

Minnesota State University Moorhead

MATH 427: Linear Algebra II

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites:

This course requires the following prerequisite

MATH 327 - Introduction to Linear Algebra

Corequisites: None

MnTC Goals: None

In this course, students will learn about vector spaces, including subspaces, sums, direct sums, span, linear independence, bases and dimensions. Students will understand the relationship between matrices and linear transformations including, eigenvectors, eigenspaces, the characteristic polynomial, Jordan form, determinants and trace.

B. COURSE EFFECTIVE DATES: 02/01/2017 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Vector spaces, subspaces, sums, direct sums, linear independence, matrices, linear transformations, eigenvectors, eigenvalues, characteristic polynomial, Jordan form, determinants, and trace.

D. LEARNING OUTCOMES (General)

1. Understand how determinants and trace and the characteristic polynomial can be used to understand linear transformations.
2. Understand the basic properties of vector spaces including bases and dimension.
3. Understand the relationship between matrices and linear transformations.
4. Use eigenvectors and eigenvalues to decompose linear transformations.

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted