

Syllabus

Course

Code: *CIS-340 Database Systems*
Name: *Database Systems*

Credits

3-2-0-4

Text Books

- Ramez Elmasri, Shamkant Navathe, Fundamentals of Database Systems, 6th Edition, ISBN-13: 978-0-13-608620-8, Addison-Wesley, 2011
- Jeffrey A. Hoffer, V. Ramesh, Heikki Topi, Modern Database Management 10th Edition, ISBN 0136088392 9780136088394, Prentice Hall, ©2011
- David M. Kroenke, David Auer, Database Concepts, ISBN-13: 9780136086536, 4th Edition, Prentice Hall 2010

Prerequisite:

CSC-220 Data structures and algorithms

Course Description

This course covers fundamentals of database architecture and systems. Topics include databases and database users, database system concepts and architecture, relational data model, the relational algebra and relational calculus, data modeling using the entity-relationship model, structured query language, functional dependency and normalization.

Objectives:

- 1- Knowledge of basic concepts of databases and RDBMS.
- 2- Describe, analyze and apply a conceptual database modeling technique.
- 3- Understand relational database languages
- 4- Apply SQL to create tables and generate queries
- 5- Understand the basics of database design methodology.
- 6- Produce well-structured and normalized database.
- 7- Implement and test a database application with suitable interface using a relational DBMS.
- 8- Gain work experience in a lab project as a team member or leader.

Course Outline

Week	Lecture Topics
1	Introduction and conceptual modeling, databases and database Users
2	Database System Concepts and Architecture
3	Data Modeling Using the Entity-Relationship Model
4	Enhanced Entity-Relationship and UML Modeling
5	The Relational Data Model and Relational Database Constraints
6	Relational Mapping
7	Relational Algebra
8	SQL
9	SQL & Views
10	Functional Dependencies (1)
11	Functional Dependencies (2)
12	Normalization (1)
13	Normalization (2)
14	Project
15	Review

Grading

Assessment/Evaluation:

1- Quizzes (5)	(10%)
2- Assignment (3)	(10%)
3- Midterm-1 Exam.	(10%)
4- Midterm-2 Exam.	(10%)
5- Lab Exam	(20%)
6- Final Exam.	(40%)
Total	(100%)

Method of Teaching:

- Lectures - 15 weeks (3 hrs per week).
- Lab. Works – 15 weeks(2 hrs lab. per week).
- Quizzes
- Home works
- Exams