**INSY 3304 – 001**

## Database Management Systems

**Fall 2018**

**INSTRUCTOR:** Karen Sarratt Scott

**OFFICE, PHONE:** Rm. 515 COB

**OFFICE HOURS:** MW 11:50 – 12:30, by appointment

**E-MAIL:**  [sarratt@uta.edu](mailto:sarratt@uta.edu)

**FACULTY PROFILE:** <http://www.uta.edu/profiles/karen-scott>

**CLASS TIME/PLACE:** MWF, 10:00 – 10:50, 245W COBA

**TEXT: *Database Systems, 12th Edition,*** by Coronel, Morris, and Rob

Published by Course Technology, ISBN: 978-1-305-62748-2

**Prerequisites:** INSY 3300 (Java) or equivalent.

**Course Objective:** Students will learn concepts, tools, and technologies associated with the design, implementation, and management of large databases in a corporate environment.

# Course Description: 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 a term project.

**Learning Outcomes:**

* 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.

**Course Requirements:** There will be three project assignments, a mid-term exam, and a comprehensive final exam. The overall course grade will be calculated as follows:

**Assignment Value**

|  |  |
| --- | --- |
| In-Class Activities | 10% |
| Project 1 | 10% |
| Project 2 | 10% |
| Project 3 | 10% |
| Exam 1 | 15% |
| Exam 2 | 15% |
| Final Exam | 30% |
| **TOTAL** | **100%** |

**Grades:**

A = 90% and above

B = 80% - 89.99%

C = 70% - 79.99%

D = 60% - 69.99%

F = 0% - 59.99%

### Class Policies

**Attendance/ Class Behavior:** Attendance is considered mandatory for all lectures. If you miss a class, you are responsible for the materials covered. Frequent absences, talking during lecture, cell phone usage, non-class related computer use, sleeping in class, etc. may negatively affect the student’s final grade. Please be considerate and respectful of your classmates and your instructor at all times.

**Reading assignments:** You are expected to read and study the assigned textbook. You should read each chapter assigned in this syllabus prior to coming to the class lecture on the assigned chapter. You will be responsible for any assigned material in the textbook regardless of the class coverage. If you don’t understand the material, please ask your instructor.

**Project Work Days:** If time permits, “Project work days” may be designated to allow students to work on their projects during class time. Such days would be at the instructor’s discretion and would be in lieu of regular class meetings.

**In-Class Activities:** Pop quizzes and/or in-class assignments will be administered at the instructor’s discretion. **No makeups** will be given, so if you miss a pop quiz or an in-class assignment, a grade of 0 will be given.

**Examinations:** The exams are closed books, closed notes. Do not miss an exam. ***If you miss an exam without a valid excuse, then your grade in that exam will be zero***. When you miss an exam for a valid reason such as illness, you must provide written documentation (like a doctor’s note) to validate your absence, no later than one week after the missed exam. In such cases, your final exam grade will be used to replace the missed exam grade. 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. ***No makeup exam will be given under any circumstance***.

**Assignments:** There will be one group assignment and two individual assignments. Students will be given specific instructions for completing each one. All assignments are due at the beginning of class on the date specified in the schedule. Late assignments will be accepted with a 20% penalty for each day that it is late. Assignments turned in on the due date, but after class has been dismissed, will be considered one day late—NO EXCEPTIONS. If you know you are going to miss class, you should turn your assignment in early. **Cheating is not accepted and will be handled in accordance to the policies and procedures of the University of Texas at Arlington.**

# Tentative Course Schedule

Date Assignment and Topic Chapters

8/22 – 8/24 Course Intro

Database Systems 1

8/27 – 8/31 Database Systems (cont.) 1

Data Models 2

9/3 – 9/7 Labor Day Holiday (9/3)

The Relational Database Model 3

9/10 – 9/14 Project 1 Assigned (Due 10/10)

Entity Relationship/Data Modeling 4

9/17 – 9/21 Entity Relationship/Data Modeling 5

9/24 – 9/28 Normalization and Table Design 6

**Exam 1 (9/28)**

10/1 – 10/5 Normalization and Table Design (cont.) 6

SQL 7

10/8 – 10/12 **Project 1 Due (10/10)**

Project 2 Assigned (Due 11/2)

