

DATE	HW DUE	SECTION & TOPIC
M 1.9 T 1.10 W 1.11 R 1.12		1.1-1.2: introduction to Markov chains 1.2: basic examples of Markov chains 1.3-1.4: operations with transition matrices Activity: practice problems with Markov chains
M 1.16 T 1.17 W 1.18 R 1.19		<i>No class - Martin Luther King Day</i> 1.5: recurrence and transience 1.5: properties of recurrent states 1.6: absorption probabilities
M 1.23 T 1.24 W 1.25 R 1.26	1-13	Activity: practice problems with Markov chains Preparation for first group presentation Preparation for first group presentation Preparation for first group presentation
M 1.30 T 1.31 W 2.1 R 2.2		<b>Markov chains: first group presentation</b> 2.1: birth-death chains 2.1-2.2: random walk on $\mathbb{Z}$ 2.2: more about random walk on $\mathbb{Z}$
M 2.6 T 2.7 W 2.8 R 2.9	14-18	2.2: applications of random walk on $\mathbb{Z}$ Activity: problems with birth-death chains and random walk Review <b>EXAM 1: covers Chapters 1 and 2</b>
M 2.13 T 2.14 W 2.15 R 2.16		3.1: elementary properties of stationary distributions 3.2: Cesàro convergence 3.2: mean return times 3.2: null recurrent and positive recurrent states
M 2.20 T 2.21 W 2.22 R 2.23	19-26	3.2-3.3: existence and uniqueness of stationary distributions 3.3: convergence properties and periodicity 3.4: calculations of stationary distributions I 3.4: calculations of stationary distributions II
M 2.27 T 2.28 W 3.1 R 3.2	27-36	How Google works Preparation for second group presentation Activity: random walk in higher dimensions <b>Markov chains: second group presentation</b>
M 3.6 to R 3.9		<i>No class - Spring Break</i>
M 3.13 T 3.14 W 3.15 R 3.16		Review Applications of probability to bracketology <b>EXAM 2: covers Chapter 3</b> Activity: review of eigenvalues and eigenvectors

DATE	HW DUE	SECTION & TOPIC
M 3.20 T 3.21 W 3.22 R 3.23		4.1-4.2: introduction to CTMCs 4.2: Q-matrices and matrix exponentiation 4.2: computations with finite state space CTMCs Activity: CTMCs with finite state space
M 3.27 T 3.28 W 3.29 R 3.30	37-41	4.3: jump processes 4.4: class structure of CTMCs 4.5: birth-death processes 6.1: Introduction to Brownian motion
M 4.3 T 4.4 W 4.5 R 4.6	42-47	6.2-6.3: Basic properties of Brownian motion Preparation for third group presentations Preparation for third group presentations <b>Third group presentations</b>
M 4.10 T 4.11 W 4.12 R 4.13	48-50	<b>Third group presentations</b> Review <b>EXAM 3:</b> covers Chapters 4, 5 and 6 <i>No class - mid-semester recess</i>
M 4.17 to R 4.20		Preparation for final presentations
M 4.24 to R 4.27		<b>Final presentations</b>