

SYLLABUS FOR 4530, FALL 2025

Textbook: “*Probability*”, Jim Pitman, Springer texts in statistics

List of topics

1.1 Equally likely outcomes	
1.3 Distributions	
1.4 Conditional probability and independence	
1.5 Bayes’ rule	
1.6 Sequences of events	
2.1 Binomial distributions	
2.5 Random sampling	
3.1 Random variables	
3.2 Expectation	
2.2 & 3.3 Standard deviation and normal approximation	
3.4 Discrete distributions	
2.4 & 3.5 Poisson distributions and Poisson approximation	
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MIDTERM I	
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Moment generating function	
4.4 Change of variable	
4.5 Cumulative Distribution Functions	
5.1 Uniform distributions	
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6.4 Covariance and correlation	
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t and F -distributions	
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