Tentative Outline Math 184 Section 922 Summer 2013

Instructor: Jose Gonzalez

Week 1

Introduction: Review of Exponentials, Logarithms, and Inverse Functions. Chapter 1.3.

A standard business problem from managerial economics. (Notes). An Introduction to Limits. Chapter 2.1, 2.2, and 2.3 (to the end of Quick Check 3 on p. 70).

Continuous Functions. Chapter 2.6 (to p. 97 plus the intermediate Value Thm). The Derivative. Chapter 3.1.

Week 2

Rules of Differentiation I. Chapter 3.2, 3.3. Chapter 3.4: only the table of derivatives Theorem 3.13 on p. 159. (We return to this section at the end of the course.)

Derivative as rate of change. Chapter 3.5. The Chain Rule. Chapter 3.6.

Week 3

Implicit Differentiation. Chapter 3.7 to the end of the section on Slopes of Tangent Lines, plus material on the power rule with rational exponents. Derivatives of Logarithms and Exponentials.
Chapter 3.8.

Derivatives of Logarithms and Exponentials Continued. Chapter 3.8. Applications: Elasticity of Demand (Notes to be posted online). Exponential Growth and Compound Interest. (Chapter 6.8 to the end of Example 3 plus online notes.).

Week 4

Related Rates. Chapter 3.10. Maxima and Minima. Chapter 4.1.

Information about the first and second derivatives. Chapter 4.2. Asymptotes from Chapter 2.5. Graphing functions. Chapter 4.3.

Week 5

Optimization problems I. Chapter 4.4.

Optimization Problems Continued. Chapter 4.4. Linear Approximation. Chapter 4.5.

Week 6

Approximating Functions with polynomials Chapter 9.1.

Approximating Functions with polynomials Continued Chapter 9.1. Inverse Trigonometric Functions