

MATH 271, CALCULUS III, Dr. Ji Gao

Text: Calculus: Early Transcendentals by J. Stewart (7th Edition)

Lesson	Chapter & Section	Topics
1	12.1	Three- Dimensional Coordinate Systems
2	12.2	Vectors
	12.3	The Dot Product
3	12.4	The Cross Product
4	12.5	Equations of Lines and Planes
5	12.6	Quadric Surfaces
6	13.1	Vector Functions and Space Curves
7	13.2	Dev. & Int. of Vector Funs
8	13.3	Arc Length and Curvature
9	14.1	Functions of Several Variables
10	14.2	Limits and Continuity
11	14.3	Partial Derivatives
	14.4	Tangent Planes and Differentials
	14.5	The Chain Rule
12	14.6	Directional Derivatives and the Gradient Vector
13	14.7	Maximum and Minimum Values
14	14.8	Lagrange Multipliers
15	REVIEW	
16	TEST #1	
17	15.1	Double Integrals over Rectangles
	15.2	Iterated Integrals
18	15.3	Double Integrals over General Regions
19	15.4	Double Integrals in Polar Coordinates
20	15.6	Surface Area
21	15.7	Triple Integrals
22	15.8	Triple Integrals in Cylindrical and
23	15.9	Spherical Coordinates
24	15.10	Change of Variables in Multiple Integrals
25	REVIEW	
26	TEST #2	
27	16.1	Vector Fields
28	16.2	Line Integrals
29	16.3	The Fundamental Theorem for Line Integrals
30	16.4	Green's Theorem
31	16.5	Curl and Divergence
32	16.6	Parametric Surfaces and Their Areas
33	16.7	Surface Integrals
34	16.8	Stoke's Theorem
35	16.9	The Divergence Theorem
36	REVIEW	
37	TEST #3	
38	FINAL EXAM	