University of Michigan-Dearborn Syllabus

ITM 431, Database Systems II, 3 credits

Professor Edward Williams
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Office Hours: 4:30pm-5:30pm Mondays and Thursdays, and by appointment
Course Meeting Times and Format(s): 8:00am – 9:15am Tuesdays & Thursdays, 192 FCS

Course Description:

This capstone course will provide an opportunity for students to work as a member of a project team on a complex, real-world information systems project. The course examines the processes and tools used to develop, implement and administer database systems in business. You will undertake, in self-selected teams, a class project involving the development of a database using a client/server database management system. Tools used to manage complex information systems projects are also applied in the course.

Prerequisite: ITM 321

Program Goals:

The BBA Program Goals and Objectives may be found at umdearborn.edu/cob/bba-goals-and-objectives.

This course contributes extensively toward several of these learning objectives, as follows:

a. **Communicate effectively verbally and in writing (goal #2).** You will develop your communication skills through a group project that includes a written paper and a presentation to the class.
b. **Develop effective interpersonal skills that will enable them to work with other individuals and within teams as either leaders or participants (goal #3).** You will develop your interpersonal skills by working with a team on the group project.
c. **Know how to gather, use, and critically evaluate electronic and other information (goal #4).** You will learn how to use information in Oracle databases.
d. **Develop a knowledge and appreciation of ethical principles as applied to business (goal #6).** You will learn how data quality is addressed in Oracle databases. Data quality and data confidentiality have been identified as the key ethical issues in MIS.
e. **Use critical thinking skills to solve real or hypothetical business problems (goal #7).** You will develop critical thinking skills by designing a database for a real-world organization.

Dearborn Discovery Core Goals:

The Dearborn Discovery Core Goals may be found at http://umdearborn.edu/696973.

Course Objectives:

Students in this course will learn about client/server databases using a database management software package called Oracle. Students will study the database language SQL in depth.

During the first part of the course, we will review the principles and tools of conceptual, logical, and physical database design.

During the second part of the course we will study the database manipulation language components of SQL in depth. Topics covered include the SELECT statement, the WHERE statement, the ORDER BY statement, JOINs, single-row functions, group functions, and subqueries.

During the third part of the course we will learn how to take a design for a database and implement it in Oracle using the database definition language components of SQL. Topics include table creation and management, constraints, and data manipulation.

During the fourth part of the course we will learn about views, sequences, and indexes.

By the end of the class, students should understand most of the material needed to pass an Oracle certification exam.

Communication skills will be emphasized in this course. You will verbally present and defend your ideas during each class session. A group project will encourage you to practice your written and oral communication skills.

Skills needed to work effectively in small teams will also be emphasized in this course. In addition to the large class project, you will work in your teams to complete in-class and/or homework exercises.

Required or Recommended Materials and/or Technology:

Hoffer, Jeffrey A., V. Ramesh, and Heikki Topi. (2014) *Modern Database Management*, 11*th* edition. Upper Saddle River, NJ: Prentice Hall. (recommended; you may already have)

Casteel, Joan. (2014). *Oracle 11g: SQL*, 2nd edition. Cambridge: Course Technology. (required)

Assignment and Grading Distribution:

Homework (5 Total @ 5% each)	20%
End-of-Semester Project and Presentation thereof	25%
Participation (discussions, questions, comments, etc.)	5%
First examination (October 22)	25%
Second examination (December 17, 11:30am)	25%

Grading Scale:

94%- 100%	A	80%- 83%	B-	67%-69%	D+
90%- 93%	A-	77%-79%	C+	64%-66%	D
87%- 89%	B+	74%-76%	C	60%-63%	D
84%- 86%	B	70%-73%	C-		

Grade Grievance:

A student may grieve a final course grade or a grade on an examination, project, thesis or any other graded material required for graduation. This grievance process is intended to provide the student the protection against evaluations which are prejudicial, arbitrary, or capricious.

Examples of grading problems which can be grieved are:
   a. Clerical error
   b. Prejudicial evaluation
   c. Inconsistent or inequitably applied standards of evaluation

There is a presumption that the grades assigned are correct and therefore the student has the burden of proof in the grievance process (i.e. s/he must establish clerical error; capricious or prejudicial evaluation; or inconsistent or inequitably applied standards of evaluation). To start this process, the student should contact the Department Chair or Program Director before the end of the fifth week of classes in the first full term following the term in which the disputed grade was issued.

Tentative Course Outline:

Date	Activity and Content
Week 1	Introduction to the course
Week 2	Review of database design
Week 3	Overview and SELECT statements (chapters 1 and 2)
Week 4	Table creation and management (chapter 3)

Week 5	Constraints (chapter 4)
Week 6	Data manipulation & transaction control; other database objects (chapters 5 and 6)
October 22	**Test #1**
Week 6	Filtering and sorting data (chapter 8)
Week 7	JOINs (Chapter 9; Hoffer review chapter 7)
Week 8	Single-row and group functions (Chapters 10 and 11)
Week 9	Subqueries (chapter 12)
Week 10	Views (chapter 13)
Weeks 11-13	Review; project preparation and presentation
December 17, 11:30am	**Test #2**

University Attendance Policy:

A student is expected to attend every class and laboratory for which he or she has registered. Each instructor may make known to the student his or her policy with respect to absences in the course. It is the student's responsibility to be aware of this policy. The instructor makes the final decision to excuse or not to excuse an absence. An instructor is entitled to give a failing grade (E) for excessive absences or an Unofficial Drop (UE) for a student who stops attending class at some point during the semester.

Academic Integrity Policy:

The University of Michigan-Dearborn values academic honesty and integrity. Each student has a responsibility to understand, accept, and comply with the University's standards of academic conduct as set forth by the Code of Academic Conduct (http://umdearborn.edu/697817/), as well as policies established by each college. Cheating, collusion, misconduct, fabrication, and plagiarism are considered serious offenses and violations can result in penalties up to and including expulsion from the University.

Disability Statement:

The University will make reasonable accommodations for persons with documented disabilities. Students need to register with Disability Resource Services (DRS) every semester they are enrolled. DRS is located in Counseling & Support Services, 2157 UC (http://www.umd.umich.edu/cs_disability/). To be assured of having services when they are needed, students should register no later than the end of the add/drop deadline of each term. If you have a disability that necessitates an accommodation or adjustment to the academic requirements stated in this syllabus, you must register with DRS as described above and notify your professor.

Safety:

All students are strongly encouraged to register in the campus Emergency Alert System, for communications during an emergency. The following link includes information on registering as well as safety and emergency procedures information: http://umemergencyalert.umd.umich.edu/ Finally, all students are also encouraged to program 911 and UM-Dearborn's Public Safety phone number (313) 593-5333 into personal cell phones. In case of emergency, first dial 911 and then if the situation allows call UM-Dearborn Public Safety.

Additional Administrative Information:

Timeliness. If you expect full credit for any assignment, you will have to be prepared to turn it in at (or before) the beginning of the class period on the day it is due. Late work will not be accepted except in cases of severe and externally documented extenuating circumstances, and then only at my discretion. Examples of such circumstances are illness, bereavement, jury duty, witness duty, and business travel. If you have obligations that conflict with assignment due dates, you should make arrangements with the instructor as soon as possible.

Score/Grade Appeals. It is important to recognize that a grade reflects another's judgment of your work. In this sense, all grading is subjective. Of course, any grade you receive is subject to appeal. However, score changes are at the discretion of the instructor and may be up or down based upon a complete review of the work in question. Changing a few points on an assignment rarely makes a difference in the final grade. Time is much better spent discussing and clarifying the content presented in the course.

Electronic Communication Devices in the Classroom. All electronic devices (cellular phones, pagers, etc.) should be turned off or set on "vibrate" prior to the beginning of each class session. Failure to do so will result in a disruption of the class. If such a device rings aloud during a class session, you might (I reserve discretion) lose one full letter grade from your final course grade. If you receive an emergency incoming call via *vibration*, please leave the classroom quietly and unobtrusively to answer it, and return to the classroom likewise. Please do your part to ensure that the class is not interrupted and that you do not lose any points in the course.

Email Accounts and Responsibilities. Each of you has received a UM-Dearborn email account. It is your responsibility to read any and all email messages sent to this account. I will be using your UM-D account for email communication regarding this course. This does not mean that you cannot have other email accounts – it means you are responsible for any information sent to your UM-D account. This could be accomplished by using this UM-D account on a regular basis (as some students do) or by forwarding all email sent to the UM-D account to another account of your choosing. This forwarding process is very simple.

To forward your email:

- Go to http://directory.umd.umich.edu and click the My Account button

- Enter your uniquename and click the Continue button

- Enter your password and click the Continue button

- Click the Continue button again, if necessary

- Under the Mail section (on the left-hand side of the screen) click on Delivery Options

- Enter your other email address in the "Forward a copy of your messages to:" text box

- Click the Change button

The course Canvas website also contains an email function and an announcement. You are welcome to utilize this for communicating with each other and/or with me. You are responsible for all email sent by me to this internal, course account and to your UM-D account, plus all announcements I make via Canvas.

Incomplete Grades Policy. A grade of Incomplete may be awarded to students who have a legitimate reason for needing additional time to complete a course. Legitimate reasons include emergencies or extenuating circumstances that prevent a student from completing the course requirements within the normal time frame, such as illness, accident, or bereavement. Students must initiate the request for an incomplete prior to the end of the semester. In no case will a grade of incomplete be awarded to someone seeking more time to master the course material in order to improve their grade (this prohibition is university policy, not mine).

Drop and Add. The final day to drop any College of Business course is specified each semester in the Schedule of Classes. This policy applies to all students enrolled in any College of Business course. Check the information contained in the Schedule of Classes or the Undergraduate Announcement for the detailed withdrawal policy if you have any questions.

You are expected to abide by all aspects of the Statement of Student Rights and Code of Conduct in this course. The two basic tenets of this Code are:

1. Students will behave honorably, ethically, and responsibly in all academic matters both inside the classroom and in outside work related to their courses.
2. Students who are aware of academic misconduct in any form will report the violation to the instructor or other school representative. Students who are aware of academic misconduct and who fail to report the violation are themselves guilty of academic misconduct.

Furthermore:

3. It is assumed that you have a copy and have read and understand this code. Further, you are expected, especially as information systems professionals in training, to respect campus computer resources and to use them productively and wisely.

Travel Plans. Advance purchase of airline tickets, hotel reservations, etc. for holiday or leisure travel is an inadequate excuse to miss examinations or other course deliverables. Travel required for work (business troubleshooting, visiting a business branch or client, or attending a technical conference) when documented by a letter from your boss on corporate letterhead, will be considered an extenuating circumstance.

Campus Closure (Severe Weather) Information Line. 313-436-9157. In case of a University closure due to weather or other conditions, check your email for announcements and an updated course schedule.

This syllabus is largely based upon, and almost entirely the intellectual property of, Professor Barbara Klein, who recently designed and "pioneered" this course – in large measure by careful listening to corporate answers to the question "How can UM-Dearborn students be made more competitive in the jobs marketplace?". His permission (and indeed, encouragement) to use and adapt it is gratefully acknowledged.