



# ITSS 4300: Database Fundamentals

## Class Information

Term	Fall 2023
Course & Section Number	ITSS 4300 - 002
Class Meetings	Wednesdays, 10– 12:45 PM
Classroom	JSOM 12.210

## Instructor Information

Instructor	Dr. Ray Aria
Email	<a href="mailto:ray.aria@utdallas.edu">ray.aria@utdallas.edu</a> <i>Please include the <b>course number and section number</b> in all email correspondence. Please use your UTD e-mail system for any communication with the instructor/TA.</i>
Office Hours	Appointments are required. Meeting conducted via Microsoft Teams only. For questions related to Homework/Grading, please contact TA (below)
TA Information	Note: The TA is your first contact for questions regarding Assignment / Grades.

## Course Modality

Instructional Modality	<b>Traditional Classroom /Laboratory</b>
eLearning and Course Platforms	This course can be accessed using your UT Dallas NetID account on the <a href="#">eLearning</a> website. Please see the course access and navigation section of the <a href="#">Getting Started with eLearning</a> webpage for more information. To become familiar with the eLearning tool, please see the <a href="#">Student eLearning Tutorials</a> webpage.

<b>eLearning and Course Platforms</b>	<p>The course will utilize the following platforms:</p> <ul style="list-style-type: none"> <li>• Announcements, written lecture materials, assignments, and grades will be posted on the course’s eLearning site. It is the student’s responsibility to regularly check their UTD email accounts and the eLearning page for this course.</li> <li>• Microsoft TEAMS will be utilized for lectures and other live communications</li> <li>• Recorded (and annotated) lectures and other communications will be available on Microsoft TEAMS, as well</li> </ul> <p>Active links to TEAMS will be available on the eLearning website.</p>
---------------------------------------	---

	<p>UT Dallas provides eLearning technical support 24 hours a day, 7 days a week. The <a href="#">eLearning Support Center</a> includes a toll-free telephone number for immediate assistance: (1- 866-588-3192), email request service, and an online chat service.</p>
<b>Asynchronous Learning</b>	<p>There is no provision for Asynchronous Learning. Lectures may not be recorded. All students are expected to attend all classes during class hours.</p>
<b>Technical Requirements</b>	<p>Please review the essential technical requirements on the <a href="#">Getting Started with eLearning</a> webpage.</p>

### COVID-19 Guidelines and Resources

<b>Classroom Safety and COVID-19</b>	<p>To help preserve the University’s in-person learning environment, UT Dallas recommends the following:</p> <p>Adhere to the University’s <a href="#">CDC Updated Guidelines</a> on July 30, 2021. All Comets are strongly encouraged to wear face coverings indoors regardless of vaccination status.</p>
<b>Accommodations for Students Who Must Isolate Due to COVID – 19</b>	<p>University requires students who test positive for COVID-19 or who are close contacts as determined by the campus contact tracing program to isolate or quarantine as applicable.</p>
<b>Student Resources for COVID-19</b>	<p>Students who have tested positive for COVID-19 or may have been exposed should not attend class in person and should instead follow required disclosure notifications as posted on the university’s website (see "<a href="#">What should I do if I become sick?</a>")</p>

## Course Information

<b>Course Description</b>	Introduces the basic concepts for the design and development of relational databases and database management. Topics include entity-relationship data models, logical database design, data administration, Structured Query Language, and database management issues, such as concurrency control, data security, and integrity. (3 semester hours)
<b>Course Objectives / Learning Outcomes</b>	<ul style="list-style-type: none"><li>• Create and critically evaluate relational database models, their basic concepts, and components with application in a business context.</li><li>• Create a conceptual data model when requirements are provided.</li><li>• Write SQL statements for data administration, data manipulation, and querying using SQL Server or another similar relational database platform</li><li>• Demonstrate understanding of database management concepts relating to concurrency, security, and transaction management.</li></ul>
<b>Prerequisites</b>	ITSS 3300 and ITSS 3312; Recommended co-requisite: ITSS 4330

## Course Materials

<b>Required Textbook(s) &amp; Materials</b>	<b>Books:</b> <ol style="list-style-type: none"><li>1. <a href="#"><u>Database Systems: Design, Implementation, &amp; Management, 13th Edition Carlos Coronel; Steven Morris</u></a> <a href="#"><u>ISBN-10: 1-337-62790-9, ISBN-13: 978-1-337-62790-0</u></a></li></ol> <b>Software:</b>  <b>Required Software</b> <ul style="list-style-type: none"><li>• <a href="#"><u>MySQL Database</u></a></li><li>• <a href="#"><u>MySQL Workbench</u></a></li><li>• <a href="https://dev.mysql.com/downloads/mysql/"><u>https://dev.mysql.com/downloads/mysql/</u></a></li></ul>
<b>Laptop Computer</b>	This course is hands-on with some in-class examples and exercises. Students must install MySQL and MySQL Workbench on their laptops and bring them to the class.

