MATH 340: Introductory Probability, Spring 2013

Spring 2013 Class number 15170 MW 9:30am–10:45am Room LO 1326

Prof. Vladislav Panferov

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Office hours: (tentative: check webpage for updates) Tue 12:00-2:00pm, Wed 2:00-3:00pm, or by appointment (email).

Course description: The course covers the basic principles of the theory of probability and its applications. Topics include combinatorial analysis used in computing probabilities, the axioms of probability, conditional probability and independence of events; discrete and continuous random variables; joint, marginal, and conditional densities; moment generating functions; limit theorems of probability; binomial, Poisson, gamma, and normal distributions. Prerequisite: Math 150B.

MATH 340 WEBPAGE `www.csun.edu/~panferov/math340/`

Text: (required) A First Course in Probability, by Sheldon Ross, 8^{th} ed, Prentice Hall 2010.

We plan to cover most of Chapters 1–8 (times in parentheses are guidelines)

Chapter 1	Combinatorial Analysis (1 week)
Chapter 2	Axioms of Probability ($1\frac{1}{2}$ weeks)
Chapter 3	Conditional Probability and Independence (1–$1\frac{1}{2}$ weeks)
Chapter 4	Random Variables ($2\frac{1}{2}$ weeks)
Chapter 5	Continuous Random Variables ($2\frac{1}{2}$ weeks)
Chapter 6	Jointly Distributed Random Variables (2–$2\frac{1}{2}$ weeks)
Chapter 7	Properties of Expectation (1–$1\frac{1}{2}$ weeks)
Chapter 8	Limit Theorems (1 week)

Other textbooks: (optional)

- Probability, by C. M. Grinstead and J. L. Snell, AMS 1997.
- Fundamentals of Probability, by Saeed Ghahramani, Pearson; 3^{rd} ed, 2004.
- An Introduction to Probability Theory and Its Applications, by W. Feller, vols. 1 and 2, Wiley and Sons, 1968, 1971 (reference).

Homework: Homework is the course's most essential component. You are expected to solve a large number of problems each week, the list of which will be announced in class or on the course webpage. Homework problems will not be graded; however, selected problems will be included in quizzes (15 minutes, held in the beginning of class and announced in advance).

Exams: There will be two in-class midterms, tentatively scheduled for **March 6**, and **April 24** (both Wednesdays). There will be a comprehensive final on **Wednesday, May 15**, 8:00-10:00am (location is same as class meetings). All tests will be closed books/notes.

Make-up policy: Make-up exams are not normally given.

Calculators: A graphing calculator or a computer software such as Matlab or Maple may be useful for solution of some of the homework problems. However, graphing calculators will not be allowed on midterm or final exams. A basic scientific calculator is OK (example: TI-30XII, or similar).

Grading: I will use +/- grading system, and will compute the grades as follows:

2 in-class exams	20% each
quizzes	25%
final exam	35%

The percentages are to be translated into letter grades using the following scale: 90-100% A; 80-89% B, 70-79% C, 60-69% D, 0-59% F. The cutoff numbers for the grades may be modified (in the direction of decreasing only!) at the end of the term, based on the overall performance of the class.