SQL (cont.) 7

10/15 – 10/19 Database Design 9

10/22 – 10/26 Transaction Management/Concurrency Control 10

**Exam 2 (10/26)**

10/29 – 11/2 Transaction Management/Concurrency Control (cont.) 10

Advanced SQL 8

**Project 2 Due (11/2)**

Project 3 Assigned (Due 12/3)

11/5 – 11/9 Advanced SQL (cont.) 8

11/12 – 11/16 Distributed DBMS 12

11/19 – 11/23 Distributed DBMS (cont.) 12

Thanksgiving Holiday (11/21 – 11/23)

11/26 – 11/30 BI and Data Warehouses 13

12/3 – 12/7 **Project 3 Due – 12/3**

Final Exam Review

12/12 **Final Exam – Wednesday, 12/12, 8:00 a.m.** 1 – 13, 15

**Syllabus Changes:** The instructor reserves the right to make changes to the above syllabus as deemed necessary. It is the student’s responsibility to be aware of changes announced in class and/or via e-mail/Blackboard.

**UNIVERSITY and COLLEGE POLICIES**

**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: [http://catalog.uta.edu/academicregulations/grades/#undergraduatetext](http://catalog.uta.edu/academicregulations/grades/)

**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](file:///C:\Users\sarratt\CW2%20Scott\Downloads\www.uta.edu\disability) or calling 817-272-3364.

**Counseling and Psychological Services, (CAPS)** [www.uta.edu/caps/](http://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](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Non-Discrimination Policy:** *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/ HYPERLINK "http://www.uta.edu/hr/eos/index.php"eos*](http://www.uta.edu/hr/eos/index.php)*.*

**Title IX:** The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated.*For information regarding Title IX, visit* [www.uta.edu/titleIX](http://www.uta.edu/titleIX) or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or [jmhood@uta.edu](file:///C:\Users\sarratt\hannabas\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\Content.Outlook\697W32M3\jmhood@uta.edu).

**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>.

**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.

**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 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](http://www.uta.edu/universitycollege/current/academic-support/learning-center/tutoring/index.php), [major-based learning centers](http://www.uta.edu/universitycollege/resources/college-based-clinics-labs.php), developmental education, [advising and mentoring](http://www.uta.edu/universitycollege/resources/advising.php), personal counseling, and [federally funded HYPERLINK "http://www.uta.edu/universitycollege/current/academic-support/mcnair/index.php"programs](http://www.uta.edu/universitycollege/current/academic-support/mcnair/index.php). 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](mailto:resources@uta.edu), or view the information at <http://www.uta.edu/universitycollege/resources/index.php>.

**University Tutorial & Supplemental Instruction** (Ransom Hall 205): UTSI offers a variety of academic support services for undergraduate students, including: 60 minute one-on-one [tutoring](http://www.uta.edu/universitycollege/current/academic-support/learning-center/tutoring/index.php) sessions, [Start Strong](http://www.uta.edu/universitycollege/current/academic-support/learning-center/tutoring/start-strong.php) Freshman tutoring program, and [Supplemental Instruction](http://www.uta.edu/universitycollege/current/academic-support/learning-center/si/index.php). Office hours are Monday-Friday 8:00am-5:00pm. For more information visit [www.uta.edu/utsi](http://www.uta.edu/utsi) or call 817-272-2617.

**The IDEAS Center (**2nd Floor of Central Library) offers **FREE** tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. Students can drop in, or check the schedule of available peer tutors at [www.uta.edu/IDEAS](http://www.uta.edu/IDEAS), or call (817) 272-6593.

