ELEC 8211 Queueing Theory
First Semester 2018

Instructor: Dr. Ka-Cheong Leung

Lectures: Mondays 14:30 - 17:20, CB 603

Prerequisite: Elementary course on probability theory and stochastic processes

Required Text: *Queueing Systems (Volume I: Theory)*, L. Kleinrock, John Wiley & Sons, 1975.

Reference Texts:
1. *Data Networks*, D. Bertsekas and R. Gallager, Prentice Hall, Second Edition, 1992.
2. *An Introduction to Queueing Systems*, S. K. Bose, Kluwer Academic / Plenum Publishers, 2002.

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Course Description

Summary: Probability theory, transform theory, random processes, birth-death queueing systems, Markovian queues in equilibrium, simulation techniques.

Grading Scheme:

Assignments	30%
Research Paper and Presentation	70%

It is highly advised that you acquire a copy of the required textbook for the class. Class notes are generally available from the class web site 1-2 days before the scheduled session of each lecture. Supplementary reading materials will also be posted to the class web site.

You are expected to attend every lecture session. If you do happen to miss a session, you are responsible for finding out what material was covered and if any administrative announcements were made.

Under normal circumstances, all assignments are submitted at the beginning of a lecture session held on the respective due dates. Under normal circumstances, *no* extension will be granted. *No late assignments will be accepted for credit.*

All of your work submitted for credit *must* be done on your own. Work or ideas developed by someone else *must* be properly cited in your coursework, or it is considered plagiarism. When scholastic dishonesty is suspected, the case will be reported to the University Disciplinary Committee. *Strict adherence to this Academic Integrity Policy is expected.*

Tentative Schedule:[1]

Date	**Topics/Events**	**Assigned Readings**
3 September 2018	Probability	Appendix II.1
10 September 2018	Random Variables	Appendix II.2 - II.5
17 September 2018	Transform Theory I	Appendix I.1 - I.2
24 September 2018	Transform Theory II	Appendix I.3 - I.4
8 October 2018	Random Processes	Chapter 2, Appendix II.6
15 October 2018	Birth-Death Queueing Systems I	Chapter 3.1 - 3.5
22 October 2018	Birth-Death Queueing Systems II	Chapter 3.6 - 3.10
9 November 2018	Assignment 1 Due	N/A
9 November 2018	Markovian Queues in Equilibrium I	Chapter 4.1 - 4.4
12 November 2018	Markovian Queues in Equilibrium II	Chapter 4.5 - 4.8
19 November 2018	Simulation Techniques	N/A
26 November 2018	Assignment 2 Due	N/A
26 November 2018	Research Paper Presentation	N/A
7 December 2018	Research Paper Due	N/A

[1]This schedule will be adjusted as the semester progresses. It is the students' responsibility to keep apprised of any changes. There is a Friday class during 14:30 - 17:20 on 9 November 2018 at CB 603.