Course **ITSS 4380 Advanced Database Management**
Professor Timothy Stephens
Term Spring 2026
Meetings Wednesdays 4:00pm, JSOM 1.102

PROFESSOR'S CONTACT INFORMATION

Office location	JSOM 3.610 Phone: 972-883-5063
Email address	timothy.stephens@utdallas.edu *Please include the course number and section number in all email correspondence.*
Office hours	TBD
Teaching Assistant	Sucharita Naha (Sucharita.Naha@UTDallas.edu)
Other information	E-mail is recommended for **ALL** communications during the semester, using UTD email system for incoming and outgoing messages. Using your personal email address is **STRONGLY** discouraged, due to security and spam blocking concerns. eLearning will be used to post, announcements, assignments, and grades. By the very nature of the class, you will be required to bring your web-enabled computer to every class. Since we will be using Citrix Gateway, Most Apple and Microsoft devices will acceptable; however, Android devices are questionable, and cell phones will not work at all with the system access requirements. Please contact the instructor as soon as possible if you do not have access to the required type of device.

GENERAL COURSE INFORMATION

Pre-requisites, Co-requisites, & Other Restrictions	ITSS 4300 Database Fundamentals
Course Description	Provide the student with an in-depth knowledge of advanced topics relating to database administration, database design, and database manipulation. Students will learn advanced SQL techniques and database administration techniques. At the end of the course, students will be able to effectively write advanced SQL queries and understand the tasks required to support a relational database. (3 credit hours)
Learning Outcomes and Objectives	1. Articulate the difference between SQL and noSQL databases. 2. Explain the structure of a relational database. 3. Apply database administration functions to a relational database. 4. Construct queries to extract and report information from a relational database and a noSQL database. 5. Perform advanced database processing such as OLAP, triggers, and stored procedures on a relational database.
Required Texts & Materials	Recommended: Database System: Design, Implementation, and Management by Carlos Coronel, Steven Morris, Peter Rob, Course Technology, 13th Edition. SQL Materials you will find useful: • Oracle SQL and PL/SQL Handbook: A Guide for Data Administrators, Developers, and Business Analysts, John Adolph Palinski • SQL Queries for Mere Mortals: A Hands-On Guide to Data Manipulation in SQL (2nd Edition), John L. Viescas, Addison-Wesley Professional Other recommended textbooks for those interested in Oracle Certification: • OCA: Oracle Database 11g Administrator Certified Associate Study Guide: (Exams1Z0-051 and 1Z0-052), Biju Thomas • OCA Oracle Database 12c SQL Fundamentals I Exam Guide (Exam 1Z0-061): Roopesh Ramklass
Course Format	Classes will include a mixture of lectures, case discussions, lab lessons, guest lectures, and group presentations. • The lecture notes and readings articles will provide the basis for lectures on various business analytics topics and will be available electronically via eLearning. *(Lecture notes are meant only for students who register for this course and will not be provided to students who are not registered.)*

Course Modality

Instructional Mode	The course will be taught face-to-face, with no virtual option. The instructor and students meet according to the schedule. A few times, the course will be taught online, or a recording will be made available. You will be notified beforehand about the changes. For more information on instructional modes, visit https://coursebook.utdallas.edu/modalities
eLearning and Course Platforms	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. The course will utilize the following platforms: • Announcements, written lecture materials, assignments and grades will be posted on the course's eLearning site. It is the students' responsibility to regularly check their UTD email accounts and the eLearning page for this course. • Microsoft Teams will be utilized for lectures and other live communications. • Recorded (and annotated) lectures and other communications will be available on Microsoft Teams. Active links to Teams will be available on the eLearning web site. In addition to a confident level of computer and Internet literacy, certain minimum technical requirements must be met to enable a successful learning experience. Please review the important technical requirements on the Getting Started with eLearning 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.
Technical Requirements and Resources	Beginning in Spring 2020, undergraduate and graduate students will be required to have their own laptop for their classes. While JSOM Technology and Facilities services does not support student laptops, the UTD Tech store can help. The UTD Tech store is located in the Visitor's Center, or you can reach them at 972-883-6500. For non-traditional modalities, webcams are preferred during lectures. If taking a proctored exam remotely, a webcam will be required. **Distance Learning Student Resources -** Online students have access to resources including the McDermott Library, Academic Advising, The Office of Student AccessAbility, and many others. Please see the eLearning Current Students webpage for more information.
Server Unavailability or Other Technical Difficulties	The University is committed to providing a reliable learning management system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and also contact the online eLearning Help Desk. The instructor and the eLearning Help Desk will work with the student to resolve any issues at the earliest possible time.
Class Participation	Regular class participation is expected regardless of course modality. 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 and Materials	The instructor may record meetings of this course. Any recordings will be available to all students registered for this class as they are intended to supplement the classroom experience. 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. 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. Failure to comply with these University requirements is a violation of the Student Code of Conduct. 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.

