ITM 692: Part II
Database Design and Analysis
School of Business, UAlbany, SUNY
Fall 2009 Syllabus

Instructor
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Class Information
Time:	Thursdays, 1:15 – 4:05pm
Location:	BA 233
Dates:	October 8 – December 3, 2009
Credit(s):	3
Call #:	25812
Available Lab(s):	MIS (to the right of BA 233) and HRIS (to the left of BA 234) Labs

Course Websites

URL: http://www.albany.edu/~goel/classes/fall2009/itm692
The course website should be your main source of course material and contains all relevant course information including details on grading, projects, assignments, course schedule, etc. In addition, this should provide a "living syllabus" a will reflect any changes made to this document.

URL: http://bls.its.albany.edu
Student grades and announcements will be posted on Blackboard for the class. All assignments must be submitted via Blackboard to be graded.

Text & Reference Books
Text: David M. Kroenke and David Auer, Database Concepts, 4th edition ISBN: 0136086535

Course Overview
This is an introductory course in database modeling, design, and implementation of business applications. It teaches the basic principles of relational database theory and use of query languages. The students learn to write queries in SQL and design a database using Microsoft Access. The role of database systems in the management of information and procedures for modeling the data resource to support managerial/executive needs are presented in the course.

Learning Objectives

The objective of the class is to teach the students how to abstract business problems into databases. Students will be able to:

1. Design and create entity relationship diagrams
2. Perform database normalization
3. Write queries to create and access database information using data definition language (DDL) and data manipulation language (DML)
4. Perform functions using Microsoft Access databases, reference database for the class (point & click as well as SQL interface)

GRADING

All students are expected to follow University at Albany guidelines on academic integrity (see the Academic Integrity section of the course site for more detail). Whenever you come to me with a special request, think about whether your request is unfair to the other students. I am willing to do anything to help as long as I am fair to all students in my classes.

Assignments (30%): Assignments given in any week are due at the beginning of the class next week through Blackboard. There will be a penalty of 10% per day for late assignments unless there is a very pressing reason for the delay. Assignments should be done in groups of two and if students prefer to work individually that is also acceptable. Names of all those who participated in the assignment should be listed. Assignments are typically 10 points each and will consist of exercises relevant to the material discussed in class. Please see the Assignments section of the course site for further details and guidelines.

Project (30%): Projects should be done in groups of 3. A different project is offered every year and incorporates creating an entity-relationship diagram, normalization, development of a Microsoft Access database, propagation of data for testing, formulation of relevant queries, generation of forms/reports, and the creation of a written project report. The project guidelines will be provided in the second class and groups will be formed. For more details and guidelines, please see the Projects/Papers section of the course site.

Exam (40%): The exam will consist of multiple sections (essay-style) in which you will have to apply a majority of what has been learned during the semester in order to assess individual performance. This can include E-R Diagram, normalization into first, second, third, fourth or Boyce-Codd normal form and rationalization, creation of a data definition table, development of SQL queries based on a needs based sentence of DML, DDL, and advanced SQL queries. A sample exam and solution set will be provided for review. Students may use the recommended texts, class notes, and PowerPoint presentations. No use of electronic devices (laptops, cellphones, PDA's, etc.) is allowed during testing. A previous exam and sample solution set will be provided for review.

COURSE SCHEDULE

October 8 & 15, 2009
Relational Database Design, Data Modeling, and E-R Diagrams: These classes will introduce students to the fundamentals of databases and concepts of relational design. Students will learn the concepts of entities, attributes, relations, and keys. Students will learn how to construct Entity-Relationship diagrams such that they can translate abstract problems into relational database designs. These classes will involve significant hands-on work where students will work on several business problems for constructing E-R Diagrams.

October 22, 2009
Database Normalization: These classes will introduce students to the concepts of Normalization where different levels of normalization will be discussed. The class will engage students in problems involving normalization. The class will extend into concepts of data warehousing and different configurations for the warehouse.

October 29, 2009
SQL: Data Definition Language / MS Access: In this class, students will the constructs of the SQL language for constructing a database. Students will also learn how to construct databases in Microsoft Access. Students are expected to create an E-R diagram and translate that into the database include creating tables, setting relationships, and finally populating the database.

November 5, 2009
SQL: Data Manipulation Language / MS Access: The students will learn the basic language constructs of the SQL language for retrieving data from the database. Students will test the queries that they write.

November 12 & 19, 2009
Advanced Queries / MS Access and Advanced Topics in Databases: Students will also be exposed to nested queries and other advanced queries during the class as well as other advanced topics in databases based on available time. A review of the topics of the class will also be covered.

COURSE SCHEDULE SUMMARY

Date	Topics	Assignments
October 8	Relational Database Design, Data Modeling, and E-R Diagrams	HW 1
October 15		
October 22	Database Normalization (Damira)	HW 2
October 29	Data Definition Language / MS Access (Damira)	
November 5	Data Manipulation Language / MS Access	HW 3
November 12	Advanced Queries / MS Access	
November 19	Advanced Topics in Databases / Review	
November 30	**Final Project Due (Non-Class Day)**	
December 3	**Final Exam**	