

math301 Syllabus

math 301: Calculus II

Text: *Calculus: Early Transcendentals, 3rd Edition*, by Briggs, Cochran, Gillett and Schulz, 2019.

Prerequisites: math 270 (Calculus I) with a grade of C or better.

Sections and Topics

- Section 6.2: Regions Between Curves
- Section 6.3: Volume by Slicing
- Section 6.4: Volume by Shells
- Section 6.5: Length of Curves
- Section 6.6: Surface Area
- Section 6.7: Physical Applications
- Section 7.1: Logarithmic and Exponential Functions Revisited
- Section 7.2: Exponential Models
- Section 7.3: Hyperbolic Functions
- Section 8.1: Basic Approaches
- Section 8.2: Integration by Parts
- Section 8.3: Trigonometric Integrals
- Section 8.4: Trigonometric Substitutions
- Section 8.5: Partial Fractions
- Section 8.6: Integration Strategies
- Section 8.7: Other Methods of Integration
- Section 8.9: Improper Integrals
- Section 8.8: Midpoint, Trapezoid, and Simpson's Rules
- Section 10.2: Sequences
- Section 10.3: Infinite Series
- Section 10.4: The Divergence and Integral Tests
- Section 10.5: Comparison Tests
- Section 10.6: Alternating Series
- Section 10.7: The Ratio and Root Tests
- Section 10.8: Choosing a Convergence Test
- Section 11.1: Approximating Functions with Polynomials
- Section 11.2: Properties of Power Series
- Section 11.3: Taylor Series
- Section 12.1: Parametric Equations
- Section 12.2: Polar Coordinates
- Section 12.3: Calculus in Polar Coordinates
- Section 12.4: Conic Sections

Last updated 19 December 2022.