**Multivariable Calculus**

**Prerequisites:** Calculus and Analytical Geometry

**Objective:**

The goals are to develop the skills to have ground knowledge of multivariate calculus and appreciation for their further Engineering courses.

**Course Outline:**

Functions of Several Variables and Partial Differentiation. Multiple Integrals, Line and Surface Integrals. Green’s and Stoke’s Theorem. Fourier Series: periodic functions, Functions of any period P = 2L, Even & odd functions, Half Range expansions, Fourier Transform. Laplace Transform, Z-Transform.

**Recommended Books:**

1. "Multivariable Calculus: Early Transcendentals", (Stewart's Calculus Series)

2. Swokowski, Olinick and Pence, “Calculus and Analytical Geometry”, Latest Edition, Thomson Learning EMEA, Ltd.

3. William Briggs, Lyle Cochran, Bernard Gillett, "Multivariable Calculus” 2010, Pearson Education.

4. Howard Anton, Albert Herr, "Multivariable Calculus", Latest Edition, John Wiley.