

Academic Year/course: 2021/22

30716 - Architectural Graphic Expression 5

Syllabus Information

Academic Year: 2021/22

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

1.1. Aims of the course

The course and its expected results respond to the following approaches and aims:

1 That the student knows and knows how to use the computer tools available today in the field of architectural representation, in an integrated way and optimizing the compatibility between different software.

2 That the student has criteria to choose, in their future studies and profession, those that best suit their preferences, their way of working or the specific needs of each project.

3 That the student understands the implications of the use of computer tools in the architect's work and how to benefit from them to the maximum.

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

- ODS 8. Promote inclusive and sustainable economic growth, employment and decent work for all

8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

- ODS 9. Build resilient infrastructure, promote sustainable industrialization and foster innovation

9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

- ODS 11. Make cities inclusive, safe, resilient and sustainable

11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage

- ODS 12. Ensure sustainable consumption and production patterns

12.2 By 2030, achieve the sustainable management and efficient use of natural resources

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as lectures, workshops, and group work.

The learning process is based on the explanation of the representation of architectural elements, in two dimensions, three dimensions, and virtual reality, so that later the student in a supervised practice applies them, understands them and will be able to establish their own system of presentation using universal codes to exchange architectural information.

4.2. Learning tasks

This course is organized as follows:

- **Lectures**
- **Workshops**
- **Group work**
- **Autonomous work and study**

The course is structured in lectures of 1 hour, and practical workshop sessions of 3 hours, all along all the weeks of the semester. In the lectures, the necessary contents are explained so that the students can develop their course work.

Students must form small teams for working. They must choose or be provided with a building, relevant for its design, program, author, etc., from which they can obtain sufficient documentation for their representation. The choice of the building will be discussed with the teacher in the first workshop sessions, to decide its suitability for the exercise.

4.3. Syllabus

This course will address the following topics:

1. Introduction BIM-interoperability.
2. Floors / layers / work units. Screen control / selection. 2D Drawing/ Edit commands
3. Pens / frames / text / dimensions-import / export of drawings/ 3D Navigation
4. Construction elements: wall / slab / roof / pillar / beam / mesh / zones / curtain wall / complex structure
5. Parametric objects: door / window / skylight / staircase / objects
6. Virtual building management/ Printing, plotting and publication
7. Advanced tools
8. Photo rendering / retouching

4.4. Course planning and calendar

The course is developed with two types of activities:

1. Lectures where the philosophy and management of BIM technology is explained, as well as the rendering process.
2. Workshops aimed at the assimilation and management of the theoretical knowledge seen and applied to the course work.

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 College of Higher Engineering and Architecture (EINA) website (<https://eina.unizar.es/>) and Moodle.

4.5. Bibliography and recommended resources

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=30716>