

# MATHEMATICS 149A

## PROBABILITY AND MATHEMATICAL STATISTICS I

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

This is the first 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
Probability, random variables and distribution functions ..... 11 (§§ 1.1-1.10)	
Probability as set functions, conditioning, discrete and continuous random variables, independence, distributions and density functions, expectation and the Chebyshev inequality.	
Bivariate distributions ..... 6 (§§ 2.1-2.5)	
Basic notions, correlation and applications.	
Special distributions ..... 7 (§§ 3.1-3.5)	
Binomial, Poisson, Gamma, Beta and normal distributions.	