

MIS 4386/7374
Database Management Systems II
(Fall 2019)

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Purpose of the Course

This course is a continuation of MIS 3376 - Business Applications of Data Base Management Systems. Its overall objective is to cover a variety of "further database topics" that require more background knowledge on the part of the student than did MIS 3376. The topics involve database creation, Oracle utilities, concurrency control, the basics of Oracle's architecture, database recovery, PL/SQL, the creation of procedures, functions, and packages, database security, the enforcement of constraints using database triggers, hierarchical queries, extended GROUP BY clauses, analytical functions, the MODEL clause, and using object types to define object tables. Since this course is a continuation of MIS 3376 it is assumed that you have a close relationship with the following four topics:

- summarizing information requirements using entity-relationship diagrams
- the transformation of entity-relationship diagrams into a series of relations
- relational algebra and SQL
- using SQL to extract and report information retrieved from an Oracle database.

Class Handouts

I have prepared quite a bit of handout material to guide our discussion of the topics we are covering in class. This handout material is available in the MIS section of the bookstore located in the University Center. It is important that you bring this handout material with you to class.

Course Evaluation and Activities (Tentative)

Oracle Opportunities	60%
In-Class Quiz	15%
Take-Home Quiz	25%

1. Oracle Opportunities

During the semester we will work on a number of opportunities whose purpose is to enhance our understanding of the material discussed in class. If you are not careful, this is a course where it is possible to get behind. And, once you get behind, it can be very difficult to catch up since catching up requires both the completion of the work on which you are behind plus the completion of the current work. The primary reason why students get behind comes from missing class. Typically, in this course, if people are going to miss class, it is not going to begin until right about the sixth or seventh week of the semester. And, to be honest, in some cases, all it takes is missing one class to fall behind. I feel it is necessary to say that if you have to make a choice between missing class and (a) studying for a quiz in some other course, (b) working with your group in some other course on a project, (c) missing class because you have to work, etc., if at all

***If you are on campus and would like to see me outside of the office hours given above, please feel free to drop by at other times. If I not with someone else or working on something with an immediate deadline, I'll be glad to meet with you. It is possible I could give a pop quiz and ask about how office hours are handled. If I do, the Oracle Opportunities will be worth 50 percent and the Pop Quiz will be worth 10 percent of the course grade!!**

possible (which admittedly may be difficult to do in the case of a job interview), please try to arrange your schedule so that you do not miss class.

Each semester I keep track of who turns in what and perhaps as importantly when it is turned in. In other words, I'm the grader. As I'm quite sure each of you understands, the consistency with which things are submitted during the course of the semester will have something to do with your grade in the course just as in the "real world" the consistency with which employees get things done impacts management's evaluation of their overall performance. You could say this is where the instructor evaluation comes in.

Last fall, four members of the class got behind. Thus I tried something in last spring's class that worked pretty well. If you are unable to submit work on an opportunity that represents your best effort on the date it is due, I will allow you to submit or in some cases resubmit it up to one week after it is due. After that I want you to concentrate on working with what we are currently discussing in class so that you will not be behind on the new material as well. This is to prevent someone from concentrating on an opportunity that was due several weeks ago and getting hopelessly behind on what we are currently working on in class

2. Brown Bag Lunch

Up until the Fall 2013 semester, each student in MIS 4386 had taken MIS 3376 from me. Consequently I felt that I knew each member of the class well and each member of the class knew what I was all about and I believe felt comfortable dropping by the office and communicating with me via email. The exact opposite has been true since the Fall 2013 semester. I have never worked with any of you and you have never been a member of one of my classes. Since I bring my lunch to school and eat it in my office pretty much every day, what I want to do each semester is to have lunch with each member of the class. The way we'll do it to have two members of the class join me for lunch in the little conference room adjacent to my office. Nothing fancy, that's for sure. I'll bring something from home and you all can do the same or buy something from Subway, Starbucks, or any of the places in the University Center Food Court. The purpose of all of this is for us to simply get to know one another. We may talk a little about the course and then again we may not. Since our class meets on Tuesday and Thursday, we might try to schedule some lunches from 12:00 noon to 12:50 pm on these days. For those not available at this time, perhaps Monday from 12:00 noon to 12:50 or Friday from 12:00 noon to 12:50 will work. In short, I think we'll be able to find a time.

3. Quizzes

Two quizzes will be given during the course. One will be a take-home quiz will ask you to respond to a series of questions that involve the use of tools and techniques that we have worked with during the course. Many of the questions will require use of SQL and/or PL/SQL. One question will involve the creation of a small database consisting of a series of relations that are all in at least third normal form. The take-home quiz will be given out on Thursday, November 28 and due on or before Tuesday, December 10. The other is to be given in class and is scheduled for Thursday, October 10. At the moment I cannot tell you exactly what will be covered on the October 10 quiz as this depends on how we are able to progress through the material in the course. The quiz on October 10 will be open book, open notes and closed neighbor and allow you to make use of any non-living reference.

