

S4105Q - Probability
Summer 2009

Course:

Lecture: M-Th, 6:15pm-7:50pm, 227 Mudd

Instructor: Benjamin Yakir

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Office Hours: M-Th, 5:00pm-6:00pm

Teaching Assistant: Kamiar Rahnama Rad

Prerequisites: A working knowledge of calculus.

Text: A First Course in Probability, Sheldon Ross, 7th or 8th Edition.

Course Description: This is a first course in probability for students with knowledge of elementary calculus and mathematical orientation. We will introduce the mathematical concepts of probability theory and some of its applications. The major topics that will be covered are : axioms of probability, conditional probability, discrete and continuous random variables, jointly distributed random variables, expectation, moment generating functions, inequalities and limit theorems.

Homework: Will be assigned in class and will be due on the following Monday at the beginning of class. The problems will be taken from the textbook. The students can work in groups, but each student should submit his/her own **hand-written** solution. A solution manual (7th edition) can be found at:

http://waxworksmath.com/Authors/N_Z/Ross/AFirstCourseInProb/WriteUp/weatherwax_ross_solutions.pdf

We recommend that you first try to solve the problems on your own and then compare your solution to the one provided by the manual.

Exams: There will be a midterm and a final. The final exam will be cumulative, but with an emphasis on the material covered since the midterm. Both exams will be closed book.

Grading:

Homework, 15%

Midterm, 35%

Final, 50%

Schedule:

<u>Date</u>	<u>Topic</u>	<u>Book Sections</u>
July 6-9	Combinatorial Analysis, Axioms of Probability	Ch 1 and 2
July 13-16	Conditional Probability and Independence	Ch 3
July 20-23	Random Variables	Ch 4 and 5
July 27	Midterm	Ch 1- 5
July 27-30	Jointly Distributed Random Variables	Ch 6
Aug. 3-6	Properties of Expectation	Ch 7
Aug. 10-13	Limit Theorems and Summary	Ch 8