

## **Semester II: December 4, 2022 – March 2, 2023**

### **MATH 203: Differential and Integral Calculus**

#### **Course details**

**Name of Instructor:** Prof. Dr. T. M. G. Ahsanullah

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**Books:** Calculus by E. R. Swokowski, M. Olinic, and D. Pence, PWS Publishing Company, Boston.

**You may consult Lecture Notes on Math 203 by Dr. Asif Qureshi as supporting materials**

**STT (1 3 5) slot** (Group: 81627 Time: 8:00 AM – 9.05 AM in Room 1B 15 Building 31)

#### **Chapter 8: Infinite Series**

8.1 Sequences

8.2 Convergence or Divergence Series

8.3 Positive-term Series

8.4 The Ratio and Root Tests

8.5 Alternating Series and Absolute Convergence

8.6 Power Series

8.7 Power Series Representation of Functions

8.8 Maclaurin and Taylor Series

#### **Chapter 13: Multiple Integrals**

13.1 Double Integrals

13.2 Area and Volume

13.3 Double Integrals in Polar Coordinates

13.4 Surface Area

13.5 Triple Integrals

13.6 Moments and Center of Mass

13.7 Cylindrical Coordinates

### **13.8 Spherical Coordinates**

## **Chapter 14: Vector Calculus**

### **14.1 Vector fields**

### **14.2 Line Integrals**

### **14.3 Independence of Path**

### **14.4 Green's Theorem**

### **14.5 Surface Integrals**

### **14.6 The Divergence Theorem**

### **14.7 Stockes's Theorem**