

Math 611 Probability

Instructor: Ionut Florescu
Office: Kidde 227 *Email:* ifloresc@stevens.edu
Phone: (201) 216-5452 *Office hours:* M 4:00pm -6:00pm and by appt.

Some Topics to be presented:

Elements of Probability Measure, Conditional Probability and Independence, Random Variables and Distributions, Conditional Distribution and Conditional Expectation, The Poisson Process, Generating Functions and their applications, Characteristic Function, Convergence of random variates, The Central Limit Theorem, Markov Chains¹, Random Walks².

Textbook(s):

This semester we will use as the main textbook:

- *Introduction to Probability Models*, 9th edition, by Sheldon M. Ross, Academic Press, 2006, ISBN-10: 0125980620 ISBN-13: 978-0125980623.

I choose this book mainly for the examples and exercises it contains.

However, the material which we cover goes beyond this book. Therefore we shall make extensive use of following books which are (or soon will be) on reserves in the library:

- *Probability: Theory and Examples*, by Richard Durrett, Thomson Learning 2004
- *Probability and Measure*, by Patrick Billingsley, Wiley series in probability and mathematical statistics 1995
- *A course in probability theory*, by Kai Lai Chung, Academic Press 2000
- *Probability with Martingales*, by David Williams, Cambridge University Press 1991

¹Time permitting

²idem

- *Probability and Random Processes* by Geoffrey Grimmett and David Stirzaker, Oxford University Press 2001.

Homework, Exams and Grading:

We will have one midterm and a final exam. Their dates will be agreed on during the semester. We will have assignments during the semester. They will be graded and counting for the final grade. However, the most weight for the final grade will be coming from the final examination.