MATH& 163 : Calculus III

Credits 5
Quarter Offered Spring
Sequences and series, vector algebra and vector functions, functions of several variables, and partial derivatives. This class may include students from multiple sections. (Quantitative Skills, Natural Sciences, Elective)
Prerequisites
2.0 or higher in MATH& 152 or equivalent
Course Outcomes
Students who successfully complete this class should be able to:

Apply basic convergence tests for series.
Represent functions as a power, Maclaurin, or Taylor series.
Apply calculus techniques to parametric equations.
Find areas and arc lengths in polar coordinates.
Perform vector operations, including dot and cross products.
Find equations of lines and planes in three-space.
Find derivatives, integrals, velocity, acceleration, arc length, and curvature of vector functions.
Calculate partial derivatives and apply to find tangent planes, linear approximations, extrema, and saddle points.
Calculate double integrals over rectangular and general regions, both in rectangular and polar coordinates.