File Organization Database Mgt
CS 5330 001C
Computer Science Department
Fall 2022

Instructor Information

Instructor: King Ip Lin
Email: kdlin@smu.edu
Office Location: Caruth 479
Office Hours:
Mon 3:00 – 5:00pm (in person + zoom)

Thur 9:30 – 10:30am (in person only)

(Zoom URL: https://smu.zoom.us/j/94359170856)

Course Details

Location: CARU0161
Meeting Dates and Times:

08/22/2022	12/05/2022	12:30:00 PM	01:50:00 PM

Credit Hours: 3.00
Course Description: Surveys current database approaches and systems, principles of design, and use of these systems. 概述 Includes query language design, implementation constraints, applications of large databases, survey of file structures and access techniques, and use of a relational DBMS to implement a database design project. Prerequisite: C- or better in CS 3330.

Student Learning Outcomes

Students will understand the internal operations of database system. Students will acquire knowledge towards being a qualified Database Administrator. Students will also be able to develop knowledge and skills on the latest database technology and science (NoSQL, Big Data, Database research topics) via a group project.

Required Texts and Materials

Database System Concepts

ISBN: 9780078022159
Authors: Henry F. Korth, S. Sudarshan, Abraham Silberschatz, Professor
Publisher: McGraw-Hill Education
Publication Date: 2019-02-19
Edition: 7th

Grading Policies/Grading Scale

Evaluation is based on the following 5 components:

	Weight	Due Date
On-line quiz	10%	Every other Monday between 9/13 -11/30 (inclusive) (unless otherwise specified), Due Noon
Homework	15%	Due 10/7, 11/18, (11:59pm)
Programming Homework	15%	Due 10/21, 12/2 (11:59pm)
Project	30%	11/29, 12/1 in class
Final	30%	12/12 (Mon) 11:30 – 2:30pm

+/- grades will be used. All homework is to be uploaded to Canvas. The grading scale will be as follows:

A: 92+, A-: 90 – 92, B+: 88 – 90, B: 82 – 88, B-: 80 – 82, C+: 78-80, C: 70-78, C-/D+: 65-70, D/F: 65-

C-/D+ will be further determined by whether students performance in the exam
D/F: will be based on additional factors.

Assignment Group Descriptions

On-line quiz: There will be a multiple-choice on-line quiz (via Canvas) every other Monday from 9/13 to 11/30 (See schedule for the exact dates). The quiz will be about material that was covered in class the previous two weeks. The quiz will be active from 5pm Sunday and is due Monday at noon. Each quiz has 5 questions, and each student will have 25 minutes to finish the quiz. Only the best 5 out of the 6 quizzes will be counted towards the grade.

Homework: There will be 2 written homework assignments. Each will be posted on Canvas at least 6 days before the due date. You are to upload a PDF file with your answer (you can write down your answer and then scan/picture it and put it as a PDF) and upload it to Canvas.

Programming Homework: There will be 2 programming homework. You can write your program in either C, C++ or Python (Python 3 only).

For homework and programming homework, the worse of the two will count half.

Project: There will be separate projects for 5000 and 7000 level students. Students are expected to form groups of 2-3 students (you can go it alone, but there will be no reduction of workload). Details to be provided later.

Final exam: Final exam is scheduled on 12/12 (Mon) 11:30 am – 2:30 pm (the official final exam slot for this class).

Course Policies

Late policy for homework and programs: All due dates for homeworks and programs are hard deadlines. However, each student will get one late pass that they can apply to any of the homework/programs, and you will get an automatic 72 hour extension. The pass is automatically activated whenever a homework/exam is not uploaded by deadline (based on time recorded on Canvas). Once the passes have been used up, no late homework/programs will be counted (unless there are very strong reasons like family emergency).

Title IX and Disability Accommodations

Disability Accommodations

Students who need academic accommodations for a disability must first register with Disability Accommodations & Success Strategies (DASS). Students can call 214-768-1470 or visit smu.edu/DASS to begin the process. Once they are registered and approved, students then submit a DASS Accommodation Letter through the electronic portal, *DASS Link*, and then communicate directly with each of their instructors to make appropriate arrangements. Please

note that accommodations are not retroactive, but rather require advance notice in order to implement.

Sexual Harassment

All forms of sexual harassment, including sexual assault, dating violence, domestic violence and stalking, are violations of SMU's Title IX Sexual Harassment Policy and may also violate Texas law. Students who wish to file a complaint or to receive more information about the grievance process may contact Samantha Thomas, SMU's Title IX Coordinator, at accessequity@smu.edu or 214-768-3601. Please note that faculty and staff are mandatory reporters. If students notify faculty or staff of sexual harassment, they must report it to the Title IX Coordinator. For more information about sexual harassment, including resources available to assist students, please visit smu.edu/sexualmisconduct.

