Week of term	Session	Lecture number		Content
1	0	1	online	Preliminaries
2	1	2		Definition of Markov chains and Chapman Kolmogorov equations
	2	3		Dynamics of Markov chains
	3	4		First passage/hitting times; Recurrence and Transience
3	1	5		Recurrence and Transience cont'd; Mean recurrence times, null and positive recurrence
	2	6		Aperiodicity and ergodicity; Communicating classes; Decomposition Theorem
	3	7		Class properties and Gambler's ruin problem
4	1	PC1		Problem sheet 1
	2	8		Stationarity (part 1)
	3	9		Stationarity (part 2)
5	1	10		Stationarity (part 3)
	2	11		Time reversibility; Exponential distribution (part 1)
	3	PC2		Problem sheet 2
6	1	12		Exponential distribution (part 2)
	2	13		Poisson processes
	3			Midterm exam
7	1	14		Equivalence of definitions
	2	15		Properties of Poisson processes
	3	16		Extensions of Poisson processes
8	1	17		Compound Poisson processes; Applications
	2	PC3		Problem sheet 3
	3	18		Introduction to Continuous-Time Markov Chains
9	1	19		Exponential holding times and generator
	2	20		Forward and Backward equations and properties of CTMCs
	3	21		Jump chain and explosion; birth processes
10	1	22		Properties of birth processes; birth-death processes
	2	23		Brownian motion (part 1)
	3	24		Brownian motion (part 2)
11	1	PC4		Problem sheet 4
	2	PC5		Problem sheet 5
	3	Revision class		
End of term BB quiz will be running in week 11.				