Week	Date	Subject	Literature	Exercises
5	27-01	The Poisson Process*	HCT, p. 1-8, 15-23	HCT, exc. 1.4*
5	29-01	Renewal Theory and Renewal-Reward processes*	HCT, p. 33-47	
6	03-02	Little's formula, PASTA and discrete-time Markov chains*	HCT, p. 50-58, 81-95	HCT, exc. 2.17*
6	05-02	Equilibrium results for discrete-time Markov chains*	HCT, p. 96-111	HCT, exc. 2.20*
7	10-02	Continuous-time Markov chains*	HCT, p. 141-157, 166-172, 442-449	HCT, exc. 3.12*
7	12-02	Markov decision processes (MDP): Definitions and policy iteration*	HCT, p. 233-252	
8	17-02	MDP: Linear Programming*	HCT, p. 252-259	HCT, exc. 6.4*
8	19-02	MDP: Value Iteration*	HCT, p. 259-264	HCT, exc. 6.4*†
9	24-02	The semi-Markov decision model*	HCT, p. 279-287	HCT, exc. 6.7 part 1*
9	24-02	Modelling tricks*	HCT, p. 287-299	HCT, exc. 6.7 part 2*
10	03-03	Discounted Dynamic Programming*	SR, p. 29-42	HCT, exc. 7.3*
10	05-03	Negative and Positive Dynamic Programming*	SR, p. 49-57, 60-68, 73-76, 83-85	HCT, exc. 6.7*‡
11	10-03	Applications of Markov decision theory, topics for projects and project guidelines*	See project_topics.pdf note	
11	12-03	Discussion of the average reward criterion and selection of topics for projects	SR, p. 89-103	
17	23-04	Project presentation: Model (20 min. for each group)*		
21	21-05	Project must be delivered to me in Koll G3 between 15-15:30*		
22	26-05	Project presentation: Results (20 min. for each group)*		

* The subject is fixed and can not be changed. † Use value iteration to solve the problem. ‡ Consider the discounted criterion with rates of 1% and 10%. Solve the problem using your own value iteration and using the MDP package. Comment on the values $V(i)$ and the optimal policies.

References

[HCT]   Henk. C. Tijms. *A first course in stochastic models*. John Wiley & Sons Ltd, 2003. ISBN: 978-0-471-49880-3.

[SR]   Sheldon Ross. *Introduction to stochastic dynamic programming*. Academic Press, 1983. ISBN: 978-0-125-98421-8.