Math 5651
Basic Theory of Probability and Statistics, Fall 2013

SYLLABUS

Time and Place:	10:10 am - 12:05 pm TTh (09/03 - 12/11) – Appleby Hall 319
Text:	M.H. DeGroot, M.J. Schervish. Probability and Statistics.
	2012 Addison-Wesley, Fourth Edition.
Instructor:	Sergey G. Bobkov
Office:	228 VinH (tel: 625-1840, email: bobkov@math.umn.edu)
Office hours:	1:25 pm - 2:15 pm F and by appointment

5651. **Basic Theory of Probability and Statistics**.
Elementary Probability: Basic concepts, classical probability, combinatorial methods, conditional probability, independent events, Bayes' theorem. Random variables: distribution, expectation, moments, variance, moment generating function. Random vectors: marginal distribution, functions of random variables. Special distributions. Poisson approximation. The law of large numbers. The central limit theorem.

WEEK	DATES	MATERIAL (preliminary distribution)
1	09-03 to 09-05	Introductory remarks, sections 1.4, 1.5
2	09-10 to 09-12	1.6, 1.7, 1.8
3	09-17 to 09-19	1.9, 1.10, 2.1
4	09-24 to 09-26	2.2, 2.3, 3.1
5	10-01 to 10-03	Tuesday: 3.2; Thursday: 1st Midterm Exam
6	10-08 to 10-10	3.3, 3.4, 3.5
7	10-15 to 10-17	3.6, 3.7, 3.8
8	10-22 to 10-24	3.9, 4.1, 4.2, 4.3
9	10-29 to 10-31	Tuesday: 4.4; Thursday: 2nd Midterm Exam
10	11-05 to 11-07	4.5, 4.6, 4.7
11	11-12 to 11-14	5.2, 5.3, 5.4, 5.5
12	11-19 to 11-21	5.6, 5.7, 5.8, 5.9
13	11-26 to 11-28	Tuesday: 3rd Midterm Exam; Thursday: Thanksgiving
14	12-03 to 12-05	6.2, 6.3
15	12-10	Final review

Midterm exams:	Thursday, October 3, 2013
	Thursday, October 31, 2013
	Tuesday, November 26, 2013
Final exam:	Thursday, December 19, 2013, 8:00 am 10:00 am
Composition of grade:	Final exam – 40% of the total grade
	Midterm exams – 40% (for 2 best out of 3)
	Homeworks – 20% (for 5 best out of 6)
Homeworks:	You will have 6 homeworks due on September 17,
	October 1, 15, 29, November 12, 26. Every homework
	and midterm exam is graded in the range of 20 points.

Fall 2013, Homework Assignments

1	Due on September 17	Section 1.4	7
		Section 1.5	3, 4, 9
		Section 1.6	1, 6
		Section 1.7	5, 7, 8
		Section 1.8	2, 4
2	Due on October 1	Section 1.9	2, 7
		Section 1.10	1, 5
		Section 2.1	4, 6
		Section 2.2	9, 12
		Section 2.3	3, 9
		Section 2.5	2, 3
3	Due on October 15	Section 3.1	2, 4
		Section 3.2	4, 5
		Section 3.3	4, 6
		Section 3.4	4, 5
		Section 3.5	2, 3, 10
4	Due on October 29	Section 3.6	3, 6
		Section 3.7	1
		Section 3.8	4, 8
		Section 3.9	4, 6
		Section 4.1	3, 8
		Section 4.2	3
5	Due on November 12	Section 4.3	7
		Section 4.4	3, 8
		Section 4.5	2, 3
		Section 4.6	12, 13
		Section 4.7	2, 7, 8
		Section 4.9	4
6	Due on November 26	Section 5.2	6, 8
		Section 5.3	4
		Section 5.4	8, 14
		Section 5.5	2, 6
		Section 5.6	1, 2, 11
		Section 5.7	2, 3, 4
		Section 5.9	6