ITSS 4380 – Advanced Database Management
TENTATIVE CALENDAR, ASSIGNMENTS and KEY DATES[1]

Spring 2026
Wednesdays, 4:00pm: JSOM 1.102

WK	Week Beginning	CONTENT	READINGS	ASSIGNMENTS
1	1/19	Introduction to the course & SQL Review: Relational Database Concepts	DB Text* CH 7	
2	1/26	Database Manipulation: • SQL I – SQL Fundamentals	DB Text* CH 7 Handout	
3	2/2	Logical Database Design – ER/EER	DB Text* CH 4	**Assignment 1**
4	2/9	Logical Database Design (Cont.) Database Manipulation: • SQL II Advanced SQL	DB Text* CH 4,5	**Project Assignment**
5	2/16	Normalization Database Manipulation: SQL II Advanced SQL	DB Text* CH 6 **(Remote/TEAMS)**	**Project Milestone 1**
6	2/23	Database Manipulation: SQL III Advanced SQL	DB Text* CH 8	**Assignment 2**
7	3/2	Database Manipulation: SQL IV Stored Procedures	DB Text* CH 8	
8	3/9	Database Manipulation: SQL IV Triggers and Views	DB Text* CH 8	**Project Milestone 2**
9	3/23	Database Manipulation: SQL VI Analytical Processing	DB Text* CH 8 **(Recorded)**	**Assignment 3**
10	3/30	Database Administration: Performance Tuning and Access Rights		**Project Milestone 3**
11	4/6	Big Data Analytics – No SQL	Handout	**Assignment 4**
12	4/13	Big Data Analytics – No SQL	Handout	
13	4/20	Big Data Analytics – No SQL	Handout	**Project Milestone 4**
14,15	***4/27 Last of Class 5/6***	**Course Wrap-up, Project Presentations**		**Assignment 5** **Project Milestone 5**

[1] Any changes to this schedule will be announced in class and through eLearning. It is the student's responsibility to keep track of them.

POLICIES

Grading	This course will feature a mix of activities and written and verbal assignments that may be in class or outside of class. The instructor will provide detailed instructions and the grading criteria for each assignment. Please consult the course schedule for deadlines. Your final grade will be based on the total score of the following: Assignments - 40 points Project – 40 points In Class Exercises, Quizzes, Participation, and Attendance – 20 points (Subject to change based on the number of in-class exercises.) Resulting in a letter grade of: • 93% and above = A • 90%-92.9% = A- • 87-89.9 % = B+ • 83-86.9 points = B • 80-82.9 points = B- • 77-79.9 points = C+ • 73-76.9 points = C • 70-72.9 points = C- • 60-69.9 points = D • Below 60 points = F All grades will be posted as available, in eLearning throughout the term.
In-Class Exercises, and Quizzes	Quizzes will be given randomly and with no warning. Quizzes and in-class exercises must be completed in class; if you are absent from the class and a quiz and in-class exercise is given, these cannot be made up.
Exams	Although there are no exams currently planned for the course, if plans change, exams are scheduled well in advance. If you miss an exam, you will be given a zero! There is no makeup. If you have a legitimate, non-academic reason for missing an exam, you must provide verifiable documentation BEFORE the day of the exam. If you contact me AFTER the exam, it is considered missing the exam. Personal or business travel is not a legitimate reason for missing an exam. Missing an exam for travel reasons cannot be made up. If you arrive after a student has submitted an exam, you will not be permitted to take the exam, and you will receive a ZERO on the exam. I do not create exam review sheets; I review all materials in class before the exam and emphasize key points throughout the lectures. I also review the material in class. This is one of the incentives for coming to class and taking notes.
eLearning	**eLearning** will be used for all class content (e.g., class slides and assignment descriptions), exams, and the recording of grades. Lecture slides will be posted before class is held. Class announcements (e.g., change in assignment dates) will be sent to the student email on record in eLearning, and posted in eLearning. It is the students' responsibility to regularly check their UTD email accounts and the eLearning page for this course.
Class Preparation, Assignments and Projects	Assignments will generally be posted well in advance of their due date, depending on our progress in the class. Assignment specific grading criteria will be included with the assignment description and instructions. All assignments will be submitted for grading into eLearning before the due date and time posted. The assignment posting link in eLearning will not be available after the due date and time. **NEITHER LATE SUBMISSIONS NOR HOMEWORK ASSIGNMENTS SENT BY EMAIL WILL BE ACCEPTED AND THUS WILL NOT BE GRADED** unless prior arrangements are made and verified with the instructor. There will be no make-up assignments, nor considerations for last-minute technical difficulties preventing submissions to eLearning, so plan ahead. Students may submit (and resubmit, if before the due date) interim work into eLearning, to ensure their work will be graded. Written assignments must generally adhere to the APA style guide of formatting, citing, and referencing.

