SUBJECT TEACHING GUIDE

262 - Models of Information Data and Systems

University Master's Degree in Data Science

Academic year 2023-2024

1. IDENTIFYING DATA					
Degree	University Master's Degree in Data Science			Type and Year	Compulsory. Year 1
Faculty	Faculty of Sciences				
Discipline	DATA MANAGEMENT				
Course unit title and code	262 - Models of Information Data and Systems				
Number of ECTS credits allocated	6	Term		Semester based (1)	
Web					
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. INGENIERÍA INFORMÁTICA Y ELECTRÓNICA
Name of lecturer	DIEGO GARCIA SAIZ
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Other lecturers	ANTONIO SANTIAGO COFIÑO GONZALEZ EZEQUIEL CIMADEVILLA ALVAREZ

3.1 LEARNING OUTCOMES
- Modelate a data base
- Interrogate a data base with SQL languange and the OLAP extension
- Perform processes for extraction, transformation a load of data for visualization and analysis
- Operate with data models, including metadata

4. OBJECTIVES

Provide to the students an introduction of data models and information systems, including both the design and the implementation of data bases.

6. COURSE ORGANIZATION

CONTENTS	
1	Introduction. Data life cycle. Data structures and types. Data Models. Conceptual, logical and physicall desing. Technologies for data management.
2	Relational Data Bases. SQL language. OLAP technology. Data Bases for Big Data.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Final exam	Activity evaluation with Virtual Media	Yes	No	20,00
Written tasks and reports.	Activity evaluation with Virtual Media	No	Yes	60,00
Follow-up activities and exercises	Activity evaluation with Virtual Media	No	No	20,00
TOTAL				100,00

Observations

Observations for part-time students

Physical class assistance is not mandatory for students with partial-time dedication, but they also have to perform all assessable activities, including the follow-up exercises.

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Vaisman, Alejandro, and Esteban Zimányi. Data Warehouse Systems: Design and Implementation. 2016. Springer.

Silberschatz, Henry F. Korth & S. Sudarshan Abraham. Database System Concepts. 2013. Mc Graw Hill.