

EUROPEAN HERITAGE, DIGITAL MEDIA AND THE INFORMATION

(- Università degli Studi)

Insegnamento DATABASE DESIGN

GenCod A004195

Insegnamento DATABASE DESIGN

Insegnamento in inglese DATABASE DESIGN

Settore disciplinare ING-INF/05

Corso di studi di riferimento EUROPEAN HERITAGE, DIGITAL MEDIA

Tipo corso di studi Laurea Magistrale

Crediti 6.0

Ripartizione oraria Ore Attività frontale: 42.0

Per immatricolati nel 2017/2018

Erogato nel 2017/2018

Anno di corso 1

Lingua INGLESE

Percorso INTERNAZIONALE

Docente Mario Alessandro BOCHICCHIO

Sede

Periodo Primo Semestre

Tipo esame Orale

Valutazione Voto Finale

Orario dell'insegnamento

<https://easyroom.unisalento.it/Orario>

BREVE DESCRIZIONE DEL CORSO

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

PREREQUISITI

Elements of computer networks and Web technologies.

OBIETTIVI FORMATIVI

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.

METODI DIDATTICI

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.

MODALITA' D'ESAME

Students evaluation

Students will be asked to solve problems including theoretical and practical task, by means of a computer, within a given time.

ALTRE INFORMAZIONI UTILI

Office Hours

By appointment; contact the instructor by email or at the end of class meetings.

PROGRAMMA ESTESO

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

TESTI DI RIFERIMENTO

R. Elmasri, S. Navathe, Fundamental of Database Systems, 7a edizione, Pearson ed.