

C S 4513 – Intro to Operating Systems – Spring 2026

Syllabus

Instructor: Dr. Egawati Panjei, egawati.panjei@ou.edu

Office Location: Devon Energy Hall, DEH 235

Office Hours:

- 10:15 – 11:15 AM (Monday and Wednesday)
- 3:00 – 4:00 PM (Tuesday and Thursday)

Class Location: Sarkeys Energy Center, A0235

Class Time: 9:00 – 9:50 AM (Monday, Wednesday, and Friday)

Course Prerequisite: ((CS 2413 or CS 2414) and (CS 2813 or Math 2513)) or CS 5005 or DSA 5005.

Textbook: Abraham Silberschatz, Henry Korth, and S. Sudarshan, *Database System Concepts*, 7th Edition, McGraw-Hill, 2019.

Course Contents

Topic

1. Introduction - Basic Concepts of DBMS
2. Entity-Relationship Model
3. Relational Model and SQL
4. File Organization, Indexing, and Hashing
5. Formal Query Languages
6. Functional Dependencies and Normalization
7. Application Development
8. Query Processing
9. Information Security and Privacy
10. Transaction Management and Database Recovery

Reading

- Ch.1
Ch.6
Ch. 2, 3, 4, 5, 7
Ch. 13, 14
Ch. 2, 27
Ch. 7
Ch. 9
Ch. 15, 16
Ch. 9
Ch.17, 19

Learning Management System/Website: <https://canvas.ou.edu/courses/473038>

Course Catalog Description: This course covers the design and implementation of a database system including data models, query languages, entity-relationship diagrams, functional dependencies, normalization, storage structures, access methods, query processing, security and transaction management, and applications. The impact of databases on individuals, organizations, and society, and legal and professional responsibilities including security and privacy will be discussed. A commercial database management system is used to implement a comprehensive project.

Course Format: This course will be in a traditional in-class format.

Learning Outcomes

- Student will be able to explain the general principles, applications, and relevant theoretical foundation of database management systems.

- Students will be able to design and implement a database application efficiently by applying the necessary database concepts and structures.
- Students will be able to explain the impacts of databases on security and privacy.
- Students will be able to complete a comprehensive project for a practical database application. This project encompasses all phases of the database application development process, including designing, implementing, executing, and testing, utilizing a commercial database management system.

ABET Student Outcomes

This course will be evaluated for the following ABET Outcome 6: *Apply computer science theory and software development fundamentals to produce computing-based solutions*

Expectations: Students are expected to engage actively in learning by attending all lectures, participating in discussions, and follow all the announcements made in class or posted on the class website on Canvas. To perform well in assessments, students should stay current with readings, review lecture notes, practice problem-solving, and seek clarification on the course topics.

Students must adhere to all course policies, including submission guidelines, academic integrity rules, and classroom conduct expectations. Seeking assistance from the instructor or TAs is encouraged, but students are ultimately responsible for their own learning.

Learning Activities, Assignments, and Assessments

Students are required to take weekly quizzes, three exams and a final, and an individual project. The course letter grade will be assigned based on the overall percentage: ≥ 90 (A), ≥ 80 and < 90 (B), ≥ 70 and < 80 (C), ≥ 60 and < 70 (D), and < 60 (F). The instructor reserves the right to lower this grade scale if deemed appropriate. The allocation of percentages is given below:

	Percentages
Weekly Quizzes	15%
Exam 1	12.5%
Exam 2	12.5%
Exam 3	12.5%
Final	20%
Individual Project	27.5%

Quizzes: There will be a quiz each Wednesday, starting in Week 2, except during weeks when an exam is scheduled. The Quiz will cover topics discussed on previous Wednesday, Friday, and Monday lectures. All quizzes are conducted on paper and are closed book and closed electronics except one Take Home Quiz. You may use **one two-sided, one-page letter-size sheet** of handwritten notes. Quiz grades will be posted on Grade Scope. To support your overall success, **your two lowest quiz scores will be dropped** at the end of the semester. Makeup quizzes will not be offered; the two dropped quizzes are intended to accommodate any missed quizzes for any reason.

Exams: All exams will be conducted on paper and taken in class. Exams are closed book and closed electronics (no laptops or electronic devices). Only handwritten notes are allowed.

For each exam, you may bring a number of handwritten note pages equal to:

- **(Number of quizzes completed before the exam) + 1**

For the final exam, you may bring a maximum number of handwritten note pages equal to:

- **(Total number of quizzes) + 4**

The final exam will be comprehensive and will cover all topics discussed during the semester. Exams 1, 2, and 3 will each cover only the topics discussed prior to the exam. Topics covered in an earlier exam will not be included in later exams (for example, topics from Exam 1 will not appear on Exam 2).

