COSC 5335: Foundation of DBMS

Spring 2012

Course Information

Lecture:       MWF  9:00 am - 9:50 am, CS - 112
Professor:    Longzhuang Li
Office:         CI 323
Office hour: Monday & Wednesday, 11:00am - 12:00pm, 
                and other time by appointment, send email or call me
Phone:         (361)825-2406
Email:       Longzhuang.Li@tamucc.edu
WWW: 
http://www.sci.tamucc.edu/~lli/teaching/Spring2011/cosc5335/cosc5335.htm
Prerequisite: COSC 5312 Problem Solving II

Description

A study of fundamental database management system concepts, terminology, and methodology
for design, use, and implementation. Emphasis is on the relational model.

Outcomes

Upon successful completion of the class, a student will be able to:

- Describe the role of databases and database applications in contemporary organizations
- Practice data modeling using the entity-relationship
- Develop database designs
- Normalization of Database Tables
- Understand the use of SQL and use SQL syntax
- Use/understand PL/SQL programming to enforce business rules
- Transaction management and concurrency control
- Distributed database management systems

Optional Topics:

- Describe the issues involved in enterprise data sharing and learn the nature of data warehouses
- Implement features and functions of OLAP (OnLine Analytical Processing) and understand its relationship to database processing
- Client/Server Systems
- Database Performance Tuning and Query Optimization
Required Text:
Database Systems Design, Implementation, & Management, by Bob & Coronel, 9th edition,

Reference Text for Oracle:
ISBN: 0-201-77363-5

Grading Policy

# Midterm Exams (2) 50% (25% each)
# Project, Paper, Presentation 45% (project 20%, paper 15%, presentation 10%)
# Class Attendance 5%

Graduate students will be given different test questions. The project is same as that of undergraduates, which is about to develop a web-based database. In addition, graduate students will be asked to write survey research paper on the current DBMS issues and give the presentation to the instructor.

Grade Ranges

A 90 - 100%
B 80 - 89%
C 70 - 79%
D 60 - 69%
F Less than 60%

Expectations from students

The students are expected to come to class on time every day the class meets. Read the chapter to be discussed before coming to class. Ask questions of material you do not understand. If I cannot explain the answers to your satisfaction, make an appointment with me to discuss the question. Demonstrate integrity, maturity, and ethical behavior.

Penalties for Lateness

Assignments are accepted until MIDNIGHT on the due date. Every homework assignment will list a due date for full credit. Late assignments will lose 10% of the maximum score per day.

Academic Dishonesty
Academic honesty is fundamental to the activities and principles of a university. Cheating will not be tolerated and will be severely punished. For the first offense, you will receive a substantial negative score for that assignment. Any additional offense may result in failure for the course.

**Makeup Exams**

Makeup exams will not be given under normal circumstances. If you notify me immediately that serious, unavoidable, documentable (e.g., with a letter from your doctor) circumstances have arisen, I will discuss options for replacing the missing grade. (For example, I may allow the grade earned on the comprehensive final to replace the grade for the missed exam.) Excused absences due to school sponsored activities, religious observations, family rituals, etc. should be discussed in advance.

**Tentative Class Schedule**

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<tr>
<th>Week</th>
<th>Topic</th>
<th>Reading Assignment</th>
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<tbody>
<tr>
<td>1</td>
<td>Database Systems and Data Models</td>
<td>Chapter 1  Chapter 2</td>
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<tr>
<td>2</td>
<td>The Relational Database Model</td>
<td>Chapter 3</td>
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<td>3</td>
<td>Entity Relationship (E-R) Modeling</td>
<td>Chapter 4</td>
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<td>4</td>
<td>Structured Query Language (SQL)</td>
<td>Chapter 7</td>
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<td></td>
<td>Exam I: Chap.2  Chap.3  Chap.4  Chap.7</td>
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<td>5</td>
<td>Normalization of Database Tables</td>
<td>Chapter 5</td>
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<tr>
<td>6</td>
<td>Advanced Data Modeling</td>
<td>Chapter 6</td>
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<td>7</td>
<td>PL/SQL Programming</td>
<td>Chapter 14</td>
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<td>8</td>
<td>Transaction Management and Concurrency Control</td>
<td>Chapter 10</td>
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<td>9</td>
<td>Distributed Dababase Management Systems</td>
<td>Chapter 12</td>
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<td>Exam II: Chap.5  Chap.6  Chap.10  Chap.12 Chap.14</td>
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<td>10</td>
<td>The Data Warehouse</td>
<td>Chapter 13</td>
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<td>11</td>
<td>Database Performance Tuning and Query Optimization</td>
<td>Chapter 11</td>
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**Notice to Students with Disabilities:** Texas A&M University-Corpus Christi complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. If you suspect that you may have a disability (physical impairment, learning disability, psychiatric disability, etc.), please contact the Services for Students with Disabilities Office, located in Driftwood 101, at 825-5816. If you need disability accommodations in this class, please see me as soon as possible.

**ACADEMIC ADVISING:** The College of Science and Technology requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. The College's Academic Advising Center is located in Faculty Center 178, and can be reached at 825-6094.
*** Grade Appeal Process. As stated in University Rule 13.02.99.C2, Student Grade Appeals, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Rule 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at http://www.tamucc.edu/provost/university_rules/index.html. For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.