



Mendocino College

COURSE LEVEL STUDENT LEARNING OUTCOMES

Term Effective:	Spring	2008
	Semester	Year

Title:
(limit to 50 characters including spaces)

Course Number:

Initiator:

Date Submitted:

Units Min:

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

Units Max:

Lecture Hours:

Lab Hours:

Activity Hours:

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

- Understand geometric and mathematical vectors and vector operations including dot product and cross product and their uses.
- Distinguish and graph line, planes, and quadric surfaces in three dimensions.
- Use derivatives and integrals of vector valued functions to describe the velocity and acceleration of an object moving on a three dimensional curve.
- Calculate first and second partial derivatives and gradients of functions of two variables and use them to determine tangent planes, linear approximations, directional derivatives and maximum and minimum values.
- Be able to use the Chain rule to calculate derivatives of compositions of multi-variable functions.
- Select appropriate order and limits of double and triple integrals in Cartesian, cylindrical, and spherical coordinates, and use the results in applications.
- Utilize line integrals to calculate work along two- and three-dimensional curves using parametrizations, fundamental theorem of line integrals, and Green's and Stoke's Theorems.
- Employ surface integrals to calculate flux over surfaces using parametrizations of surfaces, Stoke's and Divergence Theorems.

SIGNATURES / APPROVALS:

Instructor(s)

Signature

Date

Instructor(s)

Signature

Date