecommunications Technology and Services Engineering: 3

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

438 - Bachelor's Degree in Telecommunications Technology and Services Engineering: 4

436 - Bachelor's Degree in Industrial Engineering Technology: 4

476 - : XX

558 - Bachelor's Degree in Industrial Design and Product Development Engineering: 4

Semester: Second semester

Subject Type: Optional

Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as lectures, problem-solving, autonomous work and study, and tutorials. Students are expected to participate actively in the class throughout the semester.

Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials.

4.2. Learning tasks

The course includes the following learning tasks:

Lectures (1.2 ECTS): 30 hours. The professor will explain the theoretical contents of the course and solve illustrative applied problems. The professor will propose some exercises and cases for solving by students in the class.

Lectures run for 2 weekly hours. Although it is not a mandatory activity, regular attendance is highly recommended.

Problem-solving sessions (0.4 ECTS): 10 hours. Lectures will be complemented by problem-solving sessions (1 weekly hour during 10 weeks).

Autonomous work and study (1.52 ECTS): 38 hours. Students are expected to spend about 40 hours to study theory, solve problems, prepare works and oral presentation, and take exams.

Guided assignments (0.4 ECTS): 10 hours. Students will complete assignments, problems, and exercises related to concepts seen in problem-solving sessions and lectures.

Tutorials (0.4 ECTS): 10 hours. The professor's office hours will be posted on Moodle and the degree website to assist students with questions and doubts. It is beneficial for the student to come with clear and specific questions.

4.3. Syllabus

The course will address the following topics:

SECTION 1. Environmental sustainability: analysis and outlooks.

Topic 1.1. Introduction to current environmental issues. Socio-economic aspects of environmental protection.

Topic 1.2. Main environmental problems of a global nature.

Topic 1.3. Sustainable development: concept and strategy for its achievement.

Topic 1.4. Environmental Policy. International and European framework. 2030 Agenda and Sustainable Development Goals.

SECTION 2. Tools for environmental protection

Topic 2.1. Collective environmental management: regulatory and economic instruments of environmental protection.

Topic 2.2. Environmental Impact Assessment.

Topic 2.3. Environmental Management Systems. ISO 14001:2015 and EMAS: RUE 1221/2009.

Topic 2.4. Waste minimization plans.

Topic 2.5. Introduction to ecodesign and life cycle analysis applied to products.

Topic 2.6. Eco-labeling and product environmental statement. European eco-label (RUE 66/2010)

Topic 2.7. Introduction to environmental indicators: Ecological footprint, Carbon footprint, Agenda 21.

4.4. Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the College of Higher Engineering and Architecture (EINA) website (<https://eina.unizar.es/>) and Moodle.

4.5. Bibliography and recommended resources

http://biblos.unizar.es/br/br_citas.php?codigo=29992&year=2019