Academic Year/course: 2024/25

30748 - Architecture and Sustainability

Syllabus Information

Academic year: 2024/25
Subject: 30748 - Architecture and Sustainability
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 470 - Bachelor's Degree in Architecture Studies
ECTS: 6.0
Year: 5
Semester: Second semester
Subject type: Optional
Module:

1. General information

This elective subject is part of the Project and Construction mention. Its **objectives** are:

- To know how to relate the repercussion that the way of designing and building has on the environmental performance and the comfort of the building.
- To know how to basically quantify the phenomena described, taking into account the regulations, when they exist.
- To know how to incorporate in a basic way the concepts developed in the subject in the project process.

2. Learning results

- To **know how to evaluate qualitatively and quantitatively** the repercussion that buildings and urban complexes have on the environment.
- **Conceive, design and integrate** in buildings and urban complexes constructive solutions and installations of sustainable architecture.

3. Syllabus

Sustainability in Architecture:

- Architecture and sustainability throughout history.
- Passive house standard and sustainability certifications (VERDE, Hades, Quality Profile, etc.).
- Examples of sustainable buildings.

Sustainable use of natural resources:

- Sustainable management of materials and waste.
- Efficiency in water consumption.

Energy saving:

- Limitation of the building's energy demand.
- Energy efficiency in installations.
- Integration of renewable energies.
- Energy certification.

4. Academic activities

The subject consists of 6 ECTS, which means 150 total hours of student work, divided into 3 theoretical ECTS (75 hours) and 3 practical ECTS (75 hours). The program includes the following **activities**:

1. Theoretical and problem-based classes (large group).

2. Practical classes (intermediate group). Workshops on exercises, problems, critique of work.

3. Possibility of visiting buildings or construction sites and attending congresses.

4. Scheduled tutorials.

5. **Written test** .

6. Individual independent study and work.

7. Individual and/or small group work and projects.

5. Assessment system

Continuous assessment

- Theoretical written/graphic test in the official examinations (50%).
- Initial pre-submission of practical work mid-semester (5%).
- Final delivery of the practical work at the end of the semester (45%).

Requirements to pass the subject are:

- Make the pre-delivery and final delivery of the practical work on the established dates.
- Grade ≥ 5 on the final submission of the practical work.
- Grade ≥ 4 on the written/graphic theory test.
- Grade ≥ 5 in the final grade in the subject.

If the final grade is lower than 5, the grades for the pre-delivery and the final delivery of the practical work will be kept for the exams of the same academic year. If the pre-delivery and final delivery of the practical work is made outside the established deadlines, the grade may be reduced by up to 25%.

Global Assessment

If a student does not pass the final delivery of the practical work or does not make the pre-delivery and delivery on the established dates, they must take a global evaluation test consisting of:

- Theoretical written/graphic test in the official examinations (50%).
- Practical test in official examinations (50%).

Requirements to pass the subject are:

- Grade ≥ 5 on the practical test.
- Grade ≥ 4 on the written/graphic theory test.
- Grade ≥ 5 in the final grade in the subject.

Regardless of the type of assessment (continuous or global), the main assessment criteria are as follows **assessment criteria** will be:

- Self-performance of tasks.
- Correct methodological approach.
- Accuracy and critical analysis of results.
- Correctness and clarity in written communication.

6. Sustainable Development Goals

7 - Affordable and Clean Energy
11 - Sustainable Cities and Communities
12 - Responsible Production and Consumption