COURSE LEARNING OUTCOMES

DEPARTMENT: Mathematics

COURSE #: Math 203
COURSE TITLE: Calculus III
CATEGORY: TERM OFFERED: Spring 2011
PRE-REQUISITES: Math 202
PRE/CO-REQUISITES:
HOURS/CREDITS: 4 HR./WK.; 1 HR LAB./WK.; 4 CR
DATE EFFECTIVE: 1/29/11
COURSE COORDINATOR: Cleary

CATALOG DESCRIPTION
Vectors, infinite series, Taylor’s theorem, solid analytic geometry, partial derivatives, multiple integrals with applications. Interpretations and calculations using Matlab software
Suggested Text: Stewart, Essential Calculus

COURSE LEARNING OUTCOMES
Please describe below all learning outcomes of the course, and indicate the letter(s) of the corresponding Departmental Learning Outcome(s) (see list at bottom) in the column at right.

After taking this course, the student should be able to

1. model spatial problems with vectors, lines, planes, curves and surfaces in space a,b,c
2. use differentiation for vector-valued functions to compute tangent lines a,b,c
3. use differentiation for multivariate functions to find extrema and rates of change a,b,c
4. set up and evaluate multiple integrals for regions in the plane and in space a,b
5. use iterated integrals to measure areas, compute volumes and find centers of mass a,b,c
6. analyze infinite series for convergence using a range of tests a,e1,e2
7. find intervals of convergence for power series and represent functions with power series a,b,c,e1,e2
8. use MATLAB to analyze and solve geometric, computational, and symbolic problems for topics above d

COURSE ASSESSMENT TOOLS
Please describe below all assessment tools that are used in the course.
You may also indicate the percentage that each assessment contributes to the final grade.

1. 
2. 
3. regular MATLAB assignments and MATLAB final exam (one hour) (10% of grade)
4. final exam (two hours twenty minutes) (40% of grade)
5. 

DEPARTMENTAL LEARNING OUTCOMES (to be filled out by departmental mentor)

The mathematics department, in its varied courses, aims to teach students to

a. perform numeric and symbolic computations
b. construct and apply symbolic and graphical representations of functions
c. model real-life problems mathematically
d. use technology appropriately to analyze mathematical problems
e. state (e1) and apply (e2) mathematical definitions and theorems
f. prove fundamental theorems
g. construct and present (generally written, but, sometimes orally) a rigorous mathematical argument.