Math 112B Suggested Syllabus

Text: *A First Course in Partial Differential Equations*, H.F Weinberger

Lecture	Section	Topic
1	14, 18	Review of separation of variables and convergence
2	19	Uniform convergence, Schwarz's inequality and completeness
3	19	Cont.
4	20	Sine and cosine series
5	21	Change of scale
6	22	The heat equation
7	23	Laplace's equation in a rectangle
8	24	Laplace's equation in a circle
9	24, 25	Laplace in a circle, solutions and their validity
10	25	Cont.
11	26	The damped wave equation
12	27	Initial value problems for ODEs
13	27	Cont.
14		Review
15		**Midterm**
16	28	Boundary value problems and Green's functions for ODEs
17	28	Cont.
18	29	Nonhomogeneous problems and the finite Fourier transform
19	30	Green's functions
20	30	Cont.
21	31	Multiple Fourier series
22	32	Laplace's equation in a cube
23	33	Laplace's equation in a cylinder
24	34	The 3D wave equation in a cube
25	35	Poisson's equation in a cube
26	36	Eigenfunction expansions for regular 2^{nd} order ODEs
27	36	Cont.
28	37	Vibration of a variable string
29		Review