Course Syllabus – Spring 2026

Course Information

Course Number/Section	CS 4347.004
Course Title	Database Systems
Term	Spring 2026
Days & Times	MW 4.00pm – 5.15pm
Location	ECSS 2.305

Professor Contact Information

Instructor	Dr. Pushpa Kumar
Email Address	pkumar@utdallas.edu
Office Location	ECSS 4.407
Office Hours	M/W 12.00pm – 1.00pm or by appt. on Teams

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

Prerequisite: CE/CS/SE/TE 3345 or equivalent

Course Description

CS 4347 Database Systems (3 semester credit hours)
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

- Ability to understand Data Modeling
- Ability to understand the Relational Model and theory
- Ability to understand normalization of relations
- Ability to gain a fundamental understanding of SQL programming
- Ability to understand data organization methods, indexing, and query processing
- Ability to understand database integrity and concurrency

Required Textbooks and Materials

Text: Fundamentals of Database Systems 7th edition by Elmasri & Navathe ISBN-13: 978-0133970777

Suggested Course Materials

Choose any DBMS that is free and available and works well on your equipment such as PostgreSQL, Oracle, MySQL

Grading Policy

Grades will be determined by assignments, class participation, group project, and two exams. A student must perform satisfactorily in the assignments, project, and exams in order to pass the course. Their weightings are as follows:

Assignments:	20%
Term Project	30%
Exam 1:	25%
Exam 2:	25%

Letter Grade Scale

98–100=A+,
92-97=A,
90-91=A-,
88-89=B+,
82-87=B,
80-81=B-,
78-79=C+,
72-77=C,
70-71=C-,
68-69=D+,
62-67=D,
60-61=D-,
0-59=F

Assignments & Academic Calendar

Lectures will be posted on eLearning. Reading assignments should be completed before the class lecture.

Project: A team programming project will be assigned. Details will be announced in class.

Course Schedule (subject to change at the discretion of the instructor)

Dates	***Topic***	
01/20/25 - 01/25/26	Introduction	Ch 1
01/26/26 - 02/01/26	Data Modeling Definitions, ER diagrams	Ch 2, 3
02/02/26 - 02/08/26	EER diagrams, Relational Model	Ch 4, 5
02/09/26 - 02/15/26	ER to schema mapping, Relational Algebra	Ch 9, 8
02/16/26 - 02/22/26	Relational Calculus, Basic SQL	Ch 8, 6
02/23/26 - 03/01/26	Advanced SQL, **Exam 1 Review**	Ch 7
03/02/26 - 03/08/26	**Exam1 (4pm - 7pm window 03/02/26)**, Normalization	Ch 14
03/09/26 - 03/15/26	Data Storage Concepts	Ch 16
03/16/26 - 03/22/26	Spring Break, No class	
03/23/26 - 03/29/26	Indexing	Ch 17
03/30/26 - 04/05/26	Query Processing	Ch 18
04/06/26 - 04/12/26	Transactions and Integrity	Ch 20
04/13/26 - 04/19/26	Concurrency	Ch 21
04/20/26 - 04/26/26	Security, **Exam 2 Review**	
04/27/26 - 05/03/26	**Exam2 (4pm - 7pm window 04/27/26)**, Project Presentations	
05/04/26 - 05/08/26	Project Presentations (05/08 is last day of semester)	

Course & Instructor Policies

Good classroom citizenship is expected. Disruptive behavior in the classroom will not be tolerated. Please silence your cell phones during class.

Students are expected to attend all class lectures. If absent, students are responsible for any material covered in class.

Please complete and submit the pre-requisite survey form (under Assignments tab) required by the department before starting any homeworks.

There is a 10% reduction in grade per day for any late submissions under normal circumstances; no late submissions accepted more than four days after original due date.

Students have one week after the results of an assignment or test is returned to request a review/correction of their grade. Random quizzes/activities completed during class lecture can be used to increase a test score.

Exams 1 & 2 will be held at the UTD testing center. Students must reserve an exam seat online through RegisterBlast tool https://www.registerblast.com/utdallas/ no later than 48 hours prior to the exam time. There are no walk-in appointments allowed, so please plan ahead and reserve your seat early and in advance. Students who fail to register for the exam by the cutoff window will be assessed a 10% penalty on the make-up exam under normal circumstances.

Please include course name and number “CS 4347.004" in the subject line for any email communication.

Exceptional cases, such as illness and accidents, will be handled on an individual basis (Instructor must be notified prior and proof presented – otherwise a score of zero will be given).

You will each be responsible for your own actions, which include following along in class, completing all assignments, and working with your team on the project.

The details of this Syllabus are subject to change at any time during the course, it is the responsibility of the student to check for updates.

In case of eLearning difficulties, please contact 24/7 eLearning help desk at URL: https://ets.utdallas.edu/elearning/helpdesk or Phone: 1 866 588 3192

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.

Class Attendance

The University’s attendance policy requirement is that individual faculty set their course attendance requirements. Regular and punctual class attendance is expected. Students who fail to attend class regularly are inviting scholastic difficulty. In some courses, instructors may have special attendance

requirements; these should be made known to students during the first week of classes.

Class Participation

Regular class participation is expected. Students who fail to participate in class regularly are inviting scholastic difficulty. A portion of the grade for this course is directly tied to your participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (and/or labs). Class participation is documented by faculty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

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.

NOTE: if the instructor records any part of the course, then the instructor will need to add the following syllabus statement:

The instructor may record meetings of this course. These recordings will be made available to all students registered for this class if the intent is to supplement the classroom experience. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law.

Off-campus Instruction and Course Activities
(Below is a description of any travel and/or risk-related activity associated with this course.)

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

“As a Comet, I pledge honesty, integrity, and service in all that I do.”

Academic Support Resources

The information contained in the following link lists the University’s academic support resources for all students.

Please see http://go.utdallas.edu/academic-support-resources.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus. Please review the catalog sections regarding the credit/no credit or pass/fail grading option and withdrawal from class.

Please go to http://go.utdallas.edu/syllabus-policies for these policies.

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