There is no makeup for the final exam. However, if you miss Exam 1, 2, or 3, please refer to the following rules.

Makeup Exam – Category 1 (Planned Absences)

If you must miss Exam 1, 2, or 3 due to a university approved events (e.g. attending conference, job interview, religious observance), you must email the instructor at least one week before the exam with the **subject line:** *C S 4513: Missing Exam X* (replace X with the exam number).

Your email must include documentation explaining why you will miss the exam. With **prior approval from the instructor**, you may take a makeup exam within one week after the scheduled exam. The instructor will arrange the date and time for the makeup exam.

Makeup Exam – Category 2 (Emergencies)

If you miss Exam 1, 2, or 3 due to an emergency and **receive approval from the instructor**, you may take the makeup exam together with Category 1 students, if possible. If you are unable to take the Category 1 makeup exam, the percentage weight of the missed exam will be added to your final exam grade. In this case, no additional makeup exam will be given.

Individual Project: Individual project will be divided into 4 phases:

- *Phase 1:* ER Design
- *Phase 2:* Relational Model
- *Phase 3:* Java Application
- *Phase 4:* File Organization and Indexing, Final Report

Each phase has its own deadline, and students must submit the required files by the specified due date. Late submissions are accepted within 24 hours after the deadline with a 5% penalty.

Practice Homework: Practice homework will be assigned occasionally in class and will not be graded. Solutions to the practice homework will be posted on Canvas. It is the students' responsibility to complete the practice homework and evaluate their solutions. Students should attempt the practice homework before reviewing the provided solutions.

Bonus Points: The instructor may offer opportunities for students to earn bonus points, up to a maximum of **5%**. These opportunities may include in-class poll questions or take-home activities.

Course Reflection Survey

You'll receive a Course Reflection Survey at the end of each semester for each course that you are enrolled in. I strongly encourage you to complete this survey. Your feedback can help me adjust my

class for future semesters to help other students be successful. Your feedback is confidential, and I will only receive it after final grades are due. Course Reflection Survey results may also factor into teaching evaluations and annual performance reviews and are shared with department and program chairs.

Copyright Statement

Sessions of this course may be recorded or live-streamed. These recordings are the intellectual property of the individual faculty member and may not be shared or reproduced without the explicit, written consent of the faculty member. In addition, privacy rights of others such as students, guest lecturers, and providers of copyrighted material displayed in the recording may be of concern. Students may not share any course recordings with individuals not enrolled in the class or upload them to any other online environment.

Course Policies

Technology

Java, JDBC, and a commercial database management system will be used to implement and execute database applications for the homework assignments and project.

Incompletes

The grade of "I" is intended for the rare circumstance when a student who has been successful in a class has an unexpected event shortly before the class's end. We will not consider giving a student a grade of "I" unless the following three conditions have been met:

1. It is within two weeks of the end of the semester.
2. The student has a grade of C or better in the class.
3. The reason that the student cannot complete the class is properly documented and compelling.

Academic Integrity and Plagiarism

Individual Project, Exams, and Quizzes are individual work; they must be done by you only - no collaboration with anyone is allowed. Violations of these rules will be considered academic misconduct and will result in action as specified in the Academic Integrity Code at OU: <http://www.ou.edu/integrity>. Consult also the following web page for a Student's Guide to Academic Integrity at OU: <http://www.ou.edu/integrity/students>.

Classroom Conduct

Because cell phones and laptops can distract substantially from the classroom experience, students are asked not to use either during class except when required as part of a classroom exercise. Disruptions of the class will also not be permitted. In the case of disruptive behavior, we may ask that you leave the classroom and charge you with violating the Student Code of Responsibilities and Conduct. Examples of disruptive behavior include:

- Allowing a cell phone or pager to repeatedly beep audibly.
- Playing music or computer games during class in such a way that they are visible or audible to other class members.

- Exhibiting erratic or irrational behavior.
- Behavior that distracts the class from the subject matter or discussion.
- Making physical or verbal threats to a faculty member, teaching assistant, or class member.
- Refusal to comply with faculty or teaching assistant direction.

Make sure that your computer account is properly protected. Use an appropriate password, and do not give your friends access to your account or computer system. Do not leave printouts, computers, or thumb drives around a laboratory where others might access them. Individual Project's source code will be checked by software designed to detect collaboration.

Generative AI Policy

The use of generative AI tools is not allowed in exams, quizzes, and individual project unless explicitly stated otherwise in the requirements of a specific question or a specific project component.

Attendance Policy

Regular attendance is essential for success in this course, as active participation in lectures and discussions is crucial to understanding database system concepts. Students are encouraged to engage actively in discussions and ask questions, as interaction is a key component of learning in this course.

