Course Title: Linear Algebra
Semester Course Prefix and Number: 2535
Course Outline

Number of Credits: 4
Number of Lecture Credits: 4
Number of Lab Credits: Number of Lab Hours: 
Class Size: 35
Number of Studio/Demonstration/Internship Credits:
Negotiated by AASC on: (date)

Course Purpose Code:
0 – Developmental Courses
1 – Non-transferable
2 – Technical course related to career programs
3 – College course which has the primary goal of applying certain concepts (e.g. vocal ensemble)
4 – Other college course not considered a part of MNTC (e.g. computer science, health, physical education)
5 – Course which is intended to fulfill the Minnesota Transfer Curriculum (MNTC) requirements or intended for transfer.
6 – Continuing Education/Customized Training specialized credit course (not occurring in 0-5)

Catalog Description:
This course is a continuation of the Linear Algebra Topics mentioned in MATH 2544. It includes Matrices, Determinants, systems of Linear Equations, Vector Spaces, Linear Transformations, Eigenvalues/Eigenvectors, and characteristic value problems.

Prerequisites and/or recommended entry skills/knowledge:
Course Prerequisite(s):
Reading Prerequisite:
Composition Prerequisite:
Mathematics Prerequisite: MATH 1542

Career Programs and Transfer Majors Accessing this Course:

Minnesota Transfer Curriculum Goal(s) partially met by this course if applicable:
(Notes: No more than two goals may be met by any one course. AASC review and the Chief Academic Officer's approval are required.)
0. None
1. Communications
2. Critical Thinking
3. Natural Sciences
4. Mathematical/Logical Reasoning X
5. History and the Social and Behavioral Sciences
6. The Humanities and Fine Arts
7. Human Diversity
8. Global Perspectives
9. Ethical and Civic Responsibility
10. People and the Environment
**Learning Outcomes:** (including any relevant competencies listed in the Minnesota Transfer Curriculum)

Upon completion of this course, the student will be able to:

- Solve systems of Linear Equations with several techniques
- Recognize Invertible Matrices and the equivalent conditions of the Invertible Matrix Theorem
- Orientate within the vector space R^n and its subspaces
- Evaluate whether a given linear transformation is invertible and find its inverse if it exists
- Find and use the Eigenvalues of a given matrix to examine the corresponding Eigen-space
- Use mathematical concepts in problem solving through integration of new material and modeling

**Student Assessment Methods:**
May include: Assignments, Exams, and Quizzes

**Use of Instructional Technology:** (includes software, interactive video and other instructional technologies):

**Additional Special Information:** (special fees, directives on hazardous materials, etc.)

**Transfer Information:** (Please list colleges/majors that accept this course in transfer.)
This course, in addition to MATH 1561, 1542, 2543, and 2544 meet the requirements for a Minor in Mathematics from Mankato State University.

**Affiliated Mesabi Range College Courses and Programs:**

**Approvals:**

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**Distribution:** Original – Instructional Services

**Copies:** Transfer Specialist, Originating Faculty Member, Records

**Revised:** December 2012