

MA 244, Introduction to Linear Algebra

Description

This is an introductory course in linear algebra primarily intended for students in mathematics, science, and engineering. Topics include

- systems of linear equations and their solution by Gaussian elimination
- vectors in \mathbf{R}^n and the inner product operation
- the algebra of matrices and the determinant of a matrix
- eigenvalues and eigenvectors of matrices
- similarity and diagonalization of matrices
- abstract vector spaces
- linear independence, span, basis, and dimension
- linear transformations on vector spaces and their associated matrices and subspaces
- special properties of symmetric matrices
- applications, particularly to geometry and calculus
- the use of the MATLAB computer algebra system

Alabama General Studies Curriculum

MA 244 is an [AGSC](#) approved course. The standard AGSC number is Math 237.

Prerequisites

MA 172, Calculus B or MA 120, Calculus with Applications

Credit Hours

3 Semester Hours

Course Materials

The text is *Introductory Linear Algebra* 7th edition by Bernard Kolman. The software package MATLAB is used in this course.

Grading System

This course is graded A, B, C, D, F. The grade typically depends on a combination of class tests, homework, MATLAB assignments, quizzes, and a comprehensive final exam.
