

Norwalk Community College
Learning Outcomes for MAT 190 – Calculus for Business and Social Science I

After completing Calculus for Business and Social Science I, the student should be able to:

- Find a company's cost, revenue, or profit function.
- Compose and decompose functions and find the difference quotient of a function.
- Calculate limits using tables, graphs, or algebra.
- Calculate the average rate of change or instantaneous rate of change of a function.
- Find the derivative of a function using basic rules (sum, product, quotient, chain).
- Compute the marginal revenue, marginal cost, and marginal profit functions.
- Find higher-order derivatives and interpret for cost, revenue, and profit functions.
- Find critical numbers, relative maximum, and relative minimum values of a function using the First Derivative Test and Second Derivative Test.
- Graph a function using calculus.
- Solve optimization problems involving profit, cost, revenue, tax, and yield.
- Optimize lot size and harvest size.
- Solve related rates problems and differentiate implicitly.
- Compute compound interest and present value using exponential functions.
- Compute logarithms and solve problems involving population growth, compound interest, depreciation, and decay.
- Find derivatives of exponential and logarithmic functions.
- Compute the elasticity of demand to determine if prices should be raised or lowered.
- Compute the relative rate of change of a function.
- Calculate indefinite integrals of functions using basic rules.
- Find the cost, revenue, and profit functions, given the marginal revenue, cost, and profit.
- Compute definite integrals and calculate the area under a curve and between two curves.
- Find the average value of a function.
- Calculate definite integrals to find revenue, cost, profit, sales, and population.
- Given the demand function, find the Consumers' Surplus.
- Given the supply function, find the Producers' Surplus.
- Calculate the Gini index given the Lorenz Curve.
- Calculate indefinite and definite integrals using the method of substitution.