MATH 375   -   Tentative Weekly Schedule   -   Fall 2016

Date	Sections	Topics	Comments
Sep 12 - 16	1.1-1.3 2.1, 2.4	**First Order Differential Equations** • Introduction and Basics, Linear Equations • Existence and Uniqueness (Theorem 2.4.1)	Lectures start Monday
Sep 19 - 23	2.4 2.6	• Separable Equations • Exact Equations, Integrating Factor	

Sep 26 - 30	2.3	• Modeling with First Order Equations:
		   Mixing, Radioactive Decay, Heating and Cooling,
		   Electrical Circuits (RL and RC)	

Oct 03 - 07	3.2, 4.1	**Second and Higher Order Linear Differential Equations** • Introduction and Basic Theory	
Oct 10 - 14	3.3, 3.4, 4.2	• Solving Constant Coefficients Homogeneous Equations	Thanksgiving Monday
Oct 17 - 21	3.5, 4.3 3.6, 4.4 6.1	• Undetermined Coefficients Method • Variation of Parameters Method • Definition of Laplace Tranform	Quiz #1 in Tutorial
Oct 24 - 28	6.2 6.3	**Laplace Transform** • Properties: First Shift, Multiplication/Division by t, Periodic Functions, Derivatives, Integral • Unit Step Function, Second Shift	Midterm Friday 6:15-7:45 pm
Oct 31 - 04	6.4	• Inverse Laplace Transform • Differential Equations with Discontinuous RHS	
Nov 07 - 11	7.1 7.4	**Systems of First Order Linear Differential Equations** • Introduction • Basic Theory	Midterm Break - Friday
Nov 14 - 18	7.5 7.6	• Homogeneous Constant Coefficients Systems • Complex Eigenvalues	
Nov 21 - 25	10.2 10.3 10.4	**Boundary Value Problems of Mathematical Physics** • Introduction to Fourier Series • Pointwise Convergence • Fourier Cosine and Sine Series	
Nov 28 - 02	10.5 10.6	• Separation of Variables • Solution of the One Dimensional Heat Equation	Quiz #2 in Tutorial
Dec 05 - 09	10.7 10.8	• Solution of the One Dimensional Wave Equation • Solution of the Two Dimensional Laplace's Equation	Lectures end Friday

• The above schedule is only **tentative**, it might be modified throughout the term, as some topics could require additional time. The section numbers refer to our text: Elementary Differential Equations and Boundary Value Problems, by William Boyce and Richard DiPrima