

30707 - Architectural graphic expression 3

Syllabus Information

Academic Year: 2020/21

Subject: 30707 - Architectural graphic expression 3

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura

Degree: 470 - Bachelor's Degree in Architecture Studies

ECTS: 6.0

Year: 1

Semester: Second semester

Subject Type: Basic Education

Module: ---

1.General information

1.1.Aims of the course

The main objective is the achievement, by the students, of the learning results and the acquisition of the competences foreseen for the course (see points 2.1 and 2.2).

In addition, the course pursues:

- to transmit the importance that graphic expression and geometry have in contemporary architectural design and, in general, in architecture, urbanism and design
- to foster interest and curiosity about new technologies and about computer-aided design
- to foster the capacity for autonomous learning through continued work and exploration
- to initiate the student in the development and presentation of their own ideas and designs
- to foster the team work

1.2.Context and importance of this course in the degree

As a practical course of the degree's first year, the fundamental meaning of EGA 3 is to teach the knowledges and skills necessary for a proper graphical communication in architecture. The introduction to these contents takes place in the previous semester in the EGA 1 and EGA 2 courses; and continues in the second semester in EGA 3, EGA 4 and Analysis of Forms. As a special feature, EGA 3 introduces students to the use of computer-aided design tools. In the second year, students will face the first two courses of Architectural Design, where graphic expression has an important weight and the skills acquired in the courses of Architectural Graphics will be required.

1.3.Recommendations to take this course

Academic recommendations: EGA 1 and EGA 3 are consecutive courses and their contents are related, therefore it is recommended to have completed EGA 1 before EGA 3.

The student is advised to approach the course with a proactive attitude, curiosity and willingness to learn, since a certain capacity for autonomous learning through continuous work and exploration is expected of him. This course, like any university course, requires regular dedication, work discipline and time management capacity.

Technical recommendations: Students are recommended to work in practical sessions with their own laptop, and to have installed the newest versions of the software used in the subject. The teachers will focus their explanations about its use in Windows OS, therefore users of other operating systems will have to assume the differences that may exist.

2.Learning goals

2.1.Competences

In addition to the basic (CB1, CB2), general (CGG7) and transversal competences (CT2, CT4), established for the subjects of the Area of Architectural Graphics, EGA 3 deals with the following SPECIFIC COMPETENCES:

- *"CE2OB - Aptitud para concebir y representar los atributos visuales de los objetos y dominar la proporción y las técnicas del dibujo, incluidas las informáticas. (T)"*
- *"CE3OB - Conocimiento adecuado y aplicado a la arquitectura y al urbanismo de los sistemas de representación espacial."*

- *"CE60B - Conocimiento adecuado y aplicado a la arquitectura y al urbanismo de: Las técnicas de levantamiento gráfico en todas sus fases, desde el dibujo de apuntes a la restitución científica."*

2.2.Learning goals

- *"Capacidad de representación espacial y capacidad de resolver ejercicios prácticos en proyecciones tridimensionales o diseño asistido por ordenador."*
- *"Capacidad de resolver ejercicios de representación de figuras tridimensionales geométricas, calcular intersecciones y dibujar sombras, en sistema axonométrico, cónico y CAD 3D."*

2.3.Importance of learning goals

Those learning goals have a direct application in most of the degree's courses, as well as in the architectural professional practice. The use of computer aided design, on which the course is based, provides the student with up-to-date technological competences in the discipline.

3.Assessment (1st and 2nd call)

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

The courses of Architectural Graphics includes the following assesment tasks:

- 1.- Written / graphic exam (30% - 15%)
- 3.- Non-attendance, tutored projects, without presentation (15% - 30%)
- 4.- Tutored works (20% - 40%)
- 5.- Practice exercises (35% - 15%)

The student will be assessed through a CONTINUED ASSESSMENT system, based on the completion of several practice exercises [5] and tutored works [4] throughout the semester, which will be marked in a weighted manner (in sum, up to 75% of the qualification). The practice sessions (3 hours/week) will be used for the development of those works, which students may be required to deliver at the end of any session, in digital format, for their assessment. In some cases, students may also be required to deliver them in print format (with a previous notification of the delivery date).

