

Sul Ross State University
Course Syllabus
MATH 2318-001& MC1: Linear Algebra
Fall 2013

Instructor: Dr. Angela Brown

Office Number: ACR 107D

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

Time and Place of Class Meetings: MWF 11:00-11:50 am ACR 206

Course Prerequisites: Passing grade in MATH 1316:Trigonometry

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 evaluate matrices using matrix operations.
- The student will apply their knowledge of matrices to real world problems.
- The student will be able to define what a vector space is.
- The student will be able to change from one basis to another using various techniques.
- The student will be able to apply their knowledge of linear algebra to other courses in the program.

Required Textbooks: *Linear Algebra and Its Applications* 4th ed, Lay ISBN 978-0-321-38517-8. 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/in Class Assignments: 30%

Project: 15%

Exams: 30%

Final Exam: 25%

Quizzes: Quizzes will be given periodically. You will have advanced warning of most quizzes. Additional in class assignments will be given and counted the same as quiz and homework grades.

Homework: 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.

Project: Chapters 7-10 will not be covered in class. Each student will need to pick one section to present on and do 10 additional problems from. Students will present this information, if time remains, on the last two days of class.

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.

Final Exam Date: Wednesday, December 10 at 10:15 am

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 9 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 Schwartz, 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		Friday
Aug. 25	Systems of Linear Equations	Aug. 27	Row Reduction and Echelon Forms	Aug. 29	Vector Equations
Sept. 1	Labor Day Holiday	Sept. 3	Matrix Equations	Sept. 5	Solutions of Linear Systems and Applications
Sept 8	Linear Independence	Sept 10	Linear Transformations	Sept 12	Linear Transformations
Sept 15	Matrix Operations and Matrix Inverse	Sept 17	Partitioned Matrices	Sept 19	Matrix Factorizations
Sept 22	Subspaces of \mathbb{R}^n	Sept 24	Dimension and Rank	Sept 26	Determinants
Sept. 29	Cramer's Rule	Oct. 1	Exam 1	Oct.3	Vector Spaces
Oct. 6	Null and Col Spaces and Linear Trans	Oct. 8	Bases	Oct.10	Coordinate Systems
Oct. 13	Rank	Oct. 15	Eigenvectors and Eigenvalues	Oct.17	Characteristic Equation
Oct. 20	Exam 2	Oct. 22	Diagonalization	Oct.24	Eigenvectors and Linear Transformations
Oct. 27	Inner Product, Length and Orthogonality	Oct. 29	Orthogonal Sets	Oct. 31	Orthogonal Projections
Nov 3	Gram-Schmidt Linear Diff Eqns	Nov. 5	Least Squares	Nov. 7	Inner Product Space
Nov 10	Applications of Inner Products	Nov. 12	Diagonalization	Nov. 14	Quadratic Forms
Nov 17	Exam 3	Nov. 18	Constrained Optimization	Nov. 21	Singular Value Decomposition
Nov 24	Review	Nov. 26	Thanksgiving Holiday	Nov. 28	Thanksgiving Holiday
Dec. 1	Presentations	Dec.3	Presentations		