

Math 5651

Basic Theory of Probability and Statistics, Spring 2014

SYLLABUS

Time and Place: 10:10 am - 12:05 pm TTh (01/21 - 05/08) – Ford Hall 110

Text: M.H. DeGroot, M.J. Schervish. Probability and Statistics.
2012 Addison-Wesley, Fourth Edition.

Instructor: Sergey G. Bobkov

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Office hours: 2:30 pm - 3:20 pm W 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	01-21 to 01-23	Introductory remarks, sections 1.4, 1.5
2	01-28 to 01-30	1.6, 1.7, 1.8
3	02-04 to 02-06	1.9, 1.10
4	02-11 to 02-13	2.1, 2.2, 2.3
5	02-18 to 02-20	3.1, 3.2, 3.3
6	02-25 to 02-27	3.4, 3.5, 3.6
7	03-04 to 03-06	3.7, 3.8, 3.9
8	03-11 to 03-13	Tuesday: 1st Midterm Exam; Thursday: 4.1
	03-18 to 03-20	(Spring break)
9	03-25 to 03-27	4.2, 4.3, 4.4
10	04-01 to 04-03	4.5, 4.6, 4.7
11	04-08 to 04-10	Tuesday: 2nd Midterm Exam; Thursday: 5.2, 5.3
12	04-15 to 04-17	5.4, 5.5, 5.6
13	04-22 to 04-24	5.7, 5.8, 5.9
14	04-29 to 05-01	5.10, 6.2, 6.3
15	05-06 to 05-08	Tuesday: Review; Thursday: 3rd Midterm Exam

Midterm exams: Tuesday, March 11, 2014

Tuesday, April 08, 2014

Thursday, May 08, 2014

Composition of grade: Midterm exams – 75%

Homeworks – 25% (counting 5 best out of 6)

Homeworks:

You will have 6 homeworks due on February 13, 27, March 13, April 3, 17, and May 1. Every homework and midterm exam is graded in the range of 25 points.

Spring 2014, Homework Assignments

1	Due on February 13	Section 1.4 Section 1.5 Section 1.6 Section 1.7 Section 1.8 Section 1.9 Section 1.10	7 3, 4, 9 1, 6 5, 7, 8 2, 4 2, 7 1, 5
2	Due on February 27	Section 2.1 Section 2.2 Section 2.3 Section 2.5 Section 3.1 Section 3.2 Section 3.3	4, 6 9, 12 3, 9 2, 3 2, 4 4, 5 4, 6
3	Due on March 13	Section 3.4 Section 3.5 Section 3.6 Section 3.7 Section 3.8	4, 5 2, 3, 10 3, 6 1 4, 8
4	Due on April 3	Section 3.9 Section 4.1 Section 4.2 Section 4.3 Section 4.4	4, 6 3, 8 3 7 3, 8
5	Due on April 17	Section 4.5 Section 4.6 Section 4.7 Section 4.9 Section 5.2 Section 5.3 Section 5.4	2, 3 12, 13 2, 7, 8 4 6, 8 4 8, 14
6	Due on May 1	Section 5.5 Section 5.6 Section 5.7 Section 5.8 Section 5.9 Section 6.2 Section 6.3	2, 6 1, 2, 11 2, 3, 4 5 6 6 2