



CS/SE 4347.007- Database Systems

INSTRUCTOR:

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Class meetings: Tuesday, Thursday — 11:30am-12:45pm

Virtual office hours: MS Teams

MW, 10am – 11am, 1pm – 2pm and by appointment

All timings are listed according to Central Standard Time (CST).

TA contact information and office hours will be posted on eLearning when a TA is assigned to the course.

Course Pre-requisites, Co-requisites, and/or Other Restrictions

CS 3345 - Data Structures and Introduction to Algorithmic Analysis

Course Description

This course emphasizes the concepts and structures necessary for the design and implementation of database management systems. Topics include data models, data normalization, data description languages, query facilities, file organization, index organization, file security, data integrity, and reliability.

Student Learning Objectives/Outcomes

Understand Data Modeling

Understand the Relational Model and theory

Understand normalization of relations

Gain a fundamental understanding of SQL programming

Understand data organization methods, indexing, and query processing

Understand database integrity and concurrency

Recommended Textbooks and Materials

"Fundamentals of Database Systems", 7th Edition, R. Elmasri and S. B. Navathe.

Instructional Mode	Online: January 18 - February 4 Face-to-face: February 7 - May 5
Class meetings	Class meetings will be held online through MS Teams until Feb 7 th and all students are required to join the class session synchronously (during scheduled day and time). Once returned to face-to-face teaching modality, all students will be required to attend classes in person. In case you cannot attend the class, you need to notify me before class time. As there will be live quizzes, makeup quizzes will only be given in case of prior notification and legitimate reasons.
Expectations	Active Learning: You will need to get prepared for the class for best learning experience. Power point slides will be posted before class day. You will be responsible for reading and studying slides before class meeting on Tuesday/Thursday.
Course Platform	Announcements, assignments and projects will be posted on eLearning system. Students will turn in their assignments/projects through eLearning and no email submissions will be accepted. Office hours will be held virtually on MS Teams. Meeting link will be posted on ELearning.

Evaluation:

Your final grade for the course will be based on the following percentages:

Exam-1	20%
Exam-2	20%
Exam-3	20%
Quizzes	20% (5 quizzes)
Final Project	20% (group project)

Letter grades will be assigned according to the following scale:

A+: 96-100
 A: 93-95
 A-: 90-92
 B+: 85-89
 B: 80-84
 B-: 75-79
 C+: 70-74
 C: 65-69
 D+: 60-64
 D: 55-59
 D-: 50-54
 F: below 50

Recommendation letters for A and A+ students only.

Tentative Course Schedule

Chapter 1, 2: Introduction to Databases Chapter 3: Entity Relationship Model Chapter 4: Enhanced Entity Relationship Model * Chapter 5: Relational Model Chapter 9: ER/EER to Relational Mapping	
Exam 1	
Chapter 8: Relational Algebra * Chapter 6: Basic SQL Chapter 7: Complex SQL * Chapter 14: Normalization *	
Exam 2	
Chapter 17: Indexing Structures for Files * Chapter 18-19: Algorithms for Query Processing and Optimization Chapter 20: Introduction to Transaction Processing Chapter 21: Concurrency Control Techniques Chapter 24: NoSQL Databases – MongoDB	
Exam 3	

* You will have a quiz on the subject.

Exams

All exams will be held at the Testing Center. Please register for ALL your exams via this link:

<https://ets.utdallas.edu/testing-center>.

“Student Guidelines” for Testing Center:

<https://ets.utdallas.edu/testing-center/students/>

Exam dates: (tentative)

Exam-1: February 15

Exam-2: March 31

Exam-3: April 28

Communication

The best way of communication with the Instructor and course TA is through email. Since class sizes are large, when you send an email, make sure you include course number, section number, net-id and full name at the end of email message. Each student is responsible for the content/instructions of email communications. Student emails will be answered within 1-2 working days.

Course Policies

- Assignments should be turned in no later than the deadline announced by the instructor of this class. Turn in what is completed by the deadline for partial credit. No late submissions will be accepted.
- Any indication of cheating and/or plagiarism on an exam, assignment or project will be an automatic 0 (zero) for all students involved. Solutions copied from the internet, instructor's manual, etc. will be also given zero credit.
- There will be no makeup exams unless there is a serious conflict that prevents you to take the exam during scheduled exam time and prior notification of such condition is required.
- If there are questions/doubts about grading, please contact course TA within one week of grade announcement.

Classroom Conduct Requirements Related to Public Health Measures

UT Dallas will follow the public health and safety guidelines put forth by the Centers for Disease Control and Prevention (CDC), the Texas Department of State Health Services (DSHS), and local public health agencies that are in effect at that time during the Fall 2021 semester to the extent allowed by state governance. Texas Governor Greg Abbott's Executive Order [GA-38](#) prohibits us from mandating vaccines and face coverings for UT Dallas employees, students, and members of the public on campus. However, we strongly encourage all Comets to get vaccinated and wear face coverings as recommended by the CDC.

Verifying COVID-19 Isolations or Quarantines

Students need to self-report COVID-19 positive results or exposures via an [online form](#) so that university campus tracers can verify, record, and take necessary campus precautions. When faculty are notified by students rather than by the Dean of Students' Office that the students are isolating or quarantining, students will be reminded to self-report via online form and they will not be able to attend class until cleared by campus tracers.

Absences due to COVID-19 will not be counted against an isolated or quarantined student.

Vaccinations are widely available, free and not billed to health insurance. The vaccine will help protect against the transmission of the virus to others and reduce serious symptoms in those who are vaccinated. You are encouraged to [get a COVID-19 vaccine](#) and register your vaccination status through the [voluntary vaccine report form](#).

Proactive Community Testing remains an important part of the university's efforts to protect our community. Tests are fast and free. Please check the [Comets United](#) webpage for additional information.

[Student Safety](#) remains an important part of the UT Dallas' efforts to protect our community. All students will adhere to the Comet Commitment. Unvaccinated Comets will be expected to complete the mandatory [Required Daily Health Screening](#). Those students who do not comply will be referred to the Office of Community Standards and Conduct for disciplinary action under the [Student Code of Conduct – UTSP5003](#). All students are encouraged to read the [Recommendations for Students Returning to Campus](#) issued on August 2, 2021.

Visit [Comets United webpage](#) to obtain the latest information on the University's guidance and resources for campus health and safety.

Course Access and Navigation

This course can be accessed using your UT Dallas NetID account on the [eLearning](#) website. Please see the course access and navigation section of the [Getting Started with eLearning](#) webpage for more information. To become familiar with the eLearning tool, please see the [Student eLearning Tutorials](#) webpage. UT Dallas provides eLearning technical support 24 hours a day, 7 days a week. The [eLearning Support Center](#) includes a toll-free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service.

Class Recordings

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Class Materials

The Instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course, however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Disability Services

It is the policy and practice of The University of Texas at Dallas to make reasonable accommodations for students with properly documented disabilities. However, written notification from the Office of Student AccessAbility (OSA) is required. If you are eligible to receive an accommodation and would like to request it for this course, please discuss it with me and allow one week advance notice. Students who have questions about receiving accommodations, or those who have, or think they may have, a disability (mobility, sensory, health, psychological, learning, etc.) are invited to contact the Office of Student AccessAbility for a confidential discussion. OSA is located in the Student Services Building, suite 3.200. They can be reached by phone at (972) 883-2098, or by email at studentaccess@utdallas.edu.

For University's policies and procedures including COVID-19 guidelines and resources, please see <https://go.utdallas.edu/syllabus-policies>.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Instructor.