



COURSE SYLLABUS

DATABASE SYSTEMS

COSC 30603-081

Semester and Year:	Fall 20XX
Number of Credits:	3
Course Component Type:	LEC
Class Location:	TUC 246
Class Hours:	MW 17:30- 18:50
Instructor:	Dr. XXX
Course Link:	
Office Location:	
Office Hours:	
Email:	
Preferred Method of Contact:	Email
Response Time:	Emails will be responded within 24 hours.

Final Evaluative Exercise & Important Dates

FINAL EXAM: MONDAY, DEC 8, 5:00 PM – 07:30 PM
Midterm Exam: Announced in the class/class announcement
Last Day to Drop: Nov 3
Last Day to Select P/NC: Dec 1

Other important dates will be communicated via class announcements.

Grader

TBD

Student Resources & Policy Information

Click or scan QR code for resources to support you as a TCU student.
Please note section on [Student Access and Accommodation](#) and [Academic Conduct & Course Materials Policies](#).



COURSE DESCRIPTION

Description

This course covers the integration of theory and practice in the use of modern database management systems, and the access of those systems. Topics include Introduction to the design, implementation, and use of relational database systems, entity-relationship modeling, relational algebra, normalization, SQL, external data structures, query optimization, non-relational models, and applications.

Prerequisites

COSC 20803 and MATH 20123

COURSE MATERIALS

Required Materials

- Database System with SQL with Advanced Zylabs
- Follow these directions to obtain access to your mandatory online textbook:
 - Sign in or create an account at <http://learn.zybooks.com>
 - Enter zyBook code: **will be shared in class**
 - Subscribe
 - Subscribe (A subscription is \$89. You may begin subscribing on Aug 15, 2025, and the cutoff to subscribe is Dec 12, 2025. Subscriptions will last until Jan 14, 2026)
- Lecture slides and other course materials will be made available on D2L.

Supplementary

- Fundamentals of Database Systems, 7th Edition (This book is optional)
Author: Ramez Elmasri and Shamkant B. Navathe; ISBN: 9780133970777
- Lecture notes/slides will be made available on TCU Online.

Device Information: Students **MUST** be able to access laptops or desktops to complete all assignments. The operating system can be Windows/macOS/Linux.

LEARNING OUTCOMES

Course learning outcomes

- Understand the role of a database management system in an organization.
- Understand basic database concepts, including the structure and operation of the relational data model.
- Understand and apply basic database design principles, including ER diagrams.
- Construct database queries using Structured Query Language (SQL).
- Compare and contrast data storage models.
- Design, implement, and program the interface to a database containing real-world data.
- Understand transaction management.

COURSE REQUIREMENTS

Assessments

zyBook: Database Systems with SQL and zyLabs is an interactive online textbook that is required for this course. As you move through the zyBook, you will complete Participation and Challenge Activities that will help you learn the material. The best way to learn programming is by doing, and the zyBook material, in-class sessions, and assignments are selected accordingly. It is extremely important to keep up with the assigned readings and assignments during this course.

Homework and Lab Assignments

- Homework will be assigned based on material from the lectures. These assignments are meant for you to become familiar with the course material.
- Labs are an integral part of this course and are intended to provide experience in the application of the design techniques discussed in the lectures.

In-Class Activities/Quizzes/Participation

- These grades will be based on in-class assignments or short quizzes, which may be given at any time during the class without any prior notice.

Project

The class project is a comprehensive assignment that allows you to apply the concepts and techniques covered throughout the course. This project is designed to give you hands-on experience in solving real-world problems using the skills you have learned in database design, SQL, and related topics.

Exams

- There will be two exams, 1 midterm (15%) and 1 final (15%). All the exams will be taken in the lecture classroom.
- The date of the midterm exam will be posted on TCU online and announced in class at least one week prior to the date of the exam. A make-up exam will be given at the discretion of the instructor when a student misses an exam with an excused absence. Unexcused absences on the date of an exam may result in a grade of 0 for the missed exam.
- The final exam will be comprehensive (covering the full semester's materials).
- Rescheduling a final exam must be made one week prior to the last day of classes. Rescheduling of finals is permitted for 1) students with more than two finals in a 24-hour period rule and 2) students for whom a final examination conflicts with a major religious holiday or custom.