**Course Weekly Schedule, Assignments, and Due Date:** This is a **tentative** class schedule. The instructor reserves the right to make changes to the content and schedule. Changes, if any, will be announced in the class as well as posted on eLearning portal. It is the student's responsibility to keep track of them.

### Course Calendar

Weeks	Topic	Reading	Activity
WK1	Introduction to Course,		
WK2	Database, Data Models	Ch 1, 2	
WK3	Entity Relationship, Advanced Data Modeling	Ch 3, 4	
WK4	Advanced Data Modeling & Normalization	Ch 5, 6	
<b>WK5</b>	<b>Mini-exam # 1 – Testing Center</b>	<b>Ch 1 - 6</b>	
WK6	Introduction to SQL	Ch 7	
WK7	Advanced SQL	Ch 8	
WK8	SQL Practice		
WK9	Database Design	Ch 9	Group Assignment 1
<b>WK10</b>	<b>Mini-exam # 2 – Testing Center</b>	<b>Ch 7 - 9</b>	
WK11	Transaction Management and Concurrency Control	Ch 10	Group Assignment 2
WK12	Distributed Database Management Systems	Ch 12	
WK13	Business Intelligence and Data Warehouses	Ch 13	Group Assignment 3
WK14	Big Data and NoSQL	Ch 14	
<b>Wk 15</b>	<b>Mini-exam # 3 – Testing Center</b>	<b>Ch 10, 12, 13, 14</b>	

**\*Course Calendar Subject to Change; if any change occurs, students will be notified.**

## Grading Policy

This course will feature a mix of activities and assignments. The instructor will provide detailed instructions as well as the grading criteria for each assignment and exam. It's your responsibility to keep track of any changes in the dates / times for assignments/ exams - announced in the class. **Points obtained from each activity carry the same weight.**

Your final grade will be based on the total score of the following:

Activity	Percentage
Homework	32 %
Attendance	5 %
Group Project	18 %
Mini-exam 1	15 %
Mini-exam 2	15 %
Mini-exam 3	15 %

**Attendance Policy:** You are allowed to have 3 absences without it affecting your grade. At your fourth absence, you will lose 5% of the grade.

## Final Grading Scale

Final Points Total*	Letter Grade
97 or above	A+
94 - 96.99	A
90 - 93.99	A-
87 - 89.99	B+
84 - 86.99	B
80 - 83.99	B-
77 - 79.99	C+
74 - 76.99	C
70 - 73.99	C-
67 - 69.99	D+
64 - 66.99	D
60 - 63.99	D-
59.99 or below	F

**\*Note:** there will be absolutely NO roundups, whatsoever.

## Course and Instructor Policies

<p><b>Class Participation / Attendance</b></p>	<p><b>ATTENDANCE IS EXPECTED. Attendance is not taken.</b> Students are expected to actively participate in the discussion of readings, contribute to the learning experience of the class, and meaningfully contribute to all work. <b>You must be present in the class to take the “in-class” quizzes. There will be no make-up quizzes.</b></p>
<p><b>Exams and Proctoring</b></p>	<p>All exams are scheduled well in advance. If you miss an exam, you will be given a zero! There are no makeups.</p> <p><b>ONLY, if you have a legitimate, non-academic reason for missing an exam, you must provide verifiable documentation at least 24 hours BEFORE the day of the exam.</b></p> <p><b>If you contact me AFTER the exam, it is considered missing the exam.</b></p> <p>To maintain required academic integrity of this course, examinations may require the use of a widely used proctoring service, for online assessment proctoring, using the UTD testing center, and/or in-class exam proctoring.</p>
<p><b>Lockdown Browser / Honorlock</b></p>	<p>I may require use of Lockdown browser / HONORLOCK. I will provide more information before the Exam.</p>
<p><b>eLearning</b></p>	<p>eLearning will be used for class content (e.g., class slides and assignment descriptions) and the recording of grades. Slides will be posted before class is held. Class announcements (e.g., change in assignment dates) will be sent to the student email on record in eLearning. It is the students’ responsibility to regularly check eLearning and their UTD email accounts.</p>
<p><b>Communications and Instructor Response Policy</b></p>	<p>For questions related to the course material, assignments, quizzes, exams, scores and grades, please use class sessions, office hours, and discussion forums. For other matters, send an E-mail using UTD email system for incoming and outgoing messages. (Using your personal email address is <b>STRONGLY</b> discouraged, due to security and spam blocking concerns). The instructor will respond to student inquiries through email <b>within 48 business hours</b> (excluding holidays and weekends). Students should adhere to business professional style of communication and must use their UTD email for correspondence.</p>
<p><b>Assignments</b></p>	<p>Descriptions of assignments will be posted as they are assigned. All assignments will be submitted via eLearning. <b>I do NOT accept assignments via email.</b> If you submit an incorrect assignment or need to resubmit your assignment in eLearning you will be allowed to resubmit as long as it is before the due date.</p>

