EUROPEAN HERITAGE,DIGITAL MEDIA AND THE INFORMATION

(Università degli Studi)

Teaching DATABASE DESIGN

GenCod A004195

Owner professor Mario Alessandro BOCHICCHIO

Teaching in italian DATABASE DESIGN

Teaching DATABASE DESIGN

SSD code ING-INF/05

Reference course EUROPEAN HERITAGE,DIGITAL MEDIA AND THE

Course type Laurea Magistrale

Credits 6.0

Teaching hours Front activity hours: 42.0

For enrolled in 2017/2018

Taught in 2017/2018

Course year 1

Language ENGLISH

Curriculum INTERNAZIONALE

Location

Semester First Semester

Exam type Oral

Assessment Final grade

Course timetable https://easyroom.unisalento.it/Orario

BRIEF COURSE DESCRIPTION

Course presentation and aim

The course aims at providing the students coming from the humanities with the basics of Database Design. A particular focus will be placed on theories and tools that have become fundamental in their primary field of interest.

The following topics will be taught:

- Database and relational databases;
- Database management systems;
- Relational Model and Relational Algebra;
- SQL: data definition and manipulation;
- Basics of Computer-Human Interaction: data-centric user interfaces;
- Architectural aspects: Desktop Applications, Web Applications and Apps;
- Principles of Data Analytics;
- Database applications for Humanities and Cultural Heritage.

Reference material:

All needed reference material is composed, organized and constantly updated by the teacher. It will be posted in the course moodle site.

Textbook

"Fundamentals of Data Base Systems", 6th Edition, Elmasri & Navathe, Pearson International Edition

As a secondary reference, the following texts may be consulted:

- "Datawarehouse Design- Modern Principles and Methodologies", Matteo Golfarelli, Stefano Rizzi, McGrawHill

REQUIREMENTS

Elements of computer networks and Web technologies.

COURSE AIMS	**Acquired skills** The student will be able to understand data model, to interact with existing databases and to collaborate with software engineers to design data-centric applications. Such skills will prove useful in other courses (ex. web technologies) to design online applications and online services for humanities.
TEACHING METHODOLOGY	**Teaching method** Frontal lessons and lectures, for theoretical aspects, will be followed by participatory learning sessions and hands-on sessions to reinforce the comprehension and to acquire the abilities relevant to the field of database design.
ASSESSMENT TYPE	**Students evaluation** Students will be asked to solve problems including theoretical and practical task, by means of a computer, within a given time.
OTHER USEFUL INFORMATION	**Office Hours** By appointment; contact the instructor by email or at the end of class meetings.
FULL SYLLABUS	**Fundamental of Database Systems, Elmasri-Navathe: 7th edition** Chapters: - 1: Databases and Database Users - 2: Database System Concepts and Architecture - 3: Data Modeling Using the Entity–Relationship (ER) Model - 4: The Enhanced Entity–Relationship (EER) Model - 5: The Relational Data Model and Relational Database Constraints - 6: Basic SQL - 7: More SQL: Complex Queries, Triggers, Views, and Schema Modification - 8: The Relational Algebra and Relational Calculus 8.1: Unary Relational Operations: SELECT and PROJECT 8.2: Relational Algebra Operations from Set Theory 8.3: Binary Relational Operations: JOIN and DIVISION 8.4: Additional Relational Operations 8.5: Examples of Queries in Relational Algebra - 9: Relational Database Design by ER- and EER-to-Relational Mapping - 10: Introduction to SQL Programming Techniques - 11: Web Database Programming Using PHP - **Teaching material:** more concepts on requirement elicitation and database application in cultural heritage and humanities
REFERENCE TEXT BOOKS	R. Elmasri, S. Navathe, Fundamental of Database Systems, 7a edizione, Pearson ed.