28779 -

Syllabus Information

Academic year: 2023/24
Subject: 28779 -
Faculty / School: 175 - Escuela Universitaria Politécnica de La Almunia
Degree: 423 - Bachelor's Degree in Civil Engineering
ECTS: 5.0
Year: 4
Semester: Second semester
Subject type: Optional
Module:

1. General information

The main objective of the Information and Communication Technology (ICT) subject in the Civil Engineering program is to provide students with the knowledge and skills necessary to efficiently use the information and communication technologies (ICT) applied to building.

The focus of the subject is on acquiring skills related to the installation, configuration, customization and use of specific computer tools and applications for the development of their professional career. This will enable students to make informed decisions in changing contexts, as the use of Building Information Modeling (BIM) is transforming business models in the construction industry. In addition, it seeks to promote autonomous and collaborative workof students in this technology and its related areas.

The approaches and objectives of the course are aligned with the Sustainable Development Goals (SDGs) of the United Nations Agenda 2030 , which are available at the following link: https://www.un.org/sustainabledevelopment/es/. The acquisition of the learning results of this subject provides students with the necessary training and competence to contribute, to some extent, to the achievement of the following SDGs:

- Goal 4: Quality education: By developing advanced technological skills, students will be prepared for a quality education that responds to the current demands of the constructionindustry.
- Goal 8: Decent work and economic growth: The knowledge acquired in this course will allow students to contribute to the economic growth of the construction sector, by efficiently using specific computer tools and applications.
- Goal 11: Sustainable cities and communities: By applying the BIM approach and information and communication technologies to building, students will be prepared to participate in the creation ofsustainable cities and communities, promoting efficient and environmentally friendly building practices.

2. Learning results

- Acquire sufficient knowledge for the use and application of computer tools that allow the practical resolution of the parts of a technical project, its execution and life cycle.
- Understand the workflow and technologies available to implement the BIM methodology
- Obtain, with ICT support, and analyze and handle with sufficient fluency, the ISO 19650 BIM standard.
- Know the workflow and technologies available to implement the LEAN Construction methodology Implement agile methodologies in construction project management processes.
- Teamwork.

3. Syllabus

1- Theoretical contents.

- Introduction to information management. BIM methodology.
- Sources of information specialized in the building sector.
- UBIM Guidelines - Norms and Standards (ISO 19650)
- Advanced information management

2- Practical contents.

- Information management tools. You learn the installation, configuration and use of tools and procedures for the management and edition of information.
- Specific BIM tools. You will learn how to correctly select the right tool for the right job process or project phase.

3- Seminars.

- Seminar 1 BIM design tools
- Seminar 2 BIM management tools
- Seminar 3 Programming and Parameterization Tools

*The content of the seminars may change depending on other needs that arise during the term.

4. Academic activities

Generic face-to-face activities:
- Theoretical classes: Theoretical concepts of information systems will be explained and current and representative sourceswill be researched on the Internet to support the theory when necessary.
- Practical classes: The basics of the computer applications to be used will be explained and practical cases will be presentedfor their implementation.

Generic non face-to-face activities:
- Study and assimilation of the theory presented in the lectures.
- Understanding and assimilation of practical cases solved in the practical classes.
- Resolution of proposed problems, etc.
- Preparation of continuous assessment tests and final exams.

5. Assessment system

The weekly schedule of theoretical and practical content will be available on the Moodle platform at the beginning of the semester.

*It is recommended that the platform be consulted regularly to access updated information.

The evaluation system of the subject will be based on a continuous assessment through several tests that will be carried out during the subject. These tests will represent 25% of the total grade each and will take place in the following weeks:
- Assessment test I (week 3)
- Assessment test II (week 6)
- Assessment test III (week 9)
- Assessment test IV (week 12)

It is important to note that it is necessary to pass all the continuous assessment tests in order to pass the course with a minimum grade of 5 out of 10.

In case ofnot passing the subject through continuous assessment, students will have the opportunity to take a theoretical-practical exam at in the official (global) call. In order to pass the subject by this method, a score of 5 out of 10must be obtained in the exam.

The dates of the final exams will be officially available on the web page of the Escuela Universitaria Polytechnic School of La Almunia de Doña Godina.