

Syllabus for STAT 416 Fall 09: Probability

August 19, 2009

Course Number: STAT 41600 Section 002 (29227) and MA 41600 Section 002 (23364)
Lectures: Monday, Wednesday, and Friday 9:30-10:20am at University Hall 119
Textbook: *Introduction to Probability*, by George Roussas, Academic Press, 2007 (**required**)
Course webpage: <http://www.stat.purdue.edu/~skirshne/teaching/STAT416>

Instructor: Professor Sergey Kirshner
Email: skirshne@purdue.edu
Office Hours: Monday 1:30-2:30pm, Thursday 3:00-4:00pm in HAAS 118 or by appointment

Course Description

This introductory course will cover the basics of probability theory targeted for undergraduate students in statistics, mathematics, and actuarial sciences. Among the topics covered will be

- key concepts of probability, conditional probability, independence, random variable, distribution, expected value and variance, moments and moment generating functions;
- standard discrete and continuous distributions (binomial and multinomial, geometric, Poisson, uniform, normal, exponential, gamma, beta), their properties, and some of their uses;
- Bivariate distributions and densities;
- laws of large numbers and central limit theorem.

For students interested in taking actuarial exams, the course will cover topics appearing on Exam 1/P.

Evaluation

The course will be evaluated on a point system. There will be weekly homeworks, tri-weekly quizzes, two midterm exams, and one comprehensive final. The breakdown of the credit is displayed in the table below.

	Number of assignments	Points each	Total
Homework	12-2=10 (two lowest scores dropped)	15	150
Quiz	4-1=3 (one lowest score dropped)	50	150
Midterm	2	175	350
Final	1	350	350
Total:			1000

In addition to points above, extra points may be earned by solving extra credit problems on the midterm and final exams.

Grading

The final grades will be awarded according to the total number of points earned:

A-: 870 – 899	A: \geq 900	
B-: 770 – 799	B: 800 – 829	B+: 830 – 869
C-: 650 – 699	C: 700 – 729	C+: 730 – 769
D-: 500 – 549	D: 550 – 599	D+: 600 – 649
	F: $<$ 500	

Policies

You are expected to read the material in the textbook. The material in the lectures will complement that in the textbook rather than just repeat it. Anything discussed in class and the sections of the textbook covering corresponding material is fair game for the exams and quizzes.

Homeworks will be collected at the beginning of class on their due dates and must represent your individual effort. No late homeworks will be accepted.

Quizzes (scheduled in advance) will be administered during the first 20 minutes of the class. Since your lowest quiz score will be dropped, missed quizzes will not be made up.

Midterm exams will take place during the regularly scheduled lecture time and will be announced well in advance. Final exam will take place during the finals week (exact time place TBA). Exams can be rescheduled only in *exceptional* circumstances. If you have an unavoidable conflict due to such serious circumstance, please provide the instructor notice as advanced as possible to reschedule your examination.

No study materials are allowed at the exams or quizzes (closed book, closed notes). Simple (non-programmable) calculators are permitted. Bring your Purdue ID to all exams.

In the event of a major campus emergency, course requirements, deadlines, and grading percentages (points) are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. The information about the changes in this course will be announced on the course's webpage, in class (whenever possible), and through messages on Blackboard Vista.

Cheating will not be tolerated. If caught, your punishment may range from a score of zero on an assignment to a failing grade in the course with a referral to the University disciplinary committee. (See regulations for student conduct, http://www.purdue.edu/univregs/pages/stu_conduct/stu_regulations.html) Please don't resort to cheating; if you are having trouble in the course, please talk to the instructor (me), and I may be able to direct you to additional resources.

Finally,

I hope you enjoy the course. If you have comments or suggestions, I want to hear them. Please drop me a line or just stop by.