

MATH 253X: Calculus III – Daily Schedule

This schedule is based on a 14 week semester, with 4 days of class meetings. Textbook sections are from Calculus, 8th edition, by James Stewart.

Note that optional material on curvature (§13.3) and change of variables (§15.9) is included. Instructors may choose to follow a different schedule.

Day	Topic	Section
1	Three-Dimensional Coordinate Systems	§12.1
2	Vectors	§12.2
3	The Dot Product	§12.3
4	The Cross Product	§12.4
5	Equations of Lines and Planes	§12.5
6	Equations of Lines and Planes; Cylinders and Quadric Surfaces	§12.5-6
7	Cylinders and Quadric Surfaces	§12.6
8	Vector-valued Functions and Space Curves	§13.1
9	Derivatives and Integrals of Vector Functions	§13.2
10	Derivatives and Integrals of Vector Functions	§13.2
11	Arc Length	§13.3
12	Curvature	§13.3
13	Motion in Space: Velocity and Acceleration	§13.4
14	Motion in Space: Velocity and Acceleration	§13.4
15	Review for Midterm Exam 1	
16	MIDTERM EXAM 1	
17	Functions of Several Variables	§14.1
18	Limits and Continuity	§14.2
19	Partial Derivatives	§14.3
20	Partial Derivatives	§14.3
21	Tangent Planes and Linear Approximation	§14.4
22	Tangent Planes and Linear Approximation	§14.4
23	The Chain Rule	§14.5
24	The Chain Rule	§14.5
25	Directional Derivatives and the Gradient Vector	§14.6
26	Maximum and Minimum Values	§14.7
27	Maximum and Minimum Values, Lagrange Multipliers	§14.7-8
28	Lagrange Multipliers	§14.8
29	Double Integrals over Rectangles	§15.1
30	Double Integrals over General Regions	§15.2
31	Double Integrals over General Regions	§15.2
32	Double Integrals in Polar Coordinates	§15.3
33	Applications of Double Integrals	§15.4
34	Applications of Double Integrals; Surface Area	§15.4-5
35	Surface Area	§15.5
36	Review for Midterm Exam 2	
37	MIDTERM EXAM 2	

(continued)

Day	Topic	Section
38	Triple Integrals	§15.6
39	Triple Integrals in Cylindrical Coordinates	§15.7
40	Triple Integrals in Spherical Coordinates	§15.8
41	Change of Variables in Multiple Integrals	§15.9
42	Vector Fields	§16.1
43	Line Integrals	§16.2
44	The Fundamental Theorem for Line Integrals	§16.3
45	Green's Theorem	§16.4
46	Curl and Divergence	§16.5
47	Curl and Divergence	§16.5
48	Parametric Surfaces and Their Areas	§16.6
49	Parametric Surfaces and Their Areas	§16.6
50	Surface Integrals	§16.7
51	Surface Integrals	§16.7
52	Stokes' Theorem	§16.8
53	Stokes' Theorem; The Divergence Theorem	§16.8-9
54	The Divergence Theorem	§16.9
55	Review for Final Exam	
56	Review for Final Exam	