

## Course Information

Course Number/Section: ITSS 4300.002  
Course Title: Database Fundamentals  
Classroom : JSOM 2.107  
Term : Spring 2019  
Day & Time : Thursday 4:00 PM to 6:45 PM

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## Contact Information

Instructor: Engin Calisir  
Office: JSOM 2.313  
Office Hours: By appointment (Thursday 1:30pm-4:00pm)  
Email: [ecalisir@utdallas.edu](mailto:ecalisir@utdallas.edu)  
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## Course Description

**ITSS 4300 - Database Fundamentals** (3 semester credit hours) Introduces the basic concepts for the design and development of relational databases and database management. Topics include entity-relationship data model, logical database design, data administration, Structured Query Language, and database management issues, such as concurrency control, data security, and integrity. A database management system software package is used to implement working database systems.

Prerequisites: [ITSS 3300](#) and [ITSS 3312](#) and ([MATH 1325](#) or [MATH 2413](#) or [MATH 2417](#)) and ([MATH 2333](#) or [MATH 2415](#) or [MATH 2418](#) or [CS 2305](#) or [OPRE 3333](#)). (3-0) Y

## Students Learning Outcomes

1. Create a conceptual data model when requirements are provided.
2. Convert a conceptual data model into a physical relational database structure using SQL Server or another similar relational database platform.
3. Write SQL statements using SQL Server or another similar relational database platform.
4. Demonstrate understanding of database management concepts relating to concurrency, security, and transaction management.

## Grading

This course builds on concepts learned on a weekly basis, thus, it is important that students actively participate individually and collectively to ensure that everyone has a successful learning experience. Students will be evaluated on attendance, class participation and assignments as well as the quality of work completed.

## Required Books

Database System: Design, Implementation, and Management by Carlos Coronel, Steven Morris, Peter Rob, Course Technology, 13th Edition.

## Recommended Book for Lab

T-SQL Fundamentals ( any addition) Itzik Ben-Gan

## Schedule

The following is a **tentative schedule**, which will be followed as closely as possible. However, should any changes become necessary, then I will announce it in the class or via Blackboard. It is your responsibility to keep track of announcements regarding changes to this schedule.

WEEK	DATE	CONTENT	READINGS	ASSIGNMENTS
1	01/17	Introduction to the Course Database Concepts	Syllabus Chapter 1	
2	01/24	Database Concepts Data Models	Chapter 1 Chapter 2	Group Project Assignments
3	01/31	Relational Database Model Entity Relationship Modeling	Chapter 3 Chapter 4	
4	02/07	Advanced Data Modeling Quiz 1 (Chapter 1-4)	Chapter 5	Assignment 1 -ERD Due Quiz 1
5	02/14	Exam 1 (Chapter 1-5) Normalization	EXAM 1 Chapter 6	
6	02/21	Normalization	Chapter 6	Group Project Mile Stone 1
7	02/28	Basic SQL Quiz 2 (Chapter 6)	Chapter 7	Quiz 2
8	03/07	Basic SQL	Chapter 7	Assignment 2-Normalization Due <b>Lab Starts</b>
9	03/14	Basic SQL	Chapter 7	<b>Lab</b>
<b>10</b>	<b>03/21</b>	<b><i>Spring Break-No Class</i></b>		
11	03/28	Basic SQL Advanced SQL	Chapter 8	<b>Lab</b>
12	04/04	Advanced SQL  Quiz 3 (Chapter 7-8)	Chapter 8	<b>Lab</b> Assignment 3-SQL Script-Due Quiz 3
13	04/11	Exam 2 (Chapter 7-8)	EXAM 2	
	04/18	Transaction Management and Concurrency Control	Chapter 10	Group Project Mile Stone -2

15	04/25	Database Performance Tuning & Query optimization  Database Administration and Security  Quiz 4 (Chapter 10,11,16)	Chapter 11  Chapter 16	Quiz 4
16	05/02	Big Data and No SQL  BI and Data Warehouses	Chapter 13 Chapter 14	Group Project Due.
17	TBA	Exam 3 (Chapter 10,11,13,14,16)	EXAM 3	

Grading Policy		Scale	
Assignments	25%	96 – 100 A+	70 – 72 C-
Exams	40%	93 – 95 A	67 – 69 D+
Quizzes	10%	90 – 92 A-	63 – 66 D
Group Project	15%	87 – 89 B+	60 – 62 D-
Attendance/Class Participation	10%	83 – 86 B	59 or Below
		80 – 82 B-	F
		77 – 79 C+	
		73 - 76 C	

