

First Semester: 1440-1441(September, 2019 – January, 2020)

MATH 205: 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.

STT (1 3 5) slot (Group 74235: 10.00 AM – 10.50 AM)

Chapter 8: Infinite Series: 21 Lectures (7 weeks)

- Sequences
- Convergence or Divergence Series
- Positive-term Series
- The Ratio and Root Tests
- Alternating Series and Absolute Convergence
- Power Series
- Power Series Representation of Functions
- Maclaurin and Taylor Series
- Binomial series

Chapter 10 and 11: Vectors and Vector-Valued Functions: 6 Lectures (2 weeks)

- Vectors, vectors algebra
- Dot and cross products
- Vector-valued functions and applications

Chapter 12: Partial Differentiations: 9 lectures (3 weeks)

- Functions of several variables
- Limits and continuity
- Partial derivatives
- Chain Rule
- Gradients, local extrema of functions of two variables
- Lagrange Multipliers

Chapter 13: Multiple Integrals: 9 lectures (3 weeks)

- Double Integrals
- Area and Volume
- Double Integrals in Polar Coordinates

• **Mark Distribution:** **Date of Exams:** MT1: 29/2/41H, 7-8.30 PM; MT2: 28/3/1441, 7-8.30

MT 1: 25

MT2: 25

Tutorial: 10

Final: 40

