

Boston University
MA 581
Probability Theory
Summer 2, 2013
Lijun Peng

Class Time and Location: Mon./Tues./Wed./Thurs. 3-5 pm in MCS B31

Office: MCS 151

Email Address: ljpeng@bu.edu

Office Hours: MTWR 2-3 or by appointment

Text: Neil A. Weiss, A Course in Probability (Green Book) ISBN: 0-201-77471-2

Prerequisites: For this class you will need some *basic* set theory and calculus. You should be able to take derivatives, know some basic infinite series, and perform single and multiple integrals. Don't worry if you are rusty in any of these areas, I will do my best to refresh you as these topics come up.

Course Description: This course is an introduction to Probability Theory. The topics I plan to cover are: Sample spaces, axioms of probability, counting methods, conditional probability, Bayes formula, independence, discrete and continuous random variables, mean and variance, functions of random variables, jointly distributed random variables, conditional distributions, methods of transformations, moment generating functions, law of large numbers, central limit theorem. And as much of the following for which time allows: random variable simulation, Poisson processes and queuing theory, introduction to Markov chains.

This course will move fast. It is imperative that you keep up with the reading and homework. I will not repeat lectures during office hours.

Exams and Grading: We have two in-class exams during the semester (July 18 and August 8), at the normal class time. In addition to the in-class exams, you will be graded on 5 homework assignments. Grades will be determined by applying the following weighting scheme:

Your better in-class exam	40%
Your other in-class exam	30%
Homework	30%

Make-up Exams: If you miss an exam, then you must provide an acceptable excuse for your absence or you will receive a grade of zero. A valid reason for missing an exam would be something such as serious illness or a family emergency. If possible (particularly if you want to be sure that your excuse is an acceptable one), contact me before missing an exam.

Homework: Assignments will be posted each Tuesday. The assignments will be due the next Tuesday at the start of class. There will not be a graded assignment covering the last week of the course, but that material will be on the final exam. No late homework will be accepted.

Important Dates:

- July 1 Classes Begin
- July 8 Last Day to Add/Drop Without 'W'
- July 18 Midterm
- July 25 Last Day to Withdraw With 'W'
- Aug 8 Final Exam

Academic Conduct: Your work and conduct in this course are governed by the CAS Academic Conduct Code. This code is designed to promote high standards of academic honesty and integrity as well as fairness. A copy of the code is available in CAS Room 105 if you cannot access it on the web, and it is your responsibility to know and follow the provisions of the code. In particular, all work that you submit in this course must be your original work. If you find information online for homework (from wikipedia for example), make sure to cite whatever source you use. Any cases of suspected academic misconduct will be referred to the CAS Student Academic Conduct Committee.