

MATH4426 Probability
Spring 2015 Gasson 206
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Probability theory has a rich history, interesting mathematics, and many applications. In this class we will explore all of these. Topics include sample spaces; events; conditional probability; independence; combinatorial probability; random variables; probability density functions; cumulative distribution functions; joint, marginal, and conditional pdf's; expected values; variances; higher moments; moment generating functions; order statistics; discrete distributions (including binomial, hypergeometric, Poisson, geometric, negative binomial); continuous distributions (including normal, exponential, gamma); and the central limit theorem.

The text we'll use is **An Introduction to Mathematical Statistics and Its Applications, 5th Edition**, by Richard Larsen and Morris Marx. We'll cover the first four chapters.

How to reach me: my office is 365 Carney; 2-3769; email is the most reliable method of reaching me. Office hours: Monday 3-4, Wednesday 12-1, Friday 1-2, or by appointment.

Homework will be assigned and collected on a regular basis. The problems assigned will be a mixture of routine, straightforward problems that test basic understanding of the material as well as more challenging problems. I will return solutions with your papers and you should look over any mistakes and make sure you understand the solutions. If you are having trouble with the homework problems, I'm available for assistance and hints. Late homework will generally not be accepted.

You are allowed to work with other students on the homework problems, but just in the initial discussion stage. Write ups should be your own!

Exams: There will be two semester exams and a cumulative final. You are only allowed a make-up for a missed exam for a serious reason. If you must miss one, please clear it with me beforehand. Exams are closed-book, except that you may bring one standard size index card with whatever you can fit on it. Exam dates are February 23 and April 17. The final exam is Friday, May 8 at 12:30 pm.

Semester grades will be based on homework (16%), semester exams (27% each), and final exam (30%).

Disabilities: If you are a student with a documented learning disability seeking accommodations in this course, please contact the Connors Family Learning Center (617-552-8093); regarding all other types of disabilities, please contact the Disability Services Office (617-552-3470).

Finally, make sure your work is your own (see above for homework collaboration). Academic honesty is essential and cases of cheating will be taken very seriously. University procedures will be followed for any infractions see www.bc.edu/integrity for these.