

# 01204528 Queueing Theory & Applications in Networks

1<sup>st</sup> semester 2016 (Aug – Dec 2016)

## Instructor Information

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

Lecture: Tue 6 – 9 PM (Room 504)  
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, Mar 20 (6 – 9 PM)  
Final Exam: Tue, May 15 (6 – 9 PM)

## Grade

Midterm Exam: 35 %  
Final Exam: 35 %  
Homework: 10 %  
Assignment: 20 %

## 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 (2016)

Week	Class Date	Note	Description
1	Tue, Aug 9		Introduction to Queueing Theory
2	Tue, Aug 16		Probability Theory Review I
3	Tue, Aug 23		Probability Theory Review II
4	Tue, Aug 30		Markov Chains
5	Tue, Sep 6		Birth-Death Queueing Systems
6	Tue, Sep 13		Classical Queueing System: M/M/1
7	Tue, Sep 20		M/M/ $\infty$ , M/M/m and its family
8	Tue, Sep 27	Midterm	
9	Tue, Oct 4		Special case of M/M/...
10	Tue, Oct 11		M/G/1 System
	Tue, Oct 18	Graduation Day	No Class
	Tue, Oct 25	Graduation Day	No Class
11	Tue, Nov 1		M/G/1 Queue with vacations and batch
12	Tue, Nov 8		G/M/m System
13	Tue, Nov 15		Multi-access Communication
14	Tue, Nov 22		Queueing Theory in Research & Applications
15	Tue, Nov 29		Project presentation
	Tue, Dec 6	Exam Preparation	
16	Tue, Dec 13	Final Exam	