

MATH250- Differential Equations

Assignment Sheet

Text: *Fundamentals of Differential Equations* by

Nagle, Saff, and Snider, 7th edition

Lesson	Section	Topic	Problems
1	1.1	Background	p.5- #1, 3, 4, 5, 9, 13, 17(hard)
2	1.2	Solutions and Initial Value Problems	p. 14- #1, 3, 4, 5, 7, 9, 14, 20, 23, 27
3	1.3	Direction Fields	p. 22- #1, 3, 11, 12, 14, 15
4	1.4	Approximation Method of Euler	p. 28- #1, 3, 5
5	2.1	Motion of a Falling Body	No assignment
6	2.2	Separable Equations	p. 46- #1, 3, 5, 7, 9, 12, 15, 21, 24, 34
7	2.3	Linear Equations	p. 54- #1, 3, 5, 7, 16, 17, 19
8	2.4	Exact Equations	p. 65- #1, 3, 5, 9, 11, 15, 17, 23
9	2.5	Special Integrating Factors	p. 71- #1, 2, 3, 7, 11, 14
10-11	2.6	Substitutions and Bernoulli's Equation	p. 79- #1, 3, 5, 11, 15, 21, 22, 26, 33, 40
12-13		Review for Test 1	
14		Test 1	
15	3.2	Compartmental Analysis	p. 104- #1, 3, 7, 9
16	3.3	Heating and Cooling (optional)	p. 113- #1, 3, 5, 9
17	3.4	Newtonian Mechanics (optional)	p. 121- #1, 3, 5, 9
18	4.1	Mass Spring Oscillator	p. 168- #1, 5, 7, 9
19-20	4.2	Homogeneous Linear Eq's: the General Solution	p. 176- #1, 3, 5, 7, 13, 15, 19, 27, 29, 31, 39
21	4.3	Auxiliary Equation with Complex Roots	p. 186- #1, 3, 5, 9, 13, 15, 17, 19, 21, 17, 23, 29
22	4.4	Nonhomogeneous Eq's- Method of Undetermined Coefficients	p. 195- #1, 3, 5, 9, 11, 13, 17, 21, 27, 33
23	4.5	Superposition Principle	p. 201- #1, 3, 7, 9, 15, 17, 21, 23, 25, 31
24-25		Review for Test 2	
26		Test 2	
27-28	4.9	Free Mechanical Vibrations	p. 238- #1, 3, 7
29-30	4.10	Forced Mechanical Vibrations	p. 246- #3, 9, 13

31	7.1	A Mixing Problem	No assignment
32	7.2	Def. of the Laplace Transform	p. 385- #1, 3, 4, 9, 12, 13, 15, 21, 23, 27
33	7.3	Properties of the Laplace Transform	p. 391- #1, 3, 5, 7, 11, 13, 21
34-35	7.4	Inverse Laplace Transform	p. 400- #1, 3, 7, 11, 17, 21, 27, 31
36	7.5	Solving Initial Value Problems	p. 409- #1, 3, 9, 15, 23, 24
37-38	7.6	Transforms of Discontinuous Functions	p. 421- #1, 3, 5, 8, 9, 11, 13, 15, 19, 29, 35
39-40		Review for Test 3	
41		Test 3	
42-43		Review for Final Exam	