

Sul Ross State University
Course Syllabus
MATH 3415-001: Calculus III
Fall 2014

Instructor: Dr. Angela Brown

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Office Hours: 10-11 MWF, 3-4 T, 2-4 R, others by appointment

Time and Place of Class Meetings: MW 2:00-3:15 pm ACR 206, Lab W 3:30-4:45 pm ACR 104

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's 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.

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%

Quizzes/Homework: Quizzes will be given periodically, either on Wednesdays or during lab time. Homework will be assigned daily and homework will be taken up at the beginning of class on Monday. 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 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.

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.

Final Exam Date: Wednesday, December 10 at 3:00 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 is committed to equal access in compliance with the Americans With Disabilities Act of 1973. As an instructor I am required to give students reasonable accommodations in each course. It is the student's responsibility to initiate a request for accessibility services. Contact Mary Schwartze, the ADA Coordinator in Counseling and Accessibility Services Ferguson Hall, Room 112. Her phone number is 432-837-8203 or you can email her at mschwartz@sulross.edu.

Important Dates:

August 25	First Day of Classes
August 28	Last Day for Late Registration and Schedule Changes
September 10	12th Class Day
November 14	Last Day to Withdrawal from University or Drop Classes with a Grade of "W" (by 4 pm)
November 26-28	Thanksgiving Holiday
December 3	Last Day of Classes
December 4-5	Dead Days
December 8-11	Final Exams
December 13	Commencement

Tentative Schedule-Subject to Change

	Monday		Wednesday
Aug 25	Three Dimensional Systems	Aug. 27	Vectors
Sept. 1	Labor Day Holiday	Sept. 3	Dot Products
Sept. 8	Cross Products	Sept. 10	Equations of Lines and Planes
Sept. 15	Functions of Surfaces	Sept. 17	Polar, Cylindrical, and Spherical Coordinates
Sept. 22	Vector Functions, Calculus of Vector Functions	Sept. 24	Arc Length and Curvature
Sept. 29	Motion in Space	Oct. 1	Functions of several Variables Exam 1 During Lab Time
Oct. 6	Partial Derivatives	Oct. 8	Tangent Planes and Linear Approximation
Oct. 13	Directional Derivatives and Gradient Vectors	Oct. 15	Second Partial Derivative Test
Oct. 20	LaGrange Multipliers	Oct. 22	Double Integrals over Rectangles
Oct. 27	Double Integrals Over a General Region	Oct. 29	Double Integrals in Polar Coordinates Exam 2 During Lab Time
Nov. 3	Applications of Double Integrals	Nov. 5	Surface Area Formula
Nov. 10	Triple Integral over Rectangular Boxes	Nov. 12	Triple Integral over General Regions
Nov. 17	Triple Integrals with Cylindrical and Spherical Coordinates	Nov. 19	Change of Variables in Multiple Integrals
Nov. 24	Exam 3	Nov. 26	Thanksgiving Holiday
Dec. 2	Final Review		