27652 - ICT and Databases

Syllabus Information

Academic year: 2024/25
Subject: 27652 - ICT and Databases
Faculty / School: 109 - Facultad de Economía y Empresa
Degree: 450 - Degree in Marketing and Market Research
ECTS: 5.0
Year: 4
Semester: Second semester
Subject type: Optional
Module:

1. General information

Currently, data holds crucial relevance, making databases especially important in the business sector. They allow optimal management of data for both current and potential customers. This course aims to provide students with practical knowledge and skills in database design and management, utilizing ERP systems to enhance the use of AI-based tools, and data analysis to draw conclusions and make predictions.

The main objective of this course is for students to learn the necessary skills and resources for creating and managing databases. This is a crucial tool for marketing as it allows optimal management of customer data, enabling offers based on consumer and market profiles. Additionally, the use of AI and Big Data tools will be emphasized to manage data and derive conclusions or make predictions.

2. Learning results

- Apply fundamental concepts and techniques in relational database design appropriately.
- Design and create simple databases using a personal computer database management system, establishing effective table relationships.
- Efficiently use database management systems (DBMS) for optimal data exploitation.
- Execute complex queries in relational databases accurately.
- Recognize the importance of data quality and reliability for successful marketing strategies.
- Manage customer data efficiently to maximize the benefits and profitability of marketing activities.
- Understand and apply Big Data techniques in marketing and market research.
- Use advanced tools for data analysis and prediction based on large volumes of information.
- Generate detailed technical reports based on analyses, understanding the results and drawing valid conclusions.
- Understand the functionality and benefits of ERP systems in integrated business information management.
- Apply concepts and practices related to ERP usage to improve efficiency and effectiveness in data and business process management.

3. Syllabus

Introduction to Databases
    Information Systems
    Introduction to Databases

Database Design
    Conceptual Design
    Database Design
    Database Queries

Big Data
    Data Analysis and Big Data

Enterprise Resource Planning (ERP)

ERPs
ERP Tools

4. Academic activities

Master classes: 10 hours

Theoretical-practical sessions in which the contents of the subject will be explained, incorporating active methodologies that favor the participation and involvement of the student in the development of the class.

Practical classes: 40 hours

Computer sessions in which exercises will be solved with the computer tools that the student must learn to use to handle.

Personal Study: 73 hours

Tests Assessment: 4h

5 ECTS = 125 hours

In principle, the teaching methodology and its evaluation is planned to be based on face-to-face classes . However, if circumstances so require, they may be carried out online.

5. Assessment system

The course will be assessed through continuous evaluation throughout the semester, primarily practical in nature. If the student does not pass through continuous evaluation, they will have the opportunity to do so in the official convocations where a global evaluation will be conducted as specified below.

Continuous assessment:

It consists of:

- Practical test on database design using a computer. Requires at least a 5/10, contributing 35% to the final grade.
- Practical assignment involving a technical report using Big Data tools learned in class. Requires at least a 5/10, contributing 35% to the final grade.
- Practical assignment involving working with an ERP. Requires at least a 5/10, contributing 10% to the final grade.
- Classroom activities (exercises, practical applications...) contributing 20% to the final grade.

Global Assessment

Evaluación Global

- A theoretical test on the class theoretical contents that will contribute 20% to the final grade.
- A practical test consisting of performing on the computer exercises similar to those done in class on database design. A minimum score of 5 out of 10 is required, contributing 40% to the final grade.
- A practical test consisting of performing on the computer exercises similar to those done in class on Big Data. A minimum score of 5 out of 10 is required, contributing 40% to the final grade.

In the first convocation, students can pass the course through continuous evaluation or global evaluation, with the highest grade always prevailing. If the student does not meet any of the minimum requirements, their grade will be a fail.

6. Sustainable Development Goals

9 - Industry, Innovation and Infrastructure
11 - Sustainable Cities and Communities
12 - Responsible Production and Consumption