

30224 - Information Systems

Syllabus Information

Academic year: 2023/24

Subject: 30224 - Information Systems

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
326 - Escuela Universitaria Politécnica de Teruel

Degree: 439 - Bachelor's Degree in Informatics Engineering
443 - Bachelor's Degree in Informatics Engineering

ECTS: 6.0

Year: 3

Semester: First semester

Subject type: Compulsory

Module:

1. General information

The objective of this subject is that the student acquires a solid base for the understanding of the basic vocabulary used by professionals who design, develop, use and maintain Information Systems in companies and/or organizations. In addition, it is intended that the students become familiar with the methodologies, technologies and basic techniques currently used for the construction of Information Systems.

These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs) of the United Nations Agenda 2030 (<https://www.un.org/sustainabledevelopment/es/> so that the acquisition of the learning results of the subject provides training and competence to contribute to some extent to their achievement: - Goal 4. Quality education and Goal 17: Alliances to achieve the objectives).

2. Learning results

- To know the importance of information management in organizations, the main types of information systems and some relevant real cases.
- Know the business and organizational environment well enough to know how to select the most appropriate technology for your needs.
- To understand the impact of computerization on the target organization, at all levels (technological, organizational, ethical, etc.).
- To know the possible alternatives for data and information management.
- To know the different software architectures that can be deployed in a network for the construction of a distributed information system, as well as the importance of the Web for organizations.
- To know the current techniques that allow the creation of decision support systems.
- Knowledge of migration strategies and general preservation of information systems.

3. Syllabus

- Introduction to information systems
 - Differences between data and information
 - Definition and types of information systems
 - Information systems life cycle
- Networked information systems
 - The Web: evolution and technologies
 - Searching for information on the Web
 - Ethical and social aspects

- The organization of data and information
 - Information management and integration systems
 - Distributed databases
 - OLAP vs OLTP environments
 - Data mining and business intelligence
 - Ethical and social aspects
- Legacy information systems
 - System and data migration strategies
- Introduction to the Spanish legislative framework
 - Risk management and IT audit methodologies
 - Introduction to the protection of personal data and intellectual property
 - Ethical and social aspects

4. Academic activities

- **Participative lectures** (24 hours). Different concepts related to will be introduced and students will be asked to participate and discuss the technical, ethical and moral aspects involved.
- **Problem sessions and directed work** (12 hours): We will work on different technologies and examples of information systems in production. In addition, during the last sessions of the course, students will make the presentations of the work they have done.
- **Laboratory practice sessions** (24 hours): Group practices will be carried out in which different components of an information system will be developed.
- **Study and personal work:** 85 hours.
- **Assessment tests.** 5 hours.

5. Assessment system

At EINA:

The subject will be assessed by the continuous assessment system by means of the following activities:

-Individual written test of short questions and problems related to the program taught in the subject (50% of the grade, minimum of 5 out of 10).

-Learning portfolio of the laboratory practices developed, together with the documentation required in each one of them, and a final individual test on the work developed (40% of the grade, minimum 5 out of 10).

-Report and oral presentation of a documentation and analysis paper (10% of the grade).

In order to pass the subject, it is essential to obtain a grade in the written test higher than or equal to 5 points out of 10. In case of failing the written test, the overall grade will be the minimum between 4 and the weighted sum, with the percentages shown above, of the results of each project or test. The subject is passed with an overall grade of 5 points out of 10.

There will be a global test in each of the dates and times established in the subject. The assessment criteria will be the same in both calls (ordinary and extraordinary).

At EUPT:

The subject will be evaluated in the continuous assessment mode by means of the following activities:

- Written test (40%) Questions and/or problems related to the topics of the syllabus.

- Practical test (50%): The knowledge test in practical exam will consist of the delivery of all materials produced as a result of the practical classes and exercises of the subject. Teachers may ask questions or appropriate tests to ensure the originality and quality of the materials submitted.

- Performance and defense of a tutored work (10%): in this activity the students will be asked to do a work related to the contents of the subject

In order to pass the subject, it is essential to obtain a grade in the written test higher than or equal to 5 points out of 10.