$$\overline{Y} = \frac{\sum f Y}{N} \qquad P = \frac{f}{N}$$

SPRING 2018

SOC 3112-001 –SOCIAL STATISTICS
VENUE: BEH S 110
TIME: TUESDAYS & THURSDAYS, 10:45AM - 12:05 PM
Credit Hours: 4

Instructor: Lazarus Adua, PhD
314 S BEH
Office Hours: Tuesdays & Thursday, 12:15PM-01:45PM; and by appointment
Telephone: (801) 581-6153
Email: lazarus.adua@soc.utah.edu

TA: Megan Tippetts
Office Hours: Tuesdays, 12:30-2:00PM (Same time as lab recitations)
Email: megan.tippetts@law.utah.edu

COURSE DESCRIPTION, GOAL AND OBJECTIVES

Researchers in both academic and applied settings must always find ways to organize, summarize, and present (or communicate) information/data collected in the course of conducting research. One of the tools available and widely used to accomplish this purpose is statistics. Statistics has been defined (by the authors of our primary text) as a *set of procedures used by social scientists to organize, summarize, and communicate numerical data*. Now, let me add quickly that social scientists are not the only professionals who use statistical tools. The primary goal of this course is to introduce students to the specific techniques statistics offers to researchers: descriptive statistics, measures of central tendency, measures of variability, the normal distribution, sampling and sampling distribution, estimation, statistical inference and hypothesis testing, and measures of association. More specifically, students should be able to accomplish the following by the end of the semester:

1. Explain the basic concepts, methods and procedures of statistical analysis in sociology and other social sciences and the underlying logic;
2. Explain the differences among various statistical techniques;
3. Calculate/produce and interpret descriptive statistics;

4. Produce and/or read and interpret basic charts and graphs;
5. Calculate and interpret inferential statistics;
6. Explain the notion and importance of sampling and sampling distribution;
7. Identify and apply the appropriate statistical technique to a given research question; and
8. Use a statistical software package (SPSS) to compute various statistics (descriptive and inferential).

This course (SOC 3112) satisfies the University of Utah's Quantitative Reasoning (QB) and Quantitative Intensive (QI) requirements. For this to mean anything, however, students must endeavor to successfully complete the course.

Course Format and Materials: The instructional format will include lectures, discussions, and solving of problems. The TA will also hold weekly lab recitations focused on using SPSS for data management and analysis. These recitations will double as the TA's office hours. Lab recitations are optional, but it is students' responsibility to have the capability to complete all assignments requiring the use of SPSS. For those interested, here is a link to information on how you can access the CSBS virtual lab: https://support.csbs.utah.edu/get-help/self-support/virtual-lab.php. You may also use the virtual lab access video available on Canvas. In terms of material, you will need a good calculator (scientific calculator). In lieu of a calculator, you may use your laptop computer. However, this option requires that you bring your laptop to class every time. Of course, you will also need the required textbook (see below), which you must also always bring to class. It is also recommended that you acquire a notebook (I don't mean a laptop computer) for taking notes.

REQUIRED TEXTBOOKS

1. Social Statistics for a Diverse Society, by Chava Frankfort-Nachmias and Anna Leon-Guerrero
    - Publisher: Sage, USA, USA (7th Edition, 2015; 8nd Edition, 2018)
    - Language: English

Note: Other earlier editions will suffice.

COURSE REQUIREMENTS

Assessment Type	Number of Tasks	Points Per Task	Total Points Available
Quizzes	10	10	100 (10.00%)
Data Collection and Entry Preparation	1	120	120 (12.00%)
Examinations	3	120	360 (36.00%)
Lab Assignments	6	50	300 (30.00%)
Group Research Project	1	120	120 (12.00%)
Total			**1000 (100%)**

More about Assessments:

1. ***Quizzes (100pts)***: There will be an online (Canvas-based) quiz each week. Quizzes, which will become available after each Thursday class session, must be completed before the Tuesday class of the following week. These quizzes are meant to encourage you to go over materials covered during the week. You will each complete a total of 11 quizzes, each worth 10 points. Each student's lowest quiz scores will be dropped at the end of the semester. ***[Due Date: See Class Schedule]***

