THE CHINESE UNVIERSITY OF HONG KONG
Department of Mathematics
MATH4240 Stochastic Processes, 2022/23 Term 2

Textbook: Introduction to Stochastic Processes by Hoel, Port and Stone.
(Chapter 1, Chapter 2, and Chapter 3 ONLY)

Schedule for Lecture:

	Monday (3:30pm-4:15pm, Lee Shau Kee Building 302)	Wednesday (2:30pm-4:15pm, Lee Shau Kee Building 201)	Tentative contents
W1	Jan 9	Jan 11	**Chapter 0 Review on Probability** -Probability space -Radom variables and distributions -Expectation and variance -Sequence of rv
W2	Jan 16	Jan 18	**Chapter 1 Markov Chains** -Definitions and examples -Computations with transition prob -More examples
W3	Jan 23 (Lunar New Year Vacation)	Jan 25 (Lunar New Year Vacation)	
W4	Jan 30	Feb 1	
W5	Feb 6	Feb 8	
W6	Feb 13	Feb 15	
W7	Feb 20	Feb 22	**Chapter 2 Stationary Distributions** -Definition and examples -Computations of SD -Average number of visits -Waiting time and existence of SD -Periodicity
W8	Feb 27	Mar 1	
W9	Mar 6 (Reading Week)	Mar 8 (Reading Week)	
W10	Mar 13	Mar 15	
W11	Mar 20	Mar 22	**Chapter 3 Markov Jump Processes** -Jump process -Poisson process -Basic properties of MJP -Birth and death processes -Limiting properties of MJP
W12	Mar 27	Mar 29	
W13	Apr 3	Apr 5 (Public holiday – Ching Ming Festival)	
W14	Apr 10 (Public holiday – Easter)	Apr 12	
W15	Apr 17	Apr 19	

Note:

- Assessment type: Homework (10%, about 8 times), Two Tests (40%) and Final Exam (50%).
- Test 1 (Time and date: **Feb 22 Wed, from 18:30**; Venue: LSB LT6).
- Test 2 (Time and date: **Mar 22 Wed, from 18:30**; Venue: LSB LT6).
- Tutorial: Monday 14:30 - 15:15, Lee Shau Kee Building 302.