

MATH 22 Calculus for Business

Textbook: Brief Calculus: An Applied Approach by Larson, 9E.

Suggested number of 50-minute lectures:

- 1.0 lecture: 1.2 Graphs of Equations
1.3 Lines in the Plane and Slope
- 1.0 lecture: 1.4 Functions
- 1.0 lecture: 1.5 Limits
1.6 Continuity
- 1.0 lecture: 2.1 The Derivative and the Slope of a Graph
- 1.0 lecture: 2.2 Some Rules for Differentiation
- 1.0 lecture: 2.3 Rates of Change: Velocity and Marginals (Marginals and business applications only.)
- 1.0 lecture: 2.4 The Product and Quotient Rules
- 1.0 lecture: *2.5 The Chain Rule
*2.6 Higher Order Derivatives
- 1.0 lecture: *2.7 Implicit Differentiation
- 1.0 lecture: *2.8 Related Rates
- 1.0 lecture: 3.1 Increasing and Decreasing Functions
- 1.0 lecture: 3.2 Extrema and the First Derivative Test
- 1.0 lecture: 3.3 Concavity and the Second Derivative Test
- 1.0 lecture: *3.4 Optimization
*3.5 Business and Economics Applications
- 1.0 lecture: *3.6 Asymptotes
- 1.0 lecture: 3.7 Curve Sketching: A Summary
- 1.0 lecture: 3.8 Differentials and Marginal Analysis
- 1.0 lecture: *4.1 Exponential Functions
*4.2 Natural Exponential Functions
- 1.0 lecture: 4.3 Derivatives of Exponential Functions
- 1.0 lecture: 4.4 Logarithmic Functions
- 1.0 lecture: 4.5 Derivatives of Log Functions
4.6 Exponential Growth and Decay (Compound interest only)
- 1.0 lecture: 5.1 Antiderivatives and Indefinite Integrals

- 1.0 lecture: *5.2 Integration by Substitution and the General Power Rule
- 1.0 lecture: 5.3 Exponential and Logarithmic Integrals
- 1.0 lecture: 5.4 Area and the Fundamental Theorem of Calculus
- 1.0 lecture: 5.5 The Area of a Region Bounded by Two Graphs
- 1.0 lecture: *6.1 Integration by Parts and Present Value
- 1.0 lecture: *6.4 Improper Integrals
- 1.0 lecture: 7.3 Functions of Several Variables
- 1.0 lecture: 7.4 Partial Derivatives
- 1.0 lecture: 7.5 Extrema of Functions of Two Variables

** Additional coverage by the teaching assistants may be necessary.*

Sections Omitted:

- 1.1 Cartesian Plane and the Distance Formula
- 5.6 The Integral as the Limit of a Sum (Riemann Sum)
- 6.2 Integration Table
- 6.3 Numerical Integration
- 7.1 Three-Dimensional Coordinate System
- 7.2 Surfaces in Space
- 7.6 Lagrange Multipliers
- 7.7 Least Squares Regression Analysis
- 7.8 Double Integrals
- 7.9 Applications of Double Integrals