

King Saud University

Department of Mathematics, College of Science

First Semester: 1435-1436

MATH 203: Differential and Integral Calculus

Course Outline

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

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Text Book: 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 1753: 9.00 AM – 9.50 AM in Room 1A95 Building 4; Group 1757: 10.00 AM – 10.50 AM in Room 1A 95 Building 4)

Chapter 8: Infinite Series

- 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

Chapter 13: Multiple Integrals

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

- **Moments and Center of Mass**
- **Cylindrical Coordinates**
- **Spherical Coordinates**

Chapter 14: Vector Calculus

- **Vector fields**
- **Line Integrals**
- **Independence of Path**
- **Green's Theorem**
- **Surface Integrals**
- **The Divergence Theorem**
- **Stockes's Theorem**

Mark Distribution:

MT 1: 25

MT2: 25

Tutorial: 10

Final: 40

Total: 100

Mid-Term Exam 1: 4-1-1436 H (Tuesday, October 28, 2014 G) 7.00 PM – 8.30 PM

Mid-Term Exam 2: 17-2-1436 H (Tuesday, December 9, 2014 G) 7.00 PM-8.30 PM

Final exam date will be announced when available