

28633 - Technical Projects I

Syllabus Information

Academic year: 2024/25

Subject: 28633 - Technical Projects I

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

Degree: 422 - Bachelor's Degree in Building Engineering

ECTS: 6.0

Year: 4

Semester: First semester

Subject type: Compulsory

Module:

1. General information

The specific objectives of the course are:

- Ability to develop projects
- Understanding the regulatory framework
- Learning the different methods of project presentation
- Being able to interpret a project
- Knowing the role and responsibilities of the designer
- Knowing the techniques and tools for the drafting of a demolition project.

These approaches and goals are aligned with the following Sustainable Development Goals (SDGs) of the United Nations Agenda 2030 (<https://www.un.org/sustainabledevelopment/es/>), in such a way that the acquisition of the learning results of the subject provides training and competence to contribute to some extent to their achievement.

2. Learning results

At the end of this subject, the student will be able to:

Apply the advanced tools necessary for the resolution of the parts involved in the technical project and its management.

They will have the aptitude to draft technical projects of works and constructions, which do not require an architectural project, as well as demolition and decoration projects

Will be able to analyze, review and technically control the graphic documentation and other project documents.

Likewise, he/she will have the ability to draft documents that are part of execution projects elaborated in a multidisciplinary way.

Ability to analyze execution projects and their translation to the execution of works.

Ability for the integral management and optimisation of building projects and the ability to rule on technical and legal anomalies in building projects, to propose solutions to avoid or remedy them and to analyse, check, control, review, audit and verify advanced regulatory and technical aspects of the project. Have knowledge of the functions and responsibilities of the agents involved in the building and of their professional or business organisation.

Administrative, management and processing procedures, professional organization and basic procedures in the field of building and development.

3. Syllabus

1. DOCUMENTATION THAT MAKES UP A PROJECT:

1. LITERAL DOCUMENTATION:

1. MEMORY
2. SOLICITATION DOCUMENT
3. MEASUREMENTS
4. BUDGET
5. WASTE MANAGEMENT

6. HEALTH AND SAFETY

2. GRAPHIC DOCUMENTATION AND DRAWINGS:

1. LOCATION, SITE, URBANIZATION
2. STAKING OUT AND FOUNDATIONS

3. DISTRIBUTION PLANTS AND ELEVATIONS
4. ELEVATIONS AND SECTIONS
5. CONSTRUCTIVE DETAILS
6. CARPENTRY, LOCKSMITH, OTHERS
7. STRUCTURAL DRAWINGS
8. INSTALLATION DRAWINGS
9. JUSTIFICATION OF THE REGULATION
10. SAFETY STUDY DRAWINGS
2. CONCEPT OF RUIN AND RUINOUS STATE (Regulations)
3. THE DEMOLITION PROCESS
 1. PREVIOUS WORKS
 1. Preliminary Inspection
 2. Drafting of the Demolition Project
 3. Preliminary Works on Site
 2. EXECUTION OF DEMOLITION
 1. Manual demolition
 2. Mechanical Demolition
4. PARTIAL DEMOLITIONS AND SPECIAL ELEMENTS
5. SAFETY IN THE DEMOLITION PROCESS
 1. RISKS
 2. PROTECTION EQUIPMENT AND SYSTEMS
 3. STANDARDS OF ACTION IN THE DEMOLITION PROCESS
6. SHORING AND SHORING
7. STABILIZATION OF FACADES
8. DEMOLITION WITH EXPLOSIVES
9. DEMOLITION OF REINFORCED CONCRETE ELEMENTS
 1. EXPANSIVE MORTARS
 2. GAS EXPANSION
 3. ABRASION TECHNIQUES
 4. FUSION TECHNIQUES
10. HAZARDOUS MATERIALS AND WASTES IN DEMOLITION
 1. LEAD PAINTS
 2. FLAMMABLE GASES
 3. LEAD
11. AMIANTO
 1. DEFINITION
 2. USAGE
 3. HEALTH HAZARDS
 4. ASBESTOS REMOVAL PROCEDURES
 5. LEGISLATION AND REGULATIONS
12. WASTE MANAGEMENT
 1. LEGISLATION
 2. TERMINOLOGY
 3. THE WASTE MANAGEMENT STUDY

4. Academic activities

The program offered to the student to help him/her achieve the expected results comprises the following activities...

Theoretical sessions, where the contents of the subject will be explained and developed projects and different building works.

Practical sessions, where the theoretical contents will be developed and translated into concrete and specific cases in building projects. These classes will have a double typology

Workshop classes: development of the work to be done. Individual or group work depending on the practice. Supervision and tutoring of the work by the faculty.

Exhibitions and debates: Explanation of the work developed, arguing the solutions and establishing a debate and dialogue among the students.

From the units presented, each student must be able to recognize those sections that are applicable in the different practical cases of a specific project

Each project has specific specifications. It is proposed to develop, in parallel to the theory, a prototype of a project, and to work and complete all the necessary documentation for each case, knowing how to discern those contents that are applicable in each case, finding the optimal solution, in a reasoned and justified manner.

5. Assessment system

The student must demonstrate that he/she has achieved the intended learning results by means of the following assessment activities

At the beginning of the subject the student will choose one of the following two assessment methodologies:

- Face-to-face: characterized by the compulsory attendance to more than 85% of the face-to-face hours.
- Non-attendance: characterized by attendance of less than 85% of the attendance hours

The development of the subject is imminently practical, preparing students for a hypothetical real work situation professional. During the term of the subject, a complete technical project is developed and defined, which will be developed in parallel with the theoretical explanations at . Each of the parts, topics and sections to be developed are corrected in classes workshop type and are evaluated on an ongoing basis.

The final assessment will include the totality of the project, with the different parts, and with the improvements that have been made throughout the subject

For those who cannot attend the term on a regular basis, there is the possibility of following the subject through the MOODLE platform, and develop the work and project autonomously, supported by tutorials

The assessment of the project represents 70% of the final grade.

Class participation is 10% of the final grade.

The theoretical test on Demolition Techniques and CDW Management accounts for 20% of the final grade.

6. Sustainable Development Goals

- 5 - Gender Equality
- 9 - Industry, Innovation and Infrastructure
- 11 - Sustainable Cities and Communities