Universidad Zaragoza

Academic Year/course: 2024/25

69201 - Urbanization Projects

Syllabus Information

Academic year: 2024/25
Subject: 69201 - Urbanization Projects
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 519 - Master's in Architecture
ECTS: 6.0
Year: 1
Semester: First semester
Subject type: Compulsory
Module:

1. General information

This subject trains students in the development of urbanization projects and works in a context of competence and meeting excellence standards. It provides competitive tools related to public space architecture, urban infrastructures, street and public area equipment, urban ecosystems, as well as park and public open space systems. The technical and building needs of the project will be solved in a functional, aesthetic, competitive, integrative, generalist, detailed, durable and sustainable manner, using conservative and innovative designs and building solutions expressed in rigorous and accurate plans and documents.

2. Learning results

To be able to develop urban projects integrated into the public space, respecting and enhancing the identity of the places.

To be able to develop re-development projects in degraded or obsolete urban areas.

To be able to conceive, calculate, design and integrate into buildings and urban complexes and execute urban infrastructures.

To be able to do measurements and budgets for building projects and works, health and safety studies, and construction and demolition waste management studies.

To be able to draft, coordinate and organize the technical documentation of a development project.

To know the specific regulations on urban facilities and their application.

To know the fundamentals, equipment and materials of urban installations to guarantee the correct urban and building services.

To be able to choose the most appropriate type of installation and integrate it correctly into the urban project.

To be able to design, pre-dimension and calculate urban installations and to carry out the corresponding measurements and project plans.

To be able to commission and maintain urban facilities.

To know how to choose the most advisable building techniques according to their requirements (climatic, solicitations, durability).

To know how to choose the most suitable materials for each type of urbanization according to the aesthetic, functional and technical requirements.

To be able to define the most advisable building sections for each pre-designed configuration, and their relative operation and organization, making the layout of infrastructures, urban connections and urbanized spaces compatible.

To know how to create building details that solve the main elements of the infrastructure networks in streets and public spaces.

To know how to apply the prescriptions established in the current regulations on urban infrastructures.

To be able to technically solve problems of redevelopment of urban areas pending transformation due to problems of urban space degradation or insufficient quality, as well as deterioration, obsolescence or insufficient facilities.

To be able to choose sustainable materials and techniques, minimizing the impact of urban development on the environment.

3. Syllabus

1. PRESENTATION OF THE SUBJECT
2. URBANIZATION PROJECTS. CONCEPT. SECONDARY URBANISM WITH TECHNICAL BASIS
3. REQUIREMENTS FOR URBANIZATION PROJECTS
4. ROAD DESIGN AND BUILDING
5. SANITATION AND PURIFICATION
6. WATER SUPPLY
7. ELECTRICITY, LIGHTING, GAS, INFORMATION AND TRAFFIC NETWORKS
8. SURFACES AND PAVEMENTS
9. SIGNALLING. STREET FURNITURE

10. PEDESTRIAN SPACE AND BICYCLES
11. LANDSCAPING OF GREEN AREAS AND GARDENS
12. CONTENT AND SCOPE OF THE URBANIZATION PROJECT
13. MEASUREMENTS AND BUDGETS

4. Academic activities

The basic knowledge will be acquired through lectures and case studies during theory classes and occasionally during problem and practical classes, all of which are scheduled by the EINA.

The knowledge will be applied through problem and practical sessions in which the final work will be developed.

The tutorials will serve to review both the knowledge acquired and work done.

Visits will be made to urbanization works under development or completed.

The teachers of the subject will prepare the teaching material for the student, as well as further information of interest that encourages curiosity and motivation to continue learning individually.

5. Assessment system

Students will be evaluated by means of a progressive assessment system, based on a semi-professional practical work developed throughout the four-month period. The work will consist of the technical development of an urbanization proposed by the teaching team, which will be carried out in phases as the subject progresses. It will cover the urban analysis of the treated space and its surroundings and interrelationships, the precise definition of general geometries and uses, the design of urban infrastructures, the selection of construction typologies and materials, the justification of the regulations and the development of the necessary building details. Compliance with the main regulations and their adaptation to the ideas of the project shall be justified. The work must include the technical specifications of selected elements and an economic estimate of specific construction units. The grade for the paper is distributed as follows:

- ANALYSIS AND PREVIOUS INFORMATION PHASE - 20 points
- "URBANIZATION PROJECT" - 60 points
- ATTENDACE AND PARTICIPATION - 20 points

Global assessment: Students may be evaluated by means of a global test, consisting of a theoretical-practical exam to be taken on the dates indicated by the School of Engineering and Architecture.

6. Sustainable Development Goals

11 - Sustainable Cities and Communities