Mendocino College

COURSE LEVEL STUDENT LEARNING OUTCOMES

Term Effective:	Spring (Semester)	2008 (Year)

Title: Linear Algebra *(limit to 50 characters including spaces)*

Course Number: MTH 214

Initiator: Roger Ahders

Date Submitted: 11/20/2007

Units Min: 4.00

Units Max: 4.00

If this is a variable unit course, then the relationship between units and any difference in expected SLO's should be explained.

Lecture Hours: 4.00 to 4.00

Lab Hours: 0.00 to 0.00

Activity Hours: 0.00 to 0.00

Student Learning Outcomes: *(Enter the SLO's in an outline format. Use the Ctrl + Tab keys to indent for subtopics.)*

- Distinguish and use a variety of matrix methods to solve systems of linear equations.
- Be able to manually calculate row reductions of augmented matrices, inverses of square matrices, and determinants of square matrices.
- Be able to complete basic direct proofs using linear algebra and simple logic.
- Know the definitions of, and the relationships between, invertible matrices, linear independence of vectors, 1-1 and onto linear transformations, and determinants.
- Understand the concept of a vector subspace and be able to prove that a set of vectors is a subspace.
- Analyze and understand the differences and similarities between spanning sets, bases, and orthogonal bases.
- Calculate and analyze the characteristic equation of a matrix to determine eigenvalues and eigenvectors. Be able to employ these values and vectors to build eigenbases, and to study the long term behavior of difference equations/Markov chains.

SIGNATURES / APPROVALS:

Instructor(s) _____ Signature _____ Date

Instructor(s) _____ Signature _____ Date