

Math 180C

Introduction to Stochastic Processes, II

Spring 2013

The introduction to stochastic processes begun in Math 180B continues in Math 180C with the study of **Markov chains** in continuous time and **renewal processes**. These topics generalize the notion of Poisson process in two different ways. We will then proceed to an introduction to the **Brownian motion**, one of the two building blocks of the subject of stochastic processes (along with the Poisson process). Time permitting, we will take up some topics in the theory of **queues** (waiting lines) as an application of the preceding material.

The required text for Math 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 6, 7, and 8 of the text, with selected topics from chapter 9.

- Lectures will be on Monday, Wednesday, and Friday, from 3 PM to 3:50 PM in Peterson 102.
- The discussion sections meets on on Mondays according to the following schedule:
 - Section A01: 5 PM to 5:50 PM, Center Hall 217A
 - Section A02: 6 PM to 6:50 PM, Center Hall 217A
- Your course grade will be based on your performance on the midterm exam and the final exam. These exams will be weighted as follows:
 - Midterm: 35%
 - Final: 45%
- In addition there will be weekly homework assignments which in total will account for the remaining 20% of your grade. These assignments will be due at 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 exam will be given on Friday, May 3.
- The +/- grading system will be used for letter grades.

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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/spring13/180c/>