Sociology 125: Statistics for the Social Sciences
Fall 2014

California State University, Fresno
College of Social Sciences, Department of Sociology
IT 288 (Lecture) & Social Science 202 (Lab)
MoWe 8:35AM – 9:50AM
3.0 Units, Schedule #70821

Dr. Christopher Sullivan
E-mail: chsullivan@csufresno.edu
Office: SS 226; Phone: 559-278-7731
Office Hours: MW 10:30AM-12:00PM and by appointment

Prerequisites: completion of Math requirement in GE Foundation, B4; grade of C or better in SOC 1 for sociology majors and minors.

Sociology Major/Minor Requirement: This course satisfies the requirement for the sociology major and minor.

Catalog Description: Introduction to quantitative methods as an aid to the understanding of research in the social sciences. Application of basic descriptive and inductive statistics to the social sciences.

Course Description: This course is an introductory undergraduate social science statistics course. This course emphasizes training in methods appropriate for quantitative survey research. In this course, students will gain an understanding of the fundamentals of quantitative research design and method through applied exercises and a final exercise. We will consider: descriptive statistics (including mean, median, mode); measures of dispersion (including standard deviation, range and variance); crosstabs/chi-square; t-tests; analysis of variance (ANOVA); correlations; and ordinary least-squares regression. In addition, students will build a foundation in the logic of quantitative social science research by learning about: variables and measurement; sampling methods; sampling distributions and inference. Students will be provided with an introduction to the SPSS statistical software program and will receive training in the visual presentation of data.

Course Objectives and Learning Outcomes: Upon completion of this course, students should be able to:
1. Apply and relate basic descriptive statistics to datasets provided by the instructor;
2. Understand, define and explain basic statistical concepts like sample, population, variable and attribute;
3. Calculate and explain Crosstabs, Chi-square tests, z-scores, confidence intervals and t-tests by hand.
4. Apply and relate the general logic of inferential statistical methods, including t-tests, chi-square tests, crosstabs, and analysis of variance (ANOVA);

5. Gain a basic understanding of correlations and ordinary least square regression;
6. Manipulate the SPSS statistical software package to create graphs, make crosstabs, and run t-tests;
7. Understand and interpret the output from an SPSS run;
8. Develop skills in the graphical presentation and summary of quantitative data using SPSS.

Method of Instruction: This course will consist of two meetings per week that integrate lecture of statistical concepts, discussion, in-class practice exercises, and applied lab exercises using the SPSS statistical software.

Required Texts and Readings:

1. Fu, Xuanning. 2011. *Guide to Statistics for the Social Sciences*. Kendall Hunt Publishing. ISBN-13: 978-0-7575-8629-3
2. Additional course readings, handouts, and announcements on course Blackboard site. (Indicated by a "BB" on course schedule)

In addition, you will also need to purchase a scientific OR basic calculator to use on the exams. Graphing calculators will not be permitted. One example is the Texas Instruments TI-30X IIS 2-Line scientific calculator. It is listed at $9.00 on amazon.com.

Grade Distribution:

I will calculate your grade in this class as follows and assign letter grades based on the standard University scale (100 – 90 = A; 89 – 80 = B; 79 – 70 = C; 69 – 60 = D; and 59 or below = F):

10 %: Attendance	50 points
10 %: Lab Exercises	50 points
15 %: First Midterm Exam	75 points
20 %: Homework Assignments (8)	100 points
15 %: Second Midterm Exam	75 points
10 %: Final Exercise	50 points
20 %: Final Exam	100 points
Total	500 points

There are no extra credit assignments for this course. I will adhere to the University's policy about incompletes.

I want students to be aware of the grade symbols. Many people devalue the symbols and distort their meaning. The grade descriptions from the General Catalog are presented below with the differences from an A, B, C, & D noted in CAPS.

A — EXCELLENT. Performance of the student has demonstrated the HIGHEST level of competence, showing sustained superiority in meeting all stated course objectives/responsibilities & exhibiting a VERY HIGH degree of intellectual initiative.

B — VERY GOOD. Performance of the student has demonstrated a HIGH level of competence, showing sustained superiority in meeting all stated course objectives and responsibilities and exhibiting a HIGH degree of intellectual initiative.

C — SATISFACTORY. Performance of the student has demonstrated a SATISFACTORY level of competence, showing AN ADEQUATE LEVEL OF UNDERSTANDING of course objectives, responsibilities, AND COMPREHENSION OF COURSE CONTENT.

