

Database Concepts
Professional Development Program
University at Albany, State University of New York
Fall 2005 Syllabus

Primary Instructor

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Guest Instructors

Damira Pon and Christopher Brown

Doctoral Students, Informatics Ph.D. Program, College of Computing and Information
Graduate Assistants, Center for Information Forensics and Assurance

Class Information

Time: 9AM – 4PM

Location: ES-B19

Dates: February 26 – February 27, 2005

Contact Hours: 12

Course Website: <http://www.albany.edu/~goel/classes/spring2007/pwsp/database>

The class website should contain the agenda as well as all the lecture material. It will be updated in future with newer lectures as well as exercises for the students.

Reference Book

David M. Kroenke, Database Concepts, 2nd edition ISBN: 0131451413

Course Overview

This two-day workshop provides a broad introduction to modeling, design, and implementation of database applications using the relational model. It also provides students with a working knowledge of Structure Query Language (SQL) using Microsoft Access. The class will include several hands-on exercises in the laboratory for database design as well as SQL. The class will also discuss the architecture and implementation issues, such as, performance, management, concurrency, and recovery.

Learning Objectives

The objective of the class is to teach the students how to translate abstract problems into databases as well as to understand how databases work. The students will:

1. Learn skills for creation of entity relationship diagrams
2. Learn how to normalize databases
3. Learn how to write queries to access databases
4. Become familiar with both data definition language and data manipulation language
5. Develop specific skills for MS Access databases, which is the reference database for the class

6. Become familiar with database architecture and implementation issues such as performance, management, concurrency, and recovery.

Class Schedule

Day 1	
9:00 – 9:30	Introductions
9:30 – 10:30	Relational Database Design
10:30 – 10:45	Break
10:45 – 12:30	Entity Relationship Diagrams
12:30 – 1:30	Lunch
1:30 – 3:00	Database Administration (Transaction Processing, Concurrency Problems, Resource Locking, and Recovery)
3:00 – 4:00	Microsoft Access Basics Tutorial
Day 2	
9:00 – 10:30	Structured Query Language (DDL)
10:30 – 10:45	Break
10:45 – 12:30	Structured Query Language (DML)
12:30 – 1:30	Lunch
1:30 – 2:30	Microsoft Access SQL Tutorial
2:30 – 4:00	Implement Database Project