



## **Course Rationale**

**Department of EEE, CE, TE**

**Semester: Fall, 2020**

**Course Code** : MAT111

**Credit Hours: 03**

**Course Title** : Mathematics-I: Differential and Integral Calculus

**Course Teacher:** Protima Dash

### **Course Rationale:**

Calculus, defined as the mathematical study of change, was developed independently by Isaac Newton and Gottfried Wilhelm von Leibniz in the 17th century. Engineering is defined as "the profession in which a knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize, economically, the materials and forces of nature for the benefit of mankind." Some engineers directly use calculus in their daily practice and some use computer programs based on calculus that simplify engineering design. Two methods of calculus, differentiation and integration, are particularly useful in the practice of engineering, and are generally used for optimization and summation, respectively.