Math 132: Syllabus

Some sections will be covered only in part. For indication of what is to be covered and what not, see the parenthetical qualifications below.

1 Chapter 4 - Antiderivatives

4.10 Antiderivatives

2 Chapter 5 - Integrals

5.1 Area and distances
5.2 The definite integral
5.3 The Fundamental Theorem of Calculus
5.4 Indefinite integrals and the Net Change Theorem
5.5 The Substitution Rule

3 Chapter 6 - Applications of Integration

6.1 Area between curves
6.2 Volumes

4 Chapter 7 - Techniques of Integration

7.1 Integration by parts
7.2 Trigonometric integrals
7.3 Trigonometric substitution
7.4 Integration of rational functions by partial fractions
   [just the case of a rational function whose denominator can be factored as $(x - r)(x - s)$ with distinct $r, s$]
7.7 Approximate integration (omit error bounds formulas)
7.8 Improper integrals
5 Chapter 11 - Infinite Sequences and Series

11.1 Sequences
11.2 Series
11.3 The Integral Test and estimates of sums
11.4 The comparison tests
11.5 Alternating series
11.6 Absolute convergence; the Ratio and Root Tests
   (omit subsection Rearrangements)
11.7 Strategy for testing series (for review)
11.8 Power series
11.9 Representation of functions as power series
11.10 Taylor and Maclaurin series (omit subsection
      Multiplication and Division of Power Series)
11.12 Applications of Taylor Polynomials (only the
     subsection Approximating functions by Polynomials)

6 Chapter 8 - Applications of Integration

8.1 Arc Length
8.5 Probability - omitted for Fall 2007

7 Chapter 10 - Parametric Equations and Polar Coordinates

10.1 Curves defined by parametric equations
10.2 Calculus with parametric curves (only subsections Tangents
    and Arc Length; not Area and Surface Area)
10.3 Polar coordinates
10.4 Areas and length in polar coordinates