

30702 - Architectural graphic expression 1

Syllabus Information

Academic year: 2023/24

Subject: 30702 - Architectural graphic expression 1

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura

Degree: 470 - Bachelor's Degree in Architecture Studies

ECTS: 6.0

Year: 1

Semester: First semester

Subject type: Basic Education

Module:

1. General information

The subject Architectural Graphic Expression 1 is a basic subject, where general knowledge is acquired comparable totally or partially with other degrees of the technical branch (Engineering). The disciplinary object of the subject, the descriptive geometry, is in turn related to other subjects of the degree: Mathematics, EGA 3, EGA 2, EGA

4. It contributes to the development of mental structuring for spatial vision and, through representation systems, forms the basis of architectural graphic representation.

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 4.7 of Goal 4 and target 9.5 of Goal 9.

2. Learning results

Students are expected to be able to:

- Capacity of spatial representation and ability to solve practical exercises in two dimensions in dihedral representation system, dimensioned.
- Ability to solve exercises to represent three-dimensional geometric figures, calculate intersections and draw shadows, in two-dimensional projections.
- It is able to solve geometrical sunshine problems.

Spatial representation skills and ability to solve practical exercises in three-dimensional projections.

3. Syllabus

Unit 0. Introduction: Representation systems.

Unit 1. Dihedral representation system:

1.1. Dihedral concepts: Point, line and plane. Intersections. Parallelism and perpendicularity.

1.2. Dihedral operability: Downs, turns and changes of plane. Angles and distances.

1.3. Radiated surfaces.

1.4- Architectural applications: Folding.

1.5. Intersection of surfaces.

1.6. Curved surfaces.

1.7. Architectural applications: Vaults, domes, lunettes.

1.8. Regular and semi-regular polyhedra.

1.9. Architectural applications: Spatial reticular structures.

1.10. Sun-dry. Solar charts.

1.11. Shades

Unit 2. Dimensioned representation system:

2.1- Topography and cartography.

2.2- Point, line and plane. Intersections and abatements. Covers.

2.3- Lines, surfaces and land.

4. Academic activities

The program is developed through lectures on theory and problems, complemented by group work in directed practices.

- **Lectures (15 h):** The general contents are presented. The syllabus is provided in advance to students through the Moodle platform.
- **Problem classes (11h):** Practical exercises are presented and solved by the professor, where the concepts presented in the theoretical classes are put into practice. They are exercises that allow the correct resolution of the exercises proposed in the practical classes.
- **Computerized and laboratory classes (30+4h):** A series of exercises will be carried out in time and controlled by the professors of the subject.
- **Teaching jobs (24h)**
- **Assessment tests (6h)**
- **Personal work (60h)**

5. Assessment system

The student must demonstrate achievement of the intended learning results through the following assessment activities. You may choose to follow the continuous assessment or global assessment.

Continuous assessment

The grade is the average of the weekly practices (10%), the directed work (60%) and the final exam (30%).

The completion of all practices and tests is mandatory in order to maintain the continuous assessment. A minimum grade may be required in each of the parts.

- **Weekly practices:** Practices related to the weekly syllabus will be carried out. To be evaluated they must be delivered on time, unless there is a duly justified cause.
- **Directed works:** There will be several assignments of greater length throughout the semester, which will put in relation the weekly subject with its practical application in the field of architecture.
- **Final exam:** A written test is conducted in order to evaluate the knowledge and skills acquired by the student.

Final evaluation:

Students who have not followed the subject through the continuous assessment modality, have the possibility of taking a final exam that will be 100% of the evaluation.

Extraordinary call:

The extraordinary call will be evaluated by means of a final exam that will account for 100% of the evaluation.