

MATH 182 : Calculus I

This course covers in depth the differential calculus portion of a three-course calculus sequence. Topics include limits, continuity, derivatives, and integrals of algebraic and transcendental functions of one variable, with applications. Upon completion, students should be able to apply differentiation and integration techniques to algebraic and transcendental functions.

Credits 3

Prerequisites

MATH 120 or MATH 250

Course Outcomes

After successfully completing the course, the learner will be able to:

- Evaluate derivatives, and understand their place in mathematics and the physical world.
- Evaluate integrals using substitution, ration by parts, and trigonometric evaluation.
- Understand the relation between the chain rules of differentiation and the substitution method of integration.
- Appreciate the relation between the product rule of differentiation and integration by parts.
- Analyze series and summations and be able to test for their possible convergence.
- Understand the meaning and importance of a differential equation.
- To solve linear first order differential equations with initial conditions
- Work backwards from derivative equations to deduce the form of the original functions.
- Define an anti-derivative and use them to solve for areas under curves.
- Define definite and indefinite integration on the real numbers.