

MATHEMATICS 149C

PROBABILITY AND MATHEMATICAL STATISTICS III

Text: *Introduction to Mathematical Statistics*, by R. V. Hogg and A. T. Craig

This is the final course in a three quarter introduction to the mathematical theory of probability and statistics. Topics covered in the entire sequence include discrete and continuous distributions, tests of hypotheses, estimation, maximum likelihood techniques, regression and correlation. Students may not receive credit for more than one of the sequences Mathematics 149A-149B-149C and Statistics 160A-160B-160C.

TOPICS	SUGGESTED NO. OF 50 MIN. CLASSES
Hypothesis testing 4 (§§ 6.4-6.6, 9.1)	
Tests of statistical hypotheses, χ^2 tests, the Neyman-Pearson Lemma.	
Sufficient statistics 9 (§§ 7.1-7.9)	
Exponential families, completeness and independence.	
Further topics on statistical tests 3 (§§ 9.2-9.3)	
Uniformly Most Powerful tests, likelihood ratio tests.	
Inferences about normal models and nonparametric methods 5 (§§ 10.1, 10.5, 10.6, topics from Ch. 11)	
Quadratic forms in normal variables, analysis of variance, regression analysis, introduction to nonparametric methods.	