30707 - Architectural graphic expression 3

Información del Plan Docente

Academic Year	2016/17
Academic center	110 - Escuela de Ingeniería y Arquitectura
Degree	470 - Bachelor's Degree in Architecture Studies
ECTS	6.0
Course	1
Period	Second semester
Subject Type	Basic Education
Module	---

1.Basic info

1.1.Recommendations to take this course

Students are advised to work in practice sessions with their own laptop with latest versions of the software used in the course.

1.2.Activities and key dates for the course

All sessions (both lectures and practical lessons) will take place on a weekly basis in the classroom and at the time assigned by the centre. Dates of deliveries and tests will be notified at the beginning of the course. Final evaluation dates in June and September will be assigned by the faculty and can be consulted on the exam calendar of the current academic year.

2.Initiation

2.1.Learning outcomes that define the subject

The student should prove the ability to...
1. draw floor plans, elevations and sections of a building or architectural project using 2D CAD programs, applying architectural graphic criteria.
2. solve exercises concerning the representation of three-dimensional volumes and architectural models in conical and axonometric systems, as well as the calculation of intersections and shadows.
3. represent volumes and architectural spaces with geometric and visual fidelity, by means of 3D CAD and rendering programs.

2.2.Introduction

The subject is located in the second semester and, as a continuation of the subjects of the first semester, it contributes to provide the students with the necessary skills for the architectural graphic expression. In this case it is done by means of technical, computer based drawing. The course consists of lectures (1 hour/week) and practical lessons (3 hours/week), which are combined with the autonomous work of the student completing the 6 ECTS assigned to the course. Students who follow the subject regularly have to carry out various short works throughout the semester, in which they practice the contents of the subject. The evaluation is the summary of the works and a final test.

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3.Context and competences

3.1.Goals

- The students' acquisition of skills related to the perception (view and comprehension) of spaces and forms, which are necessary for the professional activity in architecture.
- The students' ability to express themself graphically, by means of architectural representation standards.

- The students' acquisition of skills regarding computer-aided design and new technologies applied to the representation of architecture.

- The students' ability to design and produce portfolios combining plans and infographics with professional quality.

3.2.Context and meaning of the subject in the degree

As a propaedeutic course of the first year of the degree, the fundamental meaning of *EGA 3* is providing the students the knowledge and skills necessary for the production of graphic documents of architecture. The introduction to that content takes place in the previous semester in the subjects *EGA 1* and *EGA 2* , and also takes place, in the second semester, in *EGA 4* and *Análisis de Formas* .

The skills acquired have a direct application in most of the subjects of the degree, especially in the design-oriented.

3.3.Competences

(C.E. 1 OB) Implement procedures of computer-aided design to the representation of spaces and objects.
(C.E. 2 OB) Understand and represent the visual attributes of objects, master proportions as well as computer drawing techniques.
(C.E. 4 OB) Acquire an adequate knowledge of spatial representation systems, formal analysis and the laws of visual perception by means of computer tools, and apply it to architecture and design.

3.4.Importance of learning outcomes

The importance of *EGA 3* lies in the direct application of its learning outcomes in most of the subjects of the degree, especially the design-oriented ones, as well as in the professional activity of architecture. On the other hand, the intensive use of computer tools helps the students acquire state-of-the-art technological skills.

4.Evaluation

Students will be assessed through a system of **CONTINUOUS EVALUATION** , based on various practices or short works accomplished throughout the semester. The qualification will be completed with a practical final test. Being eligible for a continuous evaluation requires the prompt handing of all practices and a minimum average grade point of 4.5 on the practices as well as on the test. The submission of the practices will be made through Moodle tasks before the deadline indicated for each. In some cases, the handing in paper format may also be mandatory, according to the instructions given by the teachers in good time. The test will take place once finished the teaching period in date and time officially assigned by the EINA.

Students who do not meet the requirements set for continuous evaluation must choose a **FINAL EVALUATION** , based on a comprehensive exam of all the contents of the subject, which will take place on the official date of assessment established by the school.

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The evaluation in September also consists of an overall test of all the contents and will take place on the official date of assessment.

5.Activities and resources

5.1.General methodological presentation

The course is based on the combination of guided teaching and the students' autonomous learning through exercise and exploration. Its orientation is eminently practical: both lectures and practical sessions in the classroom are aimed at the acquisition by the students of drawing and graphic skills. The teaching is entirely based on computer tools, not only concerning CAD, but also from an educational point of view, through the Moodle platform, providing specific training materials and managing the tasks' submissions.

5.2.Learning activities

The course is based on the realization of various practices or shorts works throughout the semester, including the complete redrawing of a building in scale 1 to 100, the three-dimensional modeling of figures and architectural volumes, the production of axonometric and / or conical perspectives and the development of architectural renderings and their digital edition.

5.3.Program

PART 1
DOCUMENTATION BASED ON CAD.
- Fundamentals and tools of 2D computer-aided drawing. Application to the production of architectural plans.
- Graphic and symbolic definition of construction elements.
- Drawing and presentation scales. Consistency and graphic quality.

- Dimensioning, annotation and presentation resources.

- Composition and output of documents.
PART 2
3D MODELING APPLIED TO DESIGN AND ARCHITECTURE
- Conical and axonometric systems. Fundamentals and application to the architectural model.
- Computer-aided 3D modeling fundamentals and tools and their application to architecture.

- Resolution of complex three-dimensional geometries and intersections.
- Definition and representation of sunlight and shadows.
- Materiality in architectural modeling. Photorealistic images. Visualization and presentation.

5.4.Planning and scheduling

As a guideline, block 1 is set in the weeks 1-7 and block 2 in the weeks 8-13.
The submission of practices will be every three weeks in general, adjustments are possible in order to fit the contents of the subject.

5.5.Bibliography and recomended resources

Specific resources of the course will be at disposal of registered students in digital format on the Moodle platform.

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Just as a guideline, some titles listed below are related to the contents of the subject and are available in the school library:
- "Dibujo técnico" [EGA 10(1)]
- "Manual de dibujo arquitectónico" [EGA 8]
- "Architectural geometry" [EGA 64(1)]
- "Curso de AutoCad para arquitectos" [EGA 44(1)]
- "Architectural render" [EGA 31(1)]
- "Photoshop in architectural graphics" [EGA 39(1)]