

01204528 Queueing Theory & Applications in Networks

2nd semester 2019 (Dec 2019 – Apr 2020)

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 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

Grade

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

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	Description
1	Introduction to Queueing Theory
2	Probability Theory Review I
3	Probability Theory Review II
4	Markov Chains
5	Birth-Death Queueing Systems
6	Classical Queueing System: M/M/1
7	M/M/ ∞ , M/M/m and its family
8	Midterm Exam
9	Special case of M/M/...
10	M/G/1 System
11	M/G/1 Queue with vacations and batch
12	G/M/m System
13	Multi-access Communication
14	Queueing Theory in Research & Applications
15	Project presentation
16	Final Exam