MT426 Probability
Spring 2010
Dan Chambers

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Probability theory has a rich history, interesting mathematics, and many applications. In this class we will explore all of these.

The text we'll use is **An Introduction to Mathematical Statistics and Its Applications, 4th Edition**, by Richard Larsen and Morris Marx. We'll cover the first four chapters. 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 (binomial, hypergeoetric, Poisson, geometric, negative binomial); continuous distributions (normal, exponential, gamma); and the central limit theorem.

How to reach me: my office is 365 Carney; 2-3769; email is probably the most reliable method of reaching me.

Homework will be assigned daily and collected every two or three class days. 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 correct solutions with your papers and you should look over any mistakes and make sure you understand the solution. If you are having trouble with the homework problems, I'm available for assistance and hints. Late homework will generally not be accepted.

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 in one standard size sheet of paper with whatever you can fit on it. **Tentative** exam dates are February 24 and April 14; if these are changed, you'll have lots of notice. The final exam is May 12 at 9:00 am.

Semester grades will be based on homework (20%), semester exams (25% each), and final exam (30%).

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.