D — UNSATISFACTORY. Performance of the student has BEEN UNSATISFACTORY, showing INADEQUACY IN MEETING BASIC course objectives, responsibilities, AND COMPREHENSION OF COURSE CONTENT.

F — FAILURE. Fails to meet course objectives. Work at this level does not meet requirements for credit toward a degree.

WU — FAILURE — UNAUTHORIZED WITHDRAWAL. Did not complete the course requirements and did not properly withdraw from the course. Completed assignments or course activities or both were insufficient to make normal evaluation of academic performance possible.

E-mail Policy: I will make every effort to respond to your e-mails as soon as possible. During the week (Monday – Friday) you can expect a response from me within 4 - 24 hours. If you e-mail me Friday evening or over the weekend, you can expect a response on Monday.

Course Requirements:

Attendance

To learn the most from this course, you must attend class regularly, arrive on time having carefully read the assigned readings for that class period, and be attentive. I expect everyone to thoughtfully participate in discussion, respectfully engage with others, and exhibit a willingness to learn. I promise to do these things in return. You can miss three class periods for any reason without penalty, but excessive (four or more) absences will negatively impact your grade. You will lose a full letter grade from your attendance grade for the fourth and each subsequent unexcused absence. I will take attendance at the beginning of each class period, so please be on time to avoid being counted as absent. You are still responsible for any material we covered in class if you are absent. I will excuse absences for serious and compelling reasons for which you can provide documentation, such as illness or a death in the family.

Required Readings:

It is a requirement of this course that you carefully read each assigned reading *before* class on the day for which I have assigned it. Completing the reading assignments will help you learn more

from lectures and discussions, as I have carefully chosen each reading to complement lecture topics. Please read them carefully.

Homework Assignments

Homework assignments are due to me via stapled paper copy at the beginning of class on the noted due dates. Turning in your coursework on-time is extremely beneficial to you, as it enables me to grade your work in a timely manner and get you feedback as soon as possible, while it enables you to focus on subsequent course requirements. There will be a total of eight homework assignments – I will drop your lowest homework grade in calculating your homework grade.

I may not accept late homework assignments – please meet with me if you would like to discuss any issues you might be having in regards to completing homework assignments on-time. If accepted, I will impose a penalty of 10% per day until the assignment is submitted. For each day that an assignment is late, a ten percent (10%) penalty shall be deducted from the total points of the assignment. Remember that the late penalties apply to weekends, holidays and days that the class does not meet.

In-class Lab Exercises

In-class lab exercises will be due at the end of each lab session. Lab exercises will utilize the SPSS statistical software package. Late lab exercises will NOT be accepted.

Final Exercise

For this final assignment, your task is to formulate an <u>empirical</u> research question, and then to come up with a way to concretely measure (operationalize) your variables. You will then analyze your research question using an inferential statistical method you learned in class and a dataset of your choosing.

The final product will be a 500-word assignment (*minimum 450 - maximum 550 words*) that includes the following:

1. Your research problem & <u>empirical</u> research question.
2. Definitions for your variables.
3. How you will concretely measure your variables, including your choice(s) of attributes for each variable.
4. A brief analysis of your research question using appropriate data.

Exams

There will be three in-class exams for this course—two midterms and a final—consisting of multiple choice, short answer, and statistical problems pertaining to main topics from lectures, labs, and class discussions. The first two midterm exams will only cover material contained in weeks 1-5 (midterm 1) and weeks 6-10 (midterm 2). The final exam will be cumulative and cover material for the entire course. <u>Make-up exams will be permitted for the two midterm</u>

examinations only if an acceptable reason is presented before the exam; this must be something along the lines of a doctor's note with specific dates or a note from the athletic/academic department explaining that you were out of town on the day of the exam.   Please do not miss the final exam, as a makeup exam will not be available. You need only bring something with which to write for the exams and a scientific calculator; no blue book is necessary.

