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 I developed by Ximera

Topics List:

§1 Understanding Functions
§2 Review of famous functions
§3 What is a limit?
§4 Limit laws
§5 (In)determinate forms
§6 Using limits to detect asymptotes
§7 Continuity & Intermediate Value Theorem
§8 An application of limits

Midterm 1

§9 Definition of the derivative
§10 Derivatives as functions
§11 Rules of differentiation
§12 Product rule and the quotient rule
§13 Chain rule
§14 Higher order derivatives and graphs
§15 Implicit differentiation
§16 Logarithmic differentiation
§17 Derivatives of inverse functions
§18 More than one rate
§19 Applied related rates
§20 Maximums and minimums
§21 Concepts of graphing functions
§22 Computations for graphing functions
§23 Mean value theorem

Midterm 2

§24 Linear approximation
§25 Optimization Section
§26 Applied optimization
§27 L’Hopital’s rule
§28 Antiderivatives
§29 Approximating the area under a curve
§30 Definite integrals

Midterm 3

§31 Antiderivatives and area
§32 First Fundamental Theorem of Calculus
§33 Second Fundamental Theorem of Calculus
§34 Applications of integrals
§35 The idea of substitution
§36 Working with substitution

Final