

Calculus I MATH 150 Syllabus  
Department of Mathematics and Statistics  
Hunter College  
Spring 2009  
Text: *Single Variable Calculus*, 6th Edition,  
James Stewart , Brooks/Cole

**Chapter 2:**

- 2.1 The Tangent and Velocity Problems
- 2.2 The Limit of a Function
- 2.3 Calculating Limits Using the Limit Laws
- 2.4 The Precise Definition of a Limit
- 2.5 Continuity

**Chapter 3:**

- 3.1 Derivatives and Rates of Change
- 3.2 The Derivative as a Function
- 3.3 Differentiation Formulas
- 3.4 Derivatives of Trigonometric Functions
- 3.5 The Chain Rule
- 3.6 Implicit Differentiation
- 3.7 Rates of Change in the Natural and Social Sciences

3.8 Related Rates

3.9 Linear Approximation and Differentials

**Chapter 4:**

4.1 Maximum and Minimum Values

4.2 The Mean Value Theorem

4.3 How Derivatives Affect the Shape of a Graph

4.4 Limits at Infinity; Horizontal Asymptotes

4.5 Summary of Curve Sketching

4.7 Optimization Problems

4.9 Antiderivatives

**Chapter 5:**

5.1 Areas 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

**Chapter 6:**

6.1 Areas Between Curves

6.2 Volumes

6.3 Volumes by Cylindrical Shells

6.4 Work (Optional if time permits)