

28719 - Evaluation of Effects on the Environment

Syllabus Information

Academic year: 2023/24

Subject: 28719 - Evaluation of Effects on the Environment

Faculty / School: 175 - Escuela Universitaria Politécnica de La Almunia

Degree: 423 - Bachelor's Degree in Civil Engineering

ECTS: 6.0

Year: 2

Semester: First semester

Subject type: Compulsory

Module:

1. General information

The basic premise in this subject is that all human activity produces or is associated with a certain environmental impact, often with considerable (even irreversible) repercussions on the environment and that directly or indirectly also affects humans themselves.

For this reason, this is a very important subject in the training of any graduate in Civil Engineering. The teaching of this subject, therefore, will seek to discriminate when, where and how a given activity will cause the greatest damage to the environment, measure such impacts objectively, check whether such alterations can be avoided, or if not possible, minimized, corrected or compensated, seeking, proposing and constructing viable alternatives to the project OBJECTIVES:

- To know the legal framework of environmental impact assessments (EIA) To know the administrative procedure of environmental impact assessments

(EIA)

- Have the tools and be able to decide whether an activity should be subject to an EIA Know and know how to prepare the different parts of an Environmental Impact Study.
- Know and know how to use the main existing tools for the elaboration of Environmental Impact Studies Learning to work alone and in multidisciplinary teams
- To learn about the implementation of sustainability-oriented measures.

These approaches and objectives are aligned with the Sustainable Development Goals (SDGs) numbers 13, 15 and 17 of the United Nations 2030 Agenda () agenda 2030 of the United Nations (<https://www.un.org/sustainabledevelopment/es/>), so that the acquisition of the learning learning results of the subject provides training and competence to contribute to some extent to their achievement.

2. Learning results

- To introduce the concepts, terminology and language specific to Environmental Impact Assessment.
- To know how to apply the administrative procedure of Environmental Impact Assessment and the role played by the different agents involved.
- To know the methodology to carry out an Environmental Impact Study and, in detail, all its phases.
- To develop their observation skills and capacity to interpret the project-environment interrelationship and the causal relationship action-environmental component, at different scales.
- To develop the scientific character, the capacity of valuation, objectivity and critical spirit.
- To deepen in an ethic for the environment.
- Apply the SDGs to your regular work.

3. Syllabus

Topic 1.- Introduction to the Environment.

- Environment and Sustainable Development. Concepts.
- Contamination.
- Relationship between Environment and Social-Economic Development.
- Institutional and Social Responses for Sustainable Development.

- Terminology. Concept of Environmental Impact and Environmental Impact Assessment.
- The risk society.
- Environmental Regulations.

Topic 2.- Environmental impact assessment. Administrative legal framework.

- Background.
- Community, state and regional regulations.
- Types of environmental impact assessment: ordinary, strategic and simplified.
- Assumptions subject to EIA.
- Ecologically sensitive areas.
- Screening Phase.

Topic 3.- The environmental impact study: legal technical contents and basic methodology.

- Analysis and description of the project.
- Construction, exploitation and abandonment actions.
- Analysis of technically feasible alternatives: preliminary location studies.
- Scoping Phase

Topic 4.-The environmental inventory: description of the pre-operational state.

- Physical components and processes.
- Biological components and processes.
- Casuistry according to natural receptor media.
- Landscape, cultural and socioeconomic components.

Topic 5.-Identification and valuation of impacts

- Types of Impact: concepts and official nomenclature.
- Characterization and qualitative assessment.
- Environmental impact indicators.
- Transformation functions.
- Impact identification and assessment techniques.

Topic 6 The proposal of corrective, compensatory and restorative measures.

- Environmental monitoring program
- Basic types of corrective measures.
- The environmental monitoring program: experimental design and implementation.

Topic 7 The synthesis report.

- Technical considerations on the dissemination of the environmental impact study
- Comparative analysis of public participation techniques.

Topic 8:- Case studies.

- Depending on the receiving medium.
- According to type of activity.

Topic 9.- Strategic Environmental Assessment.

- Legislation
- Case studies.

4. Academic activities

Expository presentation of the topics presented, the teacher will perform throughout this presentation small practical exercises to facilitate the learning of the subject.

At the end of the subject and through practical experiences (lectures, visits, case analysis) students will deepen in a part of the content that has been previously studied.

During the course of the activity, a challenge or a specific activity will be presented. The resolution will be worked on by the students in teams. An evaluation rubric will be provided to facilitate the completion of these items.

5. Assessment system

The student must demonstrate that they have achieved the expected learning results by means of the following assessment activities.

The assessment process includes two types of actions:

- A continuous assessment system, which will be carried out throughout the entire teaching period.
- **An overall assessment test** reflecting the achievement of the learning results, at the end of the teaching period.

Continuous assessment system:

The continuous assessment system will include the following group of gradable activities:

- Individual and group activities in class.
- Exercises, theoretical questions and proposed works.
- Written assessment tests

The written evaluation tests will be carried out in order to regulate learning, stimulate the distribution of effort over time and provide a more individualized evaluation tool for the educational process. These tests will include theoretical and/or practical questions, of the different subjects to be evaluated, their total number will be two.

The final grade of the subject will be weighted taking into account that 70% corresponds to the theoretical tests (written evaluation tests) and 30% to the practical tests (individual and group activities in the classroom, exercises and proposed theory and practice).

In order to pass the subject it will be necessary to have, at least, a score of 4 points in each of the theoretical exams, since lower grades will not be averaged with the practical part of the subject.

A fundamental requirement to be able to pass the subject by continuous assessment is to attend a minimum of 80% of the face-to-face activities.

2.- Global final assessment test.

As in the previous assessment methodology, the global final evaluation test should aim to verify if the learning results have been achieved, as well as to contribute to the acquisition of the different competences, and should be carried out by means of more objective activities if possible.

The global assessment test will have the same group of activities. Students who are going to use this assessment system will have to hand in the same works elaborated in the continuous assessment system and take the same exams that were taken in the continuous system, only that they will be taken in the same exam session.