Course Schedule & Outline:

Date	*Topic*	*Readings & Assignments Due*
Monday, August 25th	Course Introduction and Overview	Course Syllabus (BB)
Wednesday, August 27th	Variables, Measurement, Basic Concepts	Fu, Chapter 1 (all)
Monday, September 1st	NO CLASS – Labor Day	None
Wednesday, September 3rd	Lab 1: Introduction to the Lab & SPSS	SPSS Handout (BB)
Monday, September 8th	Descriptive Statistics (Mean, Mode, Median)	Fu, Chapter 2.1-2.3 **HOMEWORK # 1 DUE**
Wednesday, September 10th	Lab 2: Descriptive Statistics	SPSS Handout (BB)
Monday, September 15th	Measures of Variability	Fu, Chapter 2.4-2.5 **HOMEWORK #2 DUE**
Wednesday, September 17th	Lab 3: Variation	SPSS Handout (BB)
Monday, September 22nd	Z-scores	Fu, Chapter 3 (all) **HOMEWORK # 3 DUE**
Wednesday, September 24th	Lab 4: Practicing Z-scores by hand	SPSS Handout (BB)
Monday, September 29th	**FIRST IN-CLASS EXAM**	None
Wednesday, October 1st	Sampling Distributions	Fu, Chapter 4.1-4.3
Monday, October 6th	Confidence Intervals	Fu, Chapter 4.4-4.6
Wednesday, October 8th	Lab 5: Confidence Intervals	SPSS Handout (BB)
Monday, October 13th	Logic of Hypothesis Testing I (t-tests)	Fu, Chapter 5 (all) **HOMEWORK # 4 DUE**
Wednesday, October 15th	Lab 6 : Hypothesis Testing	SPSS Handout (BB)
Monday, October 20th	T-tests with one sample	Fu, Chapter 6 (all) **HOMEWORK # 5 DUE**
Wednesday, October 22nd	Lab 7: T-tests	SPSS Handout (BB)

Monday, October 27th	T-tests with two samples	Fu, Chapter 7 (all) **HOMEWORK # 6 DUE**
Wednesday, October 29th	Lab 8: More on T-tests	SPSS Handout (BB)
Monday, November 3rd	**SECOND IN-CLASS EXAM**	None
Wednesday, November 5th	Introduction to analysis of variance (ANOVA)	Fu, Chapter 8.1-8.2
Monday, November 10th	Analysis of variance (ANOVA)	Fu, Chapter 8.3
Wednesday, November 12th	Lab 9: Analysis of Variance	Fu, Chapter 8.4-8.5 SPSS Handout (BB) **HOMEWORK # 7 DUE**
Monday, November 17th	Crosstabulations & Chi-Square Test	Fu, Chapter 9 (all)
Wednesday, November 19th	Lab 10: Crosstabulations, Chi-Square	SPSS Handout (BB)
Monday, November 24th	Introduction to Correlations	Fu, Chapter 10.1-10.2
Wednesday, November 26th	NO CLASS - Thanksgiving	SPSS Handout (BB)
Monday, December 1st	Regression Analysis	Fu, Chapter 10.3-10.5
Wednesday, December 3rd	Lab 11: Regression Analysis & Correlations	SPSS Handout (BB)
Monday, December 8th	Regression Analysis	Fu, Chapter 10.3-10.5
Wednesday, December 10th	Course Review	SPSS Handout (BB)
Thursday, December 11th		**FINAL EXERCISE DUE**
Monday, December 15th, 8:45am – 10:45am	**FINAL EXAM**	None

Classroom Conduct

Please be respectful towards your fellow classmates and me. This precludes arriving to class late, leaving in the middle of class, chatting with others, passing notes, sleeping, and texting. Laptop computers are NOT allowed in class. The use of computers (outside of the lab computers) or cell phones is a distraction to me and the other students. I will ask you to leave class if you are found to be using any electronic device. Lectures may be recorded only with my prior permission.

Syllabus Modifications

I reserve the right to modify the syllabus if the need arises. If I do so, I will notify you immediately of any changes with the goal of maintaining clear expectations about course requirements and policies.

UNIVERSITY POLICIES

Refer to the University Catalog or Schedule of Courses for more information.

Students with Disabilities:

"Upon identifying themselves to the instructor and the university, students with disabilities will receive reasonable accommodation for learning and evaluation. For more information, contact Services to Students with Disabilities in the Henry Madden Library, Room 1202 (278-2811)."

Honor Code:

"Members of the CSU Fresno academic community adhere to principles of academic integrity and mutual respect while engaged in university work and related activities. You should:
  a) understand or seek clarification about expectations for academic integrity in this course (including no cheating, plagiarism and inappropriate collaboration)
  b) neither give nor receive unauthorized aid on examinations or other course work that is used by the instructor as the basis of grading.
  c) take responsibility to monitor academic dishonesty in any form and to report it to the instructor or other appropriate official for action."

