

Math 180B

Introduction to Stochastic Processes, I

Winter 2013

This course is an introduction to some basic topics in the theory of Stochastic Processes. After finishing the discussion of multivariate distributions and conditional probabilities initiated in Math 180A, we will study **Markov chains** in discrete time. We then begin our investigation of **stochastic processes** in continuous time with a detailed discussion of the **Poisson process**. These two topics will be combined in Math 180C where you will study Markov chains in continuous time and **renewal processes**.

We shall be using the 180A text (*PROBABILITY* by Jim Pitman) at the beginning of the term, but the required text for Math 180B (and 180C) is *An Introduction to Stochastic Modeling* (Fourth Edition) by M. Pinsky and S. Karlin. I plan to discuss most of the material contained in chapters 3, 4, and 5 of the text; the first two chapters contain review material.

- Lectures will be on Monday, Wednesday, and Friday, from 3:00 to 3:50 PM, in CSB 002.
- The discussion sections with your TA meet on Mondays:
 - Section A01 meets in Center Hall 217B, from 4:00 to 4:50 PM
 - Section A02 meets in Center Hall 217B, from 5:00 to 5:50 PM
 - Section A03 meets in APM B402, from 6:00 to 6:50 PM
- Your course grade will be based on your performance on the two midterm exams and the final exam. These exams will be weighted as follows:
 - Midterm 1: 20%
 - Midterm 2: 25%
 - Final: 40%
- In addition there will be weekly homework assignments which in total will account for the remaining 15% of your grade. These assignments will be due on Tuesdays at 6 pm in your TA's homework drop box, located in the basement of APM (turn left upon exiting the elevator or the stairwell); homework may also be turned in at your section meeting on the Monday before the homework due date.
- The midterm exams will be given on the Friday of the fourth and eighth weeks of the term (February 1 and March 1).
- The +/- grading system will be used for letter grades.

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TAs: J. Semko (A01,A02), Office: APM 6432, email: jsemko@math.ucsd.edu
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This handout and other course information is available on the World Wide Web at the URL
<http://math.ucsd.edu/~pfitz/winter13/180b/>