Fall 2015

MATH 7360-1: Probability Theory

Time: Monday, Wednesday, Friday 9:30–10:20

Room: Lockett 119

Prerequisite

Math 7311 (Real Analysis I) or equivalent

Textbook

John W. Lamperti: Probability, A Survey of the Mathematical Theory, 2nd Edition, John Wiley & Sons, Inc., 1996

Coverage

In the first week I will give a brief review of elementary probability theory. All chapters in the textbook will be covered:

Chapter 1: Foundation
(Kolmogorov's extension theorem, conditional expectation, various types of convergence)

Chapter 2: Laws of Large Numbers and Random Series
(Laws of large numbers, convergence of random series, 0-1 law)

Chapter 3: Limiting Distributions and the Centeral Limit Problem
(Characteristic functions, Bochner theorem, Lévy continuity theorem, Lévy equivalence theorem, central limit theorem, stable and infinitely divisible laws)

Chapter 4: The Brownian Motion Process
(Brownian motion, stochastic integrals)

Grading

The grade will be determined by homework (70%) and the final exam (30%) with the following tentative scale by using the new university grading system:

$96 \le A^+ \le 100$	$92 \le A \le 95$	$88 \le A^- \le 91$
$84 \le B^+ \le 87$	$80 \le B \le 83$	$76 \le B^- \le 79$
$73 \le C^+ \le 75$	$70 \le C \le 72$	$67 \le C^- \le 69$
$64 \le D^+ \le 66$	$61 \le D \le 63$	$58 \le D^- \le 60$
$F \le 57$		

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