2. ***Data Collection and Preparation (120pts)***: In this assignment, the class will collectively create a data set. First, you will each administer a short survey to ten or more people. You **MUST** find ten or more people to administer the questionnaires. You can be one of the ten. We will supply you with the questionnaires to use. DO NOT sit in your dorm room or wherever to complete all the questionnaires by yourself as that will constitute research ethics violation and academic misconduct. You are entitled to personally complete only

one of the ten questionnaires handed to you. After administering the questionnaires, you will next enter the data into SPSS. The TA will use one recitation session to show you how to enter the data and define the variable labels. At the end of this exercise, each of you would have created a SPSS dataset with at least ten respondents. Once you are done creating your dataset and editing it as needed, you will upload it to a designated folder on Canvas. To earn all the 120 points designated for this assignment, you must carry out all the steps specified in the assignment rubrics. If you will like to access the CSBS virtual computer lab for this and lab assignments (see below), here is a link on how to do that: https://support.csbs.utah.edu/get-help/self-support/virtual-lab.php. You may also use the virtual lab access video available on Canvas. ***[Due Date: See Class Schedule]***

[Just for your information: We'll combine all the datasets you create into a single SPSS file, which will be used for the Labs 5 and 6 Assignments]

3. ***Examinations (360pts)***: There will be three examinations to complete over the course of the semester. Each examination will entail computation and/or interpretation of various statistics. It is highly recommended that you bring a calculator to each examination, otherwise be prepared to mentally carry out calculation. Each examination is worth 120pts.
   - ***Exam #1***: Materials covered in Weeks 1 through 3;
   - ***Exam #2***: Materials covered in Weeks 5 through 8; and
   - ***Exam #3***: Materials covered in Weeks 10 through 15.

   [Due Date: See Class Schedule]

4. ***Lab Assignments (300)***: Each student is expected to complete six lab assignments over the course of the semester. Each lab assignment requires that students use SPSS to carry out some data analysis and writing out the results. Students may consult each other during the SPSS data analysis phases. However, consultation with other students is not allowed during the writing phase. You may consult me or the TA for assistance. Results must be typed. Lab assignments will be available on Canvas and marked as "Lab Assignments).
   - ***Lab 1 Assignment***: Introduction, frequency distribution, measures of central tendency and measures of variability;
   - ***Lab 2 Assignment***: The normal distribution and sampling and sampling distribution
   - ***Lab 3 Assignment***: Estimation and hypothesis testing
   - ***Lab 4 Assignment***: Bivariate tables and chi-square test of measures of association;
   - ***Lab 5 Assignment***: ANOVA
   - ***Lab 6 Assignment***: Regression and correlation

   [Due Dates: See Class Schedule]

5. ***Group Research Project (120)***: Students will work in groups of no more than five students to conduct research on any subject of their choosing. More information about this assignment will be available on Canvas. Groups will have three options for this project:
   - ***Option 1***: Identify variables in any of the datasets used in the class and analyze their relationships. Group will need to identify one or more related dependent variables and not less than five independent variables and proceed to analyze their relationships. → (Yes, you are doing multiple regression analysis).
   - ***Option 2***: Identify variables in any available dataset and analyze their relationships. Groups will need to identify one or more related dependent variables and not less than five independent variables and proceed to analyze their relationships. → (Yes, you are doing multiple regression analysis).
   - ***Option 3***: Groups may choose to collect primary data on the variables they will want to analyze. The variables must include one dependent variable and no less than five independent variables. Groups selecting this option must have no less than 125 respondents.

   [Due Date: See Class Schedule]

Grading Scale

A = 94+	C = 74-76 Percent
A- = 90-93 Percent	C- = 70-73 Percent
B+ = 87-89 Percent	D+ = 67-69 Percent
B = 84-86 Percent	D = 64-66 Percent
B- = 80-83 Percent	D- =60-63 Percent
C+ = 77-79 Percent	E =UNDER 60 Percent (≈Fail)

Class Policies

1. **Student Conduct**: When **respect** breaks down, the learning process can be seriously impaired. Acts that can lead to break down in respect include: the use of cell phones or other devices in a manner that undermines the classroom climate; acting without decorum toward others in the class; using threatening and/or vulgar language against others; and assaulting and/or threatening to assault others in the class. There are many other acts that may lead to breakdown in respect. In essence, we must all endeavor to be respectful to each other. I expect you to abide by the student code of conduct.

