

MTH 2001 – Calculus 3

Study Topics

Textbook: Multivariable Calculus, 8th ed., by James Stewart

- 12.1: 3D Coordinates
- 12.2: Vectors
- 12.3: Dot Product
- 12.4: Cross Product
- 12.5: Lines and Planes
- 12.6: Quadric Surfaces
- 13.1: Vector Functions
- 13.2: Vector Function Derivatives & Integrals
- 13.3: Arclength & Curvature
- 13.4: Velocity & Acceleration

Test 1

- 14.1: Functions of Several Variables
- 14.2: Limits and Continuity
- 14.3: Partial Derivatives
- 14.4: Tangent Planes
- 14.5: Chain Rule
- 14.6: Directional Derivative & Gradient
- 14.7: Maximums & Minimums
- 14.8: Lagrange Multipliers

Test 2

- 15.1A: Rectangular Double Integrals
- 15.1B: Iterated Integrals
- 15.2: General Double Integrals
- 15.4: Double Integral Applications
- 15.5: Surface Area
- 15.3: Polar Double Integrals
- 15.6: Triple Integrals
- 15.7: Cylindrical Triple Integrals
- 15.8: Spherical Triple Integrals
- 15.9: Change of Variables

Test 3

- 16.1 - Vector Fields
- 16.2: Line Integrals
- 16.3: Fundamental Theorem of Line Integrals
- 16.4: Green's Theorem
- 16.5: Curl and Divergence
- 16.6: Parametric Surfaces
- 16.7: Surface Integrals
- 16.8: Stokes' Theorem
- 16.9: Divergence Theorem

FINAL EXAM