Syllabus
Math 224

Class Section Topic

Chapter 4: Integration

1 4.1 Area under a Curve
2 4.2 The Definite Integral
3 4.3 Antiderivatives
4 4.4 The Fundamental Theorem of Calculus
5 4.5 Integration by Substitution
6 4.6 Integration by Parts
7 4.7 Partial Fractions, Integrals involving Powers of Trigonometric Functions
8 4.7 Trigonometric Substitutions
9 4.9 Numerical Integration
10 4.10 Improper Integrals
11 Summary of Techniques of Integration

Chapter 5: Applications of the Definite Integral

12 5.1, 5.2 Area of a Plane Region, Volume
13 5.2 Volume
14 5.3 Arc Length and Surface Area
15 5.5 Applications of Integration to Physics and Engineering
   (Work, Mass, Center of Mass)

Chapter 6: Differential Equations

16 6.1 Growth and Decay Problems
17 6.2 Separable Differential Equations
18 6.3 Direction Fields and Euler’s Method

Chapter 7: Infinite Series

19 7.1, 7.2 Sequences of Real Numbers, Series
20 7.3 The Integral Test
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