   Please turn cell phones to vibrate during classes. Please desist from using cellphones and other electronic devices during class. Laptops and other recording devices are welcome, but you must use them only in relation to what we are discussing in class.

2. **Attendance**: Students are expected to attend each class period for the entire length of time. Students who miss more than 2 classes generally find themselves falling behind and struggling to keep up with the material and meeting deadlines. If you miss a class, it will be your responsibility to make sure you understand the material covered. It is unlikely that I will be able to offer mini-lectures to students who miss a class session(s).

3. **Examinations***: Students who miss the exam should contact me or the TA within 24 hours or as soon as they can safely do so. If you know ahead of time that you will not be able to participate in an examination, you must provide two weeks' notice with written documentation. To have the opportunity to complete a missed examination, you must have a strong excuse backed by documented evidence.

4. **Late Policy for Assignments*:** Students have one week (from the due date) to resolve any issues regarding a late assignment. Without providing a valid excuse students will be assessed a 20% late penalty per day.
   *Exigent circumstances will be considered.

Academic Misconduct

Per University of Utah regulations (Policy # 6-400), any student who engages in academic misconducts, as defined in Part I.B and which include (but not limited to) cheating, falsification, or plagiarism, "may be subject to academic sanctions including but not limited to a grade reduction, failing grade, probation, suspension or dismissal from the program or the University, or revocation of the student's degree or certificate. Sanctions may also include community service, a written reprimand, and/or a written statement of misconduct that can be put into an appropriate record maintained for purposes of the profession or discipline for which the student is preparing." Please refer to the Student Code for full elaboration of student academic and behavioral misconduct policies (http://regulations.utah.edu/academics/6-400.php). Each of you must endeavor to avoid any and all forms of academic misconduct. Here is my plea. If you are not sure an action (or inaction) constitutes academic misconduct, do not hesitate to ask me or your teaching assistant. Our goal in this class is to help you achieve your goal(s) for enrolling in the class while upholding academic integrity.

Sexual Misconduct:
Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, **801-581-8365**, or the Office of the Dean of Students, 270 Union Building, **801-581-7066**. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, **801-581-7776**. To report to the police, contact the Department of Public Safety, **801-585-2677(COPS)**.

ADA Notice: Reasonable Accommodation
"The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services (CDS), 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternate format with prior notification to the Center for Disability Services." http://www.oeo.utah.edu/ada/guide/faculty/

TIPS THAT MAY AID YOUR SUCCESS IN THIS CLASS

1. Well, yeah, attend class regularly;
2. Go over the material covered in class as soon as possible, maybe in the evening of the day the material is covered;
3. If you miss a class session, review the lecture slides and the assigned readings and endeavor to collect notes from your colleagues;
4. Do not hesitate to ask questions if you don't understand anything. Questions are entertained during classes. You may also take advantage of my office hours or the TA's recitation hours to ask any questions you may have;
5. Plan your time properly –DO NOT 'cram' for exams as this is unlikely to be helpful to you.
6. Practice, practice, practice! This is how we learn statistics, for the most part.

CLASS SCHEDULE

Note: This schedule is based on the 7th edition of the book

Week	Date	Topic	Reading	Task/Assignments/Due Dates
1	Tuesday: 01/09/18	-Syllabus review -AS response movie -The What and the Why of Statistics	Chapter 1	• Complete the assigned reading before class • https://www.youtube.com/watch?v=5IvbpCbZpnM
	Thursday: 01/11/18	-The What and the Why of Statistics (Cont'd)	Chapter 1 (Cont'd)	• Complete Quiz #1 before next class
ORGANIZING AND DESCRIBING DATA				
Week	**Date**	**Topic**	**Reading**	**Task/Assignments/Due Dates**
2	Tuesday: 01/16/18	-Organization of Information: Frequency Distributions	Chapter 2	• Complete the assigned reading before class
	Thursday: 01/18/18	-Organization of Information: Graphic Presentation	Chapter 3	• Complete Quiz #2 before next class

3	Tuesday: 01/23/18	-Measures of Central Tendency	Chapter 4	• Complete the assigned reading before class
	Thursday: 01/25/18	-Measures of Variability	Chapter 5	• Complete Quiz #3 before next class
				•
4	Tuesday: 01/30/18	-Review	-Review	• Review all topics previously covered before class • You may bring a one page (i.e. one side of an A4 paper/sheet) self-prepared notes for the exam
	Thursday: 02/01/18	-Exam #1	None	• Lab 1 Assignment: Upload to Canvas by 11:59PM
A FORAY INTO STATISTICAL INFERENCE & MEASURES OF ASSOCIATION				
Week	**Date**	**Topic**	**Reading**	**Task/Assignments/Due Dates**
5	Tuesday: 02/06/18	-The notion of statistical inference -The Normal Distribution	Chapter 6	• Complete the assigned reading before class
	Thursday: 02/08/18	-The Normal Distribution (Cont'd)	-Chapter 6 (Cont'd)	• Complete Quiz #4 before next class
6	Tuesday: 02/13/18	-Sampling and sampling distribution	-Chapter 7	• Complete the assigned reading before class
	Thursday: 02/15/18	-Sampling and sampling distribution (Cont'd)	-Chapter 7 (Cont'd)	• Complete Quiz #5 before next class • Data entry and preparation assignment due: Upload to Canvas by 11:59PM
7	Tuesday: 02/20/18	-Estimation	-Chapter 8	• Complete the assigned reading before class
	Thursday: 02/22/18	-Estimation (Cont'd)	-Chapter 8	• Complete Quiz #6 before next class
8	Tuesday: 02/27/18	-Testing Hypothesis	-Chapter 9	• Complete the assigned reading before class •
	Thursday: 03/01/18	-Testing Hypothesis (Cont'd)	-Chapter 9	• Complete Quiz #7 before next class Lab 2 Assignment: Upload to Canvas by 11:59PM
9	Tuesday: 03/06/18	-Review	-Review	• Revise Chapters 6, 7, 8, & 9

	Thursday: 03/08/18	-Exam #2	-Exam #2	• You may bring a one page (i.e. one side of an A4 paper/sheet) self-prepared notes for the exam
10	Tuesday: 03/13/18	-Measures of Association: Bivariate Tables	-Chapter 10	• Complete the assigned reading before class •
	Thursday: 03/15/18	-Measures of Association: Bivariate Tables (Cont'd)	-Chapter 10 (Cont'd)	• Complete Quiz #8 before next class • Lab 3 Assignment: Upload to Canvas by 11:59PM
11	Tuesday: 03/20/18	Spring Break	-Spring Break	Enjoy the break, but be safe
	Thursday: 03/22/18	Spring Break	-Spring Break	Enjoy the break, but be safe
12	Tuesday: 03/27/18	-The Chi-Square Test and Measures of Association	-Chapter 11	• Complete the assigned reading before class
	Thursday: 03/29/18	-The Chi-Square Test and Measures of Association (Cont'd)	-Chapter 11 (Cont'd)	• Complete Quiz #9 before next class •
13	Tuesday: 04/03/18	-Analysis of Variance (ANOVA)	-Chapter 12	• Complete the assigned reading before class
	Thursday: 04/05/18	-Analysis of Variance (ANOVA) (Cont'd)	-Chapter 12 (Cont'd)	• Complete Quiz #10 before next class • Lab 4 Assignment: Upload to Canvas by 11:59PM
14	Tuesday: 04/10/18	-Regression and Correlation	Chapter 13	• Complete the assigned reading before class
	Thursday: 04/12/18	-Regression and Correlation (Cont'd)	Chapter 13 (Cont'd	• Complete Quiz #11 before next class
15	Tuesday: 04/17/18	-Regression and Correlation (Cont'd)	Chapter 13 (Cont'd	• Complete the assigned reading before class
	Thursday: 04/19/18	-Review		• Review Chapters 10, 11, 12, & 13 • Lab 5 Assignment: Upload to Canvas by 11:59PM
16	Tuesday: 04/24/18	Exam #3		• You may bring a one page (i.e. one side of an A4 paper/sheet) self-prepared notes for the exam

