Mathematical Statistic 361: Introduction to Mathematical Statistics I, Fall 2011

Meeting time: Monday and Wednesday from 9:30 to 10:45 in Physics 151.
Office hours to be determined.

Instructor: Eric Key

The textbook for the course are:

- Basic Probability Theory by Robert Ash (ISBN 978-0-486-46628-6)
- An Introduction to Mathematical Statistics and Its Applications by Richard J. Larsen and Morris L. Marx (ISBN 978-0-321-69394-5)

We shall be reading Chapters 1-5 and a small portion of Chapter 6 of the book by Ash and Chapters 2 - 4 and some scattered sections of the book by Larsen and Marx. The material in Larsen and Marx is a subset of the material in Ash, and is presented in a more elementary fashion. If you are not planning to take MthStat 362 and are a strong student, you may be able to do without the book by Larsen and Marx.

Some of the things we will investigate are

- An axiomatic approach to probability
- Classical probability models.
- Continuous models.
- Conditioning.
- Transform method.
- Limit theorems.

To be prepared for this course you must know a bit about elementary operations with sets, such as union, intersection, and complements, be able to compute integrals in one and several variables, and how to work with power series.

Your grade will be based on three components:

- Weekly Homework will comprise about 40% of your grade. Homework will be due every Wednesday at the beginning of class, barring any unforeseen circumstances. You are expected to abide by the UW-System Code of Academic Conduct at all times and on all graded work. Late homework will not be accepted except in extreme circumstances as I should like to be able to circulate solutions in a timely fashion. You may work together on the homework so long as you adhere to university requirements regarding plagiarism and attribution of work not your own. See the Code of Academic Conduct for details of what constitutes plagarism.
- There will be a midterm exam that comprises about 25% of your grade. This will take place before the last day to drop course, sometime in late October. This exam will be in class and closed book. It will be a mix of problems, statement of definitions and statement of theorems. Some problems may be proofs of a computational nature.
- There will be a final exam at the appointed time and it will comprise about 35% of your grade. See the UWM Schedule of Classes for details of the time and date. The format will be the same as the midterm and the final exam will be cumulative.

If you have any doubts about your preparation, or any other questions, contact me.

I will email you your reading assignments, additional lecture notes and homework assignments as the semester goes along.