Universidad Zaragoza

Academic Year/course: 2022/23

69201 - Urbanization Projects

Syllabus Information

Academic Year: 2022/23
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

1.1. Aims of the course

- Train the student to design urbanization projects, especially in reconditioning processes of urban and suburban areas, with a correct integration in the urban environment and the landscape.

- Train the student to select the most appropriate techniques according to the requirements of the urbanization, under functional, economic, aesthetic, energy efficiency, noise protection and sustainability criteria.

- Train the student to guarantee, through the correct design of the urbanization, its functionality and accessibility.

- Train the student to justify compliance with the regulations required in the design and execution of urbanization projects.

- Provide the student with sufficient knowledge to design effectively and in accordance with regulations, materials, functional requirements and the economy, the details of urbanization, especially those related to urban infrastructure.

- Know the research methods and preparation of urbanization projects.

- Ability to combine general and specialized knowledge of architecture to generate innovative and competitive proposals in professional activity.

- Ability to solve problems and make decisions with initiative, creativity and critical reasoning.

- Ability to communicate and transmit knowledge, abilities and skills.

- Ability to assess the social and environmental impact of solutions, acting with ethical professional responsibility and social commitment.

- Capacity for information management, handling and application of the technical specifications and legislation necessary for the practice of Architecture.

- Ability to learn continuously and develop autonomous learning strategies.

- Ability to coordinate activities.

- Ability to write reports or documents.

- Train the student to establish urban design objectives compatible with professional and social responsibility within a

framework of sustainability in the use of natural and economic resources.

- Provide the student with quality criteria in projects and works, indicating the techniques for the control of economic deviations, the achievement of durable works, the repercussions of exploitation and maintenance and social responsibility understood as a constant attitude and as a contribution to society.

These approaches and objectives are associated 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 subject provides training and competence to contribute to some extent to its achievement:

Objective 9: Industry, innovation and infrastructure

Objective 11: Sustainable cities and communities

1.2. Context and importance of this course in the degree

The subject of Conditioning and Services in the architecture degree consists of several subjects that train the student to be able to calculate the totality of facilities and infrastructures that all construction and urbanization works require. Projecting requires an integrating process, in which the functional requirements of the building are correctly implemented, in accordance with the project idea that generates all architectural events, in a technically viable, socially compatible and sustainable way, both economically and with the environment.

Urbanism is the tool with which the growth, organization and planning that makes urban settlements possible has been regulated. The urbanization process is not possible without the correct supply and evacuation of the main urban and industrial effluents, as well as the energies that make urban life possible.

In a context of crisis and recession of construction on the one hand, and on the other hand of growing awareness from architecture about the consequences for society and the environment of urban development, the course focuses on the processes of reform and redevelopment of urban spaces that have been left undefined in urbanization or sub-urbanization processes. Through integrated urban planning, these sectors constitute opportunities for giving coherence and continuity to urban events. Through the processes of reform and redevelopment, the physical environment in which urban activities take place can be integrated, completed and improved.

These processes must be considered from the landscape and social integration, in an economically sustainable way and in any case compatible with the environment.

The correct technical resolution of urbanization projects is a tool that, integrated with the subjects of project and urban content, completes the training of the architect for its responsible, thoughtful and committed writing with the development of cities.

1.3. Recommendations to take this course

No prerequisites

2. Learning goals

2.1. Competences

General Master's Competences:

C.G.M.1 Know the research methods and preparation of construction projects.

Cross-cutting competences:

C.T.2 Ability to combine general and specialized knowledge of architecture to generate innovative and competitive proposals in professional activity.

C.T.3 Ability to solve problems and make decisions with initiative, creativity and critical reasoning.

C.T.4 Ability to communicate and transmit knowledge, abilities and skills.

C.T.5 Ability to assess the social and environmental impact of solutions acting with ethical professional responsibility and social commitment.

C.T.8 Capacity for information management, handling and application of the technical specifications and legislation necessary for the practice of Architecture.

C.T.9 Ability to learn continuously and develop autonomous learning strategies.

C.T.11 Ability to coordinate activities.

C.T.12 Ability to write reports or documents.

EC. 115.OB Ability to conceive, calculate, design, integrate in buildings and urban complexes and execute: Water supply, treatment and evacuation facilities, heating, air conditioning (T).

EC. 116.OB Ability to carry out measurements and budgets for construction projects and works, health and safety studies, and construction and demolition waste management studies (T).

EC. 117.OB Ability to write, coordinate and organize the technical documentation of the project (T).

Complementary skills:

Ability to conceive the relationship between architecture project and culture of urban public space.
Landscape project knowledge
Ability to understand the interaction between the project and its environment
Adequate knowledge of the relationships between urban planning, the environment, spatial planning.
Ability to define the possibilities of interaction between architecture and landscape.

2.2. Learning goals

Being able to develop urban projects integrated into the public space that respect and enhance the identity of the performance venues.

Being able to develop redevelopment projects in degraded or obsolete urban areas.

Ability to conceive, calculate, design, integrate into buildings and urban complexes and execute urban infrastructures.

Ability to measure and estimate construction projects and works, health and safety studies, and construction and demolition waste management studies.

Ability to write, coordinate and organize the technical documentation of a development project

Knowledge of the specific regulations on urban facilities and their application.

