MAT 413
Linear Algebra
Course Credit: 3 semester hours
Dr. John McMath

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OFFICE HOURS: MWF 9:00 – 11:00
TR 7:30 – 8:00; 10:40 – 11:30
T 3:30 – 5:30
Additional hours are available by request.

PREREQUISITES: Mat 301

COURSE DESCRIPTION: An introductory course in linear algebra. Subjects treated are vectors, vector spaces, matrices and determinants, systems of linear equations, linear transformations in a vector space, and systems of linear differential equations.

RATIONALE: Linear algebra is a fundamental tool in mathematics, computer science, economics, chemistry, physics, biology, and business to name a few. It is required for mathematics education majors, strongly recommended for mathematics majors, and serves as an elective for others.

LEARNING OBJECTIVES: The student will be able to find, define, prove, solve, apply, and/or evaluate matrices, systems of linear equations, vector spaces, Eigenvalues, Eigenvectors, Eigenspaces, linear transformations, determinants, and other related topics.

ACADEMIC INTEGRITY: Students are expected to do their own work, particularly on tests and graded assignments.
Refer to the following web site: www.mc.edu/publications/policies/219.html.

OUTLINE OF TOPICS:

Matrices and Systems of Linear Equations
The Vector Space R^n
Eigenvalues, Eigenvectors, Eigenspaces
Vector Spaces and Linear Transformations
Determinants

METHODS OF INSTRUCTION: Various instructional procedures are used including lecture, problem solving, exams, questions and answers, class discussions, etc.

REQUIRED PRACTICES: Students are expected to do daily homework assignments from problems assigned from textbook. They are expected to attend class, participate in problem solving and class discussions, ask questions, and keep a notebook of homework problems as well as class notes.

INSTRUCTIONAL MATERIALS:

Text: Johnson, Riess, Arnold (5th edition). Introduction to Linear Algebra. Addison Wesley Publishing Company.

INTERMEDIATE-POST ASSESSMENT:

Approximately 20% of your grade will come from **homework, class attendance**, **daily class participation (i.e. problem solving at the board, Q&A)**, etc.

Approximately 50% of your grade will come from unit tests and/or take-home exams.

Approximately 30% of your grade will be your final exam.

Grading Scale:

A	90% - 100%
B	80% - 89%
C	70% - 79%
D	60% - 69%
F	0% - 59%

ATTENDANCE: Class attendance is extremely important in this course. (Note in the attendance policy of the university, students may receive a lowered grade because of excessive absences.) **Students are expected to take tests on the day they are assigned! Make-up tests are given at the discretion of the instructor.**

ACADEMIC INTEGRITY: *Students are expected to be honest. Dishonesty, such as cheating or plagiarism, will not be tolerated. Tests and other materials handed in by the student are assumed to be the student's own work. Refer to the following web site:* http://www.mc.edu/publications/policies/academic/219.wpd .

DROP DATE FOR SPRING SEMESTER: *Friday, March 22, 2013*