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Office Hours

MW 2-3; T 11-12

If you need special
arrangements because of a
disability, please let me
know.

Course Philosophy

Linear Algebra is the study
of vector spaces, their linear
transformations, the
invariants of linear
transformations, and linear
models. In this course
students will investigate
each of these four major
notions.

Calculators

A graphing calculator is
required for this class. The
Texas Instruments TI-83 (+)
is recommended, although
other graphing calculators
may work. If you decide to
use a calculator other than
the Ti-83, you are
responsible for knowing how

Math 265

Linear Algebra I

Content and Process Learner Outcomes

Through assignments, quizzes, exams, and in-class work, students will demonstrate knowledge of content and process objectives that include the following:

- Modeling real-world phenomena with vectors, vector spaces, spaces of linear transformations.
- Making connections among numeric, symbolic, and graphical representations of vectors, vector spaces, subspaces, and linear transformations.
- Choosing and calculating bases to best represent physical phenomena.
- Choosing and calculating eigenspaces and interpreting the results.
- Solving and interpreting the solutions for homogeneous and non-homogeneous systems of linear equations.
- Using technology to solve systems of equations and interpreting the given solutions.
- Solving a system of equations by the most efficient manner.
- Using various matrix decomposition and diagonalization schemes.

Course Content

Week 1-Matrices and Systems of Equations

Sections 1.1-1.2

Week 2-Matrices and Systems of Equations

Sections 1.3-1.4

Week 3- Matrices and Systems of Equations/Determinants

Sections 2.1-2.3

Week 4-Vector Spaces

Sections 3.1-3.2

Test 1 (material through week 3)

Week 5-Vector Spaces

Sections 3.3-3.4

Week 6-Vector Spaces

Sections 3.5-3.6*

Week 7-Linear Transformations

Sections 4.1-4.2

Test 2 (material through week 6)

Performance Learner Outcomes

Through assignments, quizzes, and exams, and in-class work, students will demonstrate knowledge of content and process objectives that include the following:

to use its features! If you desire help with it, make sure you read the matrix section of the instruction book first and bring the book with you.

Homework

Homework must will be collected periodically and MUST be submitted in a paper notebook . Each assignment must have a page number at the page number at the top, if it is from the book. If it is a special assignment, it must have the class day at the top. Assignments must be placed in the notebook in order: top (oldest) to bottom (newest).

Week 8-Linear Transformations/Orthogonality

Sections 4.3, 5.1

Week 9-Orthogonality

Sections 5.2, 5.4, 5.5

Week 10-Eigenvalues

Sections 6.1, 6.3

Week 11-Comprehensive Final Exam

Problem-Solving

- Working on extended problems
- Using diverse methods to solve problems
- Using questioning and generalization in solving problems
- Modeling real-world phenomena mathematically.

Group Work

- Working cooperatively
- Sharing ideas
- Dividing tasks effectively among group members

Writing and Communication

- Reading and understanding complex problems
- Summarizing the essential ideas of a problem
- Describing methods used to approach a problem
- Expressing solutions in written and verbal form
- Evaluating and improving the quality of written work.

2pts: Proficient	Assessments	Percent of Final Grade	Final Point Distribution	Final Grade
Complete, Neat, Shows Work (where appropriate), On Time	Homework	10%	93-100%	A
	Quizzes	20%	90-92%	A-
1pt: Unsatisfactory	Midterm Exams	20%	87-90%	B+
	Final Exam	2 x 20%	83-86%	B
			80-82%	B-
Marginal Completeness, or Marginal Neatness, or Missing Work, or Late			77-79%	C+
			73-76%	C
			70-72%	C-
			67-69%	D+
			63-66%	D
0 pt: Missing			60-62%	D-
			Below 60%	F

Text



