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
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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 de\finition 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