Universidad Zaragoza

Academic Year/course: 2023/24

30716 - Architectural Graphic Expression 5

Syllabus Information

Academic year: 2023/24
Subject: 30716 - Architectural Graphic Expression 5
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 470 - Bachelor's Degree in Architecture Studies
ECTS: 6.0
Year: 2
Semester: Second semester
Subject type: Basic Education
Module:

1. General information

The main objective of this subject is for the student to acquire the knowledge, criteria and skills necessary for the correct modeling and representation of the architectural project in BIM (Building Information Modeling) methodology according to the constructive and structural knowledge acquired by the student at this stage of their training.

These approaches and objectives are aligned with the Sustainable Development Goals (SDGs) of the 2030 Agenda of United Nations (https://www.un.org/sustainabledevelopment/es/), specifically, the learning activities planned in this subject will contribute to the achievement of target 8.2 of Goal 8, target 9.1 and 9.4 of Goal 9, target 11.3 and 11.4 of Goal 11 and of target 12.2 of Goal 12.

2. Learning results

- Knows and is able to handle, with sufficient mastery and agility, CAD, BIM and rendering programs specific to architectural representation.
- Is able to perform, in 3D environment, the complete modeling of a building, and generate from it the plans of the building with a basic level of project definition.
- It is able to generate, from a parametric virtual model, infographics specific to the architectural project, controlling variables such as point of view, color, materials, lighting and shadows.

3. Syllabus

- Presentation / Introduction BIM
- Interface, organization and general configuration / Navigation, model visualization and selection / Import and management of external drawings.
- Construction elements I / Drawing aids and editing tools / Model and teamwork management.
- Construction elements II / Other tools / Surfaces and construction materials.
- Profile Manager / Stairs and Handrails / Library elements.
- Advanced constructive elements / 3D operations.
- Customized elements / Elevations, sections and interior elevations.
- Virtual building management and view definition
- Annotation elements and 3d documents
- Printing, plotting and publishing
- Rendering

4. Academic activities

Theoretical sessions: where the philosophy and management of BIM technology is explained, as well as the rendering process. A participatory lecture integrating case study-based learning as well as project- and problem-based learningis available.

Practical sessions: aimed at the assimilation and management of the theoretical knowledge imparted and applied on the following subjects

coursework: It is based on guided work in small groups.

Evaluation: through the control, presentation and delivery of the course work.

5. Assessment system

Continuous assessment**:** to be eligible for this type of assessment it is mandatory to present all the control milestones that are planned, which do not have a numerical assessment, but have the purpose of controlling and monitoring the work. Additionally,

the final delivery of the subject work is mandatory, which will account for 100% of the overall grade.

Final or global assessment: it is intended for those students who do not follow the continuous assessment. They must submit a group or individual coursework , which accounts for 70% of the overall grade, as wellas an individual theoretical-practical test , which accounts for 30% of the overall grade, to be held on the day set by the center in the exams calendar.

The coursework consists of the BIM modeling and graphic representation of a project chosen by the groups, with the approval of the faculty, and a proposal for intervention. The evaluation criteria are structured in three groups: 2d representation (40%), 3d representation (30%) and modeling or survey (30%).

It is necessary to pass all the parts, although it is possible to compensate from 4 in one of them.

The coursework will be handed in on the day set by the center in the exam calendar and it will be mandatory to present the project on the computer for review by the teacher.