The Syllabus for Math 9A

Textbooks: David Guichard: Calculus, Late Transcendentals. This is a free electronic book, available at http://www.whitman.edu/mathematics/calculus_late/

Analytic Geometry
    1.1 Lines
    1.2 Distance Between Two Points; Circles
    1.3 Functions
    1.4 Shifts and Dilations
Instantaneous Rate of Change: The Derivative
    2.1 The slope of a function
    2.2 An example
    2.3 Limits
    2.4 The Derivative Function
    2.5 Adjectives for Functions
Rules for Finding Derivatives
    3.1 The Power Rule
    3.2 Linearity of the Derivative
    3.3 The Product Rule
    3.4 The Quotient Rule
    3.5 The Chain Rule
Trigonometric Functions
    4.1 Trigonometric Functions
    4.2 The Derivative of sin x
    4.3 A Hard Limit
    4.4 The Derivative of sin x, continued
    4.5 Derivatives of the Trigonometric Functions
    4.6 Implicit Differentiation
    4.7 Limits revisited
Curve Sketching
    5.1 Maxima and Minima
    5.2 The First Derivative Test
    5.3 The Second Derivative Test
    5.4 Concavity and Inflection Points
    5.5 Asymptotes and Other Things to Look For
Applications of the Derivative
    6.1 Optimization
    6.2 Related Rates
    6.3 Newton's Method (Optional)
    6.4 Linear Approximations
    6.5 The Mean Value Theorem