

01204528 Queueing Theory & Applications in Networks

2nd semester 2014 (Jan – May 2015)

Instructor Information

Instructor: Associate Prof. Anan Phonphoem, Ph.D. (รศ.ดร.อนันต์ พลเพิ่ม)
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Course Information

Lecture: Fri 6 – 9 PM (Room 507)
Class URL: <http://www.cpe.ku.ac.th/~anan>
Prerequisite: (Recommended 01204213)
Course Description: Single server and multi-server: Exponential, Erlang, constant and general form of input and time service; limited source, dependent service, consumer and producer rate and service priority.
Text Book: “Queueing Systems,” Volume I: Theory, Leonard Kleinrock, A Wiley-Interscience Publication, 1975, ISBN 0-471-49110-1
Supplement: 1. “Fundamentals of Queueing Theory,” 3rd Edition, Donald Gross and Carl M.Harris, A Wiley-Interscience Publication, 1998, ISBN 0-471-17083-6
2. “Introduction to Queueing Systems,” Sanjay K.Bose, Kluwer/Plenum Publishers, ISBN 0-306-46734-8
3. “Data Networks” 2nd Edition, Demitri Bertsekas and Robert Gallager, Prentice-Hall, 1992, ISBN 0-13-201674-5

Exam Date

Midterm Exam: Fri, Mar 20 (6 -9 PM)
Final Exam: Fri, May 15 (6 – 9 PM)

Grade

Midterm Exam: 40 %
Final Exam: 40 %
Homework: 10 %
Assignment: 10 %

If ((Attendance Score \geq 85%) and (You are the 1st rank for the particular grade))

Then (one stop adjustment automatically) /* e.g. “B+” becomes “A” */

Attendance Score

Description	Score (0 – 1)
0 – 15 min	1
15.01 – 100 min	$(100 - \text{MinLate})/100$
> 100 min	0
If missing class	
• with “letter of leave of absence in advanced”	0.5
• without “letter of leave of absence in advanced”	0

Grading Policy

- Your Grade is based on the overall class performance. However, the cumulative score **below 50%** is considered as **fail (F)**.
- An “**F**” grade will be given to any form of cheating (for all parties).
- Make-up exam will only be provided for restrict circumstances such as severe illness.

Assignment Policy

- All hard-copy assignments must be handed in at the beginning of the class (> 15 min. is considered late). For soft-copy will be timed by the local time stamp.
- No Late assignment will be graded.
- No credit for plagiarism and considered as cheating.
- No credit for copying homework or assignment (for all copies) and considered as cheating.

Tentative Course Schedule

Week	Class Date	Note	Description
1	Fri, Jan 16		Introduction to Queueing Theory
2	Fri, Jan 23	Kaset Fair	Probability Theory Review
3	Fri, Jan 30	Kaset Fair	Markov Chains
4	Fri, Feb 6		Birth-Death Queueing Systems
5	Fri, Feb 13		Classical Queueing System: M/M/1
	Fri, Feb 20	No Class	No Class (Master Thesis Exam in Japan)
6	Fri, Feb 27		M/M/ ∞ , M/M/m and its family
7	Fri, Mar 6		Special case of M/M/...
	Fri, Mar 13	No Class	No Class (Samati, ChiangMai)
8	Fri, Mar 20	Midterm Exam	
9	Fri, Mar 27		M/G/1 System
10	Fri, Apr 3		M/G/1 Queue with vacations and batch arrivals
11	Fri, Apr 10		G/M/m System
12	Fri, Apr 17		Multiaccess Communication
13	Fri, Apr 24		Queueing Theory in Research
14	Fri, May 1		Queueing Theory Applications
15	Fri, May 8		Project presentation
16	Fri, May 15	Final Exam	