## **SOCY 2061 – Introduction to Social Statistics**

## **Instructor**

### **Contact information**

Laura Patterson, Ph.D.

Email: laura.patterson@colorado.edu

Office Hours: Fridays 9:30 – 12:30 in Ketchum 163 and by appointment

### **Communication policy**

Email is my preferred method of contact. Expect a response to your email within approximately one day, but no longer than 48 hours. If you haven’t received a response in this timeframe, please re-send your email. I check email frequently throughout the day and generally respond very quickly. Please email through the university’s Outlook server rather than sending a message through Canvas.

### **Instructor bio**

## Welcome to Social Statistics. I’m Laura Patterson, your instructor for the course. I received my Ph.D. in Sociology from the University of Colorado Boulder, and since then I’ve been working as a research consultant on several projects in the state – ranging from assessing the contributions and needs of the Latino community in Boulder County to providing sexual health education to teens in Denver, Huerfano, and Garfield counties.

## I have a passion for using statistical analyses to tackle real-world problems. I’ve seen firsthand, particularly through my work with Colorado teens, the difference quantitative data (e.g. means, confidence intervals, and hypothesis tests – all of which we’ll study in this course!) can make. Having data like these helps increase community awareness of social problems and helps garner support from powerful members of society for social programs to combat these problems.

As a matter of fact, a significant share of sociological research relies almost exclusively on quantitative methods (e.g., statistical analyses) to investigate social phenomena. These researchers use large national surveys, public opinion polls, and census data to document, describe, and explain a wide range of sociologically motivated research questions. As a result, students of this body of research need to have a basic understanding of statistics if they are to be active participants in the local, regional, national, and international dialog within the sociological community. This is also an incredibly important skill to have as an engaged member of society, allowing you to weigh-in on local and national political debates.

The primary goal of this class is to provide each student with the requisite skills to not only understand the mainstream sociological research but also to be critical consumers of statistical information that is often presented (in the media, by politicians, etc.) as “factual”. Although the primary emphasis is on social research, the information and skills that you will learn in this class will be applicable to most academic and non-academic careers

I look forward to getting to know you this semester, and I hope you enjoy your introduction to statistics!

## **About the Course**

### **Course description**

### SOCY 2016 introduces students to quantitative analysis of social phenomena. The course emphasizes understanding and proper interpretation of graphs; measures of central tendency, dispersion, and association; and the concept of statistical significance. This course assumes students have only limited mathematical background.

### **Course objectives**

1. Define independent and dependent variables.
2. Distinguish between levels of measurement for different variables.
3. Explain the importance of measures of central tendency and dispersion.
4. Explain the importance of the normal distribution in statistics.
5. Construct and analyze frequency, percentage, and cumulative distributions and represent these graphically.
6. Describe the aims of sampling and basic principles of probability.
7. Apply the concept of the sampling distribution.
8. Apply descriptive and inferential statistical procedures.
9. Determine the significance of various methods of statistical testing.
10. Elaborate on the relationship between variables: nonspuriousness, intervening, and conditional relationships.

### **Course Overview**

Grades in this course will be determined by your performance on three exams and weekly homework assignments and discussion posts. The following sections outline requirements for each of these graded activities as well as submission guidelines.

EXAMS:

You will take three exams in this course, roughly evenly spaced throughout the semester. These exams will test your knowledge on each of the three sections of the course:

I: Introduction to Statistics, Central Tendency, and Variability

II: The Normal Distribution, Sampling Distributions, and Hypothesis Testing

III: Chi-Square, ANOVA, Regression, and Correlation

Exams are open-book, open-note, and there is no time limit for the completion of exams. Exams must be completed individually, however; no assistance from other students, tutors, etc., is allowed.

Each exam will have two components: (1) a multiple-choice component, accessed through the “quizzes” link with Canvas, and (2) a written component, which will be turned in on the “assignments” area of Canvas.

Although there is no time limit for the completion of the multiple-choice component of the exam, you must finish the exam in one sitting; multiple attempts are not allowed. Grades for this component of the exam will be released once the due date for the exam has passed.

For the written component of your exams, you MUST show all your work in order to receive credit for your answers (e.g. formulas used, calculations performed, drawing used to arrive at the answer, etc.) This component of your exam will be turned in on the “assignments” area in Canvas. You may turn it in in one of the following ways (listed below by increasing technological sophistication):

1. Print the blank exam, complete it using a pencil, and then scan your document and save it as a PDF file.
2. Print the exam as outlined above, but also turn in a Microsoft Excel spreadsheet for calculation-heavy problems. If you choose to use Excel, note that you may only use basic mathematical formulas that would be found on an inexpensive calculator (e.g. sum, average, square root, etc.). You may NOT use formulas that calculate statistical tests (e.g. t-tests) or measures of variability (e.g. standard deviation) for you.
3. Complete the exam using a word processing program. You must correctly format all your work (including formulas used, drawings used to arrive at your answers, etc.). Save the resulting file as a pdf, docx, or doc file.
   1. Tip: Use “alt =” in Word to access formula editing!
4. Complete the exam using LaTeX or other mathematical typesetting software and save the resulting file as a pdf.

Exams will be worth 100 points each (for the multiple-choice and written-components combined), and cumulatively will account for 79% of your grade in this course.

