University of St. Thomas Department of Mathematics
Intro Diff Eqns   Math 210   Spring 2023

Tentative Schedule

Day	Section	Topic
1/31	1.1	Intro, Modeling via DEs
2/2	1.2	Separation of variables
	1.3	Slope fields
2/7	1.4	Euler's method
2/9	1.6	Equilibria & phase lines
	1.7	Bifurcations
2/14	1.8	Linear equations (undet. coef.)
2/16	1.9	Linear equations (int. fact.)
	2.1	Modeling via systems
2/21	2.2	Direction fields & solution curves
2/23	2.3–4	Damped harm. osc. & special sys.
2/28	R1	Review
3/2	X1	Exam 1
3/7	App. C	Complex arithmetic
3/9	3.1	Properties of linear systems
	3.2 I	Straight-line solns, e–vectors/values
3/14	3.2 II	Straight-line solns, e–vectors/values
3/16	3.3	Phase portraits, real eigenvalues
	3.4	Complex eigenvalues
3/21		
3/23		Spring Break
3/28	3.6 I	Second-order linear ODEs
3/30	3.6 II	Harmonic oscillator
	3.8	Linear systems in 3 dimensions
4/4	4.1	Forced harmonic oscillators
4/6	4.2	Sinusoidal forcing
	4.3	Undamped forcing and resonance
4/11	R1	Review
4/13	X2	Exam 2
4/18	5.1 I	Equilibria, linearization, & stability
4/20	5.1 II	Equilibria, linearization, & stability
	5.2	Qualitative analysis
4/25	6.1	Laplace transform
4/27	6.2	Discontinuous functions
	6.3	Second-order equations
5/2	6.4	Impulse forcing
5/4	7.1	Error in Euler's method
	7.2	Improved Euler
5/9	7.3	Runge-Kutta
5/11	RF	Review
5/18	XF	Final Exam – MATH COMMON BLOCK 1:30 – 3:30pm, Location TBA