

COMMON COURSE OUTLINE: Course discipline/number/title: MATH 2237: Multivariable and Vector Calculus

A. CATALOG DESCRIPTION

1. Credits: 5
2. Hours/Week: 5
3. Prerequisites (Course discipline/number): MATH 2128, College level reading.
4. Co-requisites (Course discipline/number): None
5. MnTC Goals (if any): NA

First in a sequence which is a continuation of the first year of calculus. Topics are selected from the following: coordinate and vector geometry, vector valued functions, velocity-acceleration and curvature, cylindrical and spherical coordinate systems, partial differentiation and applications, double and triple integrals, Gree's-Stoke's Divergence Theorems, Frenet Formulas. RECOMMENDED ENTRY SKILLS/KNOWLEDGE: first year calculus including differential calculus of one variable and integral calculus of one variable.

B. DATE LAST REVISED (Month, year): September, 1998

C. OUTLINE OF MAJOR CONTENT AREAS:

1. Differential calculus of several variables
2. Cylindrical and spherical coordinate systems
3. Double and triple integrals
4. Vector Calculus of 2 and 3 space
5. Vector Analysis Theorems

D. LEARNING OUTCOMES (GENERAL): The student will be able to:

E. LEARNING OUTCOMES (MNTC): NA

F. METHODS FOR EVALUATION OF STUDENT LEARNING:

1. Tests
2. Quizzes
3. Homework
4. Comprehensive Final Exam

G. SPECIAL INFORMATION (if any):

A scientific calculator is required.