The take-home quiz is optional in the sense that I determine who does not need to take it. The criteria I use include: (a) the student's performance on the October 10 quiz, (b) the consistency with which the homework opportunities are submitted, (c) the quality of the homework opportunities, and (d) class attendance. In addition, while in a perfect world I would prefer that members of the class work independently on the homework opportunities, I realize that this does not always happen. In short, the

reason that some members of the class do not need to do the take-home quiz is because by the end of the semester their consistent effort and performance have been such that I don't need any additional information in order to give them a grade for the course.

4. Other Comments

First, our class will begin promptly at the top of the hour and thus part of your job is to be in your seat, and ready to begin at this time. Since it has been my experience that the majority of people are able to meet this requirement, those who consistently cannot seem to be able to make it to class on time tend to separate themselves from others in a not so positive way. Of course, missing class entirely constitutes a much more serious problem and thus I much prefer a late arrival over no arrival at all.

Second, I pay particular attention to what I call the double-double. In basketball, a player achieves a double-double when he or she (a) scores 10 or more points and also pulls down 10 or more rebounds, (b) scores 10 or more points and passes out 10 or more assists, etc. Some players are good enough (i.e., Chris Paul, LeBron James, etc.) to regularly achieve triple-doubles (e.g., score 10 or more points, pass out 10 or more assists, and pull down 10 or more rebounds). As far as this class is concerned, a double-double takes place when a student (a) arrives to class on time and (b) remains in the classroom for the entire 80 minutes without having to step out for a few minutes to call someone or just otherwise take a break. Members of the class who are not to achieve part (b) of the double-double disrupt the class and may not to be given any benefit of the doubt at the end of the semester in terms of the instructor's evaluation.

Third, if you bring a laptop or any other type of device to class, I prefer that it is closed and turned off. Likewise please turn off cell phones, beepers, and any other electronic devices during class. I like to at least think that I have your undivided attention throughout the entire class!

Fourth, I prefer that we operate as if this class was a committee with me as chair the committee. As a committee member, if you are going to miss class it is your responsibility on the day of the class to let me know that you are going to miss class. (e.g., you are sick, someone in your family is sick, you have a job interview, your car broke down, you overslept, etc.). It is not necessary that you even give me a reason. You just need to acknowledge that you have missed the class. If you will do this, I'll be sure the email any handouts and homework opportunities that you may have missed.

A Pretty Good Description of How I Operate

A note on the first page of a recent Houston Chronicle contained a pretty good description of me and how I operate in the way of a short excerpt from the book How Not to Act Old by Pamela Redmond Satran. Four of the five signs given that a person is old describe me:

- You rely on e-mail, instead of Facebook or text messages, and you actually check your voicemail.
- You wear a watch, because, according to Satran, "a naked wrist has become as emblematic of youth as ungray hair and"
- Lunchtime finds you brown-bagging it at work.
- You tell a cashier, "Wait, I think I have the exact change."

If necessary, I trust that you will not find it all that difficult to adjust to my way of doing things and managing a class.

Tentative Class Schedule

DAY	DATE	TOPIC(S)
Tues.	Aug. 20	The Normalization of Data: Boyce-Codd Normal Form
Thurs.	Aug. 22	
Tues.	Aug. 27	The Decomposition of Relations
Thurs.	Aug. 29	Database Creation and Data Population Using SQL
Tues.	Sept. 3	
Thurs.	Sept. 5	Resource Locking in Oracle
Tues.	Sept. 10	
Thurs.	Sept. 12	
Tues.	Sept. 17	PL/SQL Fundamentals
Thurs.	Sept. 19	
Tues.	Sept. 24	
Thurs.	Sept. 26	
Tues.	Oct. 1	PL/SQL Procedures, Functions and Packages Using SQL and PL/SQL
Thurs.	Oct. 3	
Tues.	Oct. 8	
Thurs.	Oct. 10	Quiz I
Tues.	Oct. 15	Working With Constraints and Database Triggers Using SQL and PL/SQL
Thurs.	Oct. 17	
Tues.	Oct. 22	
Thurs.	Oct. 24	
Tues.	Oct. 29	Database Security, Privileges, Roles and Profiles
Thurs.	Oct. 31	
Tues.	Nov. 5	Dynamic SQL
Thurs.	Nov. 7	
Tues.	Nov. 12	Advanced Queries Using SQL
Thurs.	Nov. 14	
Tues.	Nov. 19	
Thurs.	Nov. 21	
Tues..	Nov. 26	Database Recovery
Thurs.	Nov. 28	Thanksgiving Holiday
Tues.	Dec. 10	Take-Home Quiz Due