

University of Central Florida  
College of Engineering and Computer Sciences  
School of Computer Sciences  
CGS 2545 - Database Concepts, Spring 2006

## **Course Syllabus (tentative)**

### **Description:**

Entity- relation model, relational database management systems, normal forms, performance of database, report generation.

**Prerequisites:** CGS1060C.

**Instructor:** Robert Koeneke

**Office Hours:** Monday and Wednesday 2:00 pm to 4:00 pm.

**Teaching Assistant:** Darshan Purandare (PhD student)  
Email: darshan@cs.ucf.edu

### **Objectives:**

Introduce the student into the design and evaluation of database management system based on the relational database model. As specific goals:

- Learn how to model a database using the entity-relationship model.
- Learn how to design a normalized schema in the relational database.
- Introduce the student to SQL.
- Provide a general description of Database in the Internet environment.

### **Textbook:**

Modern Database Management, Jeffrey A. Hoffer, Mary B. Prescott, Fred R. Mc Fadden, 7<sup>th</sup> edition. Pearson Prentice Hall, 2004.

### **Reference:**

Database Management Systems, Raghu Ramakrishnan and Johannes Gehrke, 3<sup>rd</sup> edition, McGraw-Hill, 2003.

## **WebCT:**

We will be using WebCT extensively in this class:

- Use of WebCt Mail as the preferred mean of communication between students and instructor.
- All announcements and news about the class will be posted on WebCt.
- Also the use of WebCt discussion board is highly encouraged. Limit the use of the discussion board strictly to class issues.

## **General Policy:**

- UCF policies on academic integrity will be followed strictly.
- Exams, quizzes and homework (unless explicitly allowed) are individual.
- All assignments are due at the beginning of the class on the due date.

## **Grading Policy:**

Quizzes and homework	10%
Lab assignments	25%
1 <sup>st</sup> Exam	20%
2 <sup>nd</sup> Exam	20%
Final Exam (comprehensive)	25%

WEEK	TOPIC	CHAPTER
1	Basics of Databases. The database environment. Database applications. Advantages of the Database Approach. Evolution of Database Systems.	1
2	Database Development Process: System Development Life Cycle (SDLC). Project management, Data Models.	2
3	Modeling Data in the Organizations. Entity-relationship Model.	3
4	Enhanced E-R model. Business rules	4
5	Logical database design. The Relational Data model.	5
6	Logical database design. The Relational Data model. Introduction to Normalization. <b>1<sup>st</sup> Exam</b>	5
7	Logical database design. The Relational Data model.	5
8	Physical Database Design. Designing fields. Designing Physical Files.	6
9	SQL. The SQL environment. Creating Tables. Inserting, updating and deleting data.	7
10	Advanced SQL. Processing multiple tables: Join. Transaction Integrity: Commit/Rollback. Triggers and routines.	8
11	Client-server and middleware. Client-server architectures. Three-tier architecture. <b>2<sup>nd</sup> Exam.</b>	9
12	Client-server and middleware. Client-server architectures. Three-tier architecture.	9
13	The Internet Database Environment. Shopping Cart example.	10
14	Introduction to Data Warehousing. User Interface: OLAP.	11
15	<b>Final Exam</b>	