

# Social Statistics

## Sociology 3600

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Office Hours: weekdays 10:00 a.m. to noon, or by appointment

### COURSE OBJECTIVES

Statistics is used in the social and behavioral sciences to describe the human condition and to deal with policy questions involving social problems and theoretical questions about human nature. Properly used, it can help us get a handle on the apparent complexity of human activity; when misused it can mislead our attempts to deal with the problems we perceive. To avoid being misled by statistical applications, we need a grounding in the fundamental principles, common to all statistical techniques, and applicable to a wide range of problem areas. We will attempt to focus on those fundamental principles and how they operate in a variety of contexts.

The course will be divided into two basic sections: descriptive statistics and inferential statistics. The first deals with the techniques we use to summarize information in ways that can be readily understood, convey meaning and allow comparisons that can address questions we are interested in. The second deals with questions of the generalizability of descriptions and the probabilities of various arrangements of observations given specific assumptions about the ways information is gathered and states of nature that might exist.

This course will emphasize the uses and interpretation of statistics as well as their computation. If you can compute a statistic, but don't know what it means in terms of your research and data set, you might as well not have bothered to compute the statistic. A familiarity with algebra and algebraic notation is expected. **Math competency is a prerequisite for this course.**

### STUDENT LEARNING OBJECTIVES

- Students will be able to compute, and use SPSS to compute basic descriptive statistics.
- Students will be able to analyze and interpret descriptive statistics.
- Students will be able to compute, and use SPSS to compute basic inferential statistics.
- Students will be able to analyze and interpret basic inferential statistics.
- Students will be able to write hypotheses and analyze them and make decisions about their significance.

### TEXTS

Required:

Leon-Guerrero, Anna and Chava Frankfort-Nachmias. 2012. *Essentials of Social Statistics for a Diverse Society*. Los Angeles: Sage.

The computer statistical package that we will be using in this course is *SPSS for Windows*. I have chosen this program, because it is easy to use, and widely used in industry, government, and academia. The program is available in the computer labs and through the online virtual lab. This program does basic statistical analysis, such as we will be doing in this course, as well as sophisticated analyses, such as time-series analysis, forecasting, trend analysis, and multiple regression. There will also be opportunities for using Excel 2007 or 2010, because it is being used more and more in industry and government. Excel 2007 or 2010 is also in all of the computer labs.

### COURSE REQUIREMENTS

A: **Exams:** There will be three exams. Exams come from the readings and from the lectures. The exams will involve **MINOR** computation, interpretation of results, and multiple choice questions. Exam dates are listed on the schedule. Since the exams have been scheduled ahead of time, all students are expected to be present for them. If you are ill or have a University sponsored event that prevents you from taking an exam at the scheduled time, you **must** make arrangements with me **BEFORE** that particular exam.

**B: Assignments:** There will be ten graded assignments given involving hand and calculator computation and also the use of the computer. Each assignment will contain several problems related to the topics recently covered in class. Assignments will involve entering data into the computer, making computer runs, and interpreting the results, as well as computing statistical formulas by hand. A handout will be provided which will specify what is expected for that particular assignment. Assignments are due at the beginning of the scheduled class period in the classroom noted on the class schedule or by 6 PM on non-class days. Computer printouts of the results of runs must be turned in with the interpretation of results. **THE INTERPRETATION SECTION OF THE ASSIGNMENTS MUST BE TYPED.** Late assignments, i.e., any assignment that I don't receive by the appropriate time will be accepted, but **5 percent** will be deducted each day (INCLUDING WEEKENDS) past the deadline. Additionally, there are also exercises /problems in each of the chapters of the book(s), which you can do on your own to increase your understanding of concepts and techniques.

**ACADEMIC INTEGRITY**

In addition to, but not instead of, assigned readings, you may wish to consult other sources (including discussing assignments with other students). This is acceptable, but is not required. However, in all instances, you must do your own work and **credit must be given where credit is due.** There is no excuse for plagiarism -- submitting another's work, ideas, or wording, as your own. If you plagiarize, or otherwise cheat, on any assignment or exam you will receive a failing grade for the course, and your name will be forwarded to the Dean of Students. Any student who does not understand how to avoid plagiarism must request assistance from the instructor.

**GRADING**

Grades will be assigned on the following basis:

Exams: 300 points  
Assignments: 300 points  
 Total points: 600 points

95% = A	87% = B+	77% = C+	65% = D+	<60% = F
90% = A-	83% = B	73% = C	60% = D	
	80% = B-	70% = C-		

**ATTENDANCE AND CLASS PARTICIPATION**

You **cannot** pass a statistics class without attending! Since there will be no lecture notes provided for this course, it would behoove students to attend the lectures. If you miss a class, it is your responsibility to obtain the information for that lecture, not mine. Since my lecture notes are not detailed and prepared speeches, you will need to get the missed material from a classmate. Also, class participation is encouraged and expected.

**STUDENTS WITH DISABILITIES**

Any student requiring accommodations or services due to a disability must contact Services for Students with Disabilities (SSD) in room 181 of the Student Service Center. SSD can also arrange to provide course materials (including this syllabus) in alternative formats if necessary.

NOTE: This syllabus represents the instructor's best guess about what we will be doing in this class this semester. However, due to circumstances beyond our control the due dates of all readings and assignments are subject to change. All changes will be announced in advance in class. Each student is responsible for keeping track of all changes.

SCHEDULE

WEEK	DATES	TOPIC	READINGS	ASSIGN. & EXAMS
1	8/26-8/30	Introduction and Measurement	Chapter 1	Assignment 1 Best, Chapter1
2	9/3-9/6	Frequencies, %s, and Graphs; Intro to SPSS	Chapter 2	Assignment 2
3	9/9-9/13	Central Tendency & Deviation	Chapters 3 & 4	Assignment 3
4	9/16-9/20	The Normal Distribution; Association & Correlation	Chapters 5 & 8	
5	9/23-9/27	Association & Correlation	Chapter 8, pp. 186-200, 212-222	Assignment 4
6	9/30-10/4	Exam 1 Review Exam 1		<b>Exam 1</b>
7	10/7-10/11	Correlation and Linear Regression	Chapter 9	Assignment 5
8	10/14-10/18	Sampling and Probability	Chapter 6, pp. 126-38	
9	10/21-10/25	Confidence Intervals & Hypothesis Testing	Chapter 6, pp. 138-154; Chapter 7, pp. 158-167	Assignment 6
10	10/28-11/1	T tests	Chapter 7 pp. 167-181	Assignment 7
11	11/4-11/8	Exam 2 Review Exam 2		<b>Exam 2</b>
12	11/11-11/15	One way ANOVA	Chapter 10	Assignment 8
13	11/18-11/22	Two-way ANOVA Chi Square		Assignment 9
14	11/25-11/29	Chi Square <b>THANKSGIVING</b>	Chapter 8, pp. 201-212	Assignment 10 <b>NO CLASS</b>
15	12/2-12/6	Statistical vs Practical Significance Putting it all together; Review for Final		
Finals		<b>Final per WSU's finals week schedule</b>		