



**Catalog Description:**

Differential and integral calculus of one real variable.

**Prerequisite:**

Math Placement Level L, or C- or better in: 1150, or in both 1148 & 1149; or in 150 or 1144.

**Exclusions:**

Not open to students with credit for any higher numbered math class.

**Text:**

*Calculus for Scientists and Engineers: Early Transcendentals* 2<sup>nd</sup> edition, by Briggs, Cochran, and Gillett, published by Pearson. ISBN: 9781256776468

**Topics List:**

- 1.1 Review of Functions
- 1.2 Representing Functions
- 1.3 Inverse, Exponential, and Logarithmic Functions
- 1.4 Trigonometric Functions and Their Inverses
- 2.1 The Idea of Limits
- 2.2 Definitions of Limits
- 2.3 Techniques for Computing Limits
- 2.4 Infinite Limits
- 2.5 Limits at Infinity
- 2.6 Continuity
- 3.1 Introducing the Derivative

*Midterm 1*

- 3.2 Working with Derivatives
- 3.3 Rules of Differentiation
- 3.4 The Product and Quotient Rules
- 3.5 Derivatives of Trigonometric Functions
- 3.6 Derivative as Rates of Change
- 3.7 The Chain Rule
- 3.8 Implicit Differentiation
- 3.9 Derivatives of Logarithmic and Exponential Functions
- 3.10 Derivatives of Inverse Trigonometric Functions
- 3.11 Related Rates
- 4.1 Maxima and Minima



*Midterm 2*

- 4.2 What Derivatives Tell Us
- 4.3 Graphing Functions
- 4.4 Optimization Problems
- 4.5 Linear Approximations and Differentials
- 4.6 Mean Value Theorem
- 4.7 L'Hospital's Rule
- 4.9 Antiderivatives
- 5.1 Approximating Areas under Curves
- 5.2 Definite Integrals
- 5.3 Fundamental Theorem of Calculus
- 5.4 Working with Integrals

*Midterm 3*

- 5.5 Substitution Rule
- 6.1 Velocity and Net Change

*Final*