MATH 2415. CALCULUS III

Thomas' Calculus by George Thomas, Maurice Weir, Joel Hass and Frank Giordano (Eleventh Edition)

Textbook Sections

12.1 Three-Dimensional Coordinate Systems
12.2 Vectors
12.3 The Dot Product
12.4 The Cross Product
12.5 Lines and Planes in Space
13.1 Vector Functions
13.2 Modeling Projectile Motion
13.3 Arc Length and the Unit Tangent Vector
13.4 Curvature and the Unit Normal Vector
14.1 Functions of Several Variables
14.2 Limits and Continuity in Higher Dimensions
14.3 Partial Derivatives
14.4 The Chain Rule
14.5 Directional Derivatives and Gradient Vectors
14.6 Tangent Planes and Differentials
14.7 Extreme Values and Saddle Points
14.8 Lagrange Multipliers
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16.2 Vector Fields, Work, Circulation, and Flux
16.3 Path Independence, Potential Functions, and Conservative Fields
16.4 Green's Theorem in the Plane
16.5 Surface Area and Surface Integrals
16.7 Stokes' Theorem
16.8 The Divergence Theorem and a Unified Theory