ELEC 3703   Queuing Theory
First Semester 2010

Instructor: Dr. Ka-Cheong Leung

Lectures: Fridays 15:00 - 16:55, MW 517

Prerequisite: ELEC 2811

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.

Office: CB 518
Office Phone: 2857 8481
Office Hours: Mondays/Fridays 13:50 -14:50, or by appointment
E-mail: kcleung@eee.hku.hk

Teaching Asst.:   Mr. Chengdi Lai
Office: CB 615
Phone: 2857 8402
Consultation: Wednesdays 15:30 - 17:30, or by appointment
E-mail: laichengdi@eee.hku.hk

Class Web Site: http://www.eee.hku.hk/~kcleung/courses/elec3703/First.2010

Course Description

Summary: Basic notation, discrete and continuous time Markov chains, birth-death processes, elementary queuing systems (M/M/m/A/B queuing systems), Erlangian distribution.

Grading Scheme:

Assignments	5%
Midterm Test	25%
Final Examination	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.*

There will be *no* make-up midterm test and final examination. The final examination will be held during the assessment period from *8 December 2010* to *21 December 2010.* The University Examinations Unit will determine its final schedule during the middle of the semester. If a student misses his/her final examination, it would be resolved according to the regulation mandated by the University Examinations Unit.

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 2010	Probability	Appendix II.1
10 September 2010	Random Variables	Appendix II.2 - II.3
17 September 2010	Transform Theory	Appendix I.1 - I.4, II.4 - II.5
24 September 2010	Random Processes	Chapter 2, Appendix II.6
8 October 2010	Birth-Death Queueing Systems I	Chapter 3.1 - 3.3
15 October 2010	Birth-Death Queueing Systems II	Chapter 3.4 - 3.7
29 October 2010	Assignment 1 Due	N/A
29 October 2010	Birth-Death Queueing Systems III	Chapter 3.8 - 3.10
5 November 2010	Midterm Test: 15:00 - 16:30	N/A
12 November 2010	Erlangian Distribution	Chapter 4.1 - 4.2
19 November 2010	The Queue $M/E_r/1$	Chapter 4.3
26 November 2010	Assignment 2 Due	N/A
26 November 2010	Bulk Arrival Systems and Course Review	Chapter 4.5

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[1]This schedule will be adjusted as the semester progresses. It is the students' responsibility to keep apprised of any changes.