MAB901: Maths for Physics II
Semester 2 - Lecture Plan

> This lecture plan is for informational purposes and is subject to change or modification. You should see it as an expected guide, not a set calendar. Events may be moved around to best suit the content.

Week	Activity	Topic	Reading	Action

Lagrange Multipliers and Optimization

Week	Activity	Topic	Reading	Action
1	Lecture 01	Lagrange Multipliers	Part 1 notes	Problem Set 1
	Lecture 02	Maximum Entropy		
	Tutorial 01	PS1		
2	Lecture 03	Fisher Information		

Eigentheory and Oscillators

Week	Activity	Topic	Reading	Action
	Lecture 04	Eigenvalues and Eigenvectors	Part 2 notes	Problem Set 2
	Tutorial 02	PS1		
3	Lecture 05	Coupled Oscillators		

Complex Analysis

Week	Activity	Topic	Reading	Action
	Lecture 06	Complex plane, Open/Closed sets	Part 3 notes	Problem Set 3
	Tutorial 03	PS2		
4	Lecture 07	Complex functions, Transformations		
	Lecture 08	Complex limits, Differentiation		Problem Set 4
	Tutorial 04	PS3		
5	Lecture 09	Cauchy-Riemann equations, Complex Series		
	Lecture 10	Complex Logs, Integration		Problem Set 5
	Tutorial 05	PS4		
6	Lecture 11	Complex Integration		
	Lecture 12	Residue Theorem		
	Tutorial 06	PS5		

Partial Differential Equations and Waves

Week	Activity	Topic	Reading	Action
7	Lecture 13	Basics concepts and classifications of PDEs	Part 4 notes	Problem Set 6
	Lecture 14	Separation of Variables		
	Tutorial 07	PS6		
8	Lecture 15	Separation of variables		Problem Set 7
	Lecture 16	D'Alembert's solution for the Wave equation		
	Tutorial 08	PS7		
9	Lecture 17	Nonlinear, Dispersive, Dissipative PDEs		Problem Set 8
	Lecture 18	Travelling wave solutions		
	Tutorial 09	PS8		

Fourier Transform and Greens functions

Week	Activity	Topic	Reading	Action
9	Lecture 19	Fourier transf, convolutions	Part 5 notes	Problem Set 9
	Lecture 20	Parseval's Theorem, differential equations		
	Tutorial 10	PS9		
10	Lecture 21	Green's func		Problem Set 10
	Lecture 22	Green's func		
	Tutorial 11	PS10		

Week	Activity	Topic	Reading	Action
12		Revision Classes		

Lecturer: Dr Ciprian Coman
Office: SCH M.04
email: c.c.coman@lboro.ac.uk