Makeup Policy

There is no makeup for quizzes, individual project, final exam, and bonus points. Please check the "Learning Activities, Assignments, and Assessments" section for Exams 1, 2, and 3 makeup policy.

University Policies

Mental Health Support Services

Support is available for any student experiencing mental health issues that are impacting their academic success. Students can either be seen at the University Counseling Center (UCC) located on the second floor of Goddard Health Center or receive 24/7/365 crisis support from a licensed mental health provider through [TELUS Health](#). To schedule an appointment or receive more information about mental health resources at OU please call the UCC at 405-325-2911 or visit [University Counseling Center](#). The UCC is located at 620 Elm Ave., Room 201, Norman, OK 73019.

Title IX Resources and Reporting Requirement

The University of Oklahoma faculty are committed to creating a safe learning environment for all members of our community, free from gender and sex-based discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking, in accordance with Title IX. There are resources available to those impacted, including: speaking with someone confidentially about your options, medical attention, counseling, reporting, academic support, and safety plans. If you have (or someone you know has) experienced any form of sex or gender-based discrimination or violence and wish to speak with someone confidentially, please contact [OU Advocates](#) (available 24/7 at 405-615-0013) or [University Counseling Center](#) (M-F 8 a.m. to 5 p.m. at 405-325-2911).

Because the University of Oklahoma is committed to the safety of you and other students, and because of our Title IX obligations, I, as well as other faculty, Graduate Assistants, and Teaching Assistants, are mandatory reporters. This means that we are obligated to report gender-based violence that has been disclosed to us to the Institutional Equity Office. This means that we are obligated to report gender-based violence that has been disclosed to us to the Institutional Equity Office. This includes disclosures that occur in: class discussion, writing assignments, discussion boards, emails and during Student/Office Hours. You may also choose to report directly to the Institutional Equity Office. After a report is filed, the Title IX Coordinator will reach out to provide resources, support, and information and the reported information will remain private. For more information regarding the University's Title IX Grievance procedures, reporting, or support measures, please visit [Institutional Equity Office](#) at 405-325-3546.

Reasonable Accommodation Policy

The University of Oklahoma (OU) is committed to the goal of achieving equal educational opportunity and full educational participation for students with disabilities. If you have already established reasonable accommodations with the Accessibility and Disability Resource Center (ADRC), please submit your semester accommodation request through the ADRC as soon as possible and contact me privately, so that we have adequate time to arrange your approved academic accommodations.

If you have not yet established services through ADRC, but have a documented disability and require accommodations, please complete ADRC's pre-registration form to begin the registration process. ADRC facilitates the interactive process that establishes reasonable accommodations for students at OU. For more information on ADRC registration procedures, please review their Register with the ADRC web page. You may also contact them at (405)325-3852 or adrc@ou.edu, or visit www.ou.edu/adrc for more information.

Note: disabilities may include, but are not limited to, mental health, chronic health, physical, vision, hearing, learning and attention disabilities, pregnancy-related. ADRC can also support students experiencing temporary medical conditions.

Religious Observance

It is the policy of the University to excuse the absences of students that result from religious observances and to reschedule examinations and additional required classwork that may fall on religious holidays, without penalty. [[See Faculty Handbook 3.15.2](#)]

Adjustments for Pregnancy and Related Issues

Should you need modifications or adjustments to your course requirements because of pregnancy or a pregnancy-related condition, please request modifications via the [Institutional Equity Office](#) website or call the Institutional Equity Office at 405/325-3546 as soon as possible. Also, see the Institutional Equity Office [FAQ on Pregnant and Parenting Students' Rights](#) for answers to commonly asked questions.

Final Exam Preparation Period

Pre-finals week will be defined as the seven calendar days before the first day of finals. Faculty may cover new course material throughout this week. For specific provisions of the policy please refer to OU's [Final Exam Preparation Period policy](#).

Emergency Protocol

During an emergency, there are official university procedures that will maximize your safety.

Severe Weather: If you receive an OU Alert to seek refuge or hear a tornado siren that signals severe weather.

1. Look for severe weather refuge location maps located inside most OU buildings near the entrances.
2. Seek refuge inside a building. Do not leave one building to seek shelter in another building that you deem safer. If outside, get into the nearest building.
3. Go to the building's severe weather refuge location. If you do not know where that is, go to the lowest level possible and seek refuge in an innermost room. Avoid outside doors and windows.
4. Get in, Get Down, Cover Up
5. Wait for official notice to resume normal activities.

Additional Weather Safety Information is available through the Department of Campus Safety.

The University of Oklahoma Active Threat Guidance

The University of Oklahoma embraces a Run, Hide, Fight strategy for active threats on campus. This strategy is well known, widely accepted, and proven to save lives. To receive emergency campus alerts, be sure to update your contact information and preferences in the account settings section at one.ou.edu.

