Instructor: John Lindhe
Office: 543 NI
Phone: 373-4882 (Math Dept. Office: 373-2450)
email: j.lindhe@neu.edu
Office Hours: M, W, Th: 12-1; Tu: 2-4 or by appointment

Introduction to Probability by Grinstead and Snell, second edition. Available for download here:

Grading:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework/Takehomes</td>
<td>15%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>15%</td>
</tr>
<tr>
<td>Tests</td>
<td>30%</td>
</tr>
<tr>
<td>Final</td>
<td>40%</td>
</tr>
</tbody>
</table>

Material:

This course will provide an introduction to stochastic processes and statistical concepts. Math 3081 is a prerequisite for this course.

Topics include:
Statistics: ANOVA, regression (linear, multi-linear, perhaps logistic), perhaps two-way tables, non-parametric. Some of this might be done using statistical software.
Random Processes: Markov Chains, random walks, Brownian motion; applications might include signal processing, queues, noise, a simplified Black-Scholes theorem

Rough Schedule:
Weeks 1-3: statistics
Weeks 4-6: basic ideas of Markov chains
Weeks 7: Test 1
Weeks 8-9: Queues or other application of Markov chains
Week 10: Background of random processes—stationary processes, mean and autocorrelation of processes
Weeks 11-12: Applications of random processes
Week 13: Test 2
Week 14: Review for Final

IMPORTANT:

1. The best way to learn this material is to do the homework problems every week.
   Please ask me questions about things you don’t understand, either in class or at my office. DON’T wait until you feel completely lost!

2. It is your responsibility to be aware of any changes the instructor may make to the syllabus as they are announced in class, or as posted on the course webpage. Students are responsible for all information given when they are absent.

3. This is a Calculus-based course, and assumes a working knowledge of single-variable calculus as well as some acquaintance with multi-variable calculus (including multiple integration).

4. The grade I (Incomplete) will be given only if you have a good attendance record, have missed the Final for a good reason, and otherwise you are doing passing work. Makeup exams are not given unless you have missed the exam for a valid reason and can prove it. Both makeups and incomplete are given at the discretion of instructor.
5. Cheating will not be tolerated. All incidents of cheating will be reported to the Office of Judicial Affairs. The University’s cheating policy and related disciplinary actions are detailed in the Student Handbook. The Handbook also includes a description of what is considered cheating by the University. Cheating in this class includes (but is not limited to): looking at the papers of others during a quiz or test, talking to other students during a quiz or test.

6. If you have a concern about the course or the instructor that is not or cannot be resolved by speaking with the instructor, the next step is to speak with Professor D.King (Undergraduate Director), 447 LA, x5679, d.king@neu.edu.

7. It is University policy that no grade, including an incomplete, can be changed after one year. Exceptions must be authorized by the Academic Standing Committee.

8. All students without legitimate conflicts will take the final exam at the scheduled date and time. Do not make travel plans that conflict with the final exam. The last day to file a Conflict form for the final is Friday September 30.

9. The last day to drop a course without a W grade is Tuesday September 27. The last day to drop a course with a W grade is Thursday December 8.

Grinstead/Snell Homework from chapter 11:

11.1: 2,5,7,9,11
11.2: 4,5,7,12,13,15-17,19
11.3: 1,5,12,16,20
11.5: 1,5,7,9 (look at #9 from section 11.3), 21