

Calculus 12 Course Outline

Review & Preview

Real Numbers and the Real Line (Larson)

The Cartesian Plane (Larson)

Lines in the Plane (Larson)

Function Algebra (Anton 1.4)

Piecewise Functions

Trigonometric Functions

(all sections below refer to the Anton-Bivens-Davis Textbook)

Chapter 2 (Limits)

Sections 2.1, 2.2, 2.3, 2.4, 2.5, 2.6

Chapter 3 (The Derivative)

Sections 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8

Chapter 4 (Exponential, Logarithmic, and Inverse Trigonometric Functions)

Review of Logarithmic & Exponential Functions, Expressions, and Equations

The Natural Number (e) and Natural Log (ln)

Sections 4.1, 4.2, 4.3, 4.4, 4.5

Chapter 6A (The Indefinite Integral)

Sections 6.1, 6.2, 6.3, 8.2, 8.3, 8.4

Chapter 6B (The Definite Integral & Fundamental Theorem of Calculus)

Review of Sequences & Series

Sigma Notation & Summation Formulas

Sections 6.4, 6.5, 6.6, 6.8, 7.1

Applications of Calculus

Graphing Techniques: Sections 5.1, 5.2, 5.3

Rectilinear Motion: Sections 5.4, 6.7

Maximum/Minimum Problems: Sections 5.5, 5.6

Newton's Method: Section 5.7

Newton's Law of Cooling

If time allows, we will cover other topics that you will run into in various University courses such as matrices, proof, and more hard complex integration techniques.

Grading

Tests 50%

Quizzes 25%

Assignments 25%