

<b>Math 325: Differential Equations</b>		<b>Syllabus &amp; Assignments</b>	<b>Fall 1996</b>
Aug. 28	4.1 $n$ th order linear equations	#1 p.194:1–21odd	
30	4.1–2 $n$ th order linear equations		
Sep. 2	4.2 Homogeneous equations with constant coefficients	#2 p.200:1–27odd	
4	4.3 Undetermined coefficients	#3 p.205:1–17odd	
6	8.1 Euler method [ <i>Quiz 1</i> ]	#4 p.392:1,3,5	
9	8.2 Errors	#5 p.398:1,3,5	
11	8.4 Runge-Kutta	#6 p.409:1,3,5	
13	6.1 Definition of Laplace transform	#7 p.279: 1,3,5–8,11–14,26,27	
16	6.2 Solution of initial value problems	#8 p.289:1–23odd	
18	6.2–3 Solution of initial value problems		
20	6.3–4 Step functions [ <i>Quiz 2</i> ] <i>Computer Assignment 1</i>	#9 p.296:1–23odd	
23	6.4 Discontinuous forcing functions	#10 p.303:1–13odd	
25	<i>Review</i>		
26	<b>Exam I</b>		
27	6.5 Impulse functions	#11 p.307:1–11odd	
30	6.6 Convolution integral	#12 p.313 1–19odd	
Oct. 2	7.1 Intro to systems of 1st order equations	#13 p.322:1–11odd	
4	7.2 Matrices	#14 p.332:1,3,11,13,23,25	
7	7.3 Linear systems/independence		
9	7.3 Eigenvalues/vectors	#15 p.343:1,5,7,9,12,13,15,17,21,23,25a	
11	7.4 Basic Theory of 1st order systems	#16 p.349:6,7	
14	7.5 Homogeneous systems, constant coefficients		
16	7.5 Homogeneous systems, constant coefficients [ <i>Quiz 3</i> ]	#17 p.356:1–9odd, 17, 19	
18	7.6 Complex eigenvalues <i>Computer Assignment 2</i>	#18 p.364:1–9odd	
19–27	<i>Fall Break</i>		
28	7.7 Repeated eigenvalues	#19 p.371:1–9odd	
30	<i>Review</i>		
31	<b>Exam II</b>		
Nov. 1	7.8 Fundamental matrices	#20 p.378:1–9odd	
4	7.9 Nonhomogeneous linear systems (variation of parameters)	#21 p.385:1–7odd, 15	
6	9.1–2 Autonomous systems	#22 p.437:1–15odd	
8	9.1–2 Phase plane: linear systems, Mma [ <i>Quiz 4</i> ]	#23 p.446:1–7	
11	9.3 Almost linear systems	#24 p.456:1–15odd	
13	9.3 Almost linear systems, Mma		
15	9.3 Pendulum, Mma		
18	9.4 Competing Species, Mma	#25 p.471:1–5	
20	9.5 Predator-Prey	#26 p.480:1–5	
22	10.1 Separation of variables, heat conduction [ <i>Quiz 5</i> ]	#27 p.518:1–11odd	
25	10.1 Separation of variables, heat conduction		
27	10.2–4 Fourier series (summary) <i>Computer Assignment 3</i>	#28 p.526:1, 5, 9, 15, 17, 21	
29	<i>Thanksgiving</i>		
Dec. 2	<i>Review</i> #29 p.533:1–7odd		
3	<b>Exam III</b>		
4	10.5 Heat equation: non-homogeneous boundary conditions	#30 p.550:2,3,5	
6	10.6 Wave equation	#31 p.559:1,4,5	
9	10.6 Wave equation		
11	<i>Review</i>		
Dec. 19	<b>Final Exam</b> Thursday, 1:45–3:45, NIEU 127		