### Course Policy: Be Advised

1. It is your responsibility to read the syllabus particularly the “Homework and Project Assignments” section. One point will be deducted for each item that has not been complied with. This point deduction can grow quickly, so please read it carefully.
2. You are expected to attend every class and actively participate in class discussions. If you missed a class, then please ask your classmate about what was covered in class. There is no need to let me know if you are going to miss a class, However, if you miss a class either planned or unplanned for a conference, work related meeting/project or business trip, wedding, family ceremonies, etc., then you will receive a grade of zero for that missed assignment, quiz or exam.
3. You **MUST** communicate with me (the instructor) via **your UTD email account only** (for privacy and FERPA purposes). Please do not use a personal email account (e.g., Gmail, yahoo, QQ, 126, etc.), it will not be answered.
4. Announcements/changes will be through the eLearning. It is your responsibility to check it once a day. I will make every effort to inform you of any changes via eLearning and/or UTD email. Assignments must be submitted in person in class, unless otherwise is announced. Assignments will be graded based on its appropriateness, content and most importantly the formatting.
5. **There will be neither make-up for a missed assignment, quiz, exam nor any project for an extra credit. You must pay close attention to all the due dates from the first day of class and schedule your personal activities around those dates. I don't accept late assignments.**
6. There will be in class quizzes.
7. **Laptop is needed for developing projects during the class.**

8. Students are expected to voluntarily organize groups of up to 3 people. The group selection will take place in class. For group assignments, you will not be allowed to work alone or submit a work by yourself unless you make a strong case and justify why that should be the case.
9. Any student who is found responsible for committing an act of academic dishonesty will receive a grade of "F" or "0" (zero) on that quiz, exam, project or course.

### **Student Conduct & Discipline**

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations of the Board of Regents of the University of Texas System, Part 1, Chapter VI, Section 3*, and in Title V, *Rules on Student Services and Activities of the Course Syllabus Page 8, University's Handbook of Operating Procedures*. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SSB 4.400, 972/883- 6391).

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

### **Academic Integrity**

The faculty and administration of the School of Management expect from our students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work. We want to establish a reputation for the honorable behavior of our graduates, which extends throughout their careers. Both your individual reputation and the school's reputation matter to your success.

The Judicial Affairs website lists examples of academic dishonesty. Dishonesty includes, but is not limited to cheating, plagiarism, collusion, facilitating academic dishonesty, fabrication, failure to contribute to a collaborative project and sabotage. Some of the ways students may engage in academic dishonesty are:

- Coughing and/or using visual or auditory signals in a test;
- Concealing notes on hands, caps, shoes, in pockets or the back of beverage bottle labels;
- Writing in blue books prior to an examination;
- Writing information on blackboards, desks, or keeping notes on the floor;
- Obtaining copies of an exam in advance;
- Passing information from an earlier class to a later class;
- Leaving information in the bathroom;
- Exchanging exams so that neighbors have identical test forms;
- Having a substitute take a test and providing falsified identification for the substitute;
- Fabricating data for lab assignments;
- Changing a graded paper and requesting that it be regarded;
- Failing to turn in a test or assignment and later suggesting the faculty member lost the item;
- Stealing another student's graded test and affixing one's own name on it;
- Recording two answers, one on the test form, one on the answer sheet;
- Marking an answer sheet to enable another to see the answer;
- Encircling two adjacent answers and claiming to have had the correct answer;
- Stealing an exam for someone in another section or for placement in a test file;

- Using an electronic device to store test information, or to send or receive answers for a test;
- Destroying or removing library materials to gain an academic advantage;
- Consulting assignment solutions posted on websites of previous course offerings;
- Transferring a computer file from one person's account to another;
- Transmitting posted answers for an exam to a student in a testing area via electronic device;
- Downloading text from the Internet or other sources without proper attribution; □ Citing to false references or findings in research or other academic exercises;
- Unauthorized collaborating with another person in preparing academic exercises.
- Submitting a substantial portion of the same academic work more than once without written authorization from the instructor.

<http://www.utdallas.edu/judicialaffairs/UTDJudicialAffairs-Basicexamples.html>

**Plagiarism on written assignments, especially from the web, from portions of papers for other classes, and from any other source is unacceptable. On written assignments, this course will use the resources of turnitin.com, which searches the web for plagiarized content and is over 90% effective.**

**During tests and quizzes, students in this section are not allowed to have with them any food or drinks, scratch paper, course materials, textbooks, notes, invisible ink pens, or electronic devices, including iPads, iPhones, iPods, MP3 Players, earphones, radios, smart phones, cameras, calculators, multi-function timepieces, or computers. When possible, students should sit in alternating seats, face forward at all times, and remove any clothing which might conceal eye movements, reflect images of another's work, or hide course material for copying. Exam proctors will monitor any communication or signaling between students by talking, whispering, or making sounds, or by using your hands, feet, other body movements, the test paper itself or your writing implement.**

**Students in this course suspected of academic dishonesty are subject to disciplinary proceedings, and if found responsible, the following minimum sanctions will be applied:**

- 1. Homework – Zero for the Assignment**
- 2. Case Write-ups – Zero for the Assignment**
- 3. Quizzes – Zero for the Quiz**
- 4. Presentations – Zero for the Assignment**
- 5. Group Work – Zero for the Assignment for all group members**
- 6. Tests – F for the course**

These sanctions will be administered only after a student has been found officially responsible for academic dishonesty, either through waiving their right for a disciplinary hearing, or being declared responsible after a hearing administered by Judicial Affairs and the Dean of Student's Office .

