

Sul Ross State University
Course Syllabus
CSA&CSR 3318: Advanced Database Systems:
Spring 2026

Instructor: Dr. Bushra Sajid

Office Number: ACR 203 C

Email Address: Bushra.sajid@sulross.edu

Office Hours: 3:30-5 MTWTR, others by appointment

Time and Place of Class Meetings: Class: TT 2:00-3:15 ACR 203

Course Objectives: Study of the concepts of database management systems. Topics include file structures, access methods, database modeling and design, structured query language (SQL), and high level language interfaces to database systems.

Marketable Skills:

- Students design and implement well-structured relational databases using sound data modeling principles.
- Students write efficient SQL queries, views, and stored procedures to solve practical data problems.
- Students apply normalization and schema design techniques to reduce redundancy and improve data integrity.
- Students use debugging and testing techniques to validate database functionality and correctness.

Grading Scale: 90-100 A, 80-89 B, 70-79 C, 60-69 D, 59-Below F

Grading Policy:

Quizzes/Homework: 25%

Midterm Exams: 35%

Final Exam: 40%

The grade weighting will be as follows:

Assignments with their due dates will be posted on Blackboard.

No make-up exams will be given. If there is a valid reason for missing an exam, then the grade for the missed exam will be replaced by the grade on the final exam. Otherwise, a missed exam will be a zero. Exams will be closed notes, closed book, and no calculator will be allowed unless otherwise stated. Any restroom breaks need to be taken before an exam starts. You cannot leave the classroom in the middle of an exam under any circumstances.

Lab time will be used in a variety of ways. It may be used to answer questions we did not get to in class, extra assignments to gain a deeper understanding, or quizzes and exams. If exams are to be given during lab time, I will give ample notice.

Attendance Policy: Students are expected to attend every class. If class must be missed, the student is expected to get the notes from a classmate, and to check with me or on Blackboard for announcements and updated assignments.

Students are expected to arrive to class on time. If a student is perpetually late, they will be asked to not attend class unless they can arrive on time. If tardiness becomes a problem for the class as a whole, people who arrive late will not be permitted to enter the class. If this stricter policy becomes necessary, there will be an announcement made in class.

Cell Phone Policy: Any phone ringing during class will be taken up until the end of class. If a phone rings during a test or quiz, the student will forfeit their right to finish said test or quiz.

Distance Education Statement: Students enrolled in distance education courses have equal access to the university's academic support services, such as Smarthinking, library resources, online databases, and instructional technology support. For more information about accessing these resources, visit the SRSU website. Students should correspond using Sul Ross email accounts and submit online assignments through Blackboard, which requires secure login information to verify students' identities and to protect students' information. The procedures for filing a student complaint are included in the student handbook. Students enrolled in distance education courses at Sul Ross are expected to adhere to all policies pertaining to academic honesty and appropriate student conduct, as described in the student handbook. Students in web-based courses must maintain appropriate equipment and software, according to the needs and requirements of the course, as outlined on the SRSU website.

Americans With Disabilities Act: SRSU Accessibility Services. Sul Ross State University (SRSU) is committed to equal access in compliance with the Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the student's responsibility to initiate a request each semester for each class. Students seeking accessibility/accommodations services must contact Ronnie Harris, LPC, Counselor, at 432-837-8203 or email ronnie.harris@sulross.edu. Our office is located on the first floor of Ferguson Hall, room 112, and our mailing address is P.O. Box C122, Sul Ross State University, Alpine, Texas, 79832.

Counseling: Sul Ross has partnered with TimelyCare where all SR students will have access to nine free counseling sessions. You can learn more about this 24/7/365 support by visiting Timelycare/SRSU. The SR Counseling and Accessibility Services office will continue to offer in-person counseling in Ferguson Hall room 112 (Alpine campus), and telehealth Zoom sessions for remote students and RGC students.

Library Services: The Bryan Wildenthal Memorial Library and Archives of the Big Bend in Alpine offer FREE resources and services to the entire SRSU community. Access and borrow books, articles, and more by visiting the library's website, library.sulross.edu/. Off-campus access requires logging in with your LobolD and password. Librarians are a tremendous resource for your coursework and can be reached in person, by email (srsulibrary@sulross.edu), or by phone (432-837-8123).

No matter where you are based, public libraries and many academic and special libraries welcome the general public into their spaces for study. SRSU TexShare Cardholders can access additional services and resources at

various libraries across Texas. Learn more about the TexShare program by visiting library.sulross.edu/find-and-borrow/texshare/ or ask a librarian by emailing srsulibrary@sulross.edu.

Mike Fernandez, SRSU Librarian, is based in Eagle Pass (Building D-129) to offer specialized library services to students, faculty, and staff. Utilize free services such as InterLibrary Loan (ILL), ScanIt, and Direct Mail to get materials delivered to you at home or via email.

Academic Integrity: Students in this class are expected to demonstrate scholarly behavior and academic honesty in the use of intellectual property. A scholar is expected to be punctual, prepared, and focused; meaningful and pertinent participation is appreciated. Examples of academic dishonesty include but are not limited to: Turning in work as original that was used in whole or part for another course and/or professor; turning in another person's work as one's own; copying from professional works or internet sites without citation; collaborating on a course assignment, examination, or quiz when collaboration is forbidden.

