287 Business Database and Database Marketing
Winter 2015

University of California, Davis
Graduate School of Management

Professor Yinghui (Catherine) Yang
Room 3418, Gallagher Hall, UC Davis
530-754-5967
yiyang@ucdavis.edu

Davis/Sacramento: Thursday 6:30-9:30pm, 2310 Gallagher Hall (1//8, 1/15, 1/22, 1/29, 2/5, 2/12, 2/19, 2/26, 3/5, 3/12)

Course Description

Data and information are critical to modern organizations. Whether used in knowledge management, business intelligence, enterprise resource planning (ERP), product design, marketing, personalization and other aspects of managing customer relationships (CRM), the underlying principles of data management are the same. This course aims to provide a practical introduction to the fundamental principles of database management systems and database marketing. After taking this course, students will be able to transform daily business activities into a database system from which information can be extracted, write SQL queries to extract information from the database, understand concepts of database marketing, data warehouse and big data analytics. Students will design and deploy a database solution using Microsoft SQL Server Express. Marketing databases will be available to students to learn how to use database marketing principles to design queries to answer marketing questions.

Intended Audience and Prerequisites

The course is designed mainly for students who are eager to learn how to set up his/her own database system from scratch, write SQL queries, and work with marketing databases for database marketing. Students with extensive database background who are interested in this course should talk to me first before enrolling in this course. No prior knowledge or prerequisite is required for taking this course.

Software:

We will use the Microsoft SQL Server (the free Express edition) to build our databases and execute SQL queries. No programming skill is needed. You must have access to a laptop with Windows OS, which you should bring to every class.

Textbook (Optional):

Modern Database Management, 11th edition
Authors: Jeffrey A. Hoffer, V. Ramesh, Heikki Topi
Publisher: Prentice Hall
ISBN-10: 0132662256
ISBN-13: 978-0132662253

I do not teach according to the textbook. But it will be nice to have a copy as a reference. If you are price sensitive, you can choose not to buy it or you can get the 10th edition of this book, which is quite similar to the 11th edition.

Modern Database Management, 10th edition
Authors: Jeffrey A. Hoffer, V. Ramesh, Heikki Topi
Publisher: Prentice Hall
ISBN-10: 0136088392
ISBN-13: 978-0136088394

Grading:

Components	Grades
Class Participation	**10%**
7 Homework Assignments (9 points each)	**63%**
Term Project **(Phase 1: 6%; Phase 2: 10%, Final report: 6%; Presentation: 5%)**	**27%**

Class Participation: Each session you can earn 0.5 point for presence, 1 for paying attention and actively participating in class activities. Absence with proper notification received before class earns 0 point, and absence without notification earns -1. You can't make up for a missing class.

Homework Assignments: You should be expecting weekly homework assignments. Because the solution to the homework will be discussed in class on the due date, late homework will not be accepted.

SmartSite: All materials I need to hand out to you will be distributed via SmartSite. All deliverables need to be submitted via SmartSite.

Groups: I will assign groups based on your background. I will try my best to honor your preference for group members if there is any. A group will work together on the term project, in-class exercises, and some questions in the homework assignments. Please sit with your group during class.

Class Schedule:

Date	Topic
1 (Jan 8)	**Introduction**
2 (Jan 15)	**Database Conceptual Design**
3 (Jan 22)	**Database Logical Design**
4 (Jan 29)	**Query the sales data 1**
5 (Feb 5)	**Query the sales data 2**
6 (Feb 12)	**Database marketing 1**
7 (Feb 19)	**Database marketing 2**
8 (Feb 26)	**Data Warehouse**
9 (Mar 5)	**Big data**
10 (Mar 12)	**Term project presentation**

Due Dates:

	Due Date
Homework 1	Jan. 15
Homework 2	Jan. 22
Homework 3	Jan. 29
Homework 4 & Project Phase 1	Feb. 5
Homework 5	Feb. 12
Homework 6	Feb. 19
Homework 7	Feb. 26
Project Phase 2	Mar. 5
Project Final Report & Presentation	Mar. 12

Note: Things are due at 5:30pm on the due date if not otherwise specified.

Term Project

The term project is intended to provide you with valuable *hands on* experience in designing and implementing a *real world* database system application, and as such, you are encouraged to develop such a system to address managerial issues you face at your work place. In this project, you should identify an application related to your work experience and develop a database system for it. If you are not able to find a proper application related to your work, you should come and talk to me before you choose anything else.

The project has 3 phases.

Phase 1: Database design

1, Pick an application, describe the application.

2, Draw an Entity-Relationship diagram for the application. Indicate the assumptions and constraints of the ER diagram. Convert the ER diagram to relational tables. Discuss the possible problems of the design.
3, Submit your phase 1 report.

Note:
1, The application you pick has to have some complexity. You need to have at least 5 tables.
2, The ER diagram can be easily drawn in Microsoft PowerPoint or Word. Electronic version of the graph is required.
3, Before you decide on the application, your group is encouraged to talk to me first.
4, Your database will need to be populated with data later on.

Phase 2: Implementation in Microsoft SQL Server.

1, Properly refine your phase 1 according to my suggestions. You are allowed to make other changes to phase 1 if desirable.
2, Implement the tables in Microsoft SQL Server.
3, Populate the tables.
4, Implement five queries in Microsoft SQL Server. You will be graded based on the complexity of the queries, and the insights you can obtain from the queries.
5, Submit your phase 2 report.

Note: When you submit the phase 2 report, please also include your updated phase 1 to make it complete.

Phase 3: Final report and class presentation.

The final report should incorporate changes I suggested on your phase 2 report. The final report should properly integrate all the pieces you have done. In addition, you can choose to explore other tools provided in Microsoft SQL Server to enhance your analysis.

In the class presentation, you should describe the business problem you are addressing, the challenges you encountered, the design, the insights behind the queries, and the potential uses of the database.