In the event that the student receives a failing grade for the course for academic dishonesty, the student is not allowed to withdraw as a way of preventing the grade from being entered on their record. Where a student receives an F in a course and chooses to take the course over to improve their grade, the original grade of F remains on their transcript, but does not count towards calculation of their GPA.

The School of Management also reserves the right to review a student's disciplinary record, on file with the Dean of Students, as one of the criteria for determining a student's eligibility for a scholarship.

### **Judicial Affairs Procedures**

Under authority delegated by the Dean of Students, a faculty member who has reason to suspect that a student has engaged in academic dishonesty may conduct a conference with the student in compliance with the following procedures:

- (i) the student will be informed that he/she is believed to have committed an act or acts of academic dishonesty in violation of University rules;

- (ii) the student will be presented with any information in the knowledge or possession of the instructor which tends to support the allegation(s) of academic dishonesty;
- (iii) the student will be given an opportunity to present information on his/her behalf;
- (iv) after meeting with the student, the faculty member may choose not to refer the allegation if he/she determines that the allegations are not supported by the evidence; or
- (v) after meeting with the student, the faculty member may refer the allegations to the dean of students along with a referral form and all supporting documentation of the alleged violation. Under separate cover, the faculty member should forward the appropriate grade to be assessed if a student is found to be responsible for academic dishonesty;
- (vi) the faculty member may consult with the dean of students in determining the recommended grade;
- (vii) the faculty member must not impose any independent sanctions upon the student in lieu of a referral to Judicial Affairs;
- (viii) the faculty member may not impose a sanction of suspension or expulsion, but may make this *recommendation* in the referral documentation

If the faculty member chooses not to meet with the student and instead forwards the appropriate documentation directly to the dean of students, they should attempt to inform the student of the allegation and notify the student that the information has been forwarded to the Office of Dean of Students for investigation.

The student, pending a hearing, remains responsible for all academic exercises and syllabus requirements. The student may remain in class if the student's presence in the class does not interfere with the professor's ability to teach the class or the ability of other class members to learn. (See Section 49.07, page V-49-4 for information regarding the removal of a student from class).

Upon receipt of the referral form, class syllabus, and the supporting material/documentation from the faculty member, the dean shall proceed under the guidelines in the *Handbook of Operating Procedures*, Chapter 49, Subchapter C. If the respondent disputes the facts upon which the allegations are based, a fair and impartial disciplinary committee comprised of UTD faculty and students, shall hold a hearing and determine the responsibility of the student. If they find the student in violation of the code of conduct, the dean will then affirm the minimum sanction as provided in the syllabus, and share this information with the student. The dean will review the student's prior disciplinary record and assess additional sanctions where appropriate to the circumstances. The dean will inform the student and the faculty member of their decision.

## Technical Support

If you experience any problems with your UTD account, you may send an email to: [assist@utdallas.edu](mailto:assist@utdallas.edu) or call the UTD Helpdesk at 972 883-2911.

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## Field Trip Policies Off-Campus Instruction and Course Activities

*Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at the website address [http://www.utdallas.edu/BusinessAffairs/Travel\\_Risk\\_Activities.htm](http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm). Additional information is available from the office of the school dean. Below is a description of any travel and/or risk-related activity associated with this course.*

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The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3*, and in Title V, Rules on Student Services and Activities of the university's *Handbook of Operating Procedures*. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391).

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

## Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

## **Email Use**

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

## **Withdrawal from Class**

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

## **Student Grievance Procedures**

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's *Handbook of Operating Procedures*.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

## **Incomplete Grade Policy**

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of F.

## **Disability Services**

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is: The University of Texas at Dallas, SU 22  
PO Box 830688  
Richardson, Texas 75083-0688  
(972) 883-2098 (voice or TTY)

Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.

It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

### **Religious Holy Days**

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

### **Off-Campus Instruction and Course Activities**

Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at the website address given below. Additional information is available from the office of the school dean. ([http://www.utdallas.edu/BusinessAffairs/Travel\\_Risk\\_Activities.htm](http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm))

***These descriptions and timelines are subject to change at the discretion of the Professor.***