

**Effective Date:** Fall 2006-2007

**Course Description**

Prerequisite: A grade of “C” or better in MATH 2040, 2057, and 3085; or equivalent.  
Differential and integral calculus of real and vector-valued functions of several real variables.  
(A grade of “C” or better is required to advance to any higher numbered mathematics course.)

**Course Objectives**

Students will:

1. Understand the fundamentals of advanced calculus as presented in the topical outline.
2. Develop critical thinking and problem solving skills.

**Procedures to Evaluate these Objectives**

1. In-class problems after concept presentation
2. In-class exams
3. Cumulative final exam

**Use of Results of Evaluation to Improve the Course**

1. Student responses to in-class problems will be used to immediately help clarify any misunderstandings and to later adjust the appropriate course material.
2. All exams will be graded and examined to determine areas of teaching which could use improvement.
3. All evaluation methods will be used to determine the efficacy of the material presentation.

**Detailed Topical Outline**

1. Properties of Real Numbers
2. Functions
3. Sequences
4. Limits
5. Continuity
6. Differentiation