

Database Design and Management - BADM 352
Fall 2009
Syllabus and Schedule

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Office Hours M/W 11:00 to 12:00 or by appointment
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Class Time/Location	Day/Time	Location
	M/W 9:30 – 10:50	BIF 2057

What is this course about?

Databases are important because they play a critical role in today's business environment. Almost all modern organizations use database technologies to store and manage data in every functional area of business including its operations, finance, accounting, and marketing. By understanding and being able to implement database technologies, you possess one of the most marketable skills to help a business better manage their data and even discover new opportunities through better understanding of the data. You will know how to design and implement a database, and how databases fit in the enterprise to address their data needs. Even if you are not an “IT” person, your database skills will add significant value to you as an employee. Specifically, you will learn database design and management, both theoretically and through hands-on exercises and a course project.

At the end of this course you will be able to

1. Understand and help articulate the data needs of the company (requirement analysis)
2. Conceptually model the relationship of the data (data modeling).
3. Implement the database (implementation).
4. Write queries to answer the business question (querying the database using SQL)

What do you need to have?

1. Database Systems: Design, Implementation, and Management, 8th Edition by Peter Rob and Carlos Coronel. ISBN-10: 1423902017. The 7th Edition will work, and you don't need the online access code or CD.
2. All other class materials will be posted on the class website on COMPASS.

How will it be delivered?

We will have lectures, Lab sessions, quizzes, tests, and guest lectures. This class will be successful if all of you participate and contribute, and you will be rewarded for participation as you see in the grade distribution below.

Course Policies

1. Attendance: There will be no attendance taken, but if you are in class and participate, you are likely to be rewarded with class participation points. If you are in class, you will also get points when I administer the quizzes.
2. Reading Assignments: I know you have read this many times, but let me repeat it. It would be much more rewarding to read the assigned material before class so that we can actually get some work done in class. It is very important to keep track of what's happening on Compass for reading materials and other important notices for class. You are responsible for checking compass at least one day before each class to check for any new postings.
3. Grades: All grades will be posted on Compass, within 1 week of the test/assignment submission date. You can discuss your grades for any issues for 7 days after grade posting and they will be considered final after that. The final grade in the course is FINAL.
4. Communications: I would appreciate if all of you would use the compass e-mail system to interact with me. I will use the same to get in touch with you and/or put up announcements on compass.

Academic Integrity

Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabrication of information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. If you remain enrolled in this course, you are indicating implicitly to the instructor that you have read, understand and accept the universities policies and procedures regarding academic integrity and dishonesty as mentioned in the student code. (http://www.uiuc.edu/admin_manual/code).

Disability Statement

If you have any condition, such as a physical or learning disability, which will make it difficult for you to carry out the work as we have outlined it or which will require academic accommodation, please notify me during the first week of the course.

Grading

The grade scheme to be used for the course is A, B, C, D and F. You will be guaranteed an A if you score 90% or more, a B if you score 80% or more, a C if you score 70% or more and a D if you score 60% or more. I may curve upwards if required, based on the final scores at the end of the semester. The point distribution is given below.

Class participation	50 points
Lab Assignments	75 points
Test 1	75 points
Test 2	100 points
Quizzes	100 points
Group Project	100 points
TOTAL	500 points

Class Participation

Class participation will be evaluated using a mix of subjective and objective criteria. There will be some class exercises which will help you get half the points. I may also put some evaluation exercises on compass before a class, which will test you on the readings assigned for the day. The other half will be based on my evaluation of your level of preparedness, your attentiveness and your contributions to the discussions in class.

Lab Assignments

We will have 5 assignments based on the Lab sessions during the semester. Please see the schedule for the Lab dates. The lab sessions will be held in Lab #7 in David Kinley Hall (DKH)

Quizzes

These will be announced during the semester one session before they are scheduled, and will test your understanding of concepts discussed in class. They will also help me identify gaps in my teaching. These will also be used to assess if you are keeping up with the assigned readings. There will be 12 quizzes worth 10 points each. Two quizzes with the lowest scores will be dropped, to keep the total points at 100.

Tests

There will be two tests in the semester. There will be no final in the last week of class. The group project will be your last submission for the course.

Project

The database development project is the highlight of this course. You will get experience in how databases are to be built to meet customer requirements. Groups are assigned by me to ensure appropriate mix of skills in the group.

The group-based project will start a few weeks into the semester. It will consist of developing a database system for an organization. You will be required to analyze user requirements, develop and document a database design to support the user requirements and implement the project in Microsoft Access. More details will be announced in class.

Schedule BADM 352 (Tentative)

Additional reading material and any assignments which require submissions will be announced on COMPASS during the semester.

Session	Date	Topic	
1	Aug 24	Introduction /Overview of the course	
2	Aug 26	The Database Environment	Ch. 1
3	Aug 31	The Database Environment Tables and Relational Algebra: 1. Tables (3.1)	Ch. 1 Ch. 3
4	Sep 2	Guest Speaker	
XX	Sep 7	Labor Day Holiday (-:	
5	Sep 9	Tables and Relational Algebra: 1. Keys (3.2) 2. Relational algebra operators (3.4)	Ch. 3
6	Sep 14	SQL (1) 1. Introduction (7.1) 2. Data types (7.2.4) 3. The SELECT command (7.3.3, 7.4)	Ch. 7
7	Sep 16	SQL Lab (1)	
8	Sep 21	SQL (2) Advanced SELECT queries (7.6) Multi-table queries concept (7.8)	Ch. 7
9	Sep 23	SQL Lab (2)	
10	Sep 28	SQL (3) 1. Join operators (8.2) 2. Sub queries and correlated queries (8.3)	Ch. 8
11	Sep 30	SQL Lab (3)	
12	Oct 5	TEST 1	
13	Oct 7	Guest Speaker : Pariveda Solutions on BI	Ch 8 & 7
14	Oct 12	Data models 1. Database initial study (9.3.1) 2. Data models (2.1, 2.2) 3. Business rules (2.3, pp. 372-373) 4. The Relational Model and the E-R Model (2.4.4, 2.4.4) 5. Degrees of abstraction (2.5)	Ch 2 & 9
15	Oct 14	The Relational Model 1. Integrity rules (3.3) 2. Data dictionary (3.5)	Ch. 3

		3. Relationships (3.6) 4. Data redundancy and indexes (3.7, 3.8)	
16	Oct 19	Entity-Relationship Modeling 1. The E-R Model (4.1) 2. Developing E-R diagram and design challenges (4.2, 4.3) 3. E-R modeling in the DBLC process (pp. 373-374)	Ch. 4 & 9
17	Oct 21	Data Modeling Lab (4)	
18	Oct 26	ER Modeling	Ch. 4
19	Oct 28	ER Modeling	Ch. 4
20	Nov 2	ERD Exercises	
21	Nov 4	Normalization	Ch. 5
22	Nov 9	Extended ER Model	Ch. 6
23	Nov 11	Access Lab (5)	
24	Nov 16	Views, Triggers and Procedures	Ch. 8
25	Nov 18	TEST 2	
XX	Nov 23	Thanksgiving break	
XX	Nov 25	Thanksgiving break	
26	Nov 30	Importing Data from Multiple Sources (Lab 6)	
27	Dec 2	New Developments in Database Management/Guest Lecture	
28	Dec 7	Project Presentations	
29	Dec 9	Project Presentations	