

STATISTICAL METHODS

SOC133.01 / PSY117.01

Summer Session I (May 19-June 29)

Monday-Friday: 11:00am-12:15pm

Perkins 421

Duke University

Instructor: Jennifer L. Moren-Cross

Office: 259 Sociology/Psychology Bldg.

Office Hours: Monday-Thursday, 9:30-10:30am
and *by appointment*

Office Phone: 660-5607

Email: jmcross@soc.duke.edu (best way to reach me)

COURSE WEBSITE

See Blackboard for course syllabus, daily lecture notes, homework assignments, etc.

COURSE DESCRIPTION

Statistics courses can be intimidating and boring. This is unfortunate because the information learned is valuable not only for fulfilling course requirements and getting your degree, but also for beginning to evaluate the merit of various claims made in everyday life. Is the divorce rate in America rising? Based on exit polling results who is likely to win an election? Are boys better at math and science than girls? The purpose of this course is to help you appreciate how data are used to support or debunk claims—particularly ones related to social science. To this end, we will cover the significance of theory in statistics; how surveys actually become data; how to process data in a statistical software package (SPSS); and how to actually calculate several statistics. Although a fair amount of studying outside of class is required, if you can add, subtract, multiply, and divide, you can do these statistics!

LEARNING OBJECTIVES

1. To recognize that statistical analyses in the social sciences are theoretically-driven;
2. To identify different types of variables;
3. To describe data using statistical techniques;
4. To present and interpret simple graphical depictions of data;
5. To statistically relate and associate two variables;
6. To perform simple, bivariate regression;
7. To identify the properties of a normal distribution;
8. To test hypotheses;
9. To identify the difference between statistical and substantive significance;
10. To carry out basic statistical analyses in SPSS statistical software.

COURSE MATERIALS

- Required Textbook: *Social Statistics for a Diverse Society, 3rd edition* (WITH THE SPSS CD) by Chava Frankfort-Nachmias and Anna Leon-Guerrero. 2001. London: Pine Forge Press. ISBN# 0761987770
 - This book will be available at the Duke Bookstore in the Bryan Center. Make sure if you purchase it via Amazon.com or other source that the SPSS CD accompanies the book.
- Basic calculator
- Pencils and lined paper

COURSE SCHEDULE

#	DATE	TOPIC	READING ASSIGNED	ASSIGNMENT DUE
1	H: 5-19	Introduction to course		
2	F: 5-20	What & Why of Statistics	CH. 1	
3	M: 5-23	SPSS demonstration	Look over SPSS on disk	
4	T: 5-24	Frequency Distributions	CH. 2	Asmt. 1: CH. 1
5	W: 5-25	Frequency Distributions con't/ Graphics	CH. 2 & CH. 3	
6	H: 5-26	Central Tendency	CH. 4	Asmt. 2: CH. 2-3
7	F: 5-27	Central Tendency con't	CH. 4	
8	M: 5-30	Variability	CH. 5	Asmt. 3: CH. 4
9	T: 5-31	Variability con't	CH. 5	
10	W: 6-1	Cross-tabulation	CH. 6	Asmt. 4: CH. 5
11	H: 6-2	Cross-tabulation con't	CH. 6	
12	F: 6-3	-----EXAM I (Chapters 1-5)-----		
13	M: 6-6	Assoc. for Nominal & Ordinal variables	CH. 7	Asmt. 5: CH. 6
14	T: 6-7	Assoc. for Nominal & Ordinal variables con't	CH. 7	
15	W: 6-8	Bivariate Regression & Correlation	CH. 8	Asmt. 6: CH. 7
16	H: 6-9	Bivariate Regression & Correlation con't	CH. 8	
17	F: 6-10	Normal Distribution	CH. 10	Asmt. 7: CH. 8
18	M: 6-13	Normal Distribution con't	CH. 10	
19	T: 6-14	Sampling & Sampling Distributions	CH. 11	Asmt. 8: CH. 10
20	W: 6-15	Estimation	CH. 12	Asmt. 9: CH. 11
21	H: 6-16	Estimation	CH. 12	
22	F: 6-17	-----EXAM II (Chapters 6-8 & 10-11)-----		
23	M: 6-20	Testing Hypotheses	CH. 13	Asmt. 10: CH. 12
24	T: 6-21	Testing Hypotheses con't	CH. 13	
25	W: 6-22	Chi-square Test	CH. 14	Asmt. 11: CH. 13
26	H: 6-23	Chi-square Test con't	CH. 14	
27	F: 6-24	Reviewing Inferential Statistics	CH. 15	Asmt. 12: CH. 14
28	M: 6-27	Review for Final Exam		
	W: 6-29 (2-5pm)	---FINAL EXAM (Chapters 1-8 & 10-15)---		

