Rutgers, The State University Of New Jersey
College of Engineering
Department of Electrical and Computer Engineering

330:541 **Stochastic Signals and Systems** Fall 2008
INFORMATION SHEET

- **CONTENT:** We will study basic theory and methods of applied probability and stochastic processes. The first portion of the course will review elementary probability.
- **PHILOSOPHY:** You will be required to think carefully and critically about the material in this course. You are also expected to have taken an undergraduate course in probability. If you have not, you may still take this course; however, the first few weeks of the course will move very quickly.
- **SECTIONS & INSTRUCTORS:**
  - **Place & Time:** SEC-210, M&W 6^{th} period, 5:00 - 6:20
  - **Instructor:** Roy Yates, CoRE 515, email: ryates@winlab.rutgers.edu, My mailing address is

    WINLAB, Rutgers University
    671 US Route 1 South
    North Brunswick NJ 08902

  - **TA:** None, unfortunately
- **HANDOUTS:** All handouts, including problem set solutions, will be available on the course web page on *www.winlab.rutgers.edu/ ryates/ece541*. No paper copies will be given out.
- **OFFICE HOURS:** By appointment. Generally, these appointments will be at CoRE 515 one hour before class (at 4PM Mon and Wed). I encourage one or more students to attend together since students generally have similar questions. **MAILING LIST:** We will use a mailing list at *ece-541 AT rams DOT rutgers DOT edu*. If you are enrolled in the class, then you are automatically enrolled on the list.
- **TEXT:** *Probability and Stochastic Processes 2e*, R. Yates and D. Goodman. John Wiley and Sons, 2004.
- **PREREQUISITES:** Undergraduate courses in probability, linear algebra, linear systems, and multivariable calculus
- **EXAMINATIONS:** There will be one midterm examination and a final examination. There is also a course project. Occasionally, specific assignments or problems will be collected and graded.
- **EXAMINATION POLICIES:**
  - **Exam Notes:** For an exam, you may prepare two sides of one 8.5×11 inch sheet of paper as notes. Your "cheat sheet" is intended as a pacifier. It's primary use is as a study aid and focus. Calculators, computers etc. will be useless during examinations and are not permitted.

- **Grading Errors:** Solutions will be available on the web page for all examinations. **All questions about grades must be submitted IN WRITING within one week after each examination is returned. No grade change requests will be accepted after this period.** The materials you submit will be reviewed by the instructor. Please keep in mind that we will reconsider the entire examination as well as the area(s) requested by you. Thus, we may catch grading errors in a resubmitted examination which hurt your grade rather than help it. We will return the regraded exam as soon as possible. This grade is final.
- **Missed Exams:** A missed exam results without an excuse results in a grade of zero. If the midterm is missed with an acceptable excuse, a midterm grade will be derived from a normalized final exam score. Effectively, the final would then count for the midterm. If the final is missed with an acceptable excuse, a 1-hour oral examination be administered to probe your understanding of the material. There is no makeup for a missed short quiz; however, the lowest quiz score will be ignored in the grading. **There will be no written makeup examinations.** As always, absences must be cleared by the Dean.

- **GRADING:** 25% Midterm, 40% Final, 15% Project, 20% TBD

  The assigned homeworks on the webpage will be not be graded. Solutions are already online. However, the importance of homework as a comprehension and study aid cannot be overemphasized. Occasionally additional problems may be randomly assigned, graded and returned. Grades for these assignments may be credited in the TBD category.

  The exams are intended to require careful thought and not regurgitation. This is a subtle warning that glancing at the solutions rather than struggling with the homework is courting almost certain disaster.

  Policy: This course will not be "graded on a curve" in the usual sense; i.e., the "average" grade in the course might be A, B, C, D or F depending upon how well I feel you have mastered the material. If you are an especially smart bunch you might all get A's. The converse is also possible. There will be no awards for "most improved" or other such things. MORAL: DO WELL ON THE EXAMINATIONS.

Weekly Outline

The semester has 14 weeks, corresponding to 28 lectures. Chapters 1-4 should be a review for most students. We will try to accelerate the coverage of chapters 1–5 so as to provide more time for the more advanced material. Here is a tentative lecture schedule:

1-4	Chapters 1-4
5-6	Chapter 5
7-8	Chapter 10
9-12	Chapter 12
13-14	Chapter 6
14-15	Chapter 7

17 Sections 8.1- 8.2

18-19 MIDTERM EXAM (week of Nov 3)

20 Sections 8.2 - 8.4

21-22 Chapter 9

23-25 Chapter 11

26-28 Project Presentations