

# North Hennepin Community College

## MATH 2300: Linear Algebra

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 04 - Mathematical/Logical Reasoning

This course includes vectors and vector spaces, matrices, matrix algebra, linear systems of equations, determinants, linear transformations, eigenvalues and eigenvectors.

Prerequisites: Successful completion of Math 1222 with grade of "C" or better

**B. COURSE EFFECTIVE DATES:** 08/27/1997 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. See Course Description and Course Outcomes

### D. LEARNING OUTCOMES (General)

1. Generate solutions to systems of linear equations using matrices and their properties (MnTC Goal 4: a, b, d; Goal 2: a, c);
2. Examine systems of linear equations and classify their solutions (G4: a, b, d; G2: a, b, c);
3. Examine vector spaces and subspaces to determine their properties (such as rank, nullity, bases, and change of basis) (G4: a, b, c, d; G2: a, c); and
4. Identify and determine eigenvalues and eigenvectors and explore their applications (such as characteristic equations, diagonalization, and linear transformations) (G4: a, b, d; G2: a, b, c).

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

Goal 04 - Mathematical/Logical Reasoning

1. Illustrate historical and contemporary applications of mathematical/logical systems.
2. Clearly express mathematical/logical ideas in writing.
3. Explain what constitutes a valid mathematical/logical argument(proof).
4. Apply higher-order problem-solving and/or modeling strategies.

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

### G. SPECIAL INFORMATION

None noted