Math 180B

Introduction to Stochastic Processes, I

Winter 2015

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**.

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 2:00 to 2:50 PM, in CSB 001.
- The discussion sections with your TA meet on Wednesdays:
  - Section A01 meets in APM B402A, from 4:00 to 4:50 PM
  - Section A02 meets in APM B402A, from 5:00 to 5:50 PM
  - Section A03 meets in APM B402A, from 6:00 to 6:50 PM
  - Section A04 meets in APM B402A, from 7:00 to 7:50 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%

  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 on 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 (January 30 and February 27).
- 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–1:00 pm, MW 3–4 pm PM, or by appointment.

TAs:

Corey STONE (Section A01), Office: APM 6331, email: `cdstone@ucsd.edu`
Ching Wei HO (Section A02), Office: APM 6414, email: `cwho@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/winter15/180b/`