MA 121 Calculus for Business and Life Sciences I

Course Description: (3)

Differential Calculus as applied to engineering, business, economics and the management, life, and social sciences.

Calculator Policy: Please refer to specific calculator policy. -

Course Objectives:

Business, life science, and engineering technology students will learn applied concepts of differential calculus
Students will become fluent in concepts of limits and continuity
Students will be able to conceptualize and explain average and instantaneous rates of change
Students will understand derivative mechanics
Students will apply derivative functions to real world applications.

Course Content:

Introduction
Review of functions and their graphs
The Straight Line and Linear Functions
Applications of the Straight Line Quadratic Functions
Graphs
Limits, Continuity, and Rates of Changes
Limits
Infinity in Limits
Continuity Average and Instantaneous Rates of Change
The Derivative
Definition of the Derivative Basic
Rules of Differentiation
Further Techniques of Differentiation:
Products, Quotients, and Rational Powers
Marginal Analysis in Business and Economics
The Chain Rule
Related Rates Problems
Implicit Differentiation
Applications of the Derivative
Increasing and Decreasing Functions
Relative Extreme Values of Functions
Absolute Extreme Values of Functions
The Second Derivatives
Applications to Curve Sketching
Additional Techniques for Curve Sketching

ACCOMMODATION STATEMENT:

In accordance with the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973, the University offers reasonable accommodations to students with eligible documented learning, physical and/or psychological disabilities. Under Title