

MAT 145: Calculus I

This course introduces students to the three fundamental concepts of calculus, using standard and nonstandard algorithms of numbers and quantity, and focus on Fundamental Theorem of Calculus, logarithmic, exponential, and trigonometric functions. Study of limits and continuity, evaluation of limits using algebraic techniques (such as finding the absolute value), numerical approximations, and/or computers, dealing with rational, irrational, real, and complex numbers; study of derivative of elementary functions, physical applications of the derivative including functional representations such as curve sketching (table graphs), rate problems, maximizing and minimizing physical quantities; study of antiderivative, definite integral, the classical area problem and applications of the definite integral and basic integration techniques.

Credits: 4

Prerequisites: MAT 134 or satisfactory placement score.

Program: **Mathematics**