I. Course Title and Number
   Linear Algebra
   Math 250

II. Prerequisite
    Math 222 or its equivalent

III. Credit Hours: 5
     Lecture Hours: 5

IV. Course Description
    This course serves as a standard introduction to linear algebra. Topics include matrix
    operations, vector spaces, inner product spaces, linear transformations, determinants,
    eigenvalues and eigenvectors.

V. Adopted Text

VI. Course Objectives
    At the completion of this course the student will:
    1. Solve linear equations using matrix methods.
    2. Understand real vector spaces and subspaces.
    3. Understand basis, dimension and linear independence.
    4. Determine when vector spaces are isomorphic.
    5. Handle homogeneous systems.
    6. Solve problems and applications with the inner product.
    7. Transform bases to orthonormal bases using the Gram–Schmidt process.
    8. Learn and apply linear transformations.
    9. Learn and apply the properties of determinants.
   10. Find and apply eigenvalues and eigenvectors.
   11. Be able to use a graphing calculator for matrix and determinant calculations and
       recognize its limitations.

VII. Grading
    Grading will follow the policy in the catalog.

VIII. Course Outline
     Chapter 1  Linear Equations and Matrices
     1.1 Systems of Linear Equations  (Review as needed)
     1.2 Matrices; Matrix Operations
     1.3 Algebraic Properties of Matrix Operations
     1.4 Special Types of Matrices and Partitioned Matrices
IX. **Other Required Books and Materials**
   A graphing calculator capable of matrix operations is required.

X. **Evaluation**
   Instructor will distribute the method of evaluation to students.

XI. **Specific Management Requirements**
   Assignments will be evaluated according to instructor directives.