MATH 151: CALCULUS WITH ANALYTIC GEOMETRY II

Textbook: Swokowski, Calculus: The Classic Edition (5^{th} Edition)

CHAPTER 6: APPLICATIONS OF THE DEFINITE INTEGRAL

6.6 Work
6.7 Moments and Centers of Mass
6.8 Other Applications

CHAPTER 7: LOGARITHMIC AND EXPONENTIAL FUNCTIONS

7.6 Laws of Growth and Decay

CHAPTER 9: TECHNIQUES OF INTEGRATION

9.1 Integration by Parts
9.2 Trigonometric Integrals
9.3 Trigonometric Substitutions
9.4 Integrals of Rational Functions
9.5 Integrals Involving Quadratic Expressions
9.6 Miscellaneous Substitutions
(I refer to "Rationalizing Substitutions.")
9.7 Tables of Integrals (I skipped)

CHAPTER 10: INDETERMINATE FORMS AND IMPROPER INTEGRALS

10.1 The Indeterminate Forms 0/0 and ∞ / ∞
10.2 Other Indeterminate Forms
10.3 Integrals with Infinite Limits of Integration
10.4 Integrals with Discontinuous Integrands

CHAPTER 11: INFINITE SERIES

11.1 Sequences
11.2 Convergent or Divergent Series
11.3 Positive-Term Series
11.4 The Ratio and Root Tests
11.5 Alternating Series and Absolute Convergence
11.6 Power Series
11.7 Power Series Representations of Functions

11.8 Maclaurin and Taylor Series
11.9 Applications of Taylor Polynomials (I discussed in my 11.8 notes)
11.10 The Binomial Series (I discussed)

CHAPTER 12: TOPICS FROM ANALYTIC GEOMETRY (CONICS)

12.1 Parabolas
12.2 Ellipses
12.3 Hyperbolas
12.4 Rotation of Axes

CHAPTER 13: PLANE CURVES AND POLAR COORDINATES

13.1 Plane Curves
13.2 Tangent Lines and Arc Length
(I call it "Plane Curves and Calculus.")
13.3 Polar Coordinates
13.4 Integrals in Polar Coordinates
13.5 Polar Equations of Conics (I skipped)

CHAPTER 19: DIFFERENTIAL EQUATIONS

19.1 Separable Differential Equations