

Istanbul Bilgi Universitesi
Department of Computer Engineering
Fall 2018

Course Name: Database Systems I

Course Code: CMPE 351 - LCMPE 351

Teacher: Elena Battini Sönmez, room E3 210, e-mail: elena.sonmez@bilgi.edu.tr

Assistant: Berk Salmanoğlu, berk.salmanoglu@hotmail.com

Book:

'Fundamentals of Database Systems', 5th edition, by Elmasri and Navathe, Ed: Addison-Wesley, and ISBN: 0-321-41506-X

Recommended Readings:

'An Introduction to Database Systems', 8th edition, by C.J. Date, Ed: Addison Wesley, and ISBN: 0-321-18956-6

'Database Management Systems', 3th edition, by Ramakrishnan, Gehrke, Ed: McGrawHill, ISBN: 0-07-115110-9

'Database System Concepts', 5th edition, by Silberschatz, Korth and Sudarshan, Ed: McGraw-Hill, and ISBN: 0-07-295886-3

Prerequisite: CMPE 101 or CMPE 170 or Comp 112 or Comp 150 or Comp 180 or FM 150 or FM 180

Course Description: Almost all large data processing systems rely on a generalized database to store and retrieve data. This course provides a basic understanding of database systems. Course contents include introduction to databases, Entity-Relationship model, relational data model, SQL data definition and manipulation language, theoretical data manipulation language, functional dependencies and normalization concepts.

Tentative Schedule:

Week
1. Introduction/Overview of the course
2. Characteristics and advantages of the database approach
3. Data Modeling Using the Entity-Relationship (ER) Model
4. ER Design of the COMPANY database
5. The Enhanced Entity-Relationship (EER) Model: subclasses, superclasses and inheritance
6. The Enhanced Entity-Relationship (EER) Model: specialization and generalization
7. The Relational Data Model and Relational Database Constraints
8. Midterm
9. Introduction to Relational Algebra
10. Relational Algebra operators
11. Exercises on Relational Algebra
12. Functional Dependencies
13. Normalization for Relational Databases
14. Review

The classes are dedicated to the use of the MySQL software and the practice of the SQL language. Quizzes done during the class hours will be announced one week in advance. A missed quiz worth "0" point and affects your average. You will be graded on how well your implementation works and how well your are able to answer the instructor's questions about your work.

Important announcements will be put on Bilgi LEARN (learn.bilgi.edu.tr) so, please, check it regularly and read your e-mail frequently.

Performance Evaluation:

In order to be eligible to pass this course, it is mandatory to attend at least 70% of lectures and labs. You are also required to submit original and acceptable work for all homework and projects. You will be graded on how well your implementation works and how well your are able to answer the instructor's questions about all activities. The course will not have an E exam.

Midterm: 35%

Average of all TA's marks: 20%

Final: 45%