

STA 524.01
Probability
Fall Semester, 2007
Monday Wednesday Friday 12:00 PM–12:50 PM
Room CB 309

Instructor: Ruriko Yoshida
Office: 805A POT
E-mail: ruriko@ms.uky.edu
Office hours: Monday Wednesday 10:00-11:00 AM
(I'm usually available to talk whenever I'm in my office so
feel free to drop in, except two minutes before class starts.)
Text: "Probability and Statistics" DeGroot and Schervish

Overview: This is a course on theory of probability. In this course you will learn the nomenclature, theory and techniques needed for understanding the major types of probability problems, how to apply them in mathematical modeling, and how to prove problems in probability. We will cover materials including (not limited to) sample space, random variables, distribution functions, conditional probability and independence, expectation, combinatorial analysis, generating functions, convergence of random variables, characteristic functions, laws of large numbers, central limit theorem and its applications. This is a graduate course so you will have to learn how to prove problems (and you will be asked to prove problems).

Course Website: All course materials (including the homework assignments) will be posted on the class website,

<https://www.ms.uky.edu/~ruriko/courses/Stat524F07/>

Homework: Assignments will be weekly, handed out on Friday and due back the next Friday. Typically these assignments contain 5 or 6 regular problems. assignments will be graded and returned and credits will be given **only** if an answer is completely correct. If you have an incorrect answer, the problem will be returned to you with some hints and you will be required to turn it in again with the next set of homework. This will be repeated until the answer is correct.

While you are welcome to work together on the assignments, the final writeups should be your own. In the writeups, indicate your calculations and reasoning for all the work submitted. For numerical answers, draw a box around your answer and use four significant figures for approximations unless the answer is an integer, or instructed otherwise in the problem statement.

Homework will be graded on a ten point scale 0 meaning that you did not turn in the homework and 10 meaning that Athena, goddess of wisdom could not have completed the assignment any better. **ALSO-LUTELY NO LATE homework.**

Before handing in your homework paper, please **staple** all papers together and clearly write your name and the assignment number on the first page. Turn in papers held together by paper clips or origami at your own risk.

The lowest homework score of each semester will be thrown out. This is basically to handle those emergencies where you are unable to complete an assignment for external reasons. I strongly recommend you save this freebie as long as possible and do not blow off an early assignment.

Tests: There will be 2 midterms during the semester, both in class. They will test your ability to recall key definitions and theorems from the class, and apply them to simple problems. In addition, there will be a final exam roughly twice the length of the midterms.

Grading: The regular problems of the homework are worth 30% of your grade, midterm 1 is 20%, midterm 2 is 20%, and the final will be 30%.

Week	Topic	Section
August 22 to September 12	Set Theory, Counting Methods and Basic Probability	Chapter 1
September 14 to 26	Conditional Probability	Chapter 2
September 28	Review	
October 1	First Midterm	
October 3 to October 19	Random Variables and Distributions	Chapter 3
October 22 to November 7	Expectation, Correlation, and Covariance	Chapter 4
November 9	Review	
November 12	Second Midterm	
November 14 to December 3	Special Distribution and Central Limit Theorem	Chapter 5
November 21 to 23	Thanks-giving holiday	
December 5 to 7	Review	
December 12, Wed, 10:30am	Final	

Schedule: The following is a tentative schedule. It might be changed.