	Thursday: 04/26/18	Final –Submit Group Research Paper	None	• Lab 6 Assignment: Upload to Canvas by 11:59PM • Submit Group Research Paper to Canvas by 11:59PM

IMPORTANT DATES TO OBSERVE:

Last day to add without a permission code	Friday, January 12
Last day to wait list	Friday, January 12
Last day to add, drop (delete), elect CR/NC, or audit classes	Friday, January 19
Last day to withdraw from classes	Friday, March 2
Last day to reverse CR/NC option	Friday, April 20

Source: http://registrar.utah.edu/academic-calendars/spring2018.php

LAB RECITATION SCHEDULE

VENUE: FMAB 005

Date and Time	Topic	Relevant to Lab Assignment:
01/09/18@12:30-2:00PM	No labs (First day of class)	No lab done
01/16/18@12:30-2:00PM	Introduction to SPSS and its Interface	1-6
01/23/18@12:30-2:00PM	Frequency distributions and graphs	1
01/30/18@12:30-2:00PM	Measures of central tendency and variability	1
02/06/18@12:30-2:00PM	Data Entry	None directly
02/13/18@12:30-2:00PM	How can I help you?	Depends on questions asked
02/20/18@12:30-2:00PM	Normal distribution and sampling	2
02/27/18@12:30-2:00PM	How can I help you?	Depends on questions asked
03/06/18@12:30-2:00PM	Estimation and hypothesis testing	3
03/13/18@12:30-2:00PM	More on estimation and hypothesis testing	3
03/20/18@12:30-2:00PM	Spring break –No lab session	No lab done
03/27/18@12:30-2:00PM	Bivariate Tables and chi-square	4
04/03/18@12:30-2:00PM	How can I help you?	Depends on questions asked
04/10/18@12:30-2:00PM	Doing measures of association (ANOVA)	5
04/17/18@12:30-2:00PM	Doing measures of association (regression and correlations regression)	6
04/24/18@12:20-2:00PM	Doing measures of association (more regression and correlation)	6

Note: The lab space available for the class can only accommodate 40 students at a time. So, for each recitation period, half of the class will be eligible to attend during the first 40 minutes (12:30-1:10PM) and the second half will be eligible to attend during the second 40 minutes (1:20-2:00PM).

Disclaimer:
While I will endeavor to stick to this syllabus, I reserve the right to be able to make changes I deem necessary for the enhancement of teaching and learning in the class. I will consult the class before making any such modifications to the syllabus

CSBS EMERGENCY ACTION PLAN

BUILDING EVACUATION

EAP (Emergency Assembly Point) – When you receive a notification to evacuate the building either by campus text alert system or by building fire alarm, please follow your instructor in an orderly fashion to the EAP marked on the map below. Once everyone is at the EAP, you will receive further instructions from Emergency Management personnel. You can also look up the EAP for any building you may be in on campus at http://emergencymanagement.utah.edu/eap.

CAMPUS RESOURCES

U Heads Up App: There's an app for that. Download the app on your smartphone at alert.utah.edu/headsup to access the following resources:

- **Emergency Response Guide:** Provides instructions on how to handle any type of emergency, such as earthquake, utility failure, fire, active shooter, etc. Flip charts with this information are also available around campus.
- **See Something, Say Something:** Report unsafe or hazardous conditions on campus. If you see a life threatening or emergency situation, please call 911!

Safety Escorts: For students who are on campus at night or past business hours and would like an escort to your car, please call 801-585-2677. You can call 24/7 and a security officer will be sent to walk with you or give you a ride to your desired on-campus location.

College of Social and Behavioral Science
THE UNIVERSITY OF UTAH