Department of Theoretical and Applied Mathematics
The University of Akron

Differential Equations 3450:335
Text: A FIRST COURSE IN DIFFERENTIAL EQUATIONS WITH MODELING APPLICATIONS by Zill

TENTATIVE COURSE OUTLINE

Week	Topic	Section	Recommendation
1	Introduction		
	Basic Definitions and Terminology	1.1	1.1 : 1 - 37 odd, skip 19
	Initial Value Problems	1.2	1.2 : 1 - 27 odd, not 15
2	Separable Variables	2.2	2.2 : 1 - 29 odd
	Exact Equations	2.4	2.4 : 1 - 29 odd
3	Linear Equations	2.3	2.3 : 1 - 35 odd
	Substitutions	2.5	2.5 : 1 - 29 odd, 35
4	Mathematical Models	1.3, 3.1, 3.2	3.1 : 1 - 25 odd, 33 - 39 odd
			3.2 : 1 - 7 odd, 11, 15,
5	**Test 1**	**1.1 - 3.2**	
	Theory - Linear Equations	4.1	4.1 : 1 - 35 odd
6	Reduction of Order	4.2	4.2 : 1 - 19 odd
	Homogeneous Constant Coefficient Linear Eq	4.3	4.3 : 1 - 41 odd
7	Undetermined Coefficients	4.4	4.4 : 1 - 39 odd
	Variation of Parameters	4.6	4.6 : 1 - 25 odd
8	Cauchy-Euler Equations	4.7	4.7 : 1 - 37 odd
	Applications	5.1	5.1 : 1 - 39 odd
9	Introduction to Matrices	Appendix II	Pg APP-18 : 1 - 5 odd, 25,27,47-55odd
	Theory Linear Systems	8.1	8.1 : 1 - 19 odd
10	Homogeneous Linear Systems	8.2	8.2 : 1 - 13 odd, 19-29 odd, 33-45 odd
11	**Test 2**	**4.1 - 4.7, 5.1, 8.1 - 8.2**	
	Definition of Laplace Transform	7.1	7.1 : 1 - 37 odd
12	Inverse Transform and Transforms of Derivatives	7.2	7.2 : 1 - 41 odd
	Theorems	7.3	7.3 : 1 - 31 odd, 37-69 odd
	More Transforms	7.4	7.4 : 1 - 33 odd
13	More Practice	7.2-7.4	
	Dirac Delta Function	7.5	7.5 : 1 - 11 odd
	Systems of ODE	7.6	7.6 : 1 - 11 odd
14	Review Power Series	6.1	6.1 : 1 - 31 odd
	Ordinary Points	6.2	6.2 : 1 - 23 odd
15	Ordinary Points	6.2	
	Review	**1.1 - 8.2**	
16	**Final Examination**	**1.1 - 8.2**	