Sul Ross State University
Course Syllabus
MATH 3415-001, V01, H01,H02,H03: Calculus III
Fall 2023

Instructor: Dr. Angela M. Brown
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Office Telephone Number: (432)837-8223
Email Address: abrown4@sulross.edu
Office Hours: 10 am-12 pm and 2-5 pm M, 2-5 pm W, 10-11 TR, others by appointment
Time and Place of Class Meetings: TR 11:00-12:15 pm ACR 206, Lab W 10:00-11:40 am ACR 206 (Del Rio 109 Lab 107, Eagle Pass B113 Lab B112 , Uvalde B113 Lab B114C)

Course Prerequisites: C or better in MATH 2414 or consent of the instructor.

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 counter-examples.

Course Objectives:

- The student will be able to find dot and cross products of vectors.
- The student will apply vectors to solve some problems encountered in Geometry and Physics.
- The student shall be able to interpret a double integral and a triple integral and evaluate said integrals using multiple methods.
- The student will be able to define vector functions
- The student will be able to apply basic theorems in vector calculus such as the Green's Theorem, Stoke'sÕ Theorem, and the Divergence Theorem.
- The student will apply various techniques learned in this and previous courses in the Calculus sequence to understand the properties of certain three dimensional objects.

Marketable Skills

- Students demonstrate logical and analytical skills.
- Students demonstrate problem-solving using analytical and algebraic methods.
- Students use technology in problem-solving and presentation.

- Students use communication and pedagogical skills.

Required Textbooks: *Calculus Concepts & Contexts,* 4th ed, Stewart ISBN 0-495-55742-0. Homework will be assigned from the text.

Other Equipment Needed: paper and pencils.

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: 25%
Exams:40%
Laboratories: 10%
Final Exam: 25%

or

Quizzes/Homework: 0%
Exams:50%
Laboratories: 20%
Final Exam: 30%

Quizzes/Homework: Quizzes will be given periodically. Homework will be assigned daily and submitted to Blackboard by the due date. Homework will be graded on completion and accuracy. Copying answers out of the back of the book is plagiarism and will be prosecuted.

Exams:

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 open book and no calculator will be allowed unless told otherwise. All exams will be take home exams this semester.

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.

Final Exam Date: Monday, December 7, 12:30-2:30 pm

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 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.

Cell Phone Policy: Cell phones are not allowed in class. They can not 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: Sul Ross State University (SRSU) is committed to equal access in compliance with 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 Rebecca Greathouse Wren, LPC-S, SRSU's Accessibility Services Coordinator at 432-837-8203 (please leave a message and we'll get back to you as soon as we can during working hours), or email rebecca.wren@sulross.edu. Our office is located on the first floor of Ferguson Hall (Suite 112), and our mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas, 79832.

Library Services: The Sul Ross Library offers 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 your LoboID and password. Check out materials using your photo ID. Librarians are a tremendous resource for your coursework and can be reached in person, by email (srsulibrary@sulross.edu), or phone (432-837-8123).

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.

Important Dates:

August 28	First Day of Classes
August 31	Last Day for Late Registration and Schedule Changes
September 4	Labor Day
September 13	12th Class Day, Last day to drop a course without creating an academic record
November 17	Last Day to Withdrawal from University or Drop Classes with a Grade of "W" (by 4 pm)
November 22-24	Thanksgiving Holiday
December 6	Last Day of Classes
December 7	Dead Day
December 8, 11-13	Final Exams

Tentative Schedule-Subject to Change

	Tuesday		Thursday
Aug 29	Three Dimensional Systems	Aug. 31	Vectors
Sept. 5	Vectors	Sept. 7	Dot Products
Sept. 12	Cross Products	Sept. 14	Equations of Lines and Planes
Sept. 19	Functions of Surfaces	Sept. 21	Polar, Cylindrical, and Spherical Coordinates
Sept. 26	Vector Functions, Calculus of Vector Functions	Sept. 28	Arc Length and Curvature
Oct 3	Motion in Space **Exam 1 Lab**	Oct 5	Functions of Several Variables
Oct. 10	Partial Derivatives	Oct. 12	Tangent Planes and Linear Approximation
Oct. 17	Directional Derivatives and Gradient Vectors	Oct. 19	Second Partial Derivative Test
Oct. 24	LaGrange Multipliers **Exam 2 Lab**	Oct. 26	Double Integrals over Rectangles
Oct. 31	Double Integrals Over a General Region	Nov 2	Double Integrals in Polar Coordinates
Nov. 7	Applications of Double Integrals	Nov. 9	Surface Area Formula
Nov. 14	Triple Integral over Rectangular Boxes	Nov. 16	Triple Integral over General Regions
Nov. 21	Triple Integrals with Cylindrical and Spherical Coordinates	Nov. 23 7	**Thanksgiving Holiday**
Nov. 28	Change of Variables in Multiple Integrals	Nov.30	Change of Variables in Multiple Integrals
Dec 5	Vector Calculus **Exam 3 Lab**		