

MATH 121: APPLIED CALCULUS I

Textbook: Berresford and Rockett, Applied Calculus, 3rd Edition

CHAPTER 2: DERIVATIVES AND THEIR USES

- 2.1 Limits and Continuity (I include a review of Functions)
- 2.2 Rates of Change, Slopes, and Derivatives
- 2.3 Some Differentiation Formulas
- 2.4 The Product and Quotient Rules
- 2.5 Higher-Order Derivatives
- 2.6 The Chain Rule and the Generalized Power Rule
- 2.7 Nondifferentiable Functions

CHAPTER 3: FURTHER APPLICATIONS OF DERIVATIVES

- 3.1 Graphing Using the First Derivative
- 3.2 Graphing Using the First and Second Derivatives
- 3.3 Optimization
- 3.4 Further Applications of Optimization (I skipped)
- 3.5 Optimizing Lot Size and Harvest Size (I skipped)
- 3.6 Implicit Differentiation and Related Rates

CHAPTER 4: EXPONENTIAL AND LOGARITHMIC FUNCTIONS

- 4.1 Exponential Functions (I combine 4.1 and 4.2 as a “4.1” Review.)
- 4.2 Logarithmic Functions
- 4.3 Differentiation of Logarithmic and Exponential Functions
- 4.4 Two Applications to Economics: Relative Rates and Elasticity of Demand

CHAPTER 5: INTEGRATION AND ITS APPLICATIONS

- 5.1 Antiderivatives and Indefinite Integrals
- 5.2 Integration Using Logarithmic and Exponential Functions
- 5.3 Definite Integrals and Areas
- 5.4 Further Applications of Definite Integrals: Average Value and Area Between Curves
- 5.5 Two Applications to Economics: Consumers’ Surplus and Income Distribution (I skipped)
- 5.6 Integration by Substitution

CHAPTER 6: INTEGRATION TECHNIQUES (skip)

CHAPTER 7: CALCULUS OF SEVERAL VARIABLES

- 7.1 Functions of Several Variables
- 7.2 Partial Derivatives
- 7.3 Optimizing Functions of Several Variables
- 7.4-7.7 (Skip)