Generative Artificial Intelligence (AI): The University does not recommend or endorse any specific AI tools or resources. Students should be aware that many generative AI tools (e.g., ChatGPT, Google Gemini, Microsoft Copilot) store user input and may use this data to train future models. For this reason, students should never upload or share personal, confidential, or identifiable information—such as names, ID numbers, health data, or assignment submissions containing such details—into any generative AI platform. When using AI tools, students should verify whether the tool complies with student privacy standards as indicated by the University. Faculty may recommend specific tools that better align with institutional data privacy policies, but ultimate responsibility for data protection rests with users. Students are encouraged to use faculty-recommended platforms when engaging in coursework involving generative AI. The University is not liable for any adverse experience or impact when students interact with these tools.

Student Responsibilities : All full-time and part-time students are responsible for familiarizing themselves with the Student Handbook and the Undergraduate & Graduate Catalog and for abiding by the University rules and regulations. Additionally, students are responsible for checking their Sul Ross email as an official form of communication from the university. Every student is expected to obey all federal, state and local laws and is expected to familiarize themselves with the requirements of such laws.

Classroom Climate of Respect: Importantly, this class will foster free expression, critical investigation, and the open discussion of ideas. This means that all of us must help create and sustain an atmosphere of tolerance, civility, and respect for the viewpoints of others. Similarly, we must all learn how to probe, oppose and disagree without resorting to tactics of intimidation, harassment, or personal attack. No one is entitled to harass, belittle, or discriminate against another on the basis of race, religion, ethnicity, age, gender, national origin, or sexual preference. Still, we will not be silenced by the difficulty of fruitfully discussing politically sensitive issues.

Supportive Statement: I am to create a learning environment for my students that supports various perspectives and experiences. I understand that the recent pandemic, economic disparity, and health concerns, or even unexpected life events may impact the conditions necessary for you to succeed. My commitment is to be there for you and help you meet the learning objectives of this course. I do this to demonstrate my commit-

ment to you and to the mission of Sul Ross State University to create a supportive environment and care for the whole student as part of the Sul Ross Familia. If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to come and talk with me. I want to be a resource for you.

Tutoring: The Lobo Den Tutoring Center offers FREE tutoring support to help you excel in your courses. Whether you need assistance in Writing, Math, Science, or other subjects, we're here to help!

Important Information:

Drop-in and Scheduled Appointments: Flexible options to fit your needs. Hours of Operation: Monday–Friday, 8:00 AM – 5:00 PM. Workshops: Attend our regularly hosted academic workshops on STEM topics and professional development, often in collaboration with specialized faculty. Location: BWML Room 128. Contact Us: For more information or to book an appointment, email tutoring@sulross.edu or call (432) 837-8726. Looking for additional support?

Tutor.com offers FREE 24/7 online tutoring in over 200 subjects, including specialized support for ESL and ELL learners with native Spanish-speaking tutors. Access Tutor.com via Blackboard: Log in to your Blackboard account to get started anytime, anywhere. Take advantage of these valuable resources to boost your confidence and performance in your classes. We look forward to helping you succeed!

Important Dates:

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| Jan 14 | First day of classes |
| Jan 19 | Martin Luther King Jr. Day (no class) |
| Jan 20 | Last day for late registration and schedule changes Payment deadline for students, 4 p.m. |
| Jan 30 | Census day (Last day to drop a 16-week term course without creating an academic record) |
| Mar 9-13 | Spring Break (no class) |
| Mar 16 | Mid-term |
| Apr 3 | Last day to drop a session I course with a 'W'. Drops must be processed and in the University Registrar's office |
| May 1, 4-6 | Final Examinations (May 4 10:15-12:15 for this class) |

Tentative Class Schedule-Subject to Change

| Tuesday | | Thursday | |
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| | | Jan 15 | Introduction & Why Databases Matter |
| Jan 20 | Review of Relational Databases | Jan 22 | Course Tools Setup (MySQL) |
| Jan 27 | Database Architecture | Jan 29 | DBMS Components, Storage Manager |
| Feb 3 | Query Processor, Transaction Manager (high-level) | Feb 5 | File Structures: Heap, Sequential Files |
| Feb 10 | Hash-Based Storage | Feb 12 | Access Methods: Indexing Concepts |
| Feb 17 | B+ Trees, Hash Indexes | Feb 19 | Database Modeling & Design |
| Feb 24 | ER Modeling (Advanced), Constraints, Weak Entities | Feb 26 | Normalization & Schema Refinement |
| Mar 3 | Functional Dependencies, 1NF → BCNF | Mar 5 | Trade-offs in Normalization |
| Mar 17 | SQL Review (Advanced): Subqueries | Mar 19 | Joins (INNER, OUTER), Aggregation |
| Mar 24 | Advanced SQL: Views, Stored Procedures | Mar 26 | Catch Up Day / Conference |
| Mar 31 | Triggers, Functions | Apr 2 | Query Processing & Optimization |
| Apr 7 | Transactions & Concurrency Control | Apr 9 | Recovery & Fault Tolerance |
| Apr 14 | High-Level Language Interfaces | Apr 26 | Modern Database Topics: NoSQL Overview |
| Apr 21 | When NOT to Use Relational Databases | Apr 2 | Distributed Databases (Conceptual) |
| Apr 28 | Review / Wrap-Up | | |