MATH 2700.008: Linear Algebra and Vector Geometry

TIME AND PLACE: Mon Wed 17:30-18:50PM, LIFE A419
PROFESSOR: Santiago I. Betelú
OFFICE: GAB470B, e-mail: santiago.betelu@unt.edu
TEXT: DC Lay, SR Lay and JJ McDonald, "Linear Albegra and its Applications", Sixth edition
OFFICE HOURS: MoWeFr 7:55-8:55AM, 10:00-11:00AM and MoWe 16:25-17:25PM

COURSE DESCRIPTION: Vector spaces over the real numbers, applications to systems of linear equations and analytic geometry, linear transformations, matrices, algebra, determinants and eigenvalues.

GRADES: Grades will be based on three midterm exams (20 points each), homeworks and quizes (20 points) and a final exam (40 points). The lowest of the midterm grades is dropped, so the maximum score is 100. To earn an A you need 90 points, 80 for a B, 70 for a C and 60 for a D.

HOMEWORK: Will be assigned in Canvas and your solutions must be uploaded within the indicated deadline. Check your solutions with the solutions at the end of the textbook, if you don't get them come to my office for help. The grader evaluates the intermediate steps so you must be clear to get the full grade.

EXAMS: Midterm exams will be given on Sep 17, Oct 22 and Nov 19 during regularly scheduled class time. The final exam is scheduled on Mon Dec 8 at 16:00-18:00 PM on the same classroom (these dates may change, so ask me one week before).

DISSABILITIES: It is responsibility of students with certified disabilities to provide the instructor with appropriate documentation from the Dean of Students Office. If you qualify for extra time you must take the exam at the ODA Testing Center.

CHEATING: or homework plagiarism will not be tolerated. Anyone caught cheating will receive an F for the course. Notes, calculators or electronic devices are not allowed during exams.

SCHEDULE

Week	Sections	Summary
Aug 18	1.1, 1.2	Systems of linear equations. Row reduction and echelon forms
Aug 25	1.3, 1.4	Vector equations. The matrix equation Ax = b
Sep 01	1.5, 1.6	Solution sets of linear systems. Applications.
Sep 08	1.7	Linear independence.
Sep 15	1.8	Introduction to linear transformations.
Sep 17		Midterm 1
Sep 22	1.9	The matrix of a linear transformation
Sep 29	2.1	Matrix operations.
Oct 06	2.2, 2.3	The inverse of a matrix. Characterization of invertible matrices.
Oct 13	2.4	Partitioned matrices.
Oct 20	2.5, 2.7	Matrix factorizations. Applications.
Oct 22		Midterm 2
Oct 27	4.1, 4.2	Vector spaces and subspaces. Null spaces, column spaces, and linear transformations.
Nov 03	4.3, 4.4	Linearly independent sets. Bases. Coordinate systems.
Nov 10	4.5, 4.6	The dimension of a vector space. Rank.
Nov 17	3.1, 3.2	Introduction to determinants. Properties of determinants.
Nov 19		Midterm 3
Nov 24	5.1, 5.2	Eigenvectors and eigenvalues. The characteristic equation.
Dec 1	5.3	Diagonalization. Review.
Dec 8		Final Exam Mon Dec 8 at 16:00-18:00PM