

Draft Syllabus for SM122, SM122A Calculus II
Spring Semester, 2008-2009

TEXT: *CALCULUS, Early Transcendentals*, Edition 6e by James Stewart

LESSON	SECTION	TOPIC	PROBLEMS	NOTES
1	5.3	Review Fund Thm of Calc	p.387:3,7,11,14,19,24,26,29,31,38,44	FTC applet
2	5.5	The Substitution Rule	p.406: 3,5,7,9,15,19,23	
3	5.5	Substitution (continued)	p.407: 26,28,29,37,49,51,54,58	
4	6.1	Areas between Curves	p.420: 1,3,5,9,11,12,14	
5	6.1	Areas (continued)	p.420: 16,20,23,35,43	
6	6.2	Volumes (Disks & Washers)	p.430: 1,3,5,9,11,17,29	Wing Lab
7	6.4	Work	p.441: 1,3,5,7,10	
8	6.4	Work (continued)	p.441: 13,15,19,20,21	
9	6.5	Average Value of a Function	p.445: 1,5,10,15,16,18	
10	Review			
11	Test 1			
12	7.1	Integration by Parts	p.457: 1,3,4,7,9,10,19	
13	7.1	Integr by Parts (continued); Partial Fractions	p.457: 23,25,48,52,58; p.481: 1,7,9	
14	7.4	Partial Fractions	p.482: 11,12,14,17,24,25	
15	7.7	Approximate Integration	p.505: 1,2,8,29,35	Not error bds
16	7.8	Improper Integrals	p.515: 1,6,8,11,13,15,28,31	
17	8.3	Hydrostatic Force	p.547: 1,3,7,9	
18	8.5	Probability	p.560: 3,4,6,12,15	
19	9.1	Modeling with Differential Eqs	p.571: 1,3,4,5,9,14	
20	9.2	Direction Fields	p.578: 1,3,4,7,8,11	
21	9.2	Euler's Method	p.579: 20,21,23,28	
22	9.3	Separable Differential Eqs	p.586: 1,3,10,11,12,15	
23	9.3	Separable (continued) Exponential Growth & Decay	p.586: 34; p.239: 3,9,11,13	
24	Notes: 1 , 2	Electric Circuits: DC	Exercises A – 1,4,6,9	
25	Review			
26	Test 2			
27	10.3	Polar Coordinates	p.647: 1,3,6,10,15,25	
28	10.3	Polar Coordinates (continued)	p.648: 29,31,34,37,47,49,50	
29	10.4	Areas in Polar Coordinates	p.653: 1,2,5,8,18,27	Area only
30	11.1	Sequences	p.684: 5,9,14,15,17,18,26,28	
31	11.2	Series	p.694: 11-16,22,34,41,42,73	
32	11.5	Alternating Series	p.713: 2,3,7,11,23,31	
33	11.6	Ratio Test	p.719: 1,2,3,7,8,27	
34	11.8	Power Series	p.727: 3,7,9,15,30: rad of conv only	
35	11.9	Functions as Power Series	p.733: 3,4,9,15,27	

36	11.10	Maclaurin Series	p.746: 5,6,10,29,39,41	
37	11.10	Taylor Series	p.746: 2,13,15,17,51	
38	11.11	Applications of Taylor Polys	p.755: 1,14,16,21,27,31	
39	Review			
40	Test 3			
41	12.1	Three-Dimensional Coordinates	p.769: 3,5,7,10,11,13,25,29	
42	12.2	Vectors	p.777: 1,5,7,9,11,13,15,19,23	
43	12.2	Vectors (continued)	p.777: 24,25,28,29,30	
44	12.3	The Dot Product	p.784: 1,3,5,7,9	
45	12.3	Dot Product (continued)	p.784: 15,17,23,25,35,37,45,47	
46	12.4	The Cross Product	p.792: 1,3,5,13,14,16	
47	12.4	Cross Product (continued)	p.792: 17,19,29,39,40,41	
48	12.5	Equations of Lines	p.802: 2,3,4,7,10,11,13,14	
49	12.5	Equations of Planes	p.802: 1,23,25,27,31,39,46,49	
50	12.5	Lines and Planes	p.803: 59,67,69,71,74	
51	13.1	Vector Functions & Space Curves	p.855: 1,6,11,15,19-24,40	
52	13.2	Derivs. & Integrals of Vect Fns	p.861: 1,2,3,5,9,18,25,39,50	
53	13.3/13.4	Arc Length & Motion in Space	p.868: 1,3,6,55; p.878: 2,3,10	
54	13.4	Motion in Space through p. 874	p.878: 15,16,19,23,24,28,29a	
55	Review			
56	Test 4			
57	Review	for common final		
58/59	Review	for common final		

Course coordinator: Prof. J. D'Archangelo jmd@usna.edu

NOTES

1. You can find an electronic copy of this syllabus on the Math Dept web page <http://www.usna.edu/MathDept/website/local/>
Follow the "Courses" link. You can also find a lot of helpful information such as practice exams, etc.

2. The value you get out of this course is proportional to the effort you put into it. Keep in mind that the primary goal (and your responsibility) is not just doing the problems, but rather understanding the material. Exercises that ask for verbal explanations should be answered in complete sentences.

3. If you would like help in this course, you should contact your instructor for EI. If your instructor is not available, try the Math Lab in CH 130. 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>

4. Classes on Tuesday, 20 Jan will follow a Monday schedule. The last day of classes is Tuesday 28 April. There's a Review & Study day scheduled for Wednesday 29 April. There are 59 class days in the MWRF schedule and 58 in the MTWF schedule. The Final Exam period is 30 April - 07 May.

5. The 3 web labs in the syllabus can be found at

http://www.usna.edu/MathDept/website/local/courses/calc_labs/labs.html

6. 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

7. There will be a "gateway" quiz on integration. For a sample and explanation see:

<http://www.usna.edu/MathDept/website/local/courses/gateways/gateways.html>