Math 285, Stochastic Processes, Spring 2018

Instructor: Jason Schweinsberg (jschwein@math.ucsd.edu)
TA: Nantawat Udomchatpitak (nudomcha@ucsd.edu)

Instructor’s Office Hours (in 6157 Applied Physics and Mathematics):
Mondays 1:00-2:00 PM, Tuesdays 3:30-5:00 PM, Thursdays 2:30-3:30 PM.

TA’s Office Hours (in 5801 Applied Physics and Mathematics): Tuesdays 1:00-2:30 PM.


Overview of the course: This course provides an introduction to stochastic processes at the beginning graduate level. Topics covered will include Markov Chains in discrete and continuous time, martingales, and Brownian motion. There will also be a brief unit on hidden Markov models. The prerequisites for the course are calculus, linear algebra, and undergraduate probability at the level of Math 180A. The course will focus on the theory of stochastic processes rather than specific applications, but technical details will be kept to a minimum so that the course is accessible to a wide audience. The course is intended primarily for graduate students in departments other than Mathematics. It should also be suitable for many Masters students in Mathematics or Statistics.

References: There is no required textbook for the course. Good references include:


Four of these five books (all but the one by Lawler) are freely available if you are on the UC San Diego campus. Links to the electronic versions are provided on the course web page.

Homework: Homework will be due once each week, usually on Wednesdays. Late homework will not be accepted.

Grading Policy: Your performance on the homework assignments will be the basis for your course grade. There will not be a final exam, although the last homework assignment will be due on Thursday of final exam week, in the time slot during which our final exam is scheduled.

Academic Integrity: It is essential that all students adhere to the UCSD Policy on Integrity of Scholarship. Students will be expected to obey the following rules:

• You may consult the instructor, the TA, or other students in the class while formulating ideas on homework problems. However, you must write your final homework solutions independently based on your own understanding, without referring to any notes made when discussing the problem with others. In particular, you may not show another student your solution or answer to a problem, and you may not copy or paraphrase the work of another student or use another student’s solution as the basis for your own.

• If you do discuss the homework problems with other students, you must acknowledge this help by making a note on your homework.

• You may not seek help on homework problems online. In particular, you must not make use of websites that help students with homework problems or provide online tutoring.

• You are not permitted to obtain homework solutions, written either by students or by the instructor, that were prepared for Math 285 in previous years.