

## Learning Outcomes - Math 176

**Upon successful completion of Math 176, a student should be able to:**

1. Evaluate limits of functions from their graphs and/or equations.
2. Analyze and apply the notions of continuity and differentiability to algebraic functions.
3. Compute first and higher order derivatives of a large class of functions involving powers, exponentials, logarithms and combinations of these functions using sum-difference rule, power rule, product rule, quotient rules, and chain rule.
4. Apply differentiation techniques to the solution of simple problems in business and management sciences.
5. Use derivatives to construct graphs of selected functions.
6. Use the theory of maxima and minima to find optimal solutions to problems in business and management sciences.
7. Use the properties of exponential and logarithmic functions to solve applied problems.
8. Find the indefinite integrals for a variety of functions.
9. Find the area under a curve and between two "reasonable" curves.
10. Integrate selected functions and solve business and economic applications using these results.
11. Apply the Fundamental Theorem of Calculus to evaluate definite integrals.
12. Use substitution and integration by parts to evaluate definite integrals.
13. Apply the concepts of limits, derivatives and integrals to solve problems involving functions unique to business applications and interpret these concepts graphically.