

MATH 245 : Multivariable Calculus

Credits: 4

Class Hours: 4 lecture

Prerequisites: "C" or higher in MATH 242 or acceptable math placement.

Description: This course covers multivariable differential and integral calculus, including vector-valued functions, optimization, multiple integrals, and theorems on integration in vector fields.

Semester Offered: Fall, Spring

Course Student Learning Outcomes (CSLOs):

1. Analyze basic 3-dimensional surfaces and paths.
2. Model and solve application problems involving vector algebra and differentiation of multivariable functions.
3. Integrate multivariable functions in various coordinate systems.
4. Use multiple integrals to solve application problems such as those involving Green's, Stokes's, and Gauss's Theorems.
5. Select and correctly utilize precise mathematical language and symbols to effectively communicate procedures and results.