

# Math 11, Calculus-Based Probability and Statistics, Fall 17

**Instructor:** Danna Zhang ([daz076@ucsd.edu](mailto:daz076@ucsd.edu))

**Office Hours:** 4:00-5:30 pm, Mondays and 4:00-5:30 pm, Wednesdays (6121 AP&M)

**Lab Web Page:** <http://www.math.ucsd.edu/~math11/F17.html>

**Math 11 Academic Integrity Policy:** <http://www.math.ucsd.edu/~math11/integrity.html>

**Prerequisites:** Math 10AB or 20AB

**Course Content:** Probability theory is the mathematical study of randomness. Statistics is the science of obtaining information from data. Because data are frequently modeled as arising from a random process, probability is central to the mathematical theory of statistics. This course will provide an introduction to both probability and statistics, focusing on applications. We will cover most of chapters 1-25 of the textbook. Because Math 11 students have seen calculus, we will also discuss some material on continuous probability that is not in the textbook. A list of what topics will be covered each day is on the course web page.

**Lectures and Sections:** Lectures will be held every Monday, Wednesday, and Friday. Discussion sections, which will be run by your TA, are held every Thursday and are intended to help you with problem solving. You may only attend the discussion section in which you are enrolled.

**Textbook:** The required textbook is *Stats: Data and Models* by De Veaux, Velleman, and Bock. You must have the 4th edition of the textbook. If you purchase the textbook from the bookstore, it will include access to MyStatLab. However, MyStatLab will not be necessary for this course. Instructions for purchasing an electronic copy of the textbook for \$69 are available in TritonEd. If you choose this option, you will have access to the textbook only until the end of the quarter. The international edition of the textbook has different numbers in a few of the problems and is not suitable for this course.

**Homework:** Homework assignments will be due approximately weekly, usually on Fridays. Please place homework in your TA's box in the basement of AP&M building before 10:00am on the due date. Please work carefully and show the steps in your calculations, not just the final answers.

**Computer Labs:** In addition to the weekly homework assignments, there will be eight computer lab assignments due on Wednesdays. These assignments must be submitted by 9:00 pm on the due date. You will submit your assignments online using TritonEd.

**Statistical Software:** You will use the statistical software Minitab for the computer lab assignments. This software has been installed in the computer labs in rooms B325, B349, and B432 in the basement Applied Physics and Mathematics. You also have the option of downloading a copy of Minitab to your personal computer. Instructions for doing this are provided in TritonEd. If you want to use a Macintosh, you will have to use Minitab Express instead of Minitab. The labs can be completed using Minitab Express, though this is inconvenient in a couple of places.

**Graphing Calculators:** Although a graphing calculator is not required for the course, it is likely to be helpful. Having a graphing calculator avoids the need to use tables for statistical inference. Graphing calculators will be permitted on exams.

**Exams:** Midterm exams will be held during class on Friday, October 27, and Monday, November 20. The final exam will be held from 8:00–11:00am on Monday, December 15. You will be permitted to use a calculator during the exams. You will not be permitted to use notes or your book, but you will be provided with a list of formulas. Please bring your student ID to the exams.

**Grading:** Homework will count for 15 percent of your grade, and the computer labs will count for 20 percent. Each midterm counts for 15 percent, and the final exam counts for 35 percent. No homework or lab scores are dropped when computing your averages. After your average is calculated, letter grades will be assigned based on your performance relative to the class. The numerical averages that correspond to particular letter grades are not determined in advance.

**Make-up Exams:** Make-up midterm exams will not be given. If you miss a midterm exam because of extraordinary circumstances, such as a serious illness or family emergency, and document the circumstances, then you may substitute your final exam score for the missed exam. In such cases, you must notify the instructor as soon as possible.

**Late Homework:** Late homework assignments will not be accepted. Computer lab assignments will be accepted up to one hour late for a 1-point penalty (to allow for computer glitches at the time of the deadline), but labs completed more than one hour after the deadline will not be accepted. The only exception is Lab 1, which will be accepted up to one week late for a 1-point penalty. Other accommodations will be made only under extraordinary circumstances. Please understand that accepting late work in less extreme cases is unfair to other students.

**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. If you wish to request that a computer lab be regraded, you must notify the head lab TA within one week of the time when your lab is graded. 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.

**Office Hours:** The instructor and TAs will hold regular office hours, which will be posted in TritonEd and on the course web page. You may attend the office hours of any of the TAs, not just the TA who runs your discussion section. The head lab TA will hold some office hours in the computer lab to help students with computer lab assignments. You are encouraged to attend office hours if you have questions about the course material. You may ask about homework problems or the computer lab assignments 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.

**Time Commitment:** Because hard work is the only way to learn material well, it is extremely important to be prepared to devote a sufficient amount of time to Math 11. According to the policy of UC San Diego's Academic Senate, "The value of a course in units ... shall be reckoned at the rate of one unit for three hours' work per week per quarter on the part of the student." Note that Math 11 is a 5-unit course because of the additional work involved in completing the computer lab assignments. Therefore, you should expect to spend a total of 15 hours per week on the course, or three hours per week more than you would spend on a standard 4-unit course.