ADVANCED CALCULUS I

Code: MATH 2106

2st stage

Assistant Lecturer: Nabaa Hussain Fakhry

Reference: Thomas' Calculus Early Transcendental Thirteenth Edition.

Chapter 10 – Infinite Sequences and Series

10.1 Sequences

10.2 Infinite Series

10.3 The Integral Test

10.4 Comparison Tests

10.5 Absolute Convergence; The Ratio and Root Tests

10.6 Alternating Series and Conditional Convergence

10.7 Power Series

10.8 Taylor and Maclaurin Series

10.9 Convergence of Taylor Series

10.10 The Binomial Series and Applications of Taylor Series

Chapter 12– Vectors and the Geometry of Space

12.1 Three-Dimensional Coordinate Systems

12.2 Vectors

12.3 The Dot Product

12.4 The Cross Product

12.5 Lines and Planes in Space

12.6 Cylinders and Quadric Surfaces