Syllabus For SM221P
Fall 2011

Text: CALCULUS, Early Transcendentals, 7e by James Stewart

Day	Section	Topic	Problems
1	12.1	3D Coordinates	**p.790:** 4,5,6,10,13,16,20,22,27,29,32,37
2	12.2	Vectors	**p.798:** 4,6,7,9,19,22,25,26
3	12.2/12.3	Vectors / Dot Product	**p.798:** 32,35,37,41; **p.806:** 1,7,9,11
4	12.3	Dot Product	**p.806:** 19,23,26,28,41,47,49,57
5	12.4	Cross Product	**p.814:** 3,9,11,13,14,15,19,31,39,43,45,53
6	12.5	Lines and Planes	**p.824:** 1,4,5,10,14,17,24,26,27,51
7	12.5	Lines and Planes	**p.824:** 20,22,33,35,37,45,55,57,68
8	12.6	Cylinders and Quadric Surfaces	**p.832:** 1,4,5,6,8,11,12,14
9	12.6	Cylinders and Quadric Surfaces	**p.832:** 15,23,24,41,42
10	13.1	Vector Functions and Space Curves	**p.845:** 7,9,12,17,21,22,23,47,48
11	13.2/13.4	Derivatives and Integrals of Vector Functions / Motion in Space	**p.852:** 4,23,26,31 **p.870:** 10,17(a),18(a),19,22
12	13.4	Motion in Space	**p.870:** 24,26,27,45
13	13.3/16.2	Arc Length / Line Integrals of Functions	**p.860:** 2,3,11; **p.1072:** 1,3,9,10
14		**Review**	
15		**Test 1**	
16	14.1	Functions of Several Variables	**p.888:** 2,10,13,22,23,25,29,36,39,40,53,67
17	14.3	Partial Derivatives	**p.911:** 3,10,11,18,19,22,26,28,41
18	14.3	Partial Derivatives	**p.911:** 43,55,61,73,74
19	14.4	Tangent Planes and Linear Approximation	**p.922:** 4,15,19,21,24,34
20	14.5	The Chain Rule	**p.930:** 2,5,9,13,15,21,37,39,40
21	14.6	Directional Derivatives and the Gradient	**p.943:** 5,8,9,12,17,19,24,28,34
22	14.6	Directional Derivatives and the Gradient	**p.943:** 38,42,43,55,63
23	14.7	Maximum and Minimum Values	**p.953:** 2,3,4,8,9,11,19
24		**Review**	
25		**Test 2**	
26	15.1	Double Integrals over Rectangles	**p.981:** 1,5,9,12,14
27	15.2	Iterated Integrals	**p.987:** 5,8,10,17,24,27,30
28	15.3	Double Integrals over General Regions	**p.995:** 3,6,10,20,23,25,27
29	15.3	Double Integrals over General Regions	**p.995:** 30,44,46,51,52,53,56,62
30	10.3/15.4	Double Integrals in Polar Coordinates	**p.662:** 1,5,16,17,31,33; **p.995:** 1-4,8,11,13
31	15.4	Double Integrals in Polar Coordinates	**p.995:** 15,22,23,25,26,29,31
32	15.5	Applications of Double Integrals	**p.1012:** 1,7,10,11,13
33	15.7	Triple Integrals	**p.1016:** 4,14,15,17,18,19
34	15.7	Triple Integrals	**p.1016:** 21,22,33,42,55

35	15.8	Triple Integrals in Cylindrical Coordinates	**p.1031:** 1,3,5,6,9,10(b),11,17,18,19
36	15.8/15.9	Triple Integrals in Cylindrical Coordinates Spherical Coordinates	**p.1031:** 20,23,25 **p.1037:** 1,4,5,6,9,11,13
37	15.9	Triple Integrals in Spherical Coordinates	**p.1037:** 17,19,20,23,26,30
38		**Review**	
39		**Review**	
40		**Test 3**	
41	16.1	Vector Fields	**p.1061:** 1,2,5,6,11,15,16,25,29,33
42	16.2	Line Integrals (of vector fields)	**p.1072:** 13,14,15,17,19,22,27
43	16.2	Line Integrals (of vector fields)	**p.1072:** 28,32(a),40,41,42,45
44	16.3	The Fundamental theorem for Line Integrals	**p.1082:** 1,2,5,7,11,12,15
45	16.3	The Fundamental theorem for Line Integrals	**p.1082:** 16,17,20,23,25,29,35
46	16.4	Green's Theorem	**p.1089:** 4,5,7,10,12,18,19
47	16.5	Curl and Divergence	**p.1097**: 1,3,9,10,12,15,17,18,21; **p.1138:** 37
48	16.6	Parametric Surfaces	**p.1109:** 1,3,4,13,19,20,21,22,23,24,25,26
49	16.6/16.7	Parametric Surfaces /Surface Integrals of Functions	**p.1109:** 33,37,45,46,48; **p.1120:** 7,10,12,40
50	16.7	Surface Integrals of Vector Fields	**p.1120:** 22,23,24,25
51	16.7	Surface Integrals of Vector Fields	**p.1120:** 27,28,31,43
52	16.9	The Divergence Theorem	**p.1133:** 2,4,7,8,11,12,13
53	16.9/16.8	The Divergence Theorem / Stokes' Theorem	**p.1133:** 17,19; **p.1127:** 1,2,3,4
54	16.8	Stokes' Theorem	**p.1127:** 8,9,14
55		**Review**	
56		**Review**	
57		**Test 4**	
58		**Course Review**	
59		**Course Review**	
60		**Course Review**	

Coourse coordinator: Prof Alevras, alevras@usna.edu