DAVIS UNIVERSITY

COURSE SYLLABUS
MTH316: LINEAR ALGEBRA
SUMMER QUARTER 2026

QUARTER: SUMMER QUARTER 2026

COURSE SYLLABUS FOR: MTH316 LINEAR ALGEBRA

CREDIT HOURS: 5 CREDITS

INSTRUCTOR:

INSTRUCTOR EMAIL:

INSTRUCTOR OFFICE HOURS:

COURSE DESCRIPTION: Topics include systems of linear equations, vector spaces and subspaces, bases, linear transformations, determinants, eigenvalues and eigenvectors, diagonalization of symmetric matrices, and orthogonality.

PREREQUISITES: Calculus I

TEXT: Linear Algebra and Its Applications, 6th Edition, David C. Lay. ISBN: 9780135851159

LATE WORK POLICY: All students are expected to submit homework assignments electronically on the date specified on the syllabus No late homework will be accepted and the student will receive a “0” (zero) for the homework assignment. Should the student refuse to complete the assigned work for the class, it could result in the student failing the class. All work assigned is expected to be completed on the date assigned. The instructor reserves the right to alter the schedule as necessary. Please be sure to check your email/Moodle for any changes to the schedule.

PLAGIARISM AND COPYRIGHT INFRINGEMENT POLICY: Work that is found to be plagiarized receives a grade of zero and often causes a student to fail a class. Documentation of plagiarism is added to the student's academic file as a violation of accepted student conduct and is subject to disciplinary action. Plagiarism is the use of another person's exact words, or their ideas written in the student's words without giving the original author credit.

Plagiarism can result from any of the following:

- Quote material directly without using quotation marks.
- Paraphrase the original so that many of the phrases are the same as the original. A good rule is no more than 3 or 4 words in a row should be the same as the original.
- Copy the original sentence pattern, substitution synonyms for key words.
- Neglect to indicate the source of the original material.

ASSESSMENTS:

Content	
Assignments	10%
Quizzes	20%
Exams	60%
Participation	10%
Total	100%

COURSE GRADE:

A+ = 97%–100%	C+ = 77%–79%
A = 93%-96%	C = 73%–76%
A– = 90%–92%	C– = 70%–72%
B+ = 87%–89%	D+ = 67%–69%
B = 83%–86%	D = 63%–66%
B– = 80%–82%	D– = 60%–62%
	F = Below 60%

TENTATIVE CLASS SCHEDULE:

(Subject to change)

Week	Content Covered	Assignments & Assessment Due
Week 1:	1.1 Systems of Linear Equations 1.2 Row Reduction and Echelon Forms 1.3 Vector Equations 1.4 The Matrix Equation Ax = b 1.5 Solution Sets of Linear Systems 1.6 Applications of Linear Systems 1.7 Linear Independence 1.8 Introduction to Linear Transformations 1.9 The Matrix of a Linear Transformation	Assignment 1 - Fri
Week 2:	2.1 Matrix Operations 2.2 The Inverse of a Matrix 2.3 Characterizations of Invertible Matrices 2.5 Matrix Factorizations 2.8 Subspaces of Rn 2.9 Dimension and Rank 3.1 Introduction to Determinants 3.2 Properties of Determinants 3.3 Cramer's Rule, Volume, and Linear Transformations	Assignment 2 - Thur Exam 1- Friday
Week 3:	4.1 Vector Spaces and Subspaces 4.2 Null Spaces, Column Spaces, and Linear Transformations 4.3 Linearly Independent Sets; Bases 4.5 The Dimension of a Vector Space 4.6 Change of Basis	Assignment 3 - Fri
Week 4:	5.1 Eigenvectors and Eigenvalues 5.2 The Characteristic Equation 5.3 Diagonalization 5.4 Eigenvectors and Linear Transformations 5.5 Complex Eigenvalues	Assignment 4 - Thur Exam 2- Fri

Week 5:	6.1 Inner Product, Length, and Orthogonality 6.2 Orthogonal Sets 6.3 Orthogonal Projections 6.4 The Gram–Schmidt Process	Assignment 5 - Thur Final Exam- Fri