Sul Ross State University
Course Syllabus
CSA4314: Computer Architecture and Lab
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 10:00-12:15 ACR 203, Lab 10:51-11:42 ACR 203

Course Objectives: This course aims to provide students with a solid understanding of how computer hardware executes programs, how architectural design choices affect performance, and how modern processors are structured and optimized.

Marketable Skills:

- Students demonstrate a strong understanding of computer hardware organization and operation, including instruction sets, datapaths, control units, and memory hierarchies.
- Students analyze and design efficient processor architectures, applying principles of pipelining, parallelism, and performance optimization.
- Students evaluate and optimize memory systems, including cache design, virtual memory, and storage performance.

Textbook: Computer Architecture: A Quantitative Approach by Hennessy and Patterson

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

Grading Policy:
Quizzes/Homework: 15%
Lab work: 10%
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 commitment 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:

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
May 1, 4-6	Final Examinations (May 4 10:15-12:15 for this class)

Tentative Class and Lab Schedule-Subject to Change

Tuesday		Thursday	
		Jan 15	Orientation & Introduction
Jan 20	Variables, Registers, and Data Movement	Jan 22	Instruction Groups and Registers (Part 1)
Jan 27	Instruction Groups and Registers (Part 2)	Jan 29	Data Transfer and Addressing
Feb 3	Data Declaration and Size Mismatch	Feb 5	Direct and Indirect Addressing; Loops (Part 1)
Feb 10	Direct and Indirect Addressing; Loops (Part 2)	Feb 12	Practice Questions on Branching
Feb 17	Practice Questions (Remaining)	Feb 19	Bit Manipulation
Feb 24	Shifting and Rotation	Feb 26	Shifting and Rotation (Practice Questions)
Mar 3	Stacks and Procedures	Mar 5	Midterm Exam
Mar 17	Procedures (Part 2)	Mar 19	Practice Questions (Assignment 2)
Mar 24	Subroutines (Part 1)	Mar 26	Subroutines (Part 2)
Mar 31	Integrated Assembly Programming Examples	Apr 2	Debugging Techniques and Common Errors
Apr 7	Bit Manipulation Review and Applications	Apr 9	Shifting and Rotation Review
Apr 14	Advanced Assembly Applications	Apr 26	System-Level Programming Concepts
Apr 21	Final Project Workshop	Apr 2	Comprehensive Review Session
Apr 28	Final Review / Wrap-Up		