Minnesota State University Moorhead

MATH 327: Introduction to Linear Algebra

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites:
This course requires the following prerequisite
MATH 262 - Calculus II

Corequisites: None

MnTC Goals: None

Systems of linear equations, Gauss-Jordan elimination, linear programming, matrices, determinants, vector spaces, linear transformations, and eigenvectors.

B. COURSE EFFECTIVE DATES: 11/12/1996 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Systems of Linear Equations and solutions by matrix methods.
2. Matrices and matrix operations and transformations, lncluded special types of matrices.
3. Determinants, their properties, and proofs using determinants.
4. Vetors in 3-space
5. Abstract vector spaces, proofs involving vectors and vector spaces, subspaces.
6. Linear dependence, rank of matrix.
7. Linear Transformations, kernels and ranges
8. Eigenvalues and eigenvectors

D. LEARNING OUTCOMES (General)

1. Use matrix methods to solve a variety of problems.
2. Prove a variety of results, both abstract and concrete, using concepts related to linear algebra and vector spaces.
3. Understand the importance of definitions and axioms in abstract mathematics.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted