

Revised: Fall 2016

# MTH 177

## INTRODUCTORY LINEAR ALGEBRA

### COURSE OUTLINE

#### Prerequisites:

Corequisite of MTH 175 or equivalent

#### Course Description:

Covers matrices, vector spaces, determinants, solutions of systems of linear equations, and eigenvalues. Designed for mathematical, physical, and engineering science programs.

**Semester Credits: 2    Lecture Hours: 2**

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## Course Outcomes

At the completion of this course, the student should be able to:

1. Perform basic matrix operations and apply them to the solution of systems of equations and inequalities.
2. Evaluate and use determinants in the solutions of systems of equations.
3. Perform vector operation in two and three space.
4. Be able to find the equation of lines and planes on 3-D.
5. Determine the eigenvalues and eigenvectors of matrices.
6. Understand the concepts of linear independence/dependence.
7. Understand the concept of basis of a subspace.

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Required Materials:

Textbook, TI Graphing Calculator

Textbook:

Elementary Linear Algebra , Venit and Bishop, Fourth Edition, Brooks/Cole Publishing Company.

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Topical Description: (Outline chapters and sections to be covered in the book – may include timeline)

	<u>Topic</u>	<u>Section</u>
1.	Vectors	1.1-1.3
2.	Linear Algebra	2.1-2.5
3.	Matrices	3.1-3.5
4.	Determinants	4.1-4.3
5.	Eigenvalues	8.1,8.6
6.	Independence and Basis	5.1-5.4

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