

01204528 Queueing Theory

1st semester 2012 (June – September)

Instructor Information

Instructor: Associate Prof. Anan Phonphoem, Ph.D. (รศ.ดร.อนันต์ พลเพิ่ม)
Office: Building 15, Room 407 (and Room 710: IWING Lab)
Office Hours: Monday 12:00 – 2:00 PM or by appointment
Tel. No.: 02-942-8555 ext 1428
Email: anan.p@ku.ac.th
URL: <http://www.cpe.ku.ac.th/~anan>; <http://anan.phonphoem.in.th>

Course Information

Lecture: Tue 6 – 9 PM (Room 203)
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, Demetri Bertsekas and Robert Gallager, Prentice-Hall, 1992, ISBN 0-13-201674-5

Exam Date

Midterm Exam: Tue, July 31 (6 -9 PM)
Final Exam: Tue, Oct 2 (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	Tue, June 12		Introduction to Queueing Theory
2	Tue, June 19		Probability Theory Review
3	Tue, June 26		Markov Chains
4	Tue, July 3		Birth-Death Queueing Systems
5	Tue, July 10		Classical Queueing System: M/M/1
6	Tue, July 17		M/M/ ∞ , M/M/m and its family
	Tue, July 24	No Class	Graduation Ceremony
7	Tue, July 31		Special case of M/M/...
Tue, Aug 7 (6 -9 PM)			Midterm Exam
9	Tue, Aug 14		M/G/1 System
10	Tue, Aug 21		M/G/1 Queue with vacations and batch arrivals
11	Tue, Aug 28		G/M/m System
12	Tue, Sep 4		Multiaccess Communication
13	Tue, Sep 11		Queueing Theory in Research
14	Tue, Sep 18		Queueing Theory Applications
15	Tue, Sep 25		Project presentation
Tue, Oct 2 (6 – 9 PM)			Final Exam