

# 01204312 Probability and Random Processes

Summer 2012 (April – May)

Section 450: for IUP Students

## Instructor Information

Instructor: Associate Prof. Anan Phonphoem, Ph.D. (รศ.ดร.อนันต์ พลเพิ่ม)  
Office: Building 15, Room 407 (and Room 710: IWING Lab)  
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## Course Information

Lecture: Section 450: Mon Wed Fri 9 – 12 (Room 507) [Schedule may be changed due to time constraints]  
Class URL: <http://www.cpe.ku.ac.th/~anan>  
Prerequisite: 417168 Engineering Mathematics II  
Course Description: Probability; conditional probability and independence of events; random variables; distribution and density functions; functions of one random variable; multiple random variables; operations on one and multiple random variables; laws of large numbers; central limit theorem; random processes and their applications; application to computer engineering problems.  
Text Book: "Probability and Stochastic Processes: A Friendly Introduction for Electrical and Computer Engineers," Roy D. Yates and David J. Goodman, John Wiley & Sons, Inc., Second Edition, 2005, ISBN 0-471-45259-9  
Supplement: 1. "Probability, Random Variables, and Stochastic Processes," 3<sup>rd</sup> Edition, Athanasios Papoulis, McGraw-Hill  
2. "Probability and Random Process for Electrical Engineering," 2<sup>nd</sup> Edition, Alberto Leon-Garcia, Addison Wesley

## Grade

Midterm Exam: 40 %  
Final Exam: 40 %  
Homework: 10 %  
Attendance: 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.
- You are not allowed to take a midterm exam if you miss more than 2 lectures and also not allowed to take final exam if you miss more than 4 lectures.

## 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                            |

## 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        | Intro to Prob - Set Theory |
| 2        | Conditional Prob           |
| 3        | Prob Sequential            |
| 4        | Discrete RV – 1            |
| 5        | Discrete RV – 2            |
| 6        | Multiple Discrete RV – 1   |
| 7        | Multiple Discrete RV – 2   |
| <b>8</b> | <b>Midterm Exam</b>        |
| 9        | Cont Random Variable – 1   |
| 10       | Cont Random Variable – 2   |
| 11       | Cont Random Variable – 3   |
| 12       | Mult Cont RV – 1           |
| 13       | Mult Cont RV – 2           |
| 14       | Stochastic Process – 1     |
| 15       | <b>Final Exam</b>          |