**Emergency Phone Numbers**: In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. Non-emergency number 817-272-3381

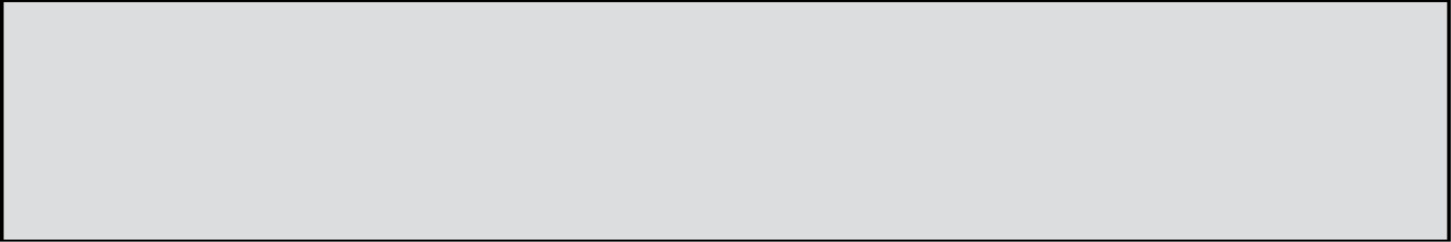
**Active Shooter Situation:** From a preparedness mindset, the UTA Police Department strives to educate the UTA community in a wide range of issues that have the potential to affect our campus, including active shooter/threat and workplace violence incidents.  The following resources provide information on response considerations and intervention awareness should someone encounter this type of situation on or off campus. Please review this information carefully.

**Stop. Think. Protect Yourself. You Have Choices.**

The safety and security of our campus is the responsibility of everyone in our community. Each of us has an obligation to be prepared to appropriately respond to threats to our campus, such as an active aggressor.

The following graphic provides each member of the UTA community with information and options for responding to an active threat. These options are not chronological, but are designed to address dynamic situations. Assess the situation (your location, the location of the threat, type of threat, etc.), identify and weigh your options, develop a plan of action and commit to it.

|  |  |  |
| --- | --- | --- |
| **YOUR OPTIONS TO AN ACTIVE THREAT** | | |
| **You Have Choices!** | | |
| **A**  **V**  **O**  **I**  **D** | * **AVOID** the situation. Stay away from the area and campus. * If you can safely leave the area, RUN. * Get others to leave the area, if possible. * Prevent others from entering the area. | * Know your exit and escape options. * If in a parking lot, get to your car and leave. * If in an unaffected area, stay where you are. * When you are safe, call UTA PD at 817. 272.3003 or 911 with information you have. |
| **D**  **E**  **N**  **Y** | If you can’t leave the area safely, **DENY** or slow entry to the intruder: | |
| * Lock/barricade doors with heavy items. * Turn off lights/projectors/equipment. * Close blinds and block windows. * Stay away from doors and windows. | * Silence phones and **remain quiet**. Don’t let your phone give you away. * HIDE and take cover to protect yourself. * Be prepared to run or defend yourself. |
| **D**  **E**  **F**  **E**  **N**  **D** | If you can’t AVOID or DENY entry to the intruder, **DEFEND** your location: | |
| * As a last resort, FIGHT for your life. * Use physical force and any weapons available - fire extinguishers, books, chairs, belts, umbrellas, pens/scissors, hot coffee/drinks, trash cans, etc. | * Use the element of surprise. * Work together as a team. Develop a plan. Commit to your actions. Your life depends on it. * Be aggressive, loud, and determined in  your actions. |
| **Follow ALL instructions.**  **For more information, go to:** [**police.uta.edu/activeshooter**](https://police.uta.edu/activeshooter) | | |
| police-logo (2) | | Emergency: 817.272.3003  Non-Emergency: 817.272.3381  police.uta.edu |



Additional information for active threat and other emergency situations can be found through the links below:

[police.uta.edu/activeshooter](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fpolice.uta.edu%2Factiveshooter&data=02%7C01%7C%7C72bad73120ce4fe0345908d5fec639e5%7C5cdc5b43d7be4caa8173729e3b0a62d9%7C0%7C0%7C636695049695960185&sdata=08ECLBwRL1fOGeVOAKE9ZC1e5jIXKd6gXrrS8vl%2F8rE%3D&reserved=0)

police.uta.edu/em