

Syllabus for SM122, SM122A Calculus II Spring Semester, 2009-2010

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

LESSON	SECTION	TOPIC	PROBLEMS	NOTES
1	5.3	Review Fund Thm of Calc	p.387:2,9,11,14,21,23,26,29,31,38,44	FTC applet
2	5.5	The Substitution Rule	p.406: 3,5,8,11,15,19,23	
3	5.5	Substitution (continued)	p.407: 26,28,29,37,47,51,54,58	
4	6.1	Areas between Curves	p.420: 2,3,5,9,11,12,15	
5	6.1	Areas (continued)	p.420: 16,20,23,35,43	
6	6.2	Volumes (Disks & Washers)	p.430: 1,3,5,7,12,16,29	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: 3,5,10,15,16,18,23	Prf: Ex. 23
10	Review			
11	Review			
12	Test 1			
13	7.1	Integration by Parts	p.457: 1,5,6,7,9,10,19	Prf: Eq. 1
14	7.1	Integr by Parts (continued); Partial Fractions	p.457: 22,25,48,52; p.481: 1,7,9	
15	7.4	Partial Fractions	p.482: 11,12,14,18,29,30	
16	7.7	Approximate Integration	p.505: 1,2,17,29,32	Not error bds
17	7.8	Improper Integrals	p.515: 1,5,7,11,14,16,28,31,63	
18	8.3	Hydrostatic Force	p.547: 1,3,5,6	
19	8.5	Probability	p.560: 4,5,6,12,15	
20	9.1	Modeling with Differential Eqs	p.571: 1,3,4,5,7,14	
21	9.2	Direction Fields	p.578: 1,3,5,7,8,11	
22	9.2	Euler's Method	p.579: 20,21,23,28	
23	9.3	Separable Differential Eqs	p.586: 1,3,10,11,14,15	
24	9.3	Separable (continued) Exponential Growth & Decay	p.586: 34; p.239: 3,9,11,13	
25	Notes: 1 , 2	Electric Circuits: DC	Exercises A – 3,4,6,9	
26	Review			
27	Review			
28	Test 2			
29	10.3	Polar Coordinates	p.647: 1,4,5,11,16,25	
30	10.3	Polar Coordinates (continued)	p.648: 29,32,34,39,42,49,50	
31	10.4	Areas in Polar Coordinates	p.653: 1,2,5,8,17,27	Area only
32	11.1	Sequences	p.684: 3,10,14,15,18,26,28,29	
33	11.2	Series	p.694: 11-16,22,34,41,44,73	
34	11.5	Alternating Series	p.713: 2,3,5,7,11,25,31	
35	11.6	Ratio Test	p.719: 1,2,3,7,8,27	

36	11.8	Power Series	p.727: 3,4,7,10,15,30: rad of conv only	
37	11.9	Functions as Power Series	p.733: 3,4,9,15,27	
38	11.10	Maclaurin Series	p.746: 6,7,10,29,39,41	
39	11.10	Taylor Series	p.746: 2,13,15,17,21,51	
40	Review			
41	Review			
42	Test 3			
43	12.1	Three-Dimensional Coordinates	p.769: 4,5,7,10,11,12,27,31	
44	12.2	Vectors	p.777: 1,4,7,10,11,14,15,18,23	
45	12.2	Vectors (continued)	p.777: 24,25,28,29,30,37	
46	12.3	The Dot Product	p.784: 1,3,5,6,10	
47	12.3	Dot Product (continued)	p.784: 15,18,23,25,35,38,41,45,48	Prf: Ex. 41
48	12.4	The Cross Product	p.792: 1,3,6,13,14,16	x-prd applet
49	12.4	Cross Product (continued)	p.792: 18,19,29,39,40,41	Wrench Lab
50	12.5	Equations of Lines	p.802: 2,3,4,9,10,11,13,14	
51	12.5	Equations of Planes	p.802: 1,23,24,27,31,40,46,49	
52	12.5	Lines and Planes	p.803: 59,67,69,71,74	
53	13.1	Vector Functions & Space Curves	p.822: 1,6,11,15,19-24	
54	13.2	Derivs. & Integrals of Vect Fns	p.828: 1,2,3,5,9,18,25,39,50	
55	Review			
56	Review			
57	Test 4			
58	Review	For common final		
59	Review	For common final		

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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 CH130. 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>

<http://intranet.usna.edu/AcCenter/programs/MGSP.php>

4. Classes on the first day, Tuesday, 12 Jan will follow a Monday schedule. The last day of classes is Tuesday 04 May. There's a Review & Study day scheduled for Wednesday 05 May. There are 59 class days in both the MWRF schedule and the MTWF schedule. The Final Exam period is 06 May - 13 May.

5. The 2 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>

8. Three proofs are indicated in the syllabus. At least one of them will be on the final exam.