

# 198:206 Discrete Structures II, Spring 2012

**Section:** 03 M,W 5:00-6:20 Hill-009 M 6:55-7:50; SEC-220  
04 M,W 5:00-6:20 Hill-009 W 6:55-7:50; ARC-110

**Instructor:** W. Steiger Hill 417 x2083 steiger@cs.rutgers.edu  
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- **Office Hours:** Monday and Thursday 3-4PM
- **Course Webpage:** <http://www.cs.rutgers.edu/~steiger/206.html>
- **Objectives:** To learn some elements of combinatorics and discrete probability and how they apply to Computer Science and to life.
- **Expected Work:** Regular written homework (0-25%); 1 (or 2) test(s) and a final (3/4 - 100%)
- **Topics:**
  1. Basic Ingredients (random experiment  $\mathcal{E}$ , sample space  $S$ , events, probability measure  $P$ ).
  2. Conditional Probability, Bayes Theorem, Independence.
  3. Combinatorics and Counting.
  4. Recurrences, Generating Fns, and Applications.
  5. Random Variables.
  6. Bernoulli Trials.
  7. Expectation, Variance.
  8. Applications of Probability and Combinatorics
- **References:** (Books on reserve at SEC reference desk)
  1. **Recommended:** Sheldon Ross, "A First Course in Probability", Prentice Hall (the 8<sup>th</sup> edition is the latest; earlier editions quite similar).
  2. Succinct notes (Review Sheets) will be handed out.
  3. "Discrete Probability", R. A. Gangolli and D. Ylvisaker, Harcourt, Brace, Jovanovich.
  4. "An Introduction to Probability Theory and Its Applications, Vol 1, 3rd Edition", W. Feller, John Wiley.

**NO RECITATION FIRST WEEK**