Cheating and Plagiarism:

"Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one's grade or obtaining course credit; such acts also include assisting another student to do so. Typically, such acts occur in relation to examinations. However, it is the intent of this definition that the term 'cheating' not be limited to examination situations only, but that it include any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means. Plagiarism is a specific form of cheating which consists of the misuse of the published and/or unpublished works of others by misrepresenting the material (i.e., their intellectual property) so used as one's own work." Penalties for cheating and plagiarism range from a 0 or F on a particular assignment, through an F for the course, to expulsion from the university. For more information on the University's policy regarding cheating and plagiarism, refer to the Class Schedule (Legal Notices on Cheating and Plagiarism) or the University Catalog (Policies and Regulations).

Computers:

"At California State University, Fresno, computers and communications links to remote resources are recognized as being integral to the education and research experience. Every student is required to have his/her own computer or have other personal access to a workstation

(including a modem and a printer) with all the recommended software. The minimum and recommended standards for the workstations and software, which may vary by academic major, are updated periodically and are available from Information Technology Services (http://www.fresnostate.edu/adminserv/technology/) or the University Bookstore. In the curriculum and class assignments, students are presumed to have 24-hour access to a computer workstation and the necessary communication links to the University's information resources."

Disruptive Classroom Behavior:

"The classroom is a special environment in which students and faculty come together to promote learning and growth. It is essential to this learning environment that respect for the rights of others seeking to learn, respect for the professionalism of the instructor, and the general goals of academic freedom are maintained. ... Differences of viewpoint or concerns should be expressed in terms which are supportive of the learning process, creating an environment in which students and faculty may learn to reason with clarity and compassion, to share of themselves without losing their identities, and to develop and understanding of the community in which they live . . . Student conduct which disrupts the learning process shall not be tolerated and may lead to disciplinary action and/or removal from class."

Copyright Policy:

"Copyright laws and fair use policies protect the rights of those who have produced the material. The copy in this course has been provided for private study, scholarship, or research. Other uses may require permission from the copyright holder. The user of this work is responsible for adhering to copyright law of the U.S. (Title 17, U.S. Code). To help you familiarize yourself with copyright and fair use policies, the University encourages you to visit its Copyright Web Page (http://libguides.csufresno.edu/copyright).

Technology Innovations for Learning & Teaching (TILT) course web sites contain material protected by copyrights held by the instructor, other individuals or institutions. Such material is used for educational purposes in accord with copyright law and/or with permission given by the owners of the original material. You may download one copy of the materials on any single computer for non-commercial, personal, or educational purposes only, provided that you (1) do not modify it, (2) use it only for the duration of this course, and (3) include both this notice and any copyright notice originally included with the material.   Beyond this use, no material from the course web site may be copied, reproduced, re-published, uploaded, posted, transmitted, or distributed in any way without the permission of the original copyright holder. The instructor assumes no responsibility for individuals who improperly use copyrighted material placed on the web site."

SupportNet at the Learning Center:

Our campus has developed SupportNet to connect students with specific campus resources promoting academic success. I have agreed to participate in this program and may refer you to it if I believe you need the services provided by SupportNet to succeed in this course.

SupportNet is a resource here at Fresno State that is available directly to you, and to the faculty with whom you work. It is located downstairs in Collections Level of Madden Library. SupportNet provides a "network of success" for students who are struggling academically or personally. If you are interested in SupportNet, you do not have to be referred by a faculty member. But if a faculty member feels additional resources that cannot be provided in the classroom may help you, he or she may refer you to SupportNet. The faculty member will notify you of the referral and SupportNet will follow-up with you by phone or e-mail.

Please note: 1) The referral to SupportNet and the content of your conversations with SupportNet advisors are confidential. SupportNet will notify the faculty member if you utilize their resources. But the content of your conversation is strictly confidential. 2) A referral to SupportNet will not be on your permanent record. It is simply a tool to be used by the faculty and students to supplement the classroom environment. Remember, SupportNet is there for you to assist you in performing at your best. When you meet with an advisor, he or she will evaluate your individual needs so that you can tailor a success plan for this course, and your college career in general.

SupportNet can provide:
- Counseling about your academics & Assessments of your unique learning style
- Assistance in studying, time management, and expectations for yourself
- Referrals to personal counseling resources, financial aid, resource centers on campus, & even ties to the student rec center!

For further information on SupportNet and the services they provide, see: http://www.fresnostate.edu/studentaffairs/supportnet/.