RUN: Running away from the threat is usually the best option. If it is safe to run, run as far away from the threat as possible. Call 911 when you are in a safe location and let them know from which OU campus you're calling from and location of active threat.

HIDE: If running is not practical, the next best option is to hide. Lock and barricade all doors; turn off all lights; turn down your phone's volume; search for improvised weapons; hide behind solid objects and walls; and hide yourself completely and stay quiet. Remain in place until law enforcement arrives. Be patient and remain hidden.

FIGHT: If you are unable to run or hide, the last best option is to fight. Have one or more improvised weapons with you and be prepared to attack. Attack them when they are least expecting it and hit them where it hurts most: the face (specifically eyes, nose, and ears), the throat, the diaphragm (solar plexus), and the groin.

Please save OUPD's contact information in your phone.

NORMAN campus: *For non-emergencies call (405) 325-1717. For emergencies call (405) 325-1911 or dial 911.*

TULSA campus: *For non-emergencies call (918) 660-3900. For emergencies call (918) 660-3333 or dial 911.*

Fire Alarm/General Emergency

If you receive an OU Alert that there is danger inside or near the building, or the fire alarm inside the building activates:

1. *LEAVE* the building. Do not use the elevators.
2. *KNOW* at least two building exits
3. *ASSIST* those that may need help
4. *PROCEED* to the emergency assembly area
5. *ONCE safely outside, NOTIFY first responders of anyone that may still be inside building due to mobility issues.*
6. *WAIT* for official notice before attempting to re-enter the building.

OU Fire Safety on Campus

Tentative Schedule (Subject to Change)

Please check the following page.

Tentative Schedule (Subject to Change)

Week	Day	Date	Topic	Quiz	Exam	Individual Project
1	Wednesday	1/21/26	Syllabus Overview and Topic 1			
1	Friday	1/23/26	Topic 1			
2	Monday	1/26/26	Topic 1			
2	Wednesday	1/28/26	Topic 2	Quiz 1		
2	Friday	1/30/26	Topic 2			
3	Monday	2/2/26	Topic 2			
3	Wednesday	2/4/26	Topic 2	Quiz 2		
3	Friday	2/6/26	Topic 2			
4	Monday	2/9/26	Topic 2			
4	Wednesday	2/11/26	Topic 3 Part 1	Quiz 3		Project Requirement Release
4	Friday	2/13/26	Topic 3 Part 1			
5	Monday	2/16/26	Topic 3 Part 1			
5	Wednesday	2/18/26	Topic 3 Part 2 (Online Lecture)	Take Home Quiz 4		
5	Friday	2/20/26	Topic 3 Part 2 (Online Lecture)			
6	Monday	2/23/26	Topic 3 Part 2			
6	Wednesday	2/25/26			Exam 1	
6	Friday	2/27/26	Topic 4 Part 1			Phase 1 Due
7	Monday	3/2/26	Topic 4 Part 1			
7	Wednesday	3/4/26	Topic 4 Part 1	Quiz 5		
7	Friday	3/6/26	Topic 4 Part 1/2			
8	Monday	3/9/26	Topic 4 Part 2			
8	Wednesday	3/11/26	Topic 4 Part 2	Quiz 6		
8	Friday	3/13/26	Topic 4 Part 2			
9	Monday	3/16/26	Spring Break			
9	Wednesday	3/18/26				
9	Friday	3/20/26				
10	Monday	3/23/26	Topic 4 Part 2			
10	Wednesday	3/25/26	Exam 2		Exam 2	
10	Friday	3/27/26	Topic 5			Phase 2 Due
11	Monday	3/30/26	Topic 5			
11	Wednesday	4/1/26	Topic 5	Quiz 7		
11	Friday	4/3/26	Topic 6			
12	Monday	4/6/26	Topic 6			
12	Wednesday	4/8/26	Topic 6	Quiz 8		

12	Friday	4/10/26	Topic 6			Phase 3 Due
13	Monday	4/13/26	Topic 6			
13	Wednesday	4/15/26	Topic 8	Quiz 9		
13	Friday	4/17/26	Topic 8			
14	Monday	4/20/26	Topic 8			
14	Wednesday	4/22/26			Exam 3	
14	Friday	4/24/26	Topic 7			Phase 4 Due
15	Monday	4/27/26	Topic 7			
15	Wednesday	4/29/26	Topic 9	Quiz 10		
15	Friday	5/1/26	Topic 9			
16	Monday	5/4/26	Topic 10			
16	Wednesday	5/6/26	Topic 10	Quiz 11		
16	Friday	5/8/26	Topic 10			
17	Monday	5/11/26			Final Exam	