MAT 273 Calculus III

COURSE DESCRIPTION:

Prerequisite(s): MAT 2

III.   Partial Derivatives
- A. Functions of Several Variables
- B. Limits and Continuity
- C. Partial Derivatives
- D. Tangent Planes and Linear Approximations
- E. The Chain Rule
- F. Directional Derivatives and the Gradient Vector
- G. Maximum and Minimum Values
- H. Lagrange Multipliers

IV.   Multiple Integrals
- A. Double Integrals Over Rectangles
- B. Iterated Integrals
- C. Double Integrals Over General Regions
- D. Double Integrals in Polar Coordinates
- E. Applications of Double Integrals
- F. Triple Integrals
- G. Triple Integrals in Cylindrical Coordinates
- H. Triple Integrals in Spherical Coordinates
- I. Change of Variables in Multiple Integrals

V.   Vector Calculus
- A. Vector Fields
- B. Line Integrals
- C. The Fundamental Theorem of Line Integrals
- D. Green's Theorem
- E. Curl and Divergence
- F. Parametric Surfaces and Their Areas
- G. Surface Integrals
- H. Stokes Theorem
- I. The Divergence Theorem

REQUIRED TEXTBOOK AND MATERIAL:

The textbook and other instructional material will be determined by the chair/instructor.