

Math 180A, Introduction to Probability, Fall 2017

Instructor: Jason Schweinsberg (jschwein@math.ucsd.edu)
Office: 6157 Applied Physics and Mathematics
Office Hours: 4:15 – 5:30 PM on Mondays,
10:00 – 11:30 AM and 4:00 – 5:30 PM on Tuesdays,
other times by appointment
Course Web Page: <http://www.math.ucsd.edu/~jschwein/180A.html>
(or go to <http://www.math.ucsd.edu> and click on “Course Web Sites”)

Overview of the course: Probability theory is the mathematical theory of randomness. While much of the theory has been motivated by simple applications such as coin tossing and gambling, probability is now a mature branch of mathematics with a wide variety of applications in the physical, biological, and social sciences. This course provides an introduction to probability theory for students who have taken calculus. It provides good preparation for the study of stochastic processes in Math 180B and 180C and for upper-division courses in Statistics such as Math 181A, 181B, 185, and 189.

Prerequisites: The prerequisite for the course is multivariable calculus at the level of Math 20C or Math 31BH. Also, prior or concurrent enrollment in Math 109 is strongly recommended. Please note that Math 109 is a prerequisite for Math 180B, so you will need to have completed Math 109 by the end of the Fall if you wish to take Math 180B in the Winter.

Textbook: No textbook for the course is strictly required. However, most students will find it helpful to have an additional reference to consult besides their lecture notes. Consequently, the textbook *A First Course in Probability* by Sheldon Ross is highly recommended. An alternative is *Elementary Probability for Applications* by Rick Durrett, which does not cover continuous probability in as much detail but can be viewed online through the UCSD library’s web site.

Exams: There will be two midterm exams and a final exam. The midterm exams will be held in class on Friday, October 27, and Friday, December 1. The final exam will be at 3:00 PM on Friday, December 15. Please bring your student ID to the exams.

Homework: Homework will be due each week, usually at the beginning of class on Wednesdays. If you can not turn in your homework during class, you may place it in the designated box in the basement of the Applied Physics and Mathematics building before 2:30 PM on the due date. You should write your homework solutions neatly and carefully and provide full justification for your answers. Answers alone are insufficient.

Grading: Homework will count for 35 percent of the final grade. Each midterm will count for 15 percent, and the final exam will count for 35 percent. All ten homework scores will count towards your homework grade; no homework scores will be dropped. Consequently, any missed assignments will most likely have a negative impact on your final course grade. Your letter grade for the course will be based on your performance relative to other students in the class.

Regrade Requests: If you wish to request that a homework assignment be regraded, you must notify the TA from whom you collected the graded work before leaving the room. Regrade requests on exams will be handled through Gradescope. Please understand that while we will correct errors in the grading, we will not modify the grading rubric or negotiate over partial credit after graded papers are returned to students.

Lateness policy: Late homework will not be accepted. Other accommodations will be made only under unusual circumstances that are beyond the student's control, such as serious illness or the death of a family member. Likewise, make-up exams will be given without penalty only under unusual circumstances that are beyond the student's control. In such cases, you must notify the instructor as soon as possible. Please understand that accepting late work in less extreme cases is unfair to other students.

Office Hours: The instructor and TAs will hold regular office hours. You are encouraged to attend office hours if you have questions about the course material. You may ask questions about homework problems during office hours, in which case the instructor or TA will try to determine the source of your difficulties and guide you on the right path. However, because the purpose of homework is to provide you with practice at solving problems yourself, please do not expect the instructor or TA to provide answers or solutions to homework problems during office hours.

Time commitment: According to the policy of the Academic Senate of the University of California (see <http://www.universityofcalifornia.edu/senate/manual/rpart3.html>), "The value of a course in units shall be reckoned at the rate of one unit for three hours' work per week per term on the part of a student." Math 180A is a four-unit course, so you should expect to spend about 12 hours per week on the course.

Academic integrity: It is essential that all students adhere to the UCSD Policy on Integrity of Scholarship. Cases of academic dishonesty will be reported to the Academic Integrity Coordinator, and students found to be responsible for a policy violation will be subject to academic and administrative sanctions. Students are expected to obey the following rules:

- **Exams:** You will be allowed to use one $8\frac{1}{2} \times 11$ page of notes on exams, and you may write on both sides of the page if you wish. You are also allowed to use a calculator, but you may not share a calculator with other students during the exam. All devices that could be used for communication or internet access, such as cell phones, must be put away and out of view during the exam. You must stop working immediately when time is called, and refrain from speaking with other students until your exams are turned in.
- **Homework Assignments:** You may consult with other students in the class, the instructor, or the TAs (but no one else) while formulating ideas on homework problems. However, you must write your final homework solutions independently based on your own understanding. This means that you may not show another student your solution 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. Finally, if you consult any written sources other than your class notes and the textbooks by Ross and Durrett, or if you discuss homework problems with other students in the class, then you must acknowledge this help on your homework and indicate on which problems you received help.
- **Online Sources:** Although you may search for general course topics on the internet, you may not seek any help on homework problems online. In particular, you may not make use of web sites that help students with homework problems or provide online tutoring.
- **Course Materials:** Some old Math 180A exams will be provided in TritonEd. However, you are not permitted to acquire other materials, such as homework solutions, from previous Math 180A courses. Also, you may not provide homework solutions or other materials from this course to future Math 180A students, or post any course materials online.

To ensure that you are familiar with the academic integrity policy, you are required to complete an academic integrity quiz in TritonEd by 3:00 PM on Wednesday, October 4.