HOMEWORK ASSIGNMENTS:

You will complete one homework assignment each week during the course that is not an exam week, for a total of 11 assignments. Each will consist of 4 questions from the textbook and will be worth 5 points.

These homework assignments are a chance for you to practice course concepts, and the majority of your grade will be based on completeness, not correctness. This means you are not required to answer each question correctly in order to receive credit for the assignment. However, you must attempt each problem, showing all appropriate work (e.g. each formula you used, calculation you conducted, drawing you used to arrive at your answer, etc.) If you are lost and cannot decide where to begin on any given problem, you must write a short explanation of the difficulties you’re having approaching the problem, in lieu of showing the appropriate work.

You will receive one point for thoroughly attempting each of the four problems. The remaining point will be awarded to students who complete all four problems correctly, for a total of five possible points on each assignment.

Homework assignments will be worth 5 points each, and cumulatively will account for approximately 15% of your grade in this course.

As with the exams, homework assignments will be turned in in the “assignments” area in Canvas and may be submitted in any of the ways outlined for exam submission.

Videos will be made available immediately following the due date of each homework assignment (i.e. at midnight, Monday morning), showing you how to complete each problem. I will post a written answer key for each problem as well. Use these resources to check your work and ensure you’re keeping up with course material – and email me if there’s anything you don’t understand after viewing the step-by-step videos.

DISCUSSION POSTS:

Each week homework problems are assigned, you will also be required to make at least two contributions to course discussions. You will see a separate discussion board for each homework problem assigned in the course. You may post twice in the same discussion or you may post in multiple discussion boards. These discussion boards are your chance to collaborate with other students on the homework assignments, and for those of you who enjoy working together, I encourage you to post frequently.

Your two required contributions to these discussions may take any of the following three forms:

1. You may post a question pertaining to that homework problem, asking other students in the course for help with a concept you’re having trouble understanding. Please detail the nature of your problem (e.g. what you’ve tried, the particular place where you’re getting “stuck” with the problem, a definition you’re unsure of, etc.). You will not receive credit for simply asking, “How do you do this problem?”
2. You may post a response to another student’s question, attempting to help them with the difficulty they described.
3. You may post a “tip” on how to complete that homework problem. Please do not post a comprehensive how-to guide for the entire problem, but give one pointer or piece of information you feel would be helpful for someone having difficulty with that question.
   1. An example of an appropriate “tip” would be, “For #12, I calculated the proportion of adults who are unemployed by taking the number who reported they were out of work (84) and dividing by the total number of adults in the sample (1,200).”
   2. Another example of a tip for a less calculation-heavy problem might be, “An ordinal variable is a categorical variable whose categories are rank-ordered from lowest to highest.”

Discussion posts are worth one point each. Completing at least two posts on each week where problems have been assigned will result in a maximum of 2 possible points. Discussion posts cumulatively account for 6% of your grade.

### These discussion forums are your chance to collaborate with other students – but as would be the case in a traditional classroom, please do not blindly accept their tips or advice! If you believe someone has provided incorrect information, post a response suggesting an alternative. I will not participate in course discussions until after the due date for the course assignment, when video and written answer keys for each problem have been posted. At that time, I will post responses to any student questions that are not adequately addressed in the keys provided.

### **Grading Criteria**

|  |  |  |  |
| --- | --- | --- | --- |
| **Assignments** | **Points Per Assignment** | **Total Points** | **% of Grade** |
| 3 Exams | 100 points each | 300 points | 79% |
| 11 Homework Assignments | 5 points each | 55 points | 15% |
| 12 Discussion Posts | 2 points each | 24 points | 6% |

### **Grading Scale**

Grades will be assigned as follows:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A | A- | B+ | B | B- | C+ | C | C- | D+ | D | D- | F |
| 100-95 | 94.5-  90 | 89.5-  87 | 86.5-  83 | 82.5-  80 | 79.5-  77 | 76.5-  73 | 72.5-  70 | 69.5-  67 | 66.5-  63 | 62.5-  60 | <  59.5 |

### **Course Outline**

A detailed course outline is provided as a separate document.

### **Required texts**

Social Statistics for a Diverse Society, 8th edition. Chava Frankfort-Nachimas & Anna Leon-Guerrero. ISBN-10: 1506347207; ISBN-13: 978-1506347202

### **Student responsibilities**

This course will consist of 11 homework assignments, 12 discussion posts, and 3 exams.

## **Course Policies**

### **Course Plagiarism Policy**

### Cheating is defined as using unauthorized materials or receiving unauthorized assistance during an examination or other academic exercise. Examples of cheating include: copying the work of another student during an examination or other academic exercise or permitting another student to copy one’s work; taking an examination for another student or allowing another student to take one’s examination; collaborating with another student during an academic exercise without the instructor’s consent; and/or falsifying examination results.

You may work in partnership with other students on course homework; however, exams must be taken individually, without assistance from other students, tutors, etc. You may access the full range of course materials when completing an exam, including the textbook and video tutorials.

In cases where I have reason to believe students collaborated on an exam, I will report this to CU’s Honor Code. The intent of the student-run Honor Code is to establish a community of trust where students do not plagiarize, cheat, or obtain unauthorized academic materials. An honor code council collaborates with the colleges and schools in addressing allegations and instances of academic dishonesