
CHAPTER 1: COMBINATORIAL ANALYSIS. Sections 1.1 to 1.5. Introduction. Basic rules for counting, permutations and combinations. Arrangements and assignments. (3 lectures)

CHAPTER 2: AXIOMS OF PROBABILITY. Sections 2.1 to 2.5. Sample spaces and events. Axioms for probability and their consequences. Sample spaces with equally likely outcomes. (3 lectures)


CHAPTER 4: RANDOM VARIABLES. Sections 4.1 to 4.8, 4.10. Definition of random variable. Discrete random variables. Expectation and variance. Binomial, Poisson, and other families of random variables. The cumulative distribution function. (8 lectures)


CHAPTER 7: PROPERTIES OF EXPECTATION. Sections 7.1, 7.2, 7.4 to 7.6 Expectation and variance of sums of random variables. Covariance and correlation. Conditional expectation. Prediction. (4 lectures)

CHAPTER 8: LIMIT THEOREMS. Sections 8.1 to 8.4. Chebyshev’s inequality. Weak and strong laws of large numbers. Central limit theorem. (3 lectures)