Pregnant and Parenting Students

Under Title IX, students who are pregnant or parenting may request academic adjustments by contacting the Office of Student Advocacy and Support by calling 214-768-4564. Students seeking assistance must schedule an appointment with their professors as early as possible, present a letter from the Office of the Dean of Students, and make appropriate arrangements. Please note that academic adjustments are not retroactive and, when feasible, require advance notice to implement.

Academic Policies

Religious Observance

Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence. Click here for a list of holidays.

Medical-Related Absences

To ensure academic continuity and avoid any course penalties, students should follow procedures described by their instructors in order to be provided with appropriate modifications to assignments, deadlines, and exams.

Excused Absences for University Extracurricular Activities

Students participating in an officially sanctioned, scheduled university extracurricular activity should be given the opportunity to make up class assignments or other graded assignments that were missed as a result of their participation. It is the responsibility of the student to make arrangements for make-up work with the instructor prior to any missed scheduled examinations or other missed assignments. (See current Catalog under heading of "Academic Records/Excused Absences.")

Final Exams

Final course examinations shall be given in all courses where appropriate, and some form of final assessment is essential. Final exams and assessments must be administered as specified in the official examination schedule. Exams cannot be administered or due during the last week of classes or during the Reading Period. Syllabi must state clearly the form of the final exam or assessment, and the due date and time must match the official SMU exam schedule. Final exams are not required to be provided online.

Academic Dishonesty

Students are expected to embrace and uphold the SMU Honor Code. Violations of the Honor Code will be acted upon in accordance with the policies and procedures outlined in the Mustang Student Handbook.

Student Support Services

Student Academic Success Programs

Students needing assistance with writing assignments for SMU courses may schedule an appointment with the Writing Center through Canvas. Students who would like support for subject-specific tutoring or success strategies should contact SASP, Loyd All Sports Center, Suite 202; 214-768-3648; smu.edu/sasp.

Caring Community Connections Program

CCC is a resource for anyone in the SMU community to refer students of concern to the Office of the Dean of Students. The online referral form can be found at smu.edu/deanofstudentsccc. After a referral form is submitted, students will be contacted to discuss the concern, strategize options, and be connected to appropriate resources. Anyone who is unclear about what steps to take if they have concerns about students should contact the Office of the Dean of Students at 214-768-4564.

Mental Health Resources: On-Call and Ongoing Counseling Services

Throughout the academic year, students may encounter different stressors or go through life experiences which impact their mental health and academic performance. Students who are in distress or have concerns about their mental health can schedule a same-day or next-day appointment to speak with a counselor by calling Counseling Services. Counselors are available at any time, day or night for students in crisis at this number: 214-768-2277 (then select option 2) They will be connected with a counselor immediately. Students seeking ongoing counseling should call the same number (214-768-2277, then select option 1) during normal business hours to schedule an initial appointment.

Campus Carry Law

In accordance with Texas Senate Bill 11, also known as the 'campus carry' law, and following consultation with entire University community, SMU chooses to remain a weapons-free campus. Specifically, SMU prohibits possession of weapons (either openly or in a concealed manner) on campus. For more information, please see: smu.edu/campuscarrylaw.

Course Schedule

Date	Topic	Textbook	Quiz (Due Monday at noon)	Assignment / Due Dates (All Due Dates are Thur 11:59pm except when stated)
8/23, 25	Intro / Intro to NoSQL	Notes		
8/30, 9/1	NoSQL Database Systems	Notes		
9/6, 8	Physical Storage System	12		
9/13, 15	File Structures	13	Quiz 1	
9/20, 22	Indexing	14		
9/27, 29	Query Processing	15	Quiz 2	
10/4, 6	Query Processing	15		HW 1 Due
10/13	Query Optimization	16	Quiz 3 (Due 10/13 noon)	
10/18, 20	Query Optimization	16		Prog 1 Due
10/25, 27	Transaction Processing	17		
11/1, 3	Concurrency Control	18	Quiz 4	
11/8, 10	Concurrency Control	18		
11/15, 17	Recovery	19	Quiz 5	HW2 Due
11/22	Recovery	19		
11/29, 12/1	Project Presentation		Quiz 6	Prog 2 Due
			(Due 11/30 Noon)	

		(Due 11/30 Noon)	