

Syllabus for SM122, SM122A Calculus II
Spring Semester, 2006-2007

TEXT: *CALCULUS, Early Transcendentals*, Edition 5e by James Stewart

LESSON	SECTION	TOPIC	PROBLEMS	NOTES
1	5.1	Areas and Distances	p.378: 1,4,6(a)(b),12,14,17	Deck Lab
--- 06-07 January ---				
2	5.2	The Definite Integral	p.390: 1,2,5,8,9,21,34,39,56	
3	5.3	The Fundamental Thm. of Calc.	p.402: 3,5,11,14,23,28,35,40	FTC applet
4	5.4	Indefinite Integrals	p.411: 1,5,8,12,13,21,24,38,47,56	
5	5.5	The Substitution Rule	p.420: 1,2,6,9,14,22,23	
--- 13-15 January (Martin Luther King Birthday Holiday) ---				
6	5.5	(continued)	p.420: 31,32,37,51,52,62,74	
7	6.1	Areas between Curves	p.442: 1,3,6,7,18,19,25,29	
8	6.2	Volumes	p.452: 1,2,5,6,14,27,28,54	Wing Lab
--- 20-21 January ---				
9	6.3	Cylindrical Shells	p.458: 1,3,8,12,19,35	
10	6.4	Work	p.463: 1,3,5,6,7,10	
11	6.4	(continued)	p.463: 13,16,21,24,29	
12	6.5	Average Value	p.467: 1,5,10,15,16,18	
--- 27-28 January ---				
13	Review			
14	Test 1			
15	7.1	Integration by Parts	p. 480: 1,5,6,9,10,14	
16	7.1	(continued)	p. 480: 15,19,21,28,45,56	
--- 03-04 February ---				
17	7.2	Trigonometric Integrals	p. 488: 1,2,3,4,7,53,64	Just sin & cos
18	7.3	Trigonometric Substitution	p. 494: 3,4,5,12,20,33	
19	7.4	Partial Fractions	p. 504: 1,2,7,10,24,25	
20	7.7	Approximate Integration	p. 527: 1,2,3,13,38	Not error bds
--- 10-11 February ---				
21	7.8	Improper Integrals	p.537: 5,6,15,22,27,28,41,51,68	
22	8.1	Arc Length	p. 552: 1,3,5,6,10,33,35	
23	8.3	Apps to Physics & Engineering	p. 569: 1,2,3,4,5,10,11	video
24	8.3	(continued)	p. 569: 19,23,26,27,29,34,35	
--- 17-19 February (Presidents' Day Holiday) ---				
25	Review			
26	Test 2			
27	9.1	Modeling with Differential Eqs	p. 591: 1,2,3,4,5,12	
--- 24-25 February ---				
28	9.2	Direction Fields & Euler's Method	p. 599: 1,3,4,11,18,20,22,23	
29	9.3	Separable Equations	p. 608: 1,2,3,6,10,11,14	
30	9.3	(continued)	p. 608: 16,19,35,39,40,42	
31	9.4	Exponential Growth & Decay	p. 620: 1,3,7,8,10,15	
--- 03-04 March ---				
32	9.6	Linear Equations	p. 636: 1,3,5,6,13,16,17,29	
33	Notes: 1 , 2	Electric Circuits: DC	Exercises A – do odds	
34	Notes: 3 , 4	Electric Circuits: AC, EMF decay	Exercises B – 1,3,5,7,10 all a-e	
35	10.1	Curves w/ Parametric Equations	p. 656: 5,10,11,12,15,18,24,43	
--- 10-18 March (Spring Break) ---				

36	10.2	Calculus w/ Parametric Curves	p. 666: 1,3,6,7,41,44,51	Not areas
37	10.3	Polar Coordinates	p. 677: 1,3,6,10,15,26	
38	10.3	(continued)	p. 677: 29,30,33,40,41,47,54	
39	10.4	Areas & Lengths in Polar Coords.	p. 683: 1,2,5,8,11,18	Area only
--- 24-25 March ---				
40	Review			
41	Test 3			
42	11.1	Sequences	p. 710: 5,9,14,15,16,18,22,24	
43	11.2	Series	p. 720: 11-16,22,33,34,41,42,65	
--- 31 March -01 April ---				
44	11.10	Taylor & Maclaurin Series	p. 770: 3,4,5,6,7,8	Polynomials only
45	11.10	(continued)	p. 770: 11,12,13,33,34	
46	12.1	Three-Dimensional Coordinates	p.797:1,3,5,8,12,15,25,30,34,38	
47	12.2	Vectors	p. 805: 1,6,7,14,15,17	
--- 07-08 April ---				
48	12.2	(continued)	p. 805: 21,25,26,29,30	
49	12.3	The Dot Product	p. 812: 1,2,3,4,5,10,11,15,20	
50	12.3	(continued)	p. 812: 23,26,27,35,38,43,53	
51	12.4	The Cross Product	p. 820: 1,2,3,4,8,9,10	x-prod applet
--- 14-15 April ---				
52	12.4	(continued)	p. 820: 12,15,23,26,35	Wrench Lab
53	12.5	Equations of Lines and Planes	p. 829: 2,3,6,11,13,19,20	
54	12.5	(continued)	p. 829: 5,12,23,24,33,39,48	
55	Review			
--- 21-22 April ---				
56	Review			
57	Test 4			
58	Review	for common final		
59	Review	for common final		

NOTES

1. There's a Review & Study day scheduled for 30 April. The Final Exam period is 01-08 May.
2. The 3 web labs in the syllabus can be found at http://www.usna.edu/MathDept/website/local/courses/calc_labs/labs.html
3. All students in this course are expected to have a calculator like the Voyage 200 with the capabilities to do symbolic calculations. There will be assignments that use such a calculator as well as questions on the common final exam on which it is expected that the student has such a calculator. The latest version of the Voyage 200 guidebook in PDF format is at http://education.ti.com/guidebooks/graphing/89ti/Voyage200Guidebook_Part2_EN.pdf
4. If you would like help in the course, you should contact your instructor for extra-instruction. If your instructor is not available, try the [Math Lab](#). It is staffed all six class periods every class day with instructors who should be able to answer your questions. There is also the [Midshipmen Group Study Program](#) (MGSP) available in the evenings provided by upper classmen. See links at: <http://www.usna.edu/MathDept/website/local/resources.htm>
5. A few copies of the text and student solution manuals have been put on reserve at the

Nimitz circulation desk.

6. There will be a “modified gateway” quiz on integration. For a sample and explanation see: <http://www.usna.edu/MathDept/website/local/courses/gateways/gateways.html>

7. Exercises that ask for verbal explanations should be answered with complete sentences.

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