	DO NOT CHEAT and DO NOT PLAGIARIZE. All individual assignments and exams are to be individual efforts. You may collaborate with other students, or to discuss homework or assignments with other students prior to submission. Copying of homework, assignments, or exams, in whole or in part, from other students or from assignments from previous semesters will be considered an act of academic dishonesty. You are encouraged to ask questions, raise issues, and make observations about homework; please be advised that if you have a question or issue with your assignment grade, your entire assignment is subject to re-review (re-grading) which may or may not result in additional point deductions. Please be careful when using Generative AI. While it is a useful tool, your grades and evaluations will be determined by your final product. Do not directly copy/paste responses. If you do use AI, you will be required to show the tool you used, your queries, and the results of those queries. Word of caution: double-check your assignment submissions. I do not allow resubmission. It is very important to double-check your work and your submission before submitting.
Academic Integrity	**DO NOT CHEAT, and DO NOT PLAGIARIZE. All homework and exams are to be individual efforts. While you may collaborate with other students or discuss homework or assignments with other students before submission, unless instructed otherwise, copying homework, assignments, or exams, in whole or in part, from other students or assignments from previous semesters is considered an act of academic dishonesty. Sharing your completed homework with another student is also considered academic dishonesty.** All work should demonstrate the same professional and ethical standards expected of you in the workplace, including proofreading and editing carefully all work you submit in class. Professionalism and personal responsibility mean using appropriate source citations to avoid violations of copyright and academic honesty, even if those violations are inadvertent. The University is committed to academic excellence and expects academic honesty from all University community members. Academic honesty includes adherence to guidelines established by the instructor for both individual and group work. It prohibits representing the work of others to be one's own (plagiarism); receiving unauthorized aid on an assignment (cheating); and using similar papers or other work products to fulfill the obligations of different classes without the instructor's permission. Any student engaged in academic dishonesty will be subject to disciplinary action. All cases of academic dishonesty will reported directly to Judicial Affairs. My recommendation for acts of academic dishonesty will be an F in the course. The importance of academic honesty and my recommended sanctions are emphasized during class, in emails, and on the exams and assignments.
Use of Artificial Intelligence	The University of Texas at Dallas (UT Dallas) recognizes the evolving landscape of technology and its integration into the academic lives of students and faculty. One such technology is generative artificial intelligence (AI), which can create new content based on patterns and structures learned from existing data. In accordance with the UT Dallas Student Code of Conduct (UTDSP5003), students are expected to uphold honesty, integrity, and service in all that they do, including when using generative AI in academic work. When the faculty member permits generative AI use, students are expected to use generative AI ethically and responsibly. Students should document and attribute the use of generative AI as appropriate to the academic style (APA, MLA, Chicago, etc.) or a professional style specified by the faculty member. Students must follow written guidelines from faculty on citation styles. Students must validate or verify the output from generative AI. Please see UTD's official policy for full details. https://policy.utdallas.edu/utdsp5017
Class Attendance and Preparation	**ATTENDANCE IS EXPECTED**. Looking at previous experiences with this and other classes, tardiness and absence are the main contributing factors to poor and failing grades. Students are expected to attend all classes to achieve maximum success. Attendance will be taken periodically and used in consideration for the Participation grade; however, this grade will also reflect the instructor's judgment of the value of contributions to class discussion. **There is no makeup for missed in-class assignments and/or quizzes.** Students are encouraged to actively participate in class discussions. Students are expected to bring a computer to every class.

Email Use	The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individuals corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.
Classroom Citizenship	I strongly encourage class discussion, questions, and enthusiasm about the course material. Please engage in class discussions. I ask that you be respectful during class and respectful to your peers who are part of the learning environment. This means no talking to others during class presentations, silence your phone, don't take calls in class.
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."
Special Assistance	For help you succeed in the class, the following resources are available: Your instructor, TA for the Class, the Student Success Center (MC1.302), the Student Counseling Center (SSB 4.600) and the New Student Programs Office (SSB 3.600) among other resources. Of course, a myriad of free resources are available on the internet.
Academic Support Resources	The information contained in the following link lists the University's academic support resources for all students. Please go to 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 go to http://go.utdallas.edu/syllabus-policies for these policies.