

Sul Ross State University
Course Syllabus
MATH 3340-001,VMC,VRG
Foundations of Higher Mathematics
Spring 2025

Instructor: Dr. Angela M. Brown

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Office Hours: 12-12:30 and 3-4 M,12-12:30 and 2-5 pm W, 3:30-5 R, others by appointment

Time and Place of Class Meetings: TR 11:00-12:15 pm ACR 206

Description of Course Content: A transition course to higher mathematics. Students learn how to organize and structure their mathematical thoughts, how to read and manipulate abstract definitions, and how to prove or refute proofs by effectively evaluating them. Topics such as propositional logic, set theory, and techniques of proving will be the basis for discussions on functions, sequences, relations, limits, cardinality, divisibility, the real numbers and complex numbers.

Course Prerequisites: MATH 2414 or 2311

Mathematics Program Learning Objectives: The graduating student should be able to

- Apply knowledge of basic mathematics principles.
- Identify and provide valid proofs or solutions for theorems or problems.
- Recognize and dispute invalid mathematical statements by using counterexamples.

Course Objectives:

- The student should be able to proof various problems.
- The student will be able to identify and give a counterexample for incorrect conjectures.
- The student will be able to construct truth tables to validate an argument.

Required Textbooks: *A TeXas-Style Introduction to Proof*. Homework will be assigned from the text and other sources.

Other Equipment Needed: paper and pencil, potentially a computer if you want to type your solutions.

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

Grading Policy: The grade weighting will be as follows:

Quizzes/Homework/In Class Assignments: 30%

Participation: 10%

Exams:40%

Final Exam: 20%

Quizzes will be given periodically. Homework will be assigned daily. Assignments with their due dates will be posted on Blackboard. Homework will be graded on completion and accuracy. Copying answers out of the back of the book is plagiarism and will be prosecuted. 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. 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.

We will have presentations during class of problems. These will count as your participation grade. If you are not ready to present or are absent, you lose your participation points for the day.

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.

It is policy of the university to drop a student with a grade of "F" if 9 hours or more of class are missed. For this course that would be 6 or more class sessions missed. Absences for school related activities will not count in these 6 absences.

Cell Phone Policy: Cell phones are not allowed in class. They cannot be used as calculators on any assignment. 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.

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 Mrs. Mary Schwartze Grisham, LPC, SRSU's Accessibility Services Director or Ronnie Harris, LPC, Counselor, at 432-837-8203 or email mschwartz@sulross.edu or 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](https://www.timelycare.com). 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.

Tutoring Center: 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!

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 LoboID 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.

Student Responsibilities Statement: 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.

Distance Education Statement: Students enrolled in distance education courses have equal access to the university's academic support services, such as 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 a secure login. 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. Directions for filing a student complaint are located in the student handbook.

Academic Integrity: Students in this class are expected to demonstrate scholarly behavior and academic honesty in the use of intellectual property. Students should submit work that is their own and avoid the temptation to engage in behaviors that violate academic integrity, such as 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. Students should also avoid using open AI sources unless permission is expressly given for an assignment or course. Violations of academic integrity can result in failing assignments, failing a class, and/or more serious university consequences. These behaviors also erode the value of college degrees and higher education overall.

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.

Important Dates:

January 15	First Day of Classes
January 20	MLK Day Holiday
January 21	Last Day for Late Registration and Schedule Changes
January 31	12th Class Day, Last day to drop a course without creating an academic record
March 17-21	Spring Break
April 4	Last Day to Withdrawal from University or Drop Classes with a Grade of “W” (by 4 pm)
April 30	Last Day of Classes
May 1	Dead Day
May 2, 5-7	Final Exams

Tentative Schedule-Subject to Change

	Tuesday		Thursday
		Jan 16	Intro, Syllabus
Jan 21	Statements	Jan 23	Statements, Compound Statements, Truth Tables
Jan 28	Truth Tables, Implications, Quantifiers	Jan 30	Methods of Proof
Feb 4	Methods of Proof	Feb 6	Methods of Proof
Feb 11	Methods of Proof	Feb 13	Methods of Proof
Feb 18	Exam 1	Feb 20	Induction
Feb 25	Induction	Feb 27	Induction
Mar 4	Set Theory	Mar 6	Set Theory
Mar 11	Set Theory	Mar 13	Set Theory
Mar 25	Functions and Relations	Mar 27	Exam 2
Apr 1	Functions and Relations	Apr 3	Functions and Relations
Apr 8	Counting	Apr 10	Counting
Apr 15	Counting	Apr 17	Axiomatics
Apr 22	Axiomatics	Apr 24	Axiomatics
Apr 29	Exam 3		