

THE CHINESE UNIVERSITY OF HONG KONG
Department of Mathematics
MATH4240 Stochastic Processes, 2020/21 Term 2
---UPDATED on January 4th 2021---

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

Schedule for Lecture:

	Monday (1:30pm-2:15pm)	Wednesday (2:30pm-4:15pm)	Tentative contents
W1	Jan 11 (video)	Jan 13 (video)	Chapter 0 Review on Probability -Probability space -Radom variables and distributions -Expectation and variance -Sequence of rv
W2	Jan 18 (video)	Jan 20 (video)	Chapter 1 Markov Chains -Definitions and examples -Computations with transition prob -More examples
W3	Jan 25 (video)	Jan 27 (video)	
W4	Feb 1 (video)	Feb 3 (video)	
W5	Feb 8 (video)	Feb 10 (video)	
W6	Feb 15 (Lunar New Year Vacation)	Feb 17 (Lunar New Year Vacation)	Feb 20 (9:30am-12:00noon; it is an added lecture) (video)
W7	Feb 22 (cancelled)	Feb 24 (video)	Chapter 2 Stationary Distributions -Definition and examples -Computations of SD -Average number of visits -Waiting time and existence of SD -Periodicity
W8	Mar 1 (video)	Mar 3 (video)	
W9	Mar 8 (video)	Mar 10 (video)	
W10	Mar 15 (video)	Mar 17 (video)	
W11	Mar 22 (video)	Mar 24 (video)	March 27 (9:30am-12:00noon; it is an added lecture) (video)
W12	Mar 29 (Reading week)	Mar 31 (Reading week)	Chapter 3 Markov Jump Processes -Jump process -Poisson process -Basic properties of MJP -Birth and death processes -Limiting properties of MJP
W13	Apr 5 (Reading week)	Apr 7 (Reading week)	
W14	Apr 12	Apr 14	
W15	Apr 19	Apr 21	

Note:

- Assessment type: Homework (10%, about 8 times), Midterm test (30%), Course report (10%; details will be announced later), and Final exam (50%; arrangement will be announced later).
- One added course: 9:30am-12:00noon, March 27th (Saturday).
- Midterm test: March 19th (start from 10:00am; details will be announced later).
- Check your blackboard for zoom information of both course and tutorial lectures.