

Business Calculus (Summer A) Exam Topics
Point values are in parentheses.

EXAM 1 (75 points)

- 1.5 1. Limits (10)
- 1.6 2. One sided limits and continuity (10)
- 2.1 3. Derivative using the definition (10)
- 2.1 4. Word problem. You may use the “short” rule for this one. (5)
- 2.2, 2.3 5. Derivatives and equations of tangent lines using power, product, and quotient rules. (10)
- 2.3 6. Higher order derivatives (5)
- 2.4 7. Both forms of the Chain Rule, including a word problem. (25)

EXAM 2 (75 points)

- 2.5 1. Marginal analysis and increments including a word problem. (15)
- 3.1 – 3.3 2. Analyze a function with square roots or fractional exponents for increasing, Decreasing, and concavity. (10)
- 3.1 – 3.3 3. Sketch a polynomial (10)
- 3.1 – 3.3 4. Sketch a rational function. (The derivatives will given for this one.) (15)
- 3.4 5. Find the absolute maximum and minimum values of a continuous function on a closed interval (10)
- 3.4 6. Marginal cost, minimizing average cost (10)
- 3.4 7. Maximizing profit, revenue, or expenditure (5)

EXAM 3 (70 points)

- 3.5 1. Applied optimization problem (10)
- 4.1 2. Exponential functions, compound interest, exponential growth and decay (15)
- 4.2 3. Logarithmic functions and applications (15)
- 4.3 4. Differentiation of logarithmic and exponential functions (15)
- 4.4 5. Additional exponential models, graphs (15)

EXAM 4 (65 points)

- 5.1 1. Indefinite integrals, applications (15)
- 5.2 2. Integration by substitution, application (15)
- 5.3 3. Definite integrals, Fundamental Theorem, substitution in definite integrals (20)
- 5.4 4. Area between curves (10)
- 5.4 5. Average value of a function (5)

EXAM 5 (65 points)

- 5.5 1. Business and economics applications (20)
- 7.1 2. Functions of several variables, domains (15)
- 7.2 3. Partial derivatives, second-order partials, Chain Rule, incremental approximation formula (15)
- 7.3 4. Optimizing functions of 2 variables, critical points, Second Partial Test, saddle points, relative maxima and minima (15)

FINAL EXAM (115 points but a percentage will be calculated)

The final exam will count 25% of the course grade, unless you do better than your previous average, in which case it would count 50%.

1. 1.5, 1.6 (5)
2. 2.1 (5)
3. 2.2, 2.3 (10)
4. 2.4 (5)
5. 2.5 (5)
6. 3.1-3.3 (10)
7. 3.4 (5)
8. 3.5 (10)
9. 4.1, 4.2 (5)
10. 4.3(5)
11. 4.4 (5)
12. 5.1 (5)
13. 5.2 (5)
14. 5.3 (5)
15. 5.4 (5)
16. 5.5(5)
17. 7.1 (5)
18. 7.2 (5)
19. 7.3 (10)