

28719 - Evaluation of Effects on the Environment

Syllabus Information

Academic Year: 2019/20

Subject: 28719 - Evaluation of Effects on the Environment

Faculty / School: 175 -

Degree: 423 - Bachelor's Degree in Civil Engineering

ECTS: 6.0

Year: 2

Semester: First semester

Subject Type: Compulsory

Module: ---

1.General information

1.1.Aims of the course

The subject and its expected results respond to the following approaches and objectives:

To know the legal framework for environmental impact assessments (EIA).

Know the administrative procedure of the EIA

Have the tools and be able to decide whether an activity should be subject to EIA

Knowing and knowing how to prepare the different parts of an Environmental Impact Study.

To know and to know how to use the main existing tools for the elaboration of Environmental Impact Studies.

Learning to work alone and in multidisciplinary teams

1.2.Context and importance of this course in the degree

The objective of this course is to provide the student with the knowledge and skills necessary to intervene in processes of Environmental Impact Assessment in the broad sense of the term, since the environmental impact assessment is an administrative procedure, of which the environmental impact study is only a part, although it is true that it is usually the most complex and laborious part of the entire assessment process, and is the one that occupies most of the contents of the program of the subject that we present.

The subject of Environmental Impact Assessment is part of the Degree in Civil Engineering taught by EUPLA, within the group of subjects that make up the module called Compulsory Training Common to the Civil Branch. This is a second year subject located in the first semester and of a compulsory nature (OB), with a teaching load of 6 ECTS credits.

The need for the subject within the syllabus of the present degree is more than justified since being a subject with a marked transversal character influences the approach of the rest of the subjects taught, adding the environmental variable.

1.3.Recommendations to take this course

The development of the subject of Environmental Impact Assessment requires putting into play knowledge and strategies from subjects related to:

Social Sciences.

Natural Sciences

This subject is part of the compulsory common training to be taken in this Degree and does not have any normative prerequisite nor does it require specific complementary knowledge. Therefore, what has been expressed above is understood from a formal point of view, although it is necessary to be clear that an adequate training base is needed in the disciplines indicated above.

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The learning process designed for this subject is based on the following:

Strong interaction between the teacher/student. This interaction is brought into being through a division of work and responsibilities between the students and the teacher. Nevertheless, it must be taken into account that, to a certain degree, students can set their learning pace based on their own needs and availability, following the guidelines set by the teacher.

The current subject is conceived as a stand-alone combination of contents, yet organized into three fundamental and complementary forms, which are: the theoretical concepts of each teaching unit, the solving of problems or resolution of questions and laboratory work, at the same time supported by other activities

The organization of teaching will be carried out using the following steps:

Theory Classes: Theoretical activities carried out mainly through exposition by the teacher, where the theoretical supports of the subject are displayed, highlighting the fundamental, structuring them in topics and or sections, interrelating them.

Practical Classes: The teacher resolves practical problems or cases for demonstrative purposes. This type of teaching complements the theory shown in the lectures with practical aspects.

Laboratory Workshop: The lecture group is divided up into various groups, according to the number of registered students, but never with more than 20 students, in order to make up smaller sized groups.

Individual Tutorials: Those carried out giving individual, personalized attention with a teacher from the department. Said tutorials may be in person or online.

4.2.Learning tasks

Involves the active participation of the student, in a way that the results achieved in the learning process are developed, not taking away from those already set out, the activities are the following:

Face-to-face generic activities:

Theory Classes: The theoretical concepts of the subject are explained and illustrative examples are developed as support to the theory when necessary.

Practical Classes: Problems and practical cases are carried out, complementary to the theoretical concepts studied.

Laboratory Workshop: This work is tutored by a teacher, in groups of no more than 20 students.

Generic non-class activities:

Study and understanding of the theory taught in the lectures.

Understanding and assimilation of the problems and practical cases solved in the practical classes.

Preparation of seminars, solutions to proposed problems, etc.

Preparation of laboratory workshops, preparation of summaries and reports.

Preparation of the written tests for continuous assessment and final exams.

The subject has 6 ECTS credits, which represents 150 hours of student work in the subject during the trimester, in other words, 10 hours per week for 15 weeks of class.

A summary of a weekly timetable guide can be seen in the following table. These figures are obtained from the subject file in the Accreditation Report of the degree, taking into account the level of experimentation considered for the said subject is moderate.

Activity	Weekly school hours
Lectures	3
Laboratory Workshop	1
Other Activities	6

4.3.Syllabus

- **Topic 1 Introduction to the Environment. Normative**
Introduction. Environment and sustainable development. Concepts.

Pollution.
 Relationships between Environmental and Economic Social Development.
 Urban Environment.
 Environment and Business.
 Terminology. Concept of Environmental Impact Assessment and Environmental Impact.
 Risk Society.
 Environmental Compliance.

- **Topic 2. The environmental impact assessment.**

Background.
 UE, national and regional legislation.
 Types of environmental impact assessment: ordinary, strategic and simplified. The assumptions subject to EIA.
 Ecologically sensitive areas.
 Screening.

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

Analysis and description of the project.
 Shares of construction, operation and abandonment.
 Analysis of technically feasible alternatives: preliminary studies location.
 Scoping Phase

- **Topic 4.- The environmental inventory**

- Description of preoperational state.
 Components and physical processes.
 Components and biological processes.
 Casuistry by natural means receivers.
 Landscape, cultural and socio-economic components.

- **Topic 5.- Identification and assessment of impacts**

Types of Impact: concepts and official nomenclature.
 Characterization and qualitative assessment.
 Environmental impact indicators.
 Transformation functions.
 Identification techniques and evaluation of impacts.

- **Topic 6.- The proposed 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. and other technical considerations on the dissemination of environmental impact study**

Comparative analysis of public participation techniques.

- **Topic 8.- Strategic Environmental Assessment.**

- **Topic 9.- Study of cases**

Practical contents

Each topic discussed in the previous section, carries associated practical exercises on real cases of application in several companies: engineering, industry and the free exercise of the profession.

4.4.Course planning and calendar

The planning orientation shown below

Week 1, 2 and 3: Topic 1.

Week 4 and 5: Topic 2.

Week 6 : Topic 3.

Week 7, 8 and 9: Topic 4.

Week 9,10 and 11: Topic 5.

Week 13: Topic 6.

Week 14: Topic 6.

Week 14: Topic 7.

Week 15: Topic 8.

MATERIAL RESOURCES

Material	Format
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Topic theory notes Topic problems	Paper/repository
Topic theory notes Topic presentations Topic problems Related links	Digital/Moodle E-Mail
Educational software	Web page

The timetables and dates of the final exams will be those published officially at;

<https://eupla.unizar.es/asuntos-academicos/calendario-y-horarios>

<https://eupla.unizar.es/asuntos-academicos/examenes>

4.5. Bibliography and recommended resources

http://biblos.unizar.es/br/br_citas.php?codigo=28719&year=2019