Universidad Zaragoza

Academic Year/course: 2023/24

30741 - Construction 4A

Syllabus Information

Academic year: 2023/24
Subject: 30741 - Construction 4A
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 470 - Bachelor's Degree in Architecture Studies
ECTS: 6.0
Year: 5
Semester: Second semester
Subject type: Optional
Module:

1. General information

The subject studies construction as a basic system of contemporary singular architecture, providing innovative in situ and prefabricated solutions , analyzing its adaptation to sustainability and energy efficiency criteria. The students will constructively develop the unique buildings proposed in the architectural project, proposing innovative designs and constructive solutions in which the structural, energetic and envelope systems will be understood as an intertwined and coherent whole . The solution adopted will also guarantee structural safety, safety in use and protection against fire, noise and humidity.

These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs) of the United Nations Agenda 2030: Objective 11 (11.1, 11.4, 11.5 and 11.6).

2. Learning results

- Knowledge of the construction systems applicable to the singular building, and aptitude for their representation, installation, preservation and conservation and methods of measurement and valuation.

- Know and use the technical vocabulary of construction.

- Knowledge and application of basic construction regulations.

- Acquisition of criteria for the correct choice of construction materials applicable to singular buildings.

- Ability to understand the tectonic logic of the constructive solutions applicable to singular buildings.

- Ability to recognize the architectural repercussions of each construction system and each material in the building project and on the construction site.

- To know how to elaborate constructive details and technical prescriptions of the constructive systems applicable to the singular building, expressing the architectural fact and its construction.

3. Syllabus

1.Singular Architecture and Constructive Thinking

2. High Tech and The Technological Attitude

3. Structural Systems

4. Energy Systems

5. Enclosure Systems

6. Systems Integration

4. Academic activities

- The learning activities are developed through lectures and case studies in theory classes and occasionally in practical classes.
- The application of the knowledge will be done through practical sessions in which a final work will be developed based on the structural, energetic and enclosure resolution of a near-zero energy building. (NZEB).
- The tutorials will serve to review both knowledge and work done by the student.
- The student will have access to the teaching materials prepared by the subject's faculty.

5. Assessment system

The student will be evaluated through a progressive assessment procedure consisting of the completion of:

- Theoretical work: 4 points
- Final practical work of the subject: 4 points

- Short exercises carried out during the classes: 2 points

In each of these sections a minimum grade of 4 out of 10 must be obtained to pass the subject. The structure projected by the student will have to be technically feasible. That the building is of almost zero consumption will be a condition necessary for the evaluation of the final practical work of the subject.

Global test:

In addition to the progressive evaluation, students have the right to be evaluated by means of a global test, consisting of a theoretical-practical exam to be taken on the dates indicated by the academic calendar of the School of Engineering and Architecture. The final grade of this final global evaluation would be equal to 100% of the grade of the subject.