

## MATHEMATICS 149B

### PROBABILITY AND MATHEMATICAL STATISTICS II

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

This is the second 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

Distributions of functions of random variables ..... 14  
(§§ 4.1-4.9)

The  $t$ ,  $F$ , and  $\chi^2$  distributions, moment generating function and transformation of variables techniques, order statistics, some sampling distributions of normal populations.

Limit distributions ..... 6  
(§§ 5.1-5.5)

Convergence in distribution and probability, the Central Limit Theorem.

Statistical inference ..... 4  
(§§ 6.1-6.3)

Point estimation, confidence intervals.