

Math 180C

Introduction to Stochastic Processes, II

Spring 2015

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 2 PM to 2:50 PM in Center Hall 113.
- The discussion sections meets on on Wednesdays according to the following schedule:
 - Section A01: 6 PM to 6:50 PM, APM 7421
 - Section A02: 7 PM to 7:50 PM, APM 7421
 - Section A03: 8 PM to 8:50 PM, APM 7421
- 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%

You will have the option of substituting your final exam score for *one* of your midterm scores.

- 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 at Thursdays 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 Wednesday before the homework due date.
- The midterm exams will be given on the Friday of the fourth and eighth weeks of the term (April 24 and May 22).
- The +/- grading system will be used for letter grades.

Instructor: P. Fitzsimmons, Office: AP&M' 5715; email: pfitzsim@ucsd.edu; phone: 534-2898; Office hours: MWF Noon–1 PM, or by appointment.

TAs:

Zhehua Li (Sections A01,A02), Office: APM 6444 , email: zh1033@ucsd.edu

Pun Wai Tong (Section A03), Office APM 6432, email: p1tong@ucsd.edu

This handout and other course information is available on the World Wide Web at the URL
<http://math.ucsd.edu/~pfitz/spring15/180c/>