

SOS 3312—Statistics in the Social Sciences (3-3-0)
www.uhd.edu/~rydend
Section 11707-Fall 2006

Meeting Time: TH 1:00 p.m.- 2:15 p.m.
Classroom: C122 & S618
Instructor: Dr. David Ryden

Email: rydend@uhd.edu
Telephone/Fax: 713 221 2767/ 713 221 8286
Office: S670
Office Hours: TR 2:30-3:30 p.m. & MW 1:30-2:30 p.m.

Prerequisite: 3 hours in anthropology, criminal justice, history, political science, psychology or sociology and completion of Math 1301 or math 1210.

Course Description

This is an introductory course presenting the computation and use of descriptive and inferential statistics in the social sciences. Students are taught how to calculate statistical measures by hand and by using statistical software packages employed by researchers in the social sciences

Educational Objectives/Learning Outcomes:

After completion of the course students should be able to

1. discuss and explain the following: elementary statistical methods including their appropriate fit to types of data and related research design
2. practical skills for working with data
3. logic of critical examination of data in order to make better judgments about its implications
distinction between descriptive and inferential statistics
4. demonstrate elementary logic of data base management and analysis with statistical software (SPSS)

General University Policies and Procedures:

All students are subject to UH-Downtown's Academic Honesty Policy and to all other university-wide policies and procedures as they are set forth in the UH-Downtown University Catalog and Student Handbook.

NB: The University of Houston-Downtown maintains an honesty code, which is an essential element of the institution's academic credibility and integrity. It is the student's responsibility to become familiar with the code and abide by it. Academic honesty is the foundation upon which the student builds personal integrity and establishes a standard of personal behavior. In this course these university policies, outlined in PS 03.31, will apply. 'A violation of the honesty code is any activity which compromises the academic integrity or subverts the educational process of the university, including but not limited to, the following examples.

- ❖ Providing or receiving information for unauthorized use during exams, quizzes, or other graded work.

- ❖ Failing to report incidents of academic dishonesty.
- ❖ Using unauthorized notes, books, or other disallowed materials to aid in answering questions during an examination.
- ❖ Serving as or enlisting another person to take a test in the student's place or to do any academic work for which the student will receive academic credit.
- ❖ Plagiarizing.
- ❖ Changing answers and attempting to claim instructor error.
- ❖ Any other conduct intended to obtain academic credit fraudulently or dishonestly, which a reasonable person in the same or similar circumstances would recognize as dishonest or improper in an academic setting."

In addition there are honesty code requirements for this history course. Students must not use any notes, outlines, or verbal information during exams. Students must return all exam materials to the professor after the exams have been graded and returned to students for their perusal. Failure to return printed exam materials will result in a zero on that exam and possibly other disciplinary action. Once a student begins an exam, the student may not leave the room without forfeiting finishing the exam.

ADA Statement:

UHD adheres to all applicable federal, state, and local laws, regulations and guidelines with respect to providing reasonable accommodations for students with disabilities. Students with disabilities should register with Disabled Student Services (S-409, 713.226.5227) and contact the professor in a timely manner (preferably before the first test) to arrange for appropriate accommodations.

Required Books:

Darren George and Paul Mallery, *SPSS for Windows 9.0 Update* (Boston: Allyn and Bacon, 2000).

Stan Gibilisco, *Statistics Demystified* (New York: McGraw-Hill, 2004).

Required Material

Student files saved to the local disks in the Social Science Computer Lab are erased every night. Therefore, students will need to provide their own high storage media (such as a "flash" drive) to complete their projects.

Calculators with a square root function are required for in-class exercises and the exams.

Schedule:

8.22.06 (C122): Introduction to the course

8.24.06 (S618): Introduction to the computer lab.

8.29.06 (C122): Basic Themes

Reading Assignment: Stan Gibilisco, *Statistics Demystified...*

Relations & Functions (7-11)	Simple Graphs (20-35)
Independent Variables	Smooth Curves
Dependent Variables	Vertical Bar Graphs
Scenarios Illustrated	Horizontal Bar Graphs
What is a Relation?	Histograms
When is a Relation a Function	Point-to-point Graphs
Reversing the Variables	Tweaks, Trends, and Correlation (25-31)
Numbers (12-14)	Linear interpolation
Natural and Whole Numbers	Curve Fitting
Integers	Extrapolation
Rational Numbers	Trends
	Correlation

8.31.06 (S618) Basic SPSS Overview:

Reading Assignment: Darren George and Paul Mallery: *SPSS for Windows*, Chapter 2

- SPSS File Management
 - Data Files
 - Syntax, or Command, Files
 - Output Files

9.5.06 Jargon (C122):

Reading Assignment: Stan Gibilisco, *Statistics Demystified...*

Experiments and Variables (35-46)	Sample, Event, and Census
Experiment	Random Variable
Variable (In General)	Frequency
Discrete Variable	Parameter
Continuous Variable	Statistic
Populations and Samples	

9.7.06 Creating and Editing Datasets (S618)

Reading Assignment: Darren George and Paul Mallery: *SPSS for Windows*, Chapter 3.

