

Statistical Methods

PSY 3000

Spring 2013

Dr. Patrick Stark (you can call me Patrick)

Lecture meets M,W,F, 9:00am–9:50am McDonald 111

Lab meets 10:00am-10:50am M and W McDonald 111

Office: McDonald 211

Phone: 879-4634

Office hours: M,T,W, Th 11:00 or by appointment

Email: pstark@dixie.edu

Required Texts

Fundamental Statistics for the Behavioral Sciences (2011), David C. Howell,
Thomson: Brooks/Cole

Social Science Course Objectives

As an outcome of taking courses in the Social Science program, students shall:

1. Demonstrate the ability to examine human behaviors in a structured and organized way as a means of understanding the human condition. Measured by examination and/or oral and written reports.
2. Demonstrate the ability to recognize the ideas, people and events that are generally thought to be important by social scientists. Measured by examination and/or oral or written reports.
3. Develop a perceptual frame of reference based on social scientific knowledge measured by the presence of an attitudinal frame of reference which would be expressed in written or oral activities.
4. Exhibit concepts of critical thinking and scientific methodology in examining human behavior as measured by the presence of an attitudinal frame of reference which would be displayed in written or oral activities.

General Outline of the Course

Course Summary

Introduction to the basic principles of research design and data analysis.

Descriptive and inferential statistics will be covered.

Student Responsibilities

Attendance: Regular attendance is strongly recommended and more or less expected. This can be a pretty tough course and skipping class is not going to make it any easier. Besides, if you skip class you can't participate and participating is half the fun of the course.

Reading the Textbook: It is always a good idea to keep up with the assigned readings. There are also additional problems at the end of each chapter if you would like more practice.

Office Hours: We'll spend a good deal of time working together on the assigned problems in lab, but I encourage you to come and see me during office hours if you have any questions at all about the material or would benefit from working one on one. I'm also available if you have any questions about or want to discuss psychology, neuroscience, the meaning of life, how to get into graduate school or anything else of an academic nature.

Examinations (70% of final grade)

There will be **four** examinations during the semester; three mid-terms and a final. The three midterm examinations will be taken during the regularly scheduled class time in McDonald 111 (this allows you the benefit of state dependent learning). You'll have from 9:00am to 10:50 am to complete the three midterm exams. See the schedule for approximate exam dates (I'll let you know in advance if there will be a change in an exam date). The final will be taken in McDonald 111 on Tuesday April 30th from 8:00am to 10:00 am. The lowest of the four examinations will count less toward your final grade. Specifically, your three highest exam scores will each contribute 20% toward your final grade, and your lowest midterm score will contribute 10% toward your final grade.

Homework Problem Sets (30% of final grade)

Problem sets will consist of a series of short answer and/or essay questions and/or group projects. I will set a due date in advance and assignments must be turned in on that date (typically it will be the beginning of class on Friday). We will work together during the Laboratory period on the problems sets. Problem sets will be worth between 10 and 20 points. Your total number of points earned on the problem sets will be divided by the total number of points possible and then that percentage will be multiplied by .30 to determine your final problem set percentage at the end of the semester.

Missed Exam Policy

Please don't miss an exam. You may take an exam early (before the scheduled exam date), just let me know when you will be leaving and we can schedule a time. I will allow a make-up exam after the scheduled exam date only if you were prevented from taking the exam due one or more of the following: coma, documented stay in hospital, documented temporary burial in an avalanche, documented debilitating disease, documented death in the family, or any other institutionally approved excuse. Otherwise, plan on being here for the exams.

Calculators

First, this course will teach you to solve basic statistics problems by hand, that is, without the use of a dedicated statistical software package. I believe that you will have a better chance of understanding and retaining the concepts and material of this class if you do the bulk of the number crunching yourself. In order to do this you will need a calculator. A cheap, basic one that adds, subtracts, multiplies, divides, takes the square root and has an exponent key (and some memory storage capability is nice) is all that you will need. One with big fat keys will work well as it reduces the probability of data entry errors (also known as SFS, sausage fingers syndrome). You will have to show your work

on all exams so there is no need to buy one that has the statistical operations programmed into it (unless you want to use it to check your work). I myself prefer a “Hello Kitty” brand model that comes complete with a pencil and “possibles” holder.

Second, you do not need to be a math wiz to do well in this course. Statistics, as presented in this course, is quantitative data analysis geared for behavioral scientists (read: applied math) and does not require more than a general knowledge of basic algebra. If you would like to brush up on those basic algebra skills I encourage you to check out the “Arithmetic Review” in the CD that came with your textbook and/or come and talk to me during office hours. Otherwise, all you need for this course (besides the aforementioned calculator) is a brain in decent working order and an open mind.

Academic Dishonesty and Conduct Statement

As stated in the DSC Student Handbook; “Academic dishonesty in any form will not be tolerated at Dixie State College (Academic Discipline Policy, 3.34)” including cheating, and plagiarism. These acts of academic dishonesty are strictly prohibited. The instructor has the right to all means of academic discipline outlined in the Academic Discipline Policy: <http://www.dixie.edu/humanres/policy/sec3/334.html>

Accommodations

If you suspect or are aware that you have a disability that may affect your success in the course you are strongly encouraged to contact the Disability Resource Center (DRC) located in the North Plaza Building. The disability will be evaluated and eligible students will receive assistance in obtaining reasonable accommodations. Phone (435) 652-7516.

Tentative Course Schedule

Note: This schedule is very tentative and designed only to give you a rough idea of where we will be throughout the semester. In the event that an exam date arrives and the class has not covered all of the scheduled material, don’t panic. Either, the exam will only be over that material which we have covered since the last exam or we will move the exam date back.

Date		Topic	Chapter
Jan	7	Organization	1
	9	Scientific Method	
	11	Scientific Method	
	14	Observational Methods	
	16	Relational Methods	
	18	Experimental Research	
	21	No Class	
	23	Reporting research results	
	25	Reliability	
	28	Validity	
	30	Exam I	
Feb	1	Intro. to statistical data analysis	2

	4	Summation	
	6	Frequency Distributions & Graphs	3
	8	Graphing & C.T.	
	11	Variability	5
	13		
	15		
	18	No Class	
	20	The Normal Curve	6
	22		
	25	Z Scores	
	27		
March	4		
	6	Exam II	
	8	Probability	7
	11	No Class	
	13	No Class	
	15	No Class	
	18	Hypothesis testing	8
	20	Central Limit theorem	
	22	One score z-test	12
	25	One sample t test	
	27		
	29	Two samples t-test	14
April	1		
	3		
	5	Matched Pairs t-test	13
	8		
	10	Exam III	
	12	Correlation	9
	15		
	17	Regression	10
	19		
	22	Chi Square	19
	24		