Syllabus for SM122 Calculus II
Fall Semester, 2011-2012

TEXT: *CALCULUS, Early Transcendentals*, Edition 7E by James Stewart
Problems in bold do not appear in WebAssign

LESSON	SECTION	TOPIC	PROBLEMS	NOTES
1	5.3	Review Fund Thm of Calc	p.394: 3,7,11,19,24,25,29,31,37,46	FTC applet
2	5.5	The Substitution Rule	p.413: 3,5,7,9,11,15,21,28	
3	5.5	Substitution (continued)	p.414: 30,33,49,53,56,60,85	
4	6.1	Areas between Curves	p.427: 2,3,5,8,11,12	
5	6.1	Areas (continued)	p.427: 18,23,26,33,44,45	
6	6.2	Volumes (Disks & Washers)	p.438: 1,4,9,12,15,49	Wing Lab
7	6.4	Work	p.449: 2,3,5,7,10	
8	6.4	Work (continued)	p.450: 13,15,19,20,21,22	
9	6.5	Average Value of a Function	p.453: 3,9,10,15,16,20,**25**	**Prf: Ex. 25**
10	Review			
11	Review			
12	Test 1			
13	7.1	Integration by Parts	p.468: 1,3,5,11,15,19, **Prf: Eq. 1**	**Prf: Eq. 1**
14	7.1	Integr by Parts (continued);	p.468: 26,29,**52,19 using 52**,67	
15	7.4	Partial Fractions	p.492: 1,9,12,14,22	
16	7.4	Partial Fractions	p.492: 3,23,24	
17	7.7	Approximate Integration	p.516: 1,3,11,30,34	Not error bds
18	7.8	Improper Integrals	p.527: 1,5,7,13,16,31,**63,79**	
19	8.3	Hydrostatic Force	p.560: 1,3,5,7	
20	9.1	Modeling with Differential Eqs	p.584: 1,3,4,5,9,13,14,15	
21	9.2	Direction Fields	p.592: 1,3-6,7,8,9,11	
22	9.2	Euler's Method	p.593: 20,21,23,27,28	
23	9.3	Separable Differential Eqs	p.600: 1,3,11,19,37,39	
24	9.3 3.8	Separable (continued) Exponential Growth & Decay	p.601: 38; p.242: 3,9,11,13,16	
25	Notes: 1, 2, 3,4,5	Electric Circuits: DC	**Exercises A – 3,4** **Exercises B - 1a,b,e,3a,b,e**	
26	Review			
27	Review			
28	Test 2			
29	10.3	Polar Coordinates	p.662: 1,3,5,7,9,17,18,22,25	

30	10.3	Polar Coordinates (continued)	p.663: 29,31,33,35,37,47	
31	10.4	Areas in Polar Coordinates	p.668: 1,6,9,19,23,27	Area only
32	11.1	Sequences	p.700: 3,7,13,14,23,25,33,34,43,65	
33	11.2	Series	p.711: 15,19,21,25,27,29,51,69,**79,87**	
34	11.5	Alternating Series	p.731: 4,5,7,11,25,27,29,31	
35	11.6	Ratio Test	p.737: 1,3,5,7,8,29	
36	11.8	Power Series	p.745: 7,9,14,15,23,30: rad of conv only	
37	11.9	Functions as Power Series	p.751: 3,13,14,29,31,37	
38	11.10	Maclaurin Series	p.765: 6,7,29,41,49,51,**74**	
39	11.10	Maclaurin and Taylor Series	p.765: 2,13,17,57,63	
40	11.11	Taylor Polynomials	p.774: 1,3,7,27,31	
41	Review			
42	Review			
43	Test 3			
44	12.1	Three-Dimensional Coordinates	p.790: 3,5,7,11,13,15,27,31,33,35,37	
45	12.2	Vectors	p.798: 1,5,9,13,15,19,21,23,25,26	
46	12.2	Vectors (continued)	p.799: 29,31,32,33,34	
47	12.3	The Dot Product	p806: 1,3,5,9,11,14,15,18	
48	12.3	Dot Product (continued)	p.806: 23,25,39,43,**45**,49,51	**Prf: Ex. 45**
49	12.4	The Cross Product	p.814: 1,3,9,13,15,17	x-prd applet
50	12.4	Cross Product (continued)	p.814: 19,27,29,39,41	Wrench Lab
51	12.5	Equations of Lines and Planes	p.824: 1,3,4,9,11,13	
52	12.5	Equations of Planes and Lines	p.824: 5,25,27,31,**41**,45,51	
53	12.4 12.5	Distances to Lines and Planes	p.815: **45** p.825: 69,71,**75**,73	
54	13.1	Vector Functions & Space Curves	p.845: 1,9,11,15,17,21-26,47	
55	13.2	Derivs. & Integrals of Vect Fns	p.852: 1,3,5,19,21,29,31,41,**54**	
56	Review			
57	Review			
58	Test 4			
59	Review	For common final		
60	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) in 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 Tuesday, 06 September will follow a Monday schedule. The last day of classes is Friday 09 December. There is a review and study day scheduled for Monday 12 December. There are 60 class days in both the MWRF schedule and the MTWF schedule. The Final Exam period is 13 December - 20 December.

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 TI-Nspire 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. Guidebooks for the TI-Nspire calculator are available at
http://education.ti.com/calculators/downloads/US/#Guidebooks

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.