

State University of New York at Buffalo
SCHOOL OF MANAGEMENT

MGS 613 - Database Management Systems
Fall 2007

<u>Instructor</u>	Dr. Raj Sharman / Room 325F / Phone: 645-2081 E-mail: rsharman@buffalo.edu
<u>Office Hours</u>	From 9:30 am to 10:00 am - Tuesday and Thursday 5:00 pm to 6:00 pm on Monday, Tuesday, and Wednesday. By appointment as well
<u>Class Time</u>	8:00 am - 9:20 am - Tuesday / Thursday; Venue - 102 ALFIERO
<u>Course Web URL</u>	http://ublearns.buffalo.edu (Please check this website often) All changes regarding the class will also be posted on this website.
<u>Required Reading</u>	Text: Jeffrey Hoffer, Mary Prescott and Fred McFadden <i>Modern Database Management</i> , Prentice Hall, Seventh edition <i>ISBN 0-13-145320. (Note: Book is required for use in class)</i> If you are not familiar with MS-Access you should refer (purchase if needed) a book (no specific recommendation) that informs you on the subject.

Course Overview

This database course is designed to provide students with a fundamental overview of the concepts, principles, and techniques of modern database management systems. To accomplish this objective the following topics will be covered:

- Basic Concepts
- Database Development Process
- Requirements Analysis
- Conceptual Database Modeling - Entity Relationship Model
- Logical Database Design
- Querying databases
- Physical Database Design
- Database Security (RBAC)
- Data Warehousing
- Role of Ontology in Information Systems and Data Integration

At the end of the course students will be able to design database applications. More specifically they would develop the skill to represent user requirements using a conceptual model, convert this model to a logical model and then create an implementation. They will also understand the impact of database systems in the world of business and information systems. The course will also teach students to retrieve appropriate data from corporate databases into spreadsheets and other

applications for further analysis. This is very useful for students in all majors.

The course focuses on designing and creating database systems. The focus is not on teaching software packages like Oracle or MS Access. However because students will be required to complete some of the assignments using MS Access and Oracle, students will learn how to use these software packages to create database applications. Lectures will include demonstrations in the use of these software packages.

APPENDIX - A Evaluations

Point Allocation

Tests	20%
Assignments	60%
Group Project	10%
Class Participation (Instructor's Discretion)	10%

	100%

Important Dates

Important Dates

Test # 1 (10%)	October 25, 07	
Test # 2 (10%)	December 6, 07	
Assignment # 1 (5%)	September 18, 07	Oracle
Assignment # 2 (15%)	October 4, 07	MS Access Assignment
Assignment # 3 (10%)	October 18, 07	Conceptual Modeling + MS Access
Assignment # 4 (15%)	November 15, 07	MS Access Assignment + Oracle
Assignment # 5 (15%)	November 29, 07	Oracle SQL + PL SQL
Group Project Term paper (10%)	December 19, 07	Report (Dec. 19, 07)

Assignments

You should submit your software related assignments on CDs. The CD's should be properly labeled using a permanent marker. Please place your CD in a CD cover before you hand it in. Please keep a copy of all your submitted work. Your CD will not be returned.

Class Participation

Some class time will be devoted to hands-on student exercises. Students are encouraged to use this time wisely and productively. Students who have mastered the day's exercise are encouraged to assist those who would like help. Learning is an active process. Therefore, students are required to participate in classroom discussion and hands-on exercises.

Group Project

The final project will involve writing a term paper. Deliverables (hard copy + soft copy) include: Term paper not to exceed 20 pages. Plus software, if available. Topics will be assigned by the instructor.

Disability Management

Any student with a disability and in need of course or examination accommodations should request

accommodations through the University's Office of Disability Services (ODS). Please do this as soon as possible. Please provide a copy of your approved accommodation form from ODS to the course instructor. The course instructor is committed to working with the Office of Disability Services to ensure that all approved accommodations are provided. Please deliver the approved accommodation form to the instructor as soon as possible (and at least 48 hours prior to the needed accommodation) so that proper arrangements can be made.

Extenuating Circumstances:

If you are facing extreme hardship I will work with you on all matters regarding the course. I will do my best to accommodate you to the maximum extent I can. However, you have to provide me evidence (documents needed) of extreme hardship.

APPENDIX - B

Oracle Account Information

Oracle accounts names are the same as the student's UB IT Name. Passwords will be made available in class. Oracle accounts are managed by Heidi A. Wiczorek (Database Administrator - CIT). Should you have problems with your account you should contact her at ascit-dba@buffalo.edu. Please note that you may not contact Heidi for help with your assignment.

You can access your Oracle account from PCs in public UB Computer Labs as well as via ubunix. If you are going to access Oracle software via ubunix, please note that the documentation reflects the old path source /util/bin/coraenv. This is no longer valid. The new path is /util6/bin/coraenv.

If you need a password reset please send a message to ascit-dba@buffalo.edu. Passwords will be reset as soon as possible during the hours of 9-5 M-F, but allow at least 24-48 hour turn around time on password resets.

You are responsible for your account and you should protect your account. A way to protect yourself is by changing your password to something only you know.

APPENDIX - C

Course Calendar

Calendar is Subject to Change. Changes will be posted on UBLEARNS.

Week	Topic	Readings	Activity / Comments
Week # 1 August 27 - August 31	Introduction to course. Introductory Database Concepts	All syllabus pages. Chapter 1.	
Week # 2 September 3 - September 7	Introductory Database Concepts Oracle Demo Database Development Process.	Chapters 1 and 2.	
Week # 3 September 10 - September 14	Conceptual Database Design (Entity-Relationship Modeling) Microsoft Access Hints	Papers/ Chapter 3	<u>Assignment # 1 is due on September 18, 06.</u>
Week # 4 September 17 - September 21	Conceptual Database Design (Entity-Relationship Modeling) Microsoft Access Hints	Papers/ Chapter 3 & Appendix A	
Week # 5 September 24 - September 28	Conceptual Database Design (Entity-Relationship Modeling)	Papers/ Chapter 3	
Week # 6 October 1 - October 5	Conceptual Database Design (Entity-Relationship Modeling) Logical Database Design I: Constraints, ER to Relational Model	Chapter 4 Chapter 5	<u>Assignment # 2 is due on October 4, 2007.</u>
Week # 7 October 8 - October 12	Review (October 10, 05)	Chapter 5	<u>Assignment # 3 is due on October 18, 2007.</u>
Week # 8	Logical Database Design II:	Chapter 5	

October 15 - October 19			
Week # 9 October 22 - October 26	Test # 1 Normal Forms - (1NF, 2NF, 3NF, BCNF, 4NF) Normal Forms - (1NF, 2NF, 3NF, BCNF, 4NF)	Chapter 5	Test # 1 (October 25, 2007)
Week # 10 October 29 - November 2	SQL I: Data Definition Commands & Data Manipulation Commands	Chapter 7	
Week # 11 November 5 - November 9	SQL II: Data Manipulation Commands	Chapter 8	
Week # 12 November 12 - November 16	SQL III: Advanced Commands - Database Security - Role Base Access Control	Chapter 8 Notes / Papers	<u>Assignment # 4 is due on November 15, 2007.</u>
Week # 13 November 19 - November 23	Role of Ontology in Information Systems and Data Integration		**Fall Recess**
Week 14 November 26 - November 30	Data Warehousing Information Assurance Issues - Backup and Business Continuity Planning	Chapter 11	<u>Assignment # 5 is due on November 29, 2007.</u>
Week 15 December 3 - December 6	Review Test # 2	Papers	<u>Test # 2 on Dec. 6, 2007</u>