MATHEMATICS 214 (4 Units): Calculus IV
INSTRUCTOR: Marc Thomas

CATALOG DESCRIPTION: Cylindrical and spherical coordinates; triple integrals; Vector Calculus (including line and surface integrals and the theorems of Gauss, Stokes, and Green and the Fundamental Theorem of Line Integrals); sequences and series. This course may make use of computer algebra systems.

PREREQUISITES: A mark of C- or better in Mathematics 213 (or an equivalent third quarter Calculus course).

TEXT: Multivariable Calculus – Concepts and Contexts, by James Stewart.

ADDITIONAL REFERENCES: None.

COURSE GOALS: This course is the last of a four quarter sequence in the Differential and Integral Calculus. Knowledge of the principles of Calculus and the ability to apply these principles in order to solve applied problems is fundamental to study in several fields: Chemistry, Computer Science, Economics, Engineering, Geology, Mathematics, and Physics.

We will cover the following topics in the text:

1. Infinite Sequences and Series (not covered in the case of the Spring 2000 Mathematics 214 class)
3. Multiple Integrals.
4. Vector Calculus.

GRADING: In Mathematics 214 Two midterms will be given, each worth 30%. I do not give make-up midterms; for an excused absence I count the other grades proportionately higher. One final exam, comprehensive but emphasizing the later material will be given. This is mandatory and is worth 30%. Homework is worth 10%. Since the desire is that the homework be a learning experience, these assignments will be graded on a good/satisfactory/unsatisfactory basis.

In the grading of borderline cases consideration will be given to (i) appreciable improvement over the course of the quarter, (ii) effort and attendance. We are required now to inform all students that the last day to drop any course for a serious and compelling reason is May 15, 2000.