



## COSC5360 Database Design, Spring 2020

Tu 6:00 PM - 8:45 PM @ COB 255

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Office: COB 315.12 | Office Hours: 12:30 PM-2:00 PM Tu/Th or by appointment

### General Course Information

<b>Required Texts &amp; Materials</b>	<i>Fundamentals of Database Systems</i> , by Ramez Elmasri and Shamkant B. Navathe, 2016 (7 <sup>th</sup> edition). ISBN-13: 978-0133970777. ISBN-10: 0133970779																																																																				
<b>Pre-requisites</b>	COSC 2315 and COSC 2336 or equivalents.																																																																				
<b>Course Description</b>	This course introduces the fundamental concepts necessary for database systems and design. It covers relational, hierarchical, and logical database models. Topics include database system architecture, the relational model and algebra, the SQL database language, conceptual data modeling, advanced data modeling concepts, functional dependencies, basic normalization, and concurrent control techniques.																																																																				
<b>Tentative Course Schedule</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #4F81BD; color: white;"> <th style="width: 10%;">Week</th> <th style="width: 10%;">Dates</th> <th style="width: 60%;">Lecture Topics</th> <th style="width: 20%;">Chapter</th> </tr> </thead> <tbody> <tr><td>1</td><td>1/14</td><td>1. Overview of Databases and Basic Concepts</td><td>1-2</td></tr> <tr><td>2</td><td>1/21</td><td>2. Review of Major DB Concepts</td><td>2</td></tr> <tr><td>3</td><td>1/28</td><td>3. Conceptual Modeling</td><td>3</td></tr> <tr><td>4</td><td>2/4</td><td>4. ER/EER Model</td><td>3-4</td></tr> <tr><td>5</td><td>2/11</td><td>5. ER/EER Mapping</td><td>9</td></tr> <tr><td>6</td><td>2/18</td><td>6. Relational Data Model; Relational Algebra Exam I Review</td><td>5, 8</td></tr> <tr><td>7</td><td>2/25</td><td style="color: red;">Exam I</td><td></td></tr> <tr><td>8</td><td>3/3</td><td>7. Relational Algebra</td><td>8</td></tr> <tr><td>9</td><td style="background-color: cyan;">3/10</td><td style="background-color: cyan;">Spring Break</td><td></td></tr> <tr><td>10</td><td>3/17</td><td>8. SQL</td><td>6</td></tr> <tr><td>11</td><td>3/24</td><td>9. SQL, cont'd</td><td>7</td></tr> <tr><td>12</td><td>3/31</td><td>10. Normalization</td><td>14</td></tr> <tr><td>13</td><td>4/7</td><td>11. Query Processing and Optimization</td><td>18-19</td></tr> <tr><td>14</td><td>4/14</td><td>12. Concurrent Control Techniques</td><td>21-22</td></tr> <tr><td>15</td><td>4/21</td><td>Project Demo; Exam II Review</td><td></td></tr> <tr><td>16</td><td>4/28</td><td style="color: red;">Exam II</td><td></td></tr> </tbody> </table>	Week	Dates	Lecture Topics	Chapter	1	1/14	1. Overview of Databases and Basic Concepts	1-2	2	1/21	2. Review of Major DB Concepts	2	3	1/28	3. Conceptual Modeling	3	4	2/4	4. ER/EER Model	3-4	5	2/11	5. ER/EER Mapping	9	6	2/18	6. Relational Data Model; Relational Algebra Exam I Review	5, 8	7	2/25	Exam I		8	3/3	7. Relational Algebra	8	9	3/10	Spring Break		10	3/17	8. SQL	6	11	3/24	9. SQL, cont'd	7	12	3/31	10. Normalization	14	13	4/7	11. Query Processing and Optimization	18-19	14	4/14	12. Concurrent Control Techniques	21-22	15	4/21	Project Demo; Exam II Review		16	4/28	Exam II	
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### Grading Policy

<b>Weighting Scheme</b>	Exam I - 20%, Exam II - 20%, Project - 40%, Homeworks - 10%, Quiz - 10%.	90-100%    A 80-89.99%    B 70-79.99%    C Below 70%    F
<b>Rules</b>	There are two (2) necessary conditions for passing this class: 1) <b>Submission of all Assignments and Projects</b> , 2) <b>Attendance</b> - your final grade will be reduced 10% for every three classes that you miss. Students are responsible for all material covered in lectures, as well as that specifically mentioned as part of the reading assignments. Examinations will heavily emphasize conceptual understanding of the material. No make-up pop quizzes will be given.	

### **Cell Phones**

Turn off your cell phones or to vibrate mode. You have to turn them off in exams or quizzes.

### **Group Project**

You have to turn them in on time. Points will be deducted for late assignments. A penalty of 30% will be deducted from your score for the first 24-hour period your assignment is late. A penalty of 70% will be deducted from your score for  $\geq$  24-hour period. No credit for  $\geq$  3 days. Weekend days will be counted. Following is (roughly) the weight distribution for laboratory problems: Correctness - 60%, Test Results Summary - 10%, Code readability including comments - 15%, Approach and Report - 15%. You will be graded on the following: (1) your successful completion of this task; and (2) a peer evaluation of your performance by your fellow group members. Students that receive a score of zero on participation from all group members will not receive credit for the group project. Group Member Peer Evaluations must be submitted at the same time as your group project. Late evaluations will not be accepted and will result in 0 points.

### **Academic Dishonesty**

You are expected to do your own work. You may assist each other with general concepts, but direct assistance with a particular assignment or any attempts to gain an unfair academic advantage will not be tolerated. Cheating is considered a serious academic offense both by the instructor and by the University. It may result in a failing grade from this course for all parties involved.

**UT Tyler Honor Code** – Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

### **Grade Replacement/Forgiveness**

If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12<sup>th</sup> day of class. Failure to do so will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates will receive grade forgiveness (grade replacement) for only three course repeats; graduates, for two course repeats during his/her career at UT Tyler.

### **State-Mandated Course Drop Policy**

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the 12th day of class (See Schedule of Classes for the specific date). Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Registrar's Office and must be accompanied by documentation of the extenuating circumstances. Please contact the Registrar's Office if you have any questions.

### **Disability Services**

If you have a disability, including a learning disability, for which you request disability support services/accommodations, please contact Ida MacDonald in the Disability Services office in UC.3150, or call (903) 566-7079. More information may be obtained at <http://www.uttyler.edu/disabilityservices>.

### **Student Absence due to Religious Observance**

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

### **Student Absence for University-Sponsored Events and Activities**

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time, the instructor will set a date and time when make-up assignments will be completed.

### **Social Security and FERPA Statement**

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

### **UT Tyler a Tobacco-Free University**

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors. Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products. There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit [www.uttyler.edu/tobacco-free](http://www.uttyler.edu/tobacco-free).

### **Emergency Exits and Evacuation**

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do NOT re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

### **Helpful Comments**

This class is very interesting and useful. However, a lot of material will be covered and many new concepts will be introduced. To get full benefit out of the class you have to work regularly. Read the textbook regularly and start working on the assignments soon after they are handed out. Plan to spend at least 10 hours a week on this class doing assignments or reading.