9.12.06 Frequency Distributions & Histograms (C122):

Reading Assignment: Stan Gibilisco, *Statistics Demystified...*

Experiments and Variables (41-50)	Truncation
Discrete Versus Continuous	Rounding
Frequency Distribution (Grouped & Ungrouped.)	Cumulative Absolute Frequency
	Cumulative Relative Frequency

9.14.06 (S618) Downloading Data, Calculating Frequency Distributions, and Constructing Histograms in SPSS.

Reading Assignment: Darren George and Paul Mallery: *SPSS for Windows*, Chapter 6.

9.19.06 (C122) Measures of Central Tendency and Dispersion

Reading Assignment: Stan Gibilisco, *Statistics Demystified...*

Experiments and Variables (50-59)	Variance
Mean	Standard Deviation
Median	
Mode	

9.21.06 (C122) Exam 1

9.26.06 (C122) Probability and the Density Function

Stan Gibilisco, *Statistics Demystified...*

The Density Function (82—88)	Two Common Distributions
A Pattern Emerges	Uniform Distribution
Expressing the Pattern	Normal Distribution
Area Under the Curve	

9.26.06 (C122): Statistical Significance & the Normal Distribution

Stan Gibilisco, *Statistics Demystified*, 89-91 [The Empirical Rule]

Darren George and Paul Mallery: *SPSS for Windows*, Chapter 7.

9.28.06 (S618): Statistical Significance & the Normal Distribution

10.3.06 (C122): Sampling and Estimation

Stan Gibilisco, *Statistics Demystified...*

Estimation (155-161)	Sampling Distributions
Estimating the Mean	Central Limit Theorem
Estimating the Standard Deviation	

10.5.06 (C618) Confidence Intervals

Stan Gibilisco, *Statistics Demystified...*

Confidence Intervals (161-169)	95% Confidence Interval
The Scenario	99% Confidence Interval
68% Confidence Interval	C% Confidence Interval

10.10.06 (C122) T Tests

Reading Assignment: Darren George and Paul Mallery: *SPSS for Windows*, Chapter 11.

10.12.06 (S618) T Test Lab

10.17.06 (C122) Exam 2

10.19.06 (S 618) Selecting A Project from the IPUMS

Reading Assignment: www.ipums.org

10.24.06 (S618) Selecting A Project from the IPUMS Part II

10.26.06 (S618) Managing Data and Creating Syntax Files

Reading Assignment: Darren George and Paul Mallery: *SPSS for Windows*, Chapter 4.

10.31.06 (S618) Breaking Down Data: Crosstabulation and the Means Procedure

Reading Assignment: Darren George and Paul Mallery: *SPSS for Windows*, Chapter 8 & 9.

11.2.06 (S618) Lab Day

11.7.06 (S618) Chart Production in Excel and SPSS

11.9.06 (S618) Chart Production in Excel and SPSS. Project Proposals Due

11.14.06 (S618) Correlation

Reading Assignment: Darren George and Paul Mallery: *SPSS for Windows*, Chapter 10.

Stan Gibilisco, *Statistics Demystified...*

Correlation Principles (200-207)

Correlation Principles

Quantitative Versus Qualitative

Correlation Range

Correlation is Linear

Correlation and Outliers

Correlation and Definition of Variables

Units (Usually Don't Matter)

11.16.06 (S618) Correlation (Continued)

11.21.06 (S618) Introduction to Regression

Reading Assignment: Darren George and Paul Mallery: *SPSS for Windows*, Chapter 15.

11.28.06 (S618) Introduction to Multiple Regression

Reading Assignment: Darren George and Paul Mallery: *SPSS for Windows*, Chapter 16.

11.30.06 (S618) Lab Day

Final projects due Thursday, December 14 at 1 PM in S618

Note: This schedule is subject to revision. Any changes will be announced in class. In the event of an absence, it is the student's responsibility to contact me or a fellow student for changes made to the schedule

Course Requirements:

Class Participation: Students are expected to attend all classes and participate in the in-class exercises. I will take attendance every day, and those not present during roll call will be counted as "absent." It is the student's responsibility to withdraw from the course if need be. Students will be held responsible for all material covered in class as well as any announcements I make concerning examinations, due dates, readings, etc.

Examinations: There will be two examinations as scheduled above.

Paper Proposal: A page proposal with accompanying summary statistics is due on November 9.

Paper Project: Students are required to write a quantitative research project using the IPUMS dataset. Details of the assignment will be distributed on October 19.

Final Grades

Final grades will be calculated based on the following weighting:

