

Textbook:

Stewart: Calculus: Early Transcendentals, 9th Edition,
Brooks/Cole(Cengage)

Prerequisite Course: MAT 1500 Calculus I

Chapter 5: Integrals

- 5.3 Fundamental Theorem of Calculus, Review
- 5.4 Indefinite Integrals
- 5.5 The Substitution Rule

Chapter 6: Applications of Integration

- 6.1 Areas Between Curves
- 6.2 Volumes
- 6.4 Work (Optional)
- 6.5 Average Value of a Function

Chapter 7: Techniques of Integration

- 7.1 Integration by Parts
- 7.2 Trigonometric Integrals (Optional)
- 7.3 Trigonometric Substitution (Optional)
- 7.4 Integration of Rational Functions by Partial Fractions (Optional)
- 7.7 Approximate Integration
- 7.8 Improper Integrals

Chapter 8: Further Applications of Integration

- 8.1 Arc Length
- 8.4 Applications to Economics and Biology
- 8.5 Probability

Chapter 11: Infinite Sequences and Series

- 11.1 Sequences
- 11.2 Series (emphasize geometric series)
- 11.3 The Integral Test & Estimates of Sums
- 11.4 The Comparison Test
- 11.5 Alternating Series
- 11.6 Absolute Convergence, Ratio & Root Tests
- 11.8 Power Series**
- 11.9 Representations of Functions as Power Series**
- 11.10 Taylor and Maclaurin Series**
- 11.11 Application of Taylor Polynomials

**** emphasize these sections**

Chapter 10: Parametric Equations and Polar Coordinates

- 10.1 Curves Defined by Parametric Equations
- 10.2 Calculus with Parametric Equations
- 10.3 Polar Coordinates
- 10.4 Areas and Lengths in Polar Coordinates

Chapter 9: Differential Equations (if time allows)

- 9.1 Modeling with Differential Equation (Optional)
- 9.2 Direction Fields & Euler's Method (Optional)
- 9.3 Separable Equations (Optional)
- 9.4 Models for Population Growth (Optional)

This material is covered over a 14 week (56 class hours) semester.