

Academic Year: (2024 / 2025)

Review date: 16-04-2024

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: MORENO PELAYO, VALENTIN MIGUEL

Type: Compulsory ECTS Credits : 3.0

Year : Semester : 2

OBJECTIVES

Assess and manage systems secure erase and data recovery.

- Implement databases over a transmission system. Assess and use different techniques to integrate data mining: extraction techniques and modeling analysis.

- To know concepts and objectives of databases
- To abstract and design databases using the Relational Model
- To acquire practical experience in querying a database

DESCRIPTION OF CONTENTS: PROGRAMME

1. Introduction to databases and database management systems (DBMS)
 - 1.1 Introduction to Information Systems
 - 1.2 Database definition
 - 1.3 Database Management Systems
 - 1.4 Architectures of Database systems
 - 1.5 Database applications
 - 1.6 Current trends. Big Data and Cloud Computing
2. Relational Data Model.
 - 2.1 A methodology for database development
 - 2.2 What is a data model?
 - 2.3 Relational data modell
 - 2.3.1 Domains, attributes and relations
 - 2.3.2 Representing a relational schema
 - 2.3.3 Relations
 - 2.3.4 Inherent constraints
 - 2.3.5 Semantic constraints
3. Designing relational databases.
4. Introduction to SQL: Querying a database (SELECT)

LEARNING ACTIVITIES AND METHODOLOGY

Attending classes: 1.2 ECTS corresponding to student work in classroom with teacher support (lectures, practical classes, laboratory work, student presentations).

homework: 1.8 ECTS corresponding to personal student work.

50% of activities (1.5 ECTS) are orientes to knowledge acquisition ana 50% is oriented to practical skills.

COLLECTIVE TUTORING: 4 online sessions

ASSESSMENT SYSTEM

% end-of-term-examination:	40
% of continuous assessment (assignments, laboratory, practicals...):	60

60% of evaluation corresponds to continuous assessment (practical exercises concerning database design and implementing a database using a commercial DBMS). 40% corresponds to a final exam to evaluate knowledge, skills and competencies.

BASIC BIBLIOGRAPHY

- D. Cuadra, E. Castro, A. Iglesias, P. Martínez, F.J. Calle, C. de Pablo, H. Al-Jumaily, L. Moreno y otros Desarrollo de bases de datos : casos prácticos desde el análisis a la implementación (2ª edición actualizada), RA-MA, 2012

ADDITIONAL BIBLIOGRAPHY

- Silberschatz, A.; Korth, H.; Sudarshan, S.. Fundamentos de bases de datos (5ª edición) , McGraw-Hill /Interamericana Mexico , 2005