

MATH 233 - ANALYTICAL GEOMETRY - CALCULUS III

TEXT: Calculus, by Larson, Hostetler & Edwards (Seventh Edition)
Recommended: The Student Edition of MATLAB (Version 4)

<u>LESSON</u>	<u>SECTIONS</u>	<u>TOPICS</u>	<u>HOMEWORK PROBLEMS</u>
1	10.1	Vectors in the Plane	723/1,11,17b,27,29,41,47 49,53,69,91,100,101,104
2	10.2	Space Coordinates and Vectors in Space	732/1,7,9,31,35,37,39,41 55,83,91
3	10.3	The Dot Product of Two Vectors	741/3,7,17,21,27,45,47,51 67,71
4	10.4	The Cross Product of Two Vectors in Space	750/1,15,29,31,33,43,47
5&6	10.5	Lines and Planes in Space	759/5,7,9,13,15,19,29,33 37,39,41,47,51,69,73,77
7&8	10.6	Surfaces in Space	771/1-6,7-27(odd only),43
9		MATLAB: Project 1	
10&11	10.7	Cylindrical and Spherical Coordinates	778/4,9,21,25,31,43,44,51 63,95
12		REVIEW	
13		TEST 1	
14	11.1	Vector-Valued Functions	791/1,3,11a-c,13,15,23,31 33,49,59,69,71,73,75
15	11.2	Differentiation and Integration of Vector-Valued Functions	800/1,7,11,15,37,45,48,49 55
16	11.3	Velocity and Acceleration	808/3,5,9,13,15,21,27,37 38,41
17		MATLAB: Project 2	
18	11.4	Tangent Vectors and Normal Vectors	818/7,23,25,27,31,36
19&20	11.5	Arc Length and Curvature	828/1-4,8,9,21,25
21		REVIEW	
22		TEST 2	
23&24	12.1	Introduction to Functions of several Variables	846/7,13,15,17,19,21,35 37,51,53,71,73
25&26	12.2	Limits and Continuity	856/7,9,13,19,21,33,37,39

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(continued)

LESSON	SECTIONS	TOPICS	HOMEWORK PROBLEMS
27&28	12.3	Partial Derivatives	865/11,15,21,25,37,39,45 53,57,59,71,75
29	12.4	Differentials	874/4,9,11,17,25,26,35,40
30	12.5	Chain Rules for Functions of Several Variables	882/1,7,9,17,21,31,33,35 51,54,60
31&32	12.6	Directional Derivatives and Gradients	893/5,7,9,11,15,17,31,35 40,61,63
33	12.7	Tangent Planes and Normal Lines	902/7,13,14,21,23,27,29 33,39,47
34		MATLAB: Project 3	
35&36	12.8	Extrema of Functions of Two Variables	911/1,3,5,7,21,25,31,33 45,48,53,55,59
37&38	12.9	Applications of Extrema of Functions of Two Variables	917/1,5,7,9,11,15,20
39		REVIEW	
40		TEST 3	
41&42	13.1	Iterated Integrals and Area in the Plane	942/5,15,19,27,31,33,35 39,46,47,53,55
43	13.2	Double Integrals and Volume	952/9,11,15,19,25,27,33 37,39
44		MATLAB: Project 4	
45	13.3	Change of Variables: Polar Coordinates	960/10,11,17,19,25,27,29 31,37,39
46	13.4	Center of Mass	969/5,7,11,13,19,25
47	13.6	Triple Integrals and Applications	986/4,5,17,21,23,25,27
48&49	13.7	Triple Integrals in Cylindrical and Spherical Coordinates	993/1,3,5,9,13,15
50&51	14.1	Vector Fields	1017/7,9,21,35,37,41,45, 47,51,59,61
52		REVIEW FOR FINAL	