隨機過程

Stochastic Processes, Fall 2010

Time and Place:

TBD

Instructor:

Cheng-Hung Wu 吳政鴻

Office: 國青 116, (02) 3366-9505, wuchn@ntu.edu.tw

Office Hour: Tuesday 10:00 – 12:00 or by appointment

Course Description

This is an introductory course for students to earn fundamental understanding of stochastic processes and probability methods in engineering and management. Other course information can be found on: https://ceiba.ntu.edu.tw/991NDM

Text Books:

1. Sheldon M. Ross, *Introduction to Probability Models*, 9th edition, Academic Press, 2002

References:

1. Sheldon M. Ross, *Stochastic Processes*, 2nd edition, Wiley, 1995
2. Sidney Resnick, *Adventure in Stochastic Processes*, 1st edition, Birkhauser, 1992
3. Samuel Karlin and H. E. Taylor, *A First Course in Stochastic Processes*, 2nd edition, Academic Presses, 1975
4. John R. Birge and F. Louveaux, *Introduction to Stochastic Programming*, Springer, 1997
5. Linn I. Sennott, Stochastic Dynamic Programming and the Control of Queueing Systems, Wiley, 1999

Topics:

1. Random Variables
2. Conditional Probability and Conditional Expectation
3. The Exponential Distribution and Poisson Processes
4. Renewal Processes
5. Discrete Time Markov Chains
6. Continuous Time Markov Chains
7. An Introduction to Queueing Theory and the Control of Queueing Systems

Grading:

Course grades are determined from performance on homework assignments, quizzes, midterm, and final exam. The exams and quizzes are open notes, open textbook. However, you are only allowed to use your notes and textbook; none from previous classes and non borrowed or copied from other students. Grading is based on the final exam (35%), midterm exam (35%), Homework, participation, and short in-class quizzes (30%).

Course Policies:

• Homeworks: Homework assignments will be posted on the web a week before the due date. All homework assignments are due next week ***at the beginning of class***. *No late homework will be accepted.u*

• Quizzes: The quizzes are designed to develop your ability to solve problems since there is a significant difference between understanding the material and applying it to solving problems. You are allowed to use notes (e.g., lecture notes and homework solutions) during the quiz. However, take into account that the time of the quiz is too short for looking up unfamiliar information in the reference materials! Late arrivals will not be given additional time on the quiz.

• Midterm and Final Exam: time and place TBA. The exams are open notes, open textbook. However, you are only allowed to use your notes and textbook; none from previous classes and non borrowed or copied from other students.

• Notify me ASAP if you are unable to take an exam or meet a deadline for any reasons. I must hear from you (either in person, or by email, or by voice mail) prior to the exam or the due date. Any excuses will need to be appropriately documented. In each instance, we will discuss how you will make up for the missed work.

• Individual work policies and honor code: You are allowed (indeed, encouraged) to consult with other students enrolled in the class during the conceptualization of a problem. However, all submitted homework assignments (including computer codes and outputs, if relevant) should represent your own efforts. In particular, you are not allowed to obtain, look at, use, or in anyway attempt to derive advantage from the existence of solutions for this or other course.

• Exam re-grading policy: If you want to have the exam regraded, you must submit the exam together with a *written* explanation. This must be done within ***three days*** from the date the exam was returned. Be aware that a regrade request will result in the regrade of ***all*** problems so that you may lose or gain points.

Course Schedule:

　　Detail schedule can be found on https://ceiba.ntu.edu.tw/981NDM