



STATISTICS 100-3 CHANCE AND DATA ANALYSIS

Spring 2004
DAY COURSE
STATISTICS WORKSHOP

This course may be applied to the Certificate of Liberal Arts

Students requiring accommodations as a result of disability, must contact the Centre for Students with Disabilities 604-291-3112 or csdo@sfu.ca

Instructor: DR. B. McNeney
Lab Instructor: R. INSLEY

Prerequisite:

None. This course should not be taken by students who have 60 or more credits.

Textbook:

Statistics A Guide To The Unknown, 3rd edition, by Tanur, Mosteller, Kruskal, et al., publisher: Duxbury, 1989

Calendar Description:

An Introduction to chance phenomena and data analysis through simulation and real world contexts including, sports, investment, lotteries and environmental issues. Students may not receive credit for both STAT 100 and STAT101.

Outline:

1. Introduction. Basics of Data Analysis. Distributions. Basics of Chance. Simulation. Sports League application.
 2. Graphics ? one and two variables. Time Series. Measuring Effects of Social Innovations; Tanur 93-103. Economic Indicators; Tanur 227-238. Food Study; Tanur 161-169.
 3. Random Walks. Illusion of predictability. Stock Market Application.
 4. Risk: Insurance and Investment. Diversification. Variability.
 5. Study Design. Test Scores; Tanur 178-187. Salk Polio Vaccine Experiment; Tanur 3-14. Health Insurance; Tanur 31-40.
 6. Models. Blue Whales; Tanur 60-67. Solar Atmosphere; Tanur 268-275. Zipf's Law. Tanur 142-150. Tanur 126-131.
 7. Sampling. Jury Selection; Tanur 87-92. Accounts; Tanur 151-160. CPI; Tanur 198-207. Census; Tanur 208-217. Randomized Response Technique.
 8. Lotteries. Average and actual returns. Assessment of Coincidences.
 9. Survival. Aging of cars, cells, and people.
 10. Optimization. Travelling Salesman; Tanur 241-248.
 11. Quality Control. Color Tolerances; Tanur 170-177.
 12. Estimation. Earthquakes; Tanur 249-260.
 13. Significance Testing. Humanid bones. Tanur 68-76. (and previous selections).
-

Grading

Assignments	30%
Two Midterms	30%
Final Exam	40%

Students should be aware that they have certain rights to confidentiality concerning the return of course papers and the posting of marks. Students are reminded that Academic Honesty is a cornerstone of the acquisition of knowledge. Scholarly integrity is required by all members of the University. Please consult the Calendar for details.

Revised October 2003