Calculus II MATH 155 Syllabus
Department of Mathematics and Statistics
Hunter College
Spring 2009

**Chapter 7:**

7.1 Inverse Functions
7.2 Exponential Functions and Their Derivatives
7.3 Logarithmic Functions
7.4 Derivatives of Logarithmic Functions
7.5 Exponential Growth and Decay
7.6 Inverse Trigonometric Functions
7.8 Indeterminate Forms and L’Hospital’s Rule

**Chapter 8:**

8.1 Integration by Parts
8.2 Trigonometric Integrals
8.3 Trigonometric Substitution
8.4 Integration of Rational Functions by Partial Fractions
8.5 Strategy for Integration
8.7 Approximate Integration
8.8 Improper Integrals

**Chapter 9:**
9.1 Arc Length
9.2 Area of a Surface of Revolution

**Chapter 11:**
11.3 Polar Coordinates
11.4 Areas and Lengths in Polar Coordinates

**Chapter 12:**
12.1 Sequences
12.2 Series
12.3 The Integral Test and Estimates of Sums
12.4 The Comparison Tests
12.5 Alternating Series
12.6 Absolute Convergence and the Ratio Test and Root Tests
12.7 Strategy for Testing Series
12.8 Power Series
12.9 Representations of Functions as Power Series
12.10 Taylor and Maclaurin Series
12.11 Applications of Taylor Polynomials

Notes: i) You may do additional topics if have the time and inclination, but make sure you cover the topics listed above. ii) If you prefer, you may substitute sections 7.2*, 7.3* and 7.4* for 7.2, 7.3 and 7.4. The starred sections represent the traditional and more rigorous approach. iii) You may do Chapter 11 after Chapter 12, if you prefer. iv) Section 11.3 on polar coordinates and the 'area' part of 11.4 do not depend on earlier sections, but the 'arc length' part of 11.4 does depend on the arc length formula in Section 11.2.