EE3607B/GEAI1343B Probability Theory

Spring Semester 2024

Instructor: Dr. Ka-Cheong Leung

Lectures: Tuesdays 14:10 - 17:00, EC 3013

Prerequisite: EE1004B or equivalent

Required Text: *Probability and Statistics for Engineers and Scientists*, Ronald E. Walpole, Raymond H. Myers, Sharon L. Myers, and Keying Ye, Pearson Prentice Hall, Ninth Edition, 2016.

Reference Text: *Introdcution to Probability, Statistics and Random Processes*, Mossein Pishro-Nik, Kappa Research, 2014.

Office: EC 7039
Office Phone: 07-5252000#4486
Office Hours: Tuesdays 17:00 - 18:00 and Fridays 17:00 - 18:00, or by appointment
E-mail: kcleung@mail.nsysu.edu.tw

Teaching Asst.: Mr. Chin-Ioi Lao
Office: EC 1007
Phone: 07-5252000#4489
Consultation: Wednesdays 14:00 - 16:00, or by appointment
E-mail: m113070029@nsysu.edu.tw

Class Web Site: http://nslab.nsysu.edu.tw/kcleung/courses/ee3607/Spring.2024

Course Description

Summary: Probability, combinatorics, random variables, discrete random variables, continuous and mixed random variables, joint distributions, mathematical expectation, functions of random variables.

Grading Scheme:

Assignments	15%
Midterm Examination	35%
Final Examination	50%

It is highly advised that you acquire a copy of the required textbook for the class. Class notes are generally available from the class web site 1-2 days before the scheduled session of each lecture. Supplementary reading materials will also be posted to the class web site.

You are expected to attend every lecture session. If you do happen to miss a session, you are responsible for finding out what material was covered and if any administrative announcements were made.

Under normal circumstances, all assignments are submitted at the beginning of a lecture session held on the respective due dates. Under normal circumstances, *no* extension will be granted. *No late assignments will be accepted for credit.*

There will be *no* make-up midterm and final examinations. If a student misses his/her final examination, it would be resolved according to the regulation mandated by the Office of Academic Affairs.

All of your work submitted for credit *must* be done on your own. Work or ideas developed by someone else or generative artifical intelligence (AI) tools *must* be properly cited in your coursework, or it is considered plagiarism. When scholastic dishonesty is suspected, the case will be reported to the University Disciplinary Committee. *Strict adherence to this Academic Integrity Policy is expected.*

Tentative Schedule:[1]

Date	Topics/Events	Assigned Readings
20 February 2024	Probability	Chapters 1 - 2
27 February 2024	Combinatoratics I	Ref: Chapter 2.1.1 - 2.1.3
5 March 2024	Combinatoratics II	Ref: Chapter 2.1.4 - 2.1.5
12 March 2024	Random Variables	Chapter 3.1
19 March 2024	Discrete Random Variables I	Chapters 3.2, 5.1 - 5.2
26 March 2024	Discrete Random Variables II	Chapter 5.3 - 5.5
2 April 2024	Assignment 1 Due	N/A
2 April 2024	Continuous and Mixed Random Variables I	Chapters 3.3, 6.1 - 6.4
9 April 2024	Midterm Examination: 14:30 – 16:00	N/A
16 April 2024	Continuous and Mixed Random Variables II	Chapter 6.5 - 6.9
23 April 2024	Joint Distributions	Chapter 3.4
30 April 2024	Mathematical Expectation	Chapter 4
7 May 2024	Functions of Random Variables I	Chapter 7.3
14 May 2024	Functions of Random Variables II	Chapter 7.2
21 May 2024	Functions of Random Variables II	Chapter 7.2
28 May 2024	Assignment 2 Due	N/A
28 May 2024	Course Review	N/A
4 June 2024	Final Examination: 14:30 - 16:30	N/A

[1]This schedule will be adjusted as the semester progresses. It is the students' responsibility to keep apprised of any changes.