THE OHIO STATE UNIVERSITY

Mathematics 1131
Calculus for Business
Autumn, Spring
5 credits

Catalog Description:
Survey of calculus of one and several variables; applications to business.

Prerequisite:
Math Placement Level L; C- or better in 1130, 1148, 1144, or 1150; credit for 130 or 148.

Exclusions:
Not open to students with credit for a math course numbered 1151 (151.xx) or higher, or for 132 or 1134.

Text:
Columbus Campus: Business Calculus developed by Ximera
Regional Campuses: *Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences*, 13th Edition, by Haeussler, Paul, Wood, published by Pearson: ISBN-10: 1-256-96609-6, ISBN-13: 978-1-256-96609-8.

Topics List:

1. Limits
2. Continuity
3. Continuity and Intervals
4. The Derivative
5. Rules of Differentiation
6. Rates of Change
7. Product and Quotient Rules
8. Chain Rule
9. Derivatives of Exponential Functions
10. Derivatives of Logarithmic Functions

Midterm 1

11. Implicit Differentiation
12. Logarithmic Differentiation
13. Higher-Order Derivatives
14. Differentials
15. Local Extrema
16. Concavity
17. Second-Derivative Test
18. Absolute Extrema
19. Asymptotes
20. Graphing
21. Applied Maxima and Minima
22. The Indefinite Integral

Midterm 2

23. Integration with Initial Conditions
24. Approximating Areas Under Curves
25. The Definite Integral
26. The Fundamental Theorem of Calculus
27. Integration by Substitution
28. Working with Substitution
29. Area Between Curves
30. Consumers' and Producer's Surplus
31. Differential Equations
32. Partial Derivatives

Midterm 3

33. Applications of Partial Derivatives
34. Higher-Order Partial Derivatives