Introduction to Statistics and Data Analysis I

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The class lectures will be informal and center on daily readings and homework assignments from the text. Homework assignments will be given daily based on the class coverage. The homework assignments will be self-checked by the participant with individual help available throughout the day for those that need it. Homework problems will not be collected, but working the assigned exercises is mandatory. Participants are encouraged to work more than the assigned number of problems. Formations of study groups is encouraged, but to succeed in this workshop participants must individually work problems that apply the ideas that are presented in class and in the text. It is necessary to have a calculator. The minimum is to have a calculator that will extract square roots and which has one memory location, but one that will perform basic statistical calculations will be beneficial. There will be required computer assignments. These assignments will be collected and graded. Final grades for participants that take the workshop for credit will be determined by performance on the computer assignments (around 35% of the grade), the midterm exam (around 30% of the grade), and the final exam (around 35% of the grade).

**SYLLABUS**

The course will cover Chapters 1 -13 of the text. The following tentative listing states the topic to be introduced in class any given day and the chapters that will be discussed.

(Day 1) Looking at Data Graphically.
       Chapters 1 & 2.

(Day 2) Looking at Data Numerically.
       Chapter 3.

(Day 3) Introduction to Probability.
       Chapter 4.

(Day 4) Conditional Probability; Random Variables.
       Chapter 4 continued.
       Chapter 5.

(Day 5) The Binomial Distribution.
       Chapter 5 continued.
(Day 6) The Normal Distribution. 
Chapter 6.

(Day 7) The Normal Distribution, continued. 
Chapter 6 continued.

(Day 8) Sampling Distributions & The Central Limit Theorem. 
Chapter 7.

(Day 9) Estimating With Confidence. Confidence Intervals. 
Chapter 8.

(Day 10) MIDTERM EXAMINATION.

(Day 11) Tests of Significance; Inference about the Mean of a Population. 
Chapter 9.

(Day 12) Inference for the Mean of a Population, continued 
Chapter 9 continued.

(Day 13) More on Inference for the Mean of a Population. 
Inferences for Two Population Means. 
Chapter 9 continued. 
Chapter 10 started.

(Day 14) Comparing Two Means, continued. 
Chapter 10 continued.

(Day 15) Comparing Two Means continued. 
Brief introduction to Inferences for Population Proportions. 
Chapter 10 continued. 
Chapter 12.

(Day 16) Chi-Square Procedures. 
Chapter 13.

(Day 17) Catch-up & Review

(Day 18) FINAL EXAMINATION.