# Syllabus for Math 3215, Probability and Statistics

August 22, 2011

**Instructor:** Ernie Croot
**Office:** 103 Skiles
**Office Hours:** 1-2 on Tuesday, 3-4 on Thursday.
**Place and Date of Classroom:** MWF, 1:05 - 1:55 in Skiles 256.
**Email Address:** ecroot@math.gatech.edu

Try not to email me unless it is absolutely necessary.

**Book:** Hogg and Tanis, *Probability and Statistical Inference*

**Grade:** You grade will be based on 20% for each of two midterms, 30% homework, and 30% for the final exam. Homeworks will be collected about once every two weeks.

I will curve all exams to 75 points out of 100 if necessary (I will not curve DOWN to 75 under any circumstances), and reserve the right to change the grading policy in your favor at the end of the course.

Letter grades correspond to the following percentages: 90-100=A; 80-90 = B; 70-80 = C; 60-70 = D; and below 60 is an F.

**Material:** In this course we will work through the foundations of probability theory, such as set theory, elementary measure theory, conditional probability, expectation, variance, distributions, law of large numbers, central limit theorem, and so on. You will be required to understand and develop proofs as part of your homework; however, the proofs and theory will all be fairly basic.

We will also work through some interesting, exciting applications of the theory, such as applications to number theory, Bayesian spam filtering, statistical sampling and inference, and perhaps Hidden Markov Models with applications to speech recognition.