

Course:	Math 166 Calculus II	Credits:	4		
Course Description:	Applications and techniques of integration, polar equations, parametric equations, sequence and series, power series, and applications. Prerequisite: Math 165				
Concepts and Issues	Process Skills	Assessment Tasks	Intended Outcomes		
			Course	Program	Institutional
<ul style="list-style-type: none"> • Inverse functions • Hyperbolic functions • Slope Fields • Euler’s Method • Growth and decay • Logistic equation • First-order linear differential equations • Arc length • Surfaces of revolution • Moments and centers of mass • Centroid • Integration by parts • Trigonometric integrals • Trigonometric substitution • Partial fractions • Integration by tables • Inderminate forms • L’Hopital’s Rule • Improper Integrals • Sequences • Series and convergence • Integral tests • ρ – Series • Alternating series • Ratio and roots tests • Taylor polynomials • Power series • Maclaurin series • Conics • Plane curves • Parametric equations • Polar coordinates • Polar graphs 	<ul style="list-style-type: none"> • Apply specialized integration and differentiation rules to natural logarithmic functions, trigonometric, and hyperbolic functions • Construct and solve differential equations to solve real-life situations • Use integration to find the arc length or surface of revolution of a solid • Determine the moments and centers of mass from one dimension or two dimension masses, planar laminas, and centroids • Apply various integration methods to complex integrals • Determine whether sequences and series converge or diverge • Find the radius and interval of convergence of a power series • Represent functions by powers series • Determine the Taylor or Maclaurin series of a function • Graph in polar coordinates and using parametric equations • Determine rates of change, area, and arc length in polar coordinates 	<ul style="list-style-type: none"> • Complete textbook readings, questions, and problems demonstrating mastery of both concepts and process skills. • Complete examinations demonstrating mastery of both concepts and process skills. 	<ul style="list-style-type: none"> • Create models and determine outcomes to represent real life situations. • Perform integration on diverse functions. • Use correct calculus procedures to solve problems. 	<p>2. Students will use reasoning skills to analyze and solve problems.</p>	<p>2. Students will use reasoning skills to analyze and solve problems.</p>

