Math 336 — Probability
Syllabus and Course Procedures for Fall 2011

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Office Hrs

Mon 9-10
Tue 9-11
Wed 2-3
Fri 12-1

Required Texts *A First Course in Probability 8th ed,* by Sheldon Ross.

Rough Course Outline The following is an optimistic course summary—optimistic in the sense that we will most likely run out of semester before all sections below are covered.

1.1, 1.2, 1.3, 1.4, 1.5
2.1, 2.2, 2.3, 2.4, 2.5, 2.7
3.1, 3.2, 3.3, 3.4
4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10
5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7
6.1, 6.2, 6.3, 6.4, 6.5
7.1, 7.2, 7.4, 7.5
8.1, 8.2, 8.3

Grades Your course grade will be determined using a weighted average as follows:

22 %	Homework
13 %	Applied Probability Project
10 %	Short Quizzes
7 %	Class Participation - Problem Presentations
7 %	Exam 1 In-Class (Friday, September 30)
8 %	Exam 1 Take-Home (Approximately September 30-October 5)
7 %	Exam 2 In-Class (Friday, November 11)
8 %	Exam 2 Take-Home (Approximately November 11-November 16)
18 %	Final Exam In-Class (Thursday, December 15, 8:30-11:30 am)

Course Philosophy This is an upper level course, and requires greater student self-motivation and more responsibility than a lower level one. Greater emphasis will be placed on concepts and the mathematics that bind them together, and mathematical techniques will be viewed in their proper place as means toward conceptual understanding and problem solving. Metaphorically, in this course we'll make it a goal to build a house rather than master every tool in our toolbelt through repetition.

Homework Assignments Working problems on your own is where most of the learning occurs! Homework assignments will usually be assigned and collected once or twice a week. It will be the norm for an assignment to be comprised of many problems, requiring much time, thought, and effort. Notice that when grades are determined, homework is weighted more than any other component of the course; therefore, be prepared to devote a significant amount of time working on the homework sets. Never procrastinate in starting an assignment! You are encouraged to discuss problem concepts and solution techniques with your fellow students, but your final homework reports must be your own work. Homework solutions should be legible and presented in a logical fashion. Although this is a mathematics course, don't hesitate to accompany your mathematical derivations with explanations and ideas written in complete English sentences.

Applied Probability Project You will work on this project in teams of two. You will be given a problem that is well-defined, but open-ended in the sense that the problem may be solved, or at least approximately solved, using many different approaches and methods. The setting of the problem will be some interesting application of probability, and the project will require modeling, analysis, conclusions, and a formal report. Also, this project will be competitive in the sense that an award will be given to the best overall project. More detailed requirements of the project will be provided at the time the project assignment is distributed—about the seventh week of the course.

Short Quizzes I plan to give approximately six quizzes. The quizzes will be short in duration (about 10 minutes) and their goal is to test student proficiency of the major course topics. The quizzes will serve as feedback to me as to where difficulties lie in student understanding, in addition to serving as a motivator for students to stay current with the material.

Class Participation - Problem Presentations It is important that all students be engaged in class discussions, group work and activities, and gain practice in the communication of mathematical ideas both orally and written. This component of your grade reflects your efforts and progress in these areas. To assess this course grade component, I intend to use attendance, group contributions, in-class presentations, and scores on in-class problems which I occasionally collect.

Midterm Exams There will be two midterm examinations, and each of these exams will consist of an in-class and a take-home portion. The in-class portion will focus on conceptual understanding, while the take-home portion will stress problem-solving, applications, and extensions. The take-home exams will be particularly challenging, but it is my goal that the take-home examination problems serve as unifying examples of the course topics as well as extensions of key course concepts. Take-home exam problems are strictly independent endeavors; absolutely no collaboration between students on take-home exams!

Final Exam The final exam will be cumulative and will last three hours. It will consist of a mixed bag of short conceptual questions, medium level exercises, and a few challenging applications and extensions. Since your written report for the applied probability project will require much of your outside of class time, there will be no take-home component of the final exam.

Late Policy All assignments must be turned in at the beginning of the class period on the assigned due date, unless specified otherwise by the instructor. No credit will be given to unexcused late papers. If you have a conflict due to illness or sports, e-mail me right away.

Academic Honesty Any work you submit for credit in this course must result directly from your own understanding, thoughts, and ideas. Presenting the work of others as your own in strictly prohibited.

Disabilities If you have any disability and therefore may have need for some type of accommodation in order to participate fully in this class, please feel free to discuss your concerns in private with Erin Salva, Coordinator of Disability Services (phone 5145).