MAT 413/5415
Linear Algebra
Course Credit: 3 semester hours

PREREQUISITES: Mat 301

COURSE DESCRIPTION: An introductory course in linear algebra. Topics include 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 evaluate, define, prove, solve, apply, and/or evaluate matrices, systems of linear equations, vector spaces, Eigenvalues, Eigenvectors, Eigenspaces, linear transformations, determinants, and other related topics.

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.

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.) The responsibility for missed work rests entirely with the student.

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 .

SPECIAL ACCOMODATIONS: If you need special accommodations due to learning, physical, psychological, or other disabilities, please contact Dr. Amy Christian in the Counseling and Career Development Center.

Graduate students work additional problems and may be asked to make presentations to the class.

MISSISSIPPI COLLEGE ACADEMIC POLICIES:
Students should consult the Mississippi College policy manual located at http://www.mc.edu/resources/publications/policies/ for official information regarding:
- Class attendance - Policy 2.10
- Grading - Policy 2.15
- Cheating - Policy 2.19
- Counseling and Career Services - Policy 2.25
- Research - Policy 2.27
- Counseling and Testing Center - Policy 2.34

Students who may require accomodation due to a documented handicap should follow the procedures located at http://www.mc.edu/about/offices/counseling/disabilities/

The Generic Grading Scale for this course is A = 90-100, B = 80-89, C = 70-79, D = 60-69. Individual instructors are free to choose a different grading scheme so students should consult their section's particular syllabus for the official grading scale to be utilized.

Tutoring Hours:
Hours and location for the departmental tutoring center are posted at http://www.mc.edu/academics/academic-tutoring/ .