<p><b>Clarifications regarding Assignments</b></p>	<p>Assignment-specific grading criteria will be posted on eLearning. These instructions will also be discussed in the class. You are encouraged to ask questions, raise issues and make observations about assignment. If you still have questions, post them on the discussion board. It is entirely your responsibility to make sure that you understand all instructions. Seek all clarifications at least 48-hours before the due date.</p>
<p><b>Assignment Grading</b></p>	<p>Please be advised that <b>if you have a question or issue with your assignment grade, contact the Instructor <u>within “one week”</u> of grade posting. Your entire assignment is subject to re-review (re-grading) which may or may not result in additional points. <b>No inquiries regarding grades will be entertained after one week from the date of grade posting.</b></b></p> <p>General grading criteria can be found in eLearning. Assignment-specific grading criteria will be included with the assignment instructions. <b>You will lose points for not following instructions.</b></p>
<p><b>Late Work</b></p>	<p>All assignments are due on the specified date. Please give yourself sufficient time to upload assignments on the eLearning Portal/Turnitin. You would not be able to submit/upload if the due date is passed. You will be graded only on what is submitted on the portal. <b>I do not accept late assignments unless prior arrangements have been made with the instructor. Only one such exemption is allowed in the entire semester. Why?</b> Deadlines in the professional world are not a moving target. Missed deadlines affect product delivery, professional reputations, and revenue. Please plan accordingly. <b>For these reasons, late work or incomplete work is not acceptable in this course EXCEPT in the most extreme and unlikely circumstances (see below) – in which case, e-mail the evidence of extreme circumstances to me/TA at least 24 hours prior to the due date (Penalty will apply) .</b> Inquiries related to late submissions will not be entertained.</p>
<p><b>Extra Credit</b></p>	<p>There is no extra credit.</p>
<p><b>Final Course Letter Grades</b></p>	<p>Final course letter grades are based solely on your performance on the graded assignments, exams, projects, and/or attendance. <b>No bonus points, curves, extra credit, or additional assignments are offered. Do not assume that final grades will be rounded to the nearest whole number.</b></p>
<p><b>Student Code of Conduct</b></p>	<p>For information related to “Student Code of Conduct”, please go the website: <a href="https://conduct.utdallas.edu/">https://conduct.utdallas.edu/</a></p>
<p><b>Classroom Conduct</b></p>	<p>I strongly encourage class discussion, questions, and enthusiasm about the course material. Please engage in class discussions. I do ask that you are respectful during class, and be respectful to your peers who are part of the learning environment. This means no talking to others during class presentations, silencing your cell phone, don't take calls in class.</p>

<p><b>Academic Integrity</b>  <b>(Follow the Student Code of Conduct:</b>  <a href="https://conduct.utdallas.edu/">https://conduct.utdallas.edu/</a>)</p>	<p>DO NOT CHEAT and DO NOT PLAGIARIZE. All homework and exams are to be individual efforts. You are not to collaborate with other students, or to discuss homework or assignments with other students prior to submission. Copying of homework, assignments, or exams, in whole or in part, from other students or from assignments from previous semesters will be considered to be an act of academic dishonesty.</p> <p>All work should demonstrate the same professional and ethical standards expected of you in the workplace, including proofreading and editing carefully all work you submit in class. Professionalism and personal responsibility means that you use appropriate source citations so that you avoid violations of copyright and academic honesty, even if those violations are inadvertent. The University is committed to academic excellence and expects academic honesty from all members of the University community. Academic honesty includes adherence to guidelines established by the instructor for both individual and group work.</p> <p><b>It prohibits representing the work of others to be one's own (plagiarism); receiving unauthorized aid on an assignment (cheating); and using similar papers or other work products to fulfill the obligations of different classes without the instructor's permission.</b></p> <p>Any student engaged in academic dishonesty will be subject to disciplinary action. All cases of academic dishonesty will be reported directly to Judicial Affairs. My recommendation for acts of academic dishonesty will be an <b>F in the course</b>. The importance of academic honest and my recommended sanctions are emphasized during class, in emails, and on the exams and assignments.</p>
<p><b>University Policies &amp; Procedures</b></p>	<p>For information regarding general University policies and procedures, please go to <a href="http://go.utdallas.edu/syllabus-policies">http://go.utdallas.edu/syllabus-policies</a>. These policies include the following:</p> <ul style="list-style-type: none"> <li>▪ Technical Support</li> <li>▪ Field Trip Policies, Off-Campus Instruction and Course Activities</li> <li>▪ Student Conduct and Discipline</li> <li>▪ Academic Integrity</li> <li>▪ Copyright Notice</li> <li>▪ Email Use</li> <li>▪ Withdrawal from Class</li> <li>▪ Student Grievance Procedures</li> <li>▪ Incomplete Grade Policy</li> <li>▪ Disability Services, etc.</li> </ul>