The qualification will be completed with an exam [1] or final project [3], which will take place / be delivered after the end of the teaching period.

The student not following a the continued evaluation may opt for a FINAL ASSESSMENT, based on a global exam of all the course's contents, which will take place once the teaching period has ended and will be scheduled by the school. Its mark will constitute the complete assessment of the course.

The second call (September) is also based on a FINAL ASSESSMENT, consisting of a global exam which will take place following the school's official scheduling.

The assessment criteria are based on:

- the correct follow-up of the requirements
- the appropriate application of the concepts and methods presented in the theory sessions
- the correct resolution of drawings and models, avoiding geometric or conceptual errors
- the level of detail and complexity of the designs made
- the correct graphic presentation, taking into account aspects such as line value, order and composition, use of color, typography, etc.
- the proper management of computer tools, including the order and clarity of the digital material developed.

The levels of demand are adapted to the students' previous experience and knowledge, assuming that they have already completed the two EGA courses of the first semester (EGA 1 and EGA 2) and that their knowledge and skills have been acquired; taking however into account that this is a first-year course and the competences in Architectural Graphics still have to be completed. In order to pass the course, students have to prove having acquired the specific skills detailed in point 2.2. at a sufficient level.

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. It is based on the following methodologies

- M1 - Theory session
- M2 - Seminar
- M3 - Workshop
- M10 - Tutorial
- M11 - Assessment

that favor the development/acquisition of CE2OB, CE3OB and CE6OB (see 2.1 "Competences"). A wide range of teaching and learning tasks are implemented (see 4.2 "Learning tasks").

This course is based on the combination of a guided teaching and autonomous learning by the student. Its orientation is eminently practical: both the theory sessions and the practice sessions are aimed at the acquisition of applied drawing skills. Teaching is based on computer tools, not only through the use of computer-aided design tools, but also from a didactic point of view, with materials disposable via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials, including a discussion forum.

Apart from the theory and practice sessions, students will also attend tutorials, that can be arranged with the teacher (provided appointment) based on specific academic needs.

Students are expected to participate actively in the class throughout the term. Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials, including a discussion forum.

4.2.Learning tasks

This 6 ECTS course is organized as follows:

- A01 Theory sessions
- A02 Seminar
- A09 Practice sessions
- A11 Practice sessions
- A13 Applied works

4.3.Syllabus

This course will address the following topics:

2D computer-aided design

- Teaching-learning methodologies: M1, M2, M3, M10, M11
Related to competences: CE1OB, CE2OB, CE3OB, CE5OB, CE6OB

Conical and axonometric representation system

- Teaching-learning methodologies: M1, M2, M3, M10, M11
Related to competences: CE1OB, CE2OB, CE3OB, CE5OB, CE6OB, CE9OB

3D computer-aided design (includes a part of photorealistic image generation)

- Teaching-learning methodologies: M1, M2, M3, M10, M11
Related to competences: CE1OB, CE2OB, CE3OB, CE5OB, CE6OB, CE9OB

4.4.Course planning and calendar

The course is organized in 1-hour/week theory sessions and 3-hour/week practice sessions. For the former there is only one division between group of mornings and group of afternoons, and for the second ones a more detailed division is made in groups of practices, each directed by a teacher.

The contents explained in the theory classes will be temporarily adapted to the contents worked on in the practices, so that the practices can be carried out based on the contents already explained.

The temporary distribution of the contents throughout the semester will be approximately the following:

- 2D computer-aided design: 4-6 weeks
- Conical and axonometric representation system: 2-4 weeks
- Computer-aided 3D design: 4-6 weeks

Due to festivities, there is sometimes a weekly lag between practice groups, which may affect the dates of delivery of assignments (they may be in different weeks for different groups). If necessary, the school adjusts the calendar to ensure that the total number of sessions is the same for all groups (see <https://eina.unizar.es/calendarios/>).

All sessions (both theory and practice) will take place in the schedule and classroom assigned by the centre. Throughout the semester, delivery deadlines will be set (notified in the classroom and via Moodle). The final assessment dates (June and September call) will be those assigned by the faculty, and can be consulted in the exam calendar of the current academic year.

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