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| Lecture | Title | Book |
| 1 and 3 Sep | Backgrounder  Topics: Mean, Median, Mode, Percentiles, Variance, Distribution,  Graphs and Plots, Symmetry of graphs,  Random Variables | Chapters 1 - 4, Iversen and Gergen |
| 8 Sep | Combinatorial Analysis  The Basic Principle of Counting,  Permutations,  Combinations, Binomial Theorem (No Proof),  Multinomial Coefficients | Chapter 1, Ross |
| 10 Sep | Probability    Sample Space and Events  Axioms of Probability  Some Simple Propositions (with Proofs)  Sample Spaces having Equally Likely Outcomes  Probability as a Continuous Set Function | Chapter 2, Ross |
| 15 and 17 Sep | Conditional Probability and Independence  Bayes’ Formula (with proofs)  Independent Events  P(·|F ) Is A Probability | Chapter 3, Ross |
| 22 and 24 Sep | Random Variable  Discrete Random Variables, Properties of The Cumulative Distribution  Mathematical Expectations  Expected Value  Expectation of a Function of a Random Variable  Variance  Expectation of Sums of Random Variables  Moment Generating Functions  Chebyshev’s Theorem (No Proof)  All Proofs, wherever used. | Chapters 4, 7 Ross  Chapters 3, 4 Miller and Miller |
| 29 Sep, 1 and 6 Oct | Special Probability Distributions  (Bernoulli, Binomial, Poisson are very important. All Proofs.) | Chapter 5, Miller and Miller  Second half Chapter 4, Ross |
| 8, 13 and 15 Oct | Continuous Random Variables  Special Probability Densities  (Uniform, Normal, Exponential are very important. All Proofs.) | Chapter 6, Miller and Miller  Second half Chapter 5, Ross |
| 27 October | TEST (Saha Section) |  |
| 29 Oct | Joint Distribution Functions  Marginal Distribution Functions  Independence |  |
| 3 Nov | Covariance, Variance of Sums, and Correlations  All Proofs, wherever used. | Chapter 4, Miller and Miller  Chapter 7, Ross |
| 5 Nov | Functions of One Random Variable.  Very Important. | Chapter 7, Miller and Miller |
| 12 and 17 Nov | Sampling Distribution  Complete Chapter. Only Proofs done in Class | Chapter 8, Miller and Miller |
| 17 Nov | Point Estimation (may be shortened)  Unbiased Estimators  Efficiency  Method of Moments  Method of Maximum Likelihood  Bayesian Estimation (Ideas Only) | Chapter 10, Miller and Miller |
| 19 and 24 Nov | Interval Estimation  Complete Chapter. Very Important. | Chapter 11, Miller and Miller |
| 26 Nov | Hypothesis Testing (Testing a Statistical Hypothesis) | Chapter 12, Miller and Miller |
| 1 Dec | Hypothesis Testing, Testing of Hypothesis including Mean, Variances and Proportions  Topics (1-5) | Chapter 13, Miller and Miller |