COURSE POLICIES

- **Honor Code**

- **The Duke Community Standard**

- Duke University is a community of scholars and learners, committed to the principles of honesty, trustworthiness, fairness, and respect for others. Students share with faculty and staff the responsibility for promoting a climate of integrity. As citizens of this community, students are expected to adhere to these fundamental values at all times, in both their academic and non-academic endeavors.

- The Pledge

- Students affirm their commitment to uphold the values of the Duke University community by signing a pledge that states:

1. I will not lie, cheat, or steal in my academic endeavors, nor will I accept the actions of those who do.
2. I will conduct myself responsibly and honorably in all my activities as a Duke student.

- **Disabilities**

- Students with learning, medical, psychological or other disabilities desiring academic accommodations, modifications, or auxiliary aids will have to contact the Student Disability Access Office (919-668-6213 or <http://www.access.duke.edu/studentIssues.asp>). The SDAO determines eligibility for and authorizes provision of services. Please notify the instructor as early as possible (preferably the first couple of days of class) should you be eligible and request accommodations.

- **Disclaimer statement**

- Information contained in this syllabus is subject to change as deemed appropriate by the instructor. Notification of any changes will be announced in class and it is the student's responsibility to gather this information if class is missed.

COURSE GRADE

Attendance

- Beginning May 23rd through June 27th, there are 26 class days.
- Attendance will be recorded daily and counts for 10% of your total grade.
- Material in a statistics course builds on previous work. Therefore, it is crucial (particularly on a tight summer school schedule) that no classes are missed.

10%
(26 days of attendance)

Homework Assignments

- Homework assignments will be posted on the Blackboard course website.
- Students must completely write out questions in homework assignments (even if they include a table with data). This will help limit mistakes in understanding the question, as well as help prepare for exams. **USE PENCIL FOR HOMEWORK ASSIGNMENTS.**
- Explicitly show every step in every problem. Again, this will help limit careless mistakes and will help in exam preparation. In return, instructor gives partial credit for what was correct in each problem.
- **NO LATE** assignments are accepted—Homework assignments are due at the beginning of class (i.e., bring them to class), or else they are not accepted and a grade of 0 will be given.
- There are no extra, special “make-up” assignments: There are 12 assignments throughout the course and 10 of them count towards the 25% homework portion of the final grade. In other words, the two lowest grades are dropped.

25%
(12 assignments, with lowest 2 dropped)

Exams

- There are two exams during the semester, and then one cumulative, final exam.
- Calculators may be used during exams. However, instructor may check to ensure that the memory is empty. **PENCIL MUST BE USED FOR EXAM.**
- General formulas **WILL** be provided for exams.
- If a student is absent on exam day, a grade of 0 will be given—unless an official excuse (i.e., Dean’s) is provided
- Exams I and II each count for 20% of the final grade. The cumulative final exam counts for 25% of the final grade. If a student scores higher on the cumulative final exam than s/he does on ONE of the first two exams (Exam I OR Exam II), then the final exam grade will replace the regular exam grade.

- EXAM I (Chapters 1-5) **20%**
- EXAM II (Chapters 6-8 and 10-11) **20%**
- FINAL EXAM (Chapters 1-8 and 10-15) **25%**

Total

100%

Final Grade

97-100	A+	87-89	B+	77-79	C+	67-69	D+	0-59	F
93-96	A	83-86	B	73-76	C	63-66	D		
90-92	A-	80-82	B-	70-72	C-	60-62	D-		