

math301 Syllabus

math 301: Calculus II

Text: Calculus Early Transcendentals, 11th edition, Anton, Bivens, and Davis, Wiley, 2015

Prerequisites: math 270 with a grade of C or better.

A TI-83 or TI-84 Graphing Calculator is required.

Sections and Topics

- Introduction and Review from Calculus I
- 5.3 Integration by Substitution
- 5.6 Fundamental Theorem of Calculus; M.V.T.
- 5.7 Rectilinear Motion
- 5.8 Average Value of a Function
- 5.9 Definite Integration and Substitution
- 5.10 Functions Defined by Integrals
- 6.1 Area Between Two Curves
- 6.2 Volumes by Slicing; Disks and Washers
- 6.3 Volumes by Cylindrical Shells
- 6.4 Length of a Plane Curve
- 6.6 Work
- 6.7 Moments, Center of Gravity, and Centroids
- 6.8 Fluid Pressure and Force
- 6.9 Hyperbolic Functions
- 7.1 Overview of Integration Methods
- 7.2 Integration by Parts
- 7.3 Integrating Trigonometric Functions
- 7.4 Trigonometric Substitution
- 7.5 Integration using Partial Fractions
- 7.6 Using Tables of Integrals and C.A.S.
- 7.7 Numerical Integration
- 7.8 Improper Integrals
- 9.1 & 9.2 Sequences and Monotone Sequences
- 9.3 Infinite Series
- 9.4 Convergence Tests
- 9.5 Comparison, Ratio, & Root Tests
- 9.6 Alternating Series; Absolute Convergence
- 9.7 Maclaurin and Taylor Polynomials
- 9.8 Maclaurin and Taylor Series; Power Series
- 9.9 Convergence of Taylor Series
- 9.10 Differentiating and Integrating Power Series
- 10.1 Parametric Equations
- 10.2 Polar Coordinates
- 10.3 Tangent Lines, Arc Length, and Area in Polar Coordinates

Last updated 18 August 2016.