INSY 3304&5335 Combined Session Database Management Systems
Spring 2017

Instructor(s): Dr. Jingguo Wang

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Office Hours: W 4:30pm-5:00pm; or by appointment

Section Information: INSY 3304-001; INSY 5335-001

Time and Place of Class Meetings: W 7:00pm-9:50pm, PKH 321

Description of Course Content: This course covers concepts, tools, and technologies associated with the design, implementation, and management of large databases. The focus is on relational DBMS and the associated concepts. Different database models are discussed with an emphasis on the relational model. Database query language (SQL) is discussed. Database design concepts such as ER modeling and normalization are presented. Students are exposed to advanced database management concepts including transaction management and distributed database management. Topics on recent advances in data management, such as, data warehousing and data mining are presented. Students get hands on training in the design and implementation of a database application through homework assignments.

Student Learning Outcomes:
Students will learn concepts, tools, and technologies associated with the design, implementation, and management of large databases in a corporate environment.
- The student will be able to describe hierarchical, network, relational, and object-oriented data modeling concepts.
- The student will be able to identify the use Entity-Relationship modeling techniques to create a database design; this will include creating entity-relationship diagrams and relational schemas to map out and define the entities, their attributes, and their relationships with each other.
- The student will be able to use Structured Query Language (SQL) to create, manipulate, and query relational databases.
- The student will be able to describe transaction management and concurrency control and how they help ensure the consistency of the database.
- The student will be able to define distributed databases and data warehouses, and he/she will be able to describe the need for such technologies in an organization.

Required Textbooks and Other Course Materials:
  Database Systems, *Eleventh Edition* by Coronel; Morris, Course Technology 2014.

Descriptions of major assignments and examinations:

Students will be graded through three tests and a number of homework assignments and popup quizzes.

- **Homework:** There will be two homework dues, one on Oct 5, and the other on Nov 9. Details of the homework will be separately announced.

- **Quizzes:** Unannounced quizzes will be administered during the semester. If you miss a quiz your grade in that quiz will be zero. Three best ones will be accounted.

- **Exams:** There are 3 exams. The final exam is comprehensive. The exams are closed books, closed notes. If you have any question concerning a grade you receive in an exam, it is your responsibility to inform me within one week of the exam being returned to you. Grades will not be discussed after that time.

Attendance: At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I consider attendance is mandatory for all lectures. If you miss a class, you are responsible for the material covered.

Prerequisites: INSY 5309, or equivalent

Grading:

The distribution of the total grade among the different components is as follows:

Exam I	25%
Exam II	30%
Final Exam	30%
Homework/Quizzes	15%

Grades: 90-100 = A, 80-89 = B, 70-79 = C, 60-69 = D, 0-59 = F
A course curve, at the discretion of the instructor, may be implemented at the end of the semester, based on the overall performance of the class.

Make-up Exams: Do not miss any exam. ***If you miss an exam without a valid excuse, then your grade in that exam will be zero***. Examples of valid excuses are serious illness and participation in University sponsored events. If you miss an exam due to illness, a written excuse from a doctor is necessary. When you have to miss an exam due to participation in a University sponsored event, you must inform me prior to the exam and submit appropriate documentation to verify your claim. When you miss an exam for a valid reason, your grade for that exam will be determined based on your final exam grade. ***No makeup exam will be given under any circumstance***.

Classroom Conduct/Expectation
1. Read the chapter before the corresponding lecture.
2. Arrive at class on time and, do not leave early (if you have to leave early, you must get the instructor's permission in advance).
3. Ask questions during lecture if you do not understand something.
4. Do not talk to your classmates about topics that are not related to the class during the class time.
5. Digital devices such as cell phone, pager, iPod, etc. that are not related to the course are prohibited during the class time.
6. You may have a laptop in class to use excel for data analysis and/or follow along on class notes. If you are multitasking during class and using your laptop for tasks unrelated to class, please sit in the last row of the classroom so that you do not distract other students.

Mid Term Feedback: Depending on the performance, some students will be invited to provide me with feedback and recommendations with respect to course administration and instructional delivery.

Grade Grievances: Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current University Catalog.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially

withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance**. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/aao/fao/).

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA),* and *Section 504 of the Rehabilitation Act.* All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the **Office for Students with Disabilities (OSD).** Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:
The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364.
Counseling and Psychological Services, (CAPS)   www.uta.edu/caps/ or calling 817-272-3671.

Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Title IX: *The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos. For information regarding Title IX, visit* www.uta.edu/titleIX.

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

> *I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*
>
> *I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Campus Carry: Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit http://www.uta.edu/news/info/campus-carry/

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit http://www.uta.edu/sfs.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at http://www.uta.edu/universitycollege/resources/index.php

Course Schedule

Date	Topic	Reading (Ch. from RC)
1/18	Introduction/ Database Systems	Syllabus/ Ch01
1/25	Data Models	2
2/1	Relational database model	3
2/8, 15	ER Modeling	4, 5
2/22	Normalization	6
3/1	Exam I (7:00 p.m. – 9:50 p.m.)	
3/8	SQL	6
3/15	Spring Break	
3/22*, 3/29, 4/5, 4/12	SQL	7, 8
4/19	Exam II (7:00 p.m. – 9:50 p.m.)	
4/26	Database design/ Transaction Management/Data warehouse	9/10/13
5/3	TBD	
5/10	Final Exam (8:15 p.m. – 10:45 p.m.) **	

* April 01 is the last day to drop the class before 4:00pm.
* We will have a guest speaker from the Business Week at College of Business on March 22.
** The final exam will be comprehensive.