

**SOUTHEASTERN LOUISIANA UNIVERSITY**  
**DEPARTMENT OF MATHEMATICS**  
**MATH 1630 COURSE INFORMATION**  
Effective Fall 2024

**COURSE TITLE:** Applied Calculus

**CREDIT:** 3 semester hours

**TEXT:** *Applied Calculus*, 11<sup>th</sup> Edition, Hoffman/Bradley/Sobecki/Price

**PUBLISHER:** McGraw Hill

**PREREQUISITE:** MATH 1610

**COURSE DESCRIPTION:** An introduction to differential and integral calculus designed for non-STEM majors. Topics will include limits, the derivative, applications of the derivative, antiderivatives, and the definite integral. Polynomial, rational, radical, exponential, and logarithmic functions will be studied.

**SPECIFIC COURSE CONTENT – the section numbers from the textbook covering these topics are given after the topic:**

Polynomial and Rational Functions (1.1)

Limits (1.5)

Continuity (1.6)

Rates of Change (2.1)

Definition of Derivative, Equation of Tangent Line, Graph of a Derivative (2.1)

Computing Derivatives (2.2)

Derivative of Product and Quotient (2.3)

Chain Rule (2.4)

Implicit Differentiation (2.6)

Increasing and Decreasing (3.1)

Relative Extrema (3.1)

Concavity (3.2)

Absolute Extrema (3.4)

Exponential Functions (4.1)

Logarithmic Functions (4.2)

Derivative of Exponential Functions (4.3)

Derivative of Logarithmic Functions (4.3)

Applications: Growth and Decay (4.4)

Indefinite Integration (5.1)

Integration by Substitution (5.2)

Definite Integrals (5.3)

Area/The Fundamental Theorem of Calculus (5.3)

Area between Two Curves (5.4)

**NOTE:** All sections of Math 1630 will have a minimum of 3 regular examinations and a final examination, in addition to quizzes and/or homework.