MATH 353A: Ordinary & Partial Differential Equations
Summer 2 2022, Costa Rica
Tentative Course Schedule

Green — ODE, Blue — PDE

Class #	Book Section	Topic
1 — Tues., June 28	1, 2.1, 2.2	Intro to DEs, First Order DEs — integrating factors, separable DEs
2 — Weds., June 29	2.3, 2.4, 2.5	Modeling, autonomous
3 — Thurs., June 30	2.5, 2.6	Existence/uniqueness, Exact DEs
4 — Fri., July 1	2.7	Numerical methods (Euler's)
5 — Mon., July 4	3.1, 3.2, 3.3	Second Order ODEs — Characteristic equation, real/complex roots
6 — Tues., July 5	3.4, 3.5	Repeated roots, uniqueness of solutions, undetermined coefficients
7 — Weds., July 6	3.6, 3.7	Variation of parameters, mechanical vibrations
8 — Thurs., July 7	7.1, 7.4	Systems of first-order linear eqs.
9 — Mon., July 11	7.5, 7.6	Homogeneous systems
10 — Tues., July 12	7.8, 7.9	(Non)Homogeneous systems, complex/repeated eigenvalues
11 — Weds., July 13	5.1	Review power series

14 — Thurs., July 14	5.2, 5.3	Power series solutions
13 — Mon., July 18	6.1, 6.2, 6.3	Laplace transform, solving IVPs, step functions
14 — Tues., July 19	6.4, 6.5, 6.6	Solving IVPs with discont. forcing, impulse functions, convolution
15 — Weds., July 20	10.1, 10.2	Intro to PDE, two-point BVP, Fourier Series
16 — Thurs., July 21	MIDTERM EXAM	Chapters 1 - 5, 7
17 — Mon., July 25	10.3, 10.4	Fourier Series, even/odd functions
18 — Tues., July 26	10.5	Even/odd functions
19 — Weds., July 27	10.6	Heat equation
20 — Thurs., July 28	10.7	Wave equation
21 — Mon., Aug. 1	10.8	Laplace's equation
22 — Tues., Aug. 2	11.1, 11.2	Sturm-Liouville Theory
23 — Weds., Aug. 3	11.3	Sturm-Liouville Theory
24 — Thurs., Aug. 4	applications & review	
25 — Sat., Aug. 6	FINAL EXAM	Cumulative