Grading Policy

Late Work

This class has no late assignment policy. Please ensure that you complete and submit all assignments on time. No late assignments will be accepted. If you encounter any extenuating circumstances and need an extension, please email me as soon as possible to discuss your situation.

Participation, Engagement & Attendance

Class attendance is regarded as both an obligation and a privilege. All students are expected to attend each class meeting. I might not take formal attendance every day. Please note that if you miss an in-class activity or quiz due to class absence, there will be no make-up opportunity.

A student who misses class is still responsible for finding out what was discussed, learning the material covered, and obtaining the homework assigned on the missed day. The instructor is not responsible for re-teaching material missed by a student who did not attend class. Therefore, each student is accountable for and will be evaluated on all material covered in this course, regardless of attendance. If there are extenuating circumstances preventing you from attending the class, please notify your instructor so that you can work together to ensure your success in learning the material.

Because it is considered an infringement on student privacy for me to have access to student medical records, I cannot accept medical documentation to justify absences. If you have a legitimate reason for your absence and want to provide verification, please access the Absence Documentation Form [here](#).

Course Assignments and Final Grade

Assignments	Percentage
Homeworks and Labs	50%
Exams: Midterm (15%), Final (15%)	30%
Project	12%
In-Class Activities/Quizzes/Participation	8%
Total	100

Grading Scale

Grade	Score
A	94–100
A-	90–93.99
B+	87–89.99
B	84–86.99
B-	80–83.99
C+	77–79.99
C	74–76.99
C-	70–73.99
D+	67–69.99
D	64–66.99
D-	60–63.99
F	0–59.99

The final course grades will **NOT** be curved with no exceptions. Please also be aware that extra credits/work will **NOT** be given with no exceptions.

Course Policies

Academic Integrity

Academic integrity is central to the mission of educational excellence at TCU. Each student is expected to turn in work completed independently, except when assignments specifically authorize collaborative effort. It is not acceptable to use the words or ideas of another person--be it a world-class philosopher or your lab partner--without proper acknowledgment of that source. This means that you must use footnotes and quotation marks to indicate the source of any code snippet, phrases, sentences, paragraphs, or ideas found in published volumes, on the internet, or created by another student. Anything generated by AI tools like ChatGPT, Google Bard, Bing, etc. if used for class work, must be clearly mentioned. I have a zero-tolerance policy for cheating, and all violations will result in substantial penalties. Any form of academic dishonesty may be penalized with a failing grade ("F") in the class. Additionally, any violations of the Code may be referred to the Office of Academic Innovation and Effectiveness for further disciplinary action. If you have any doubts or questions about what constitutes academic misconduct, please do not hesitate to contact me. For further clarification of university policies regarding academic integrity, please read [Academic Conduct & Course Materials Policies](#).

Technology Policy

Artificial Intelligence (AI) Ethical Considerations and Consequences for Misuse

The inappropriate or unauthorized use of AI-generated content may be academic misconduct and/or a violation of discipline-specific professional ethics. Such misuse of AI or other assignment-help tools will be handled according to TCU's Academic Conduct Policy or other relevant policies and may result in sanctions, including failing the course, program dismissal, suspension, or expulsion.

COURSE SCHEDULE (TENTATIVE)

This tentative calendar represents current course plans. This plan may be modified as the course progresses should the instructor deem it necessary and will be communicated via course announcement.

Week	Topic	Assignments
Week 1	Introduction to Database	HW 1
Week 2	Relational Database	Lab 1
Week 3	Relational Database	
Week 4	Complex Queries	Lab 2, HW 2
Week 5	Complex Queries	
Week 6	Operators and Functions	Lab 3, HW 3
Week 7	Database Design (ERD)	Lab 4
Week 8	Review and Midterm Exam	
Week 9	Database Design (Mapping), Fall Break	Lab 5
Week 10	Database Design (Normalization)	Exam1
Week 11	Database Programming	Lab 6, HW 4
Week 12	Database Storage	Lab 7, HW 5
Week 13	Database Indexing	
Week 14	Transaction Management	Lab 8, HW 6

Week 15	Break	
Week 16	NoSQL/Advanced Topics	Final Project
Week 17	Final Exam	