Knowledge of the basic foundations, equipment and materials of urban facilities to guarantee the correct urban and building service.

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

Being able to design, pre-size and calculate urban facilities and make their corresponding measurements and project plans.

Aptitude for setting up and maintaining urban facilities.

He knows how to choose the most recommended construction techniques according to his requirements (weather, stress, durability).

He knows how to choose the most suitable materials for each type of urban development based on the aesthetic, functional and technical requirements.

It is capable of defining the most recommendable construction sections for each predesigned configuration, and their relative operation and organization, making the layout of the infrastructures, urban connections and urbanized spaces compatible.

He knows how to elaborate constructive details that solve the main elements of the infrastructure networks present in the streets and public spaces.

It knows how to apply the prescriptions established in the current regulations on urban infrastructures.

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

Ability to choose sustainable materials and techniques, minimizing the impact that urban development has on the environment.

2.3. Importance of learning goals

The student obtains the educational preparation and attitude necessary to confidently face the development of urbanization projects and works in a context of competition and always under parameters of excellence. The student is provided with competitive tools and solvency in aspects related to the architecture of public space, the link between architectural project and landscape, knowledge of urban infrastructures, the uses and demands of citizens, the equipment of streets and public areas , urban ecosystems, and park systems and public free spaces.

With the knowledge that the students will acquire in the subject they will be able to technically and constructively solve the needs of the urbanization project, in a functional, aesthetic, competitive, integrative, general, detailed, durable and sustainable way. To do this, they will be able to propose designs and solutions based on conservative and innovative construction solutions, whose development will be reflected in rigorous and precise project plans and documents.

3. Assessment (1st and 2nd call)

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

1. The student will be evaluated through a progressive evaluation system:

The URBANIZATION PROJECTS subject will be evaluated based on a practical and semi-professional course work developed throughout the semester. The realization of the work will consist of the technical development of an urbanization, proposed by the professor in charge and which will be carried out in stages according to the progress of the subject. The scope will cover the urban analysis of the treated space and its environment and interrelations, the precise definition of general geometries and uses, the design of urban infrastructures, the selection of construction and material typologies, the justification of the regulations and the development of details constructive as necessary. In any case, compliance with the main regulations and their adaptation to the main ideas of the project will be justified. It will include the technical prescription of some selected elements of the project, and the reliable and safe economic estimate of a certain number of items of the work. The work will be carried out in teams that will be formed during the first school days of the subject.

The course work is defined by:

o PHASE OF URBAN ANALYSIS OF SECONDARY PLANNING WITH TECHNICAL BASIS, PRIOR TO URBANIZATION - 20 points

o URBANIZATION PROJECT - 80 points, composed by:

- GENERAL ASPECTS OF THE PROJECT

- MEMORY AND PLANS

- OTHER DOCUMENTS

2. Global Evaluation.

Students may be assessed by a theoretical-practical final exam carried out on the dates set by the Official EINA Exam Calendar

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

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

1. The acquisition of basic knowledge will be developed mainly through participatory master classes and small case studies in the theory hours of the subject and punctually in the practical hours.

2. The application of knowledge will be done through practical workshop classes in which, as the subject progresses, the students will develop the final work under the supervision of the teachers, exposing and defending the solutions adopted with the rest of the classmates.

3. The Cype Ingenieros program will be used in its Urban infrastructures module to calculate the supply and sanitation network.

4. The tutorials will serve to review both knowledge and the work done by the student.

To follow the theory, the student will have the teaching material prepared by the teachers and various materials of interest that encourage the student's curiosity and motivation to continue learning individually.

It is expected that students have in the digital teaching tools numerous help material, both for consultation, as well as extracts from selected regulations and other documentation of interest for the subject and knowledge.

4.2. Learning tasks

The course includes the following learning tasks:

- **Lectures**. 2 weekly hours.
- **Practice sessions**. 2 weekly hours. All sessions will focus on the technical solution of an urbanization.
- **Assignments**. Throughout the course there will be several assignments, which will be announced in advance through the virtual platform Moodle and email, indicating the work to be included.
- **Urbanization Project** applied to degraded areas. Starting from a re-development, it addresses all the necessary elements for its correct urbanization. The submitted assignments allow a continuous assessment of the student's progress and the correction of any learning problems. There will be a final brief oral presentation tp the rest of the classmates.

4.3. Syllabus

The course will address the following topics:

Understand the technical aspects involved in the construction of the public realm

Apply knowledge of design, analysis, as well as analyze and interpret data.

Identify, formulate, and solve technical problems, considering their real and economic implications.

Design and conduct the production of an official project, including the preparation of diverse and complete technical documentation.

Be familiar with the role of the professional architect in charge of the construction.

Coordinate the implementation of all provisions directed towards the completion of an urbanization, whether they are inner facilities or external infrastructures.

Functions on multidisciplinary teams.

Apply the techniques, skills, and modern techical tools necessary for architectural practice.

Understand professional and ethical responsibility and the impact of the activity in a global and societal context.

Understand and apply reasonably the environmental issues, the concept of durability and the costs of keeping up the built design.

Edit professional documents in the project phase.

Recognize the need for and engage in life-long learning.

Gain knowledge of contemporary related issues.

Obtain the broad education necessary to develop a knowledge-driven attitude, and a holistic approach.

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 EINA website.

4.5. Bibliography and recommended resources

http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=69201