

## MATH 461: Probability Theory I

Fall 2006 — Course Outline — University of Illinois

### Sections C13/C14: 10:00pm–10:50pm MWF, 443 Altgeld Hall

Stephen Hartke, 227A Illini Hall, 265-6760, hartke@math.uiuc.edu

Web page: <http://www.math.uiuc.edu/~hartke/teaching/math461>

Office Hours: MWF 1:00-1:50pm or by appointment, 227A Illini Hall

Tests: 2 tests given in class on Fridays Sept 29 and Nov 3

Final Exam: 8:00-11:00am Thurs, Dec 14

TEXT: *A First Course in Probability* by S. Ross, Prentice Hall, 7th ed., 2006.

OVERVIEW: This course is an introduction to mathematical probability. The topics include the calculus of probability, combinatorial analysis, random variables, expectation, distribution functions, moment-generating functions, and the central limit theorem. We will cover most of chapters 1–8 in the textbook.

PREREQUISITE: Math 242 or 243 Multivariable Calculus, or equivalent.

REQUIREMENTS: Homeworks (20%, only the ten highest count), two tests in-class (20% each), and one cumulative final exam (40%). The tests and final exam are written and closed-book.

The homework provides practice employing techniques learned in class; writing up the solutions is among the most effective ways of keeping up with the material in the course. Students are encouraged to discuss the problems with each other, but all students are expected to *individually* write their own solutions.

We will spend some class periods in the computer lab using the free software package Iprom, which runs under Matlab. Some homework will involve Iprom projects. I will create accounts for all students on the Mathematics Department computer system, and engineering students can also install Iprom on their EWS account.

All students are expected to be aware of and abide by the University's policies on student conduct and academic integrity and honesty.

RESOURCES: Email and web pages will be used for announcements and questions.

Students should discuss with the instructor any class conflicts or other problems as soon as possible. Late homework and makeups for missed tests and the final exam will only be allowed in extreme situations.