

Text: Differential Equations: A First Course (3<sup>rd</sup> Edition), Guterman and Nitecki

Class	Sect	Topic	Homework
1	1.1	Introduction	1,2,4,5,8,13,18,19,20
2	1.2	Separation of variables	1,3,5,15,19,23,24,25
3	1.3	First-order linear equations	1-7,12,21,25
4	1.4	Applications	1,3,4,14,25
5	1.4	Applications	6,7,9,12
6	1.6	Existence and uniqueness	1,3,9,11,17
7	1.7	Graphing solutions	1,2,3,5
8	1.8	Stability in 1 <sup>st</sup> order equations	1,2,3,5,15,17
9-11		Review/Review/ <b>TEST 1</b>	
12	2.1	Springs and electric circuits	1,2,3,5
13	2.2	Linear differential equations	1,3,5,7,11,23,25,26
14	2.3	Wronskian	1,3,8,15,23
15	2.4	Linear independence	1-9(odd)
16	2.5	Real roots	1-17(odd),18,19
17	2.6	Complex roots	1-7(odd),11,15,18,19-25(odd),29
18	2.7	Undetermined coefficients	1-9(odd),2,15,18
19	2.8	Variation of parameters	1-5
20	2.9	Spring models	4,5,6
21-23		Review/Review/ <b>TEST 2</b>	
24	3.1	Models for linear systems	
25	3.2	Linear systems	3,5,9,11,13,19,21,23
26	3.3	General properties	1,3,7
27	3.5	Homogeneous systems	1,3,7,9,10,17,18
28	3.6	Real roots	1,5
29	3.7	Real roots	8,9
30	3.8	Complex roots	1,2
31	3.8	Complex roots	3,4
32	3.9	Double roots	5,7
33	3.10	Multiple roots	5
34	3.11	Nonhomogeneous systems	1,2
35	3.11	Nonhomogeneous systems	3,4
36-38		Review/Review/ <b>TEST 3</b>	
39	4.1	Interacting populations	1,3,7
40	4.2	Phase portraits	1,3
41	4.2	Phase portraits	5,7
42	4.3	Linearization and stability	1-11(odd)
43	4.3	Linearization and stability	13,15,17
44	4.4	Constants of motion	1,3
45	4.4	Constants of motion	5,7
46-48		Review/Review/ <b>TEST 4</b>	
49	8.1	Models of heat flow	1,3
50	8.2	Heat equation	1,2,5,6
51	8.3	Fourier series	1,2,3
52	8.4	Sine and cosine series	1,2,3,10,11
53	8.5	Wave equation	1,2,3
54-58		Review/Review/ <b>TEST 5</b> /Review for Final Exam	