



STATISTICS 100-3 CHANCE AND DATA ANALYSIS

Fall 2002
DAY COURSE
STATISTICS WORKSHOP

Instructor: DR. L. WELDON
Lab Instructor: R. INSLEY

Prerequisite:

None

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.

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).
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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. Please pay careful attention to the options discussed in class at the beginning of the semester and be sure to fill out the Freedom of Information and Protection of Privacy form before the first home work is due.

Revised June 2002