Statistics 6213
Intermediate Probability and Stochastic Processes
Spring 2012

Instructor: Dr. Subrata Kundu
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Topics:
Random variable and their distribution; Expectation, variance, covariance, and covariance matrix; Conditional distribution, conditional expectation, and conditional variance; Multivariate normal distribution; Law of large numbers and central limit theorem; Markov Chains, Poisson process, Brownian motion.

Textbooks:
Required: Probability and Random Processes
Author: Grimmet & Stirzaker
Publisher: Oxford University Press
ISBN: 0-19-857222-0

Recommended: Stochastic Processes (Second Edition)
Author: Sheldon M. Ross
Publisher: John Wiley and Sons

Learning Outcomes
As a result of completing this course, students will be able to:

• Understand the concepts of random variables and their distributions;
• Apply the law of large numbers;
• Understand the concept of Markov chains;
• Understand the basics of stochastic processes.
• Apply the Poisson Process to practical problems;
• Understand Brownian motion.

Grading:
The course grade will be based on homework, a midterm and the final as follows: 40% homework and quizzes, 30% midterm, and 30% final exam.
Class Attendance:
Class discussions will extend the materials covered in the textbook. Therefore, it is important that you attend the class. You are responsible for any materials covered or any announcements made in class, even if you are not present.

University Policy on Religious Holidays:
1. Students should notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance;
2. Faculty should extend to these students the courtesy of absence without penalty on such occasions, including permission to make up examinations;
3. Faculty who intend to observe a religious holiday should arrange at the beginning of the semester to reschedule missed classes or to make other provisions for their course-related activities

[NOTE: See the following website for other university policies: http://www.gwu.edu/~academic/Teaching/main.htm]

Academic Integrity:
I personally support the GW Code of Academic Integrity. It states: “Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information.” For the remainder of the code, see: http://www.gwu.edu/~ntegrity/code.html

SUPPORT FOR STUDENTS OUTSIDE THE CLASSROOM
DISABILITY SUPPORT SERVICES (DSS) Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in the Marvin Center, Suite 242, to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to: http://gwired.gwu.edu/dss/

UNIVERSITY COUNSELING CENTER (UCC) 202-994-5300 The University Counseling Center (UCC) offers 24/7 assistance and referral to address students' personal, social, career, and study skills problems. Services for students include:
- crisis and emergency mental health consultations
- confidential assessment, counseling services (individual and small group), and referrals
  http://gwired.gwu.edu/counsel/CounselingServices/AcademicSupportServices

SECURITY: In the case of an emergency, if at all possible, the class should shelter in place. If the building that the class is in is affected, follow the evacuation procedures for the building. After evacuation, seek shelter at a predetermined rendezvous location.