



Division:	Science/Mathematics	Area:	Mathematics
Course Number:	MATH 251	Course Name:	Introduction to Linear Algebra
Prerequisite:	MATH 171		
Corequisite:	NONE		
Hours Required:	Class: 45	Lab: 0	Credits: 3 (three)

Course Description/Purpose

This course is an introduction to linear algebra. The content of the course includes methods for solving systems of equations, matrices, vector spaces, inner product spaces, eigenvalues and eigenvectors and linear transformations. The purpose of this course is to introduce students to linear algebra. Specifically, the course prepares students to work with abstract mathematical structures and multivariate problems.

Major Units

- Systems of Equations
- Vector Spaces
- Eigenvalues and Eigenvectors

Educational/Course Outcomes

Student learning will be assessed by a variety of methods, including, but not limited to, quizzes and tests, journals, essays, papers, projects, laboratory/clinical exercises and examinations, presentations, simulations, portfolios, homework assignments, and instructor observations.

Cognitive Each student will be expected to *Identify/Recognize*. . .

- the meaning of eigenvalues and eigenvectors;
- the structure of a matrix;
- the meaning of a linear transformation.

Performance Each student will be expected to *Demonstrate/Practice*. . .

- compute the eigenvalues and eigenvectors of a matrix;
- solve a system of linear equations;
- form a matrix that represents the conditions of physical or economic phenomenon;
- transform a given basis into another.

Attitudinal Each student will be expected to *Believe/Feel/Think*. . .

- visualize the use of matrices in solving problems involving many variables with various restrictions.