ITM/ECM 782 – Database Management Systems  
Course Syllabus Spring 2003

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Office Hours: T 10:00 – 11:00; TH 3:30 – 5:30; other time by appointment.

REQUIRED TEXTBOOK:

SUGGESTED READING:


PREREQUISITES:
Students enrolled in this class are expected to already have exposure to the fundamentals of database management systems, systems analysis and design concepts and an ability to work at a professional level.

OBJECTIVES:
This course offers an in-depth exploration of all of the major topics in the field of database from an applied perspective. The course is designed to not only give you a strong theoretical foundation, but the technical skills required in database design, implementation and management as well. The initial emphasis will be on relational database concepts, logical design, physical design, SQL, and PL/SQL but the course will also consider the legacy hierarchical and network models, and the advanced object-oriented and object/relational models. The course will also explore the use of database systems to support e-commerce application development. Supporting topics will include the entity-relationship model, database administration, data dictionaries and catalogs, backup and recovery, concurrency control, and database security. Also covered will be such contemporary topics as distributed database, client/server database, data warehousing, and data mining.

GRADE DISTRIBUTION:
Assignments ................................................................. 10%
Topic Presentation .......................................................... 15%
Database Project ............................................................ 20%
Exams ................................................................. 55%
EVALUATION:

(1) Assignments (10%):
Textbook reading assignments are referenced in the attached tentative outline. Students are expected to have read the material prior to class lectures. Four written assignments will be given during the course of the term, in addition to the major database project (see below). Additional written work may be assigned as needed to facilitate learning. Assignments are due at the beginning of the class period on the due date. Assignments will be assessed 10% off for each day they are late, up to 4 days late. After four days, no late assignments will be accepted.

Complete and on time .......................................................... 100%
Slightly incomplete or with errors ....................................... 80% - 95%
Vastly incomplete or with major errors ............................... 60% - 79%

(2) Topic Presentation (15%):
Each group will be responsible for researching and presenting one of five database topics. The five database topics are:
1. Uniform modeling language (UML) and its applications
2. Object-oriented database and its applications
3. Extensible markup language (XML) and its applications
4. Data warehousing and mining
5. What to look for in acquiring a DBMS?

The group will make a twenty-minute presentation of the topic to the class with the necessary visual aids. **Make sure to include examples of the presented technology in the presentation.**

The group will also provide the class with a **two-page summary** of the topic prior to the presentation. The presentations are scheduled on **March 6, 2002**.

Content ................................................................. 60%
Completeness of facts .................................................. 20%
Presentation ............................................................. 20%

(3) Database Project (20%):
A major database project is to be completed during the course of the term. Students will work in small groups of 4 people for the project. The groups will use the database development process that will be discussed in chapter 2 of the textbook as the guideline to complete the project. **A written project proposal is due on January 30, 2002.**

The project should reflect a real-world database situation, and consists of an implementation, a write up and a verbal presentation. The write up will include a full description of the business situation, an explanation of the purposes of the project, design problems inherent in the project, and the database design and implementation, with rationale. The final product and written report are due on **May 1, 2002. No late project will be accepted.**

The class presentation will cover the written report and should last approximately 20 minutes.

Database system .......................................................... 70%
Written report ............................................................. 20%
Presentation ................................................................. 10%

(5) Exams (55%):

There will be two exams. The exams will cover class presentations, written assignments, and textbook material. The tentative test dates are listed below:

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
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<tbody>
<tr>
<td>Exam 1</td>
<td>February 27, 2002</td>
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<tr>
<td>Exam 2</td>
<td>May 1, 2002</td>
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</tbody>
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It is the student's responsibility to be in class for each of these exams. **There will be no make-ups.**

The performance of each student will be evaluated by means of the participation, assignments, topic presentation, database project and exams. Overall grading scale for the course:

A  93-100  B  83-86  C  73-76  D  63-66

TENTATIVE COURSE OUTLINE:

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 16</td>
<td>Introduction</td>
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<tr>
<td>January 23</td>
<td>The Database Environment and Database Development Process</td>
<td>Chapter 1 &amp; 2</td>
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<tr>
<td>January 30</td>
<td>The Entity-Relationship Model and Enhanced Entity-Relationship Model Project Proposal Due</td>
<td>Chapter 3 &amp; 4 Oracle Designer</td>
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<tr>
<td>February 6</td>
<td>Logical Database Design and the Relational Model</td>
<td>Chapter 5 Oracle Designer</td>
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<tr>
<td>February 13</td>
<td>Physical Database Design</td>
<td>Chapter 6</td>
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<tr>
<td>February 20</td>
<td>The Client/Server Database Environment</td>
<td>Chapter 9</td>
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<tr>
<td>February 27</td>
<td>Exam 1 and Project Walkthrough</td>
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<tr>
<td>March 6</td>
<td>Topic Presentation</td>
<td>Additional Material</td>
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<td>March 13</td>
<td>Spring Break</td>
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<tr>
<td>March 20</td>
<td>SQL and Oracle</td>
<td>Chapter 7 &amp; 8</td>
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<tr>
<td>March 27</td>
<td>SQL and Oracle</td>
<td>Chapter 7 &amp; 8</td>
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<tr>
<td>April 3</td>
<td>PL SQL</td>
<td>Additional Material</td>
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<td>April 10</td>
<td>Data and Database Administration</td>
<td>Chapter 12</td>
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<td>April 17</td>
<td>Holy Thursday</td>
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<td>April 24</td>
<td>The Internet Database Environment and Cold Fusion</td>
<td>Chapter 10 Additional Material</td>
</tr>
<tr>
<td>May 1</td>
<td>Exam 2 and Cold Fusion Lab</td>
<td>Additional Material</td>
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<tr>
<td>May 8</td>
<td>Database Project Presentation</td>
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CONDUCT:

Students are not to cause disturbances in the classroom. In addition to improper classroom behavior, any behavior that is distracting for other students or for your instructor is not allowed. Examples include bringing nonenrolled guests or bringing telephones or pagers that ring or beep during class.