

There is one required text for this course: *Statistics (3rd Ed.)*, by David Freedman, Robert Pisani, Roger Purves

Generally, each lecture will end with a short statistics homework assignment, which is typically due one week later. We will not accept late homework. When preparing your homework exercises, feel free to collaborate with other students; experience shows this is an effective way to accelerate your learning and reduce your fears. However, although it is valuable in a wide range of circumstances, collaboration will not be tolerated on the midterm or the final.

Each section of this course will introduce elementary techniques designed to enable the researcher to find, describe, and interpret 'fuzzy' patterns which are embedded in large masses of data. There will be three weekly lectures, which you are expected to attend. Experience shows that most students do not master the material unless they do so. To encourage attendance and a consistent focus on the material, we will distribute grades as follows.

Attendance	12.5%
Statistics Homework	12.5%
Midterm Exam	25.0%
Final Exam	50.0%

Office Hours (D. Phillips) Soc Sci Bldg #472 Tue 8-9 a.m.; Thu 8-9 a.m.
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OUTLINE OF COURSE

- I. Research Design
 - A. Controlled Experiments (Chapter 1, Freedman et al.)
 - B. Observational Studies (Chapter 2, Freedman et al.)
- II. Descriptive Statistics
 - A. The Histogram (Chapter 3, Freedman)
 - B. The Average and the Standard Deviation (Chapter 4, Freedman)
 - C. The Normal Approximation for Data (Chapter 5, Freedman)
- III. Chance Variability
 - A. The Law of Averages (Chapter 16, Freedman)
 - B. The Expected Value and the Standard Error (Chapter 17, F.)
 - C. The Normal Approximation for Probability Histograms (Ch 18)
- IV. Sampling
 - A. Sample Surveys (Chapter 19, F.)
 - B. The Accuracy of Sample Percentages (Chapter 21, F.)

- C. The Accuracy of Sample Averages (Chapter 23, F.)

- V. Tests of Statistical Significance
 - A. One Sample tests for the Average (Chapter 26, F.)
 - B. Two Sample tests for the Average (Chapter 27, F.)
 - C. The Chi-Squared test (Chapter 28, F.)

- VI. Some Non-Parametric Statistical Tests

- VII. Correlation and Regression
 - A. Correlation (Chapters 8 and 9, F.)
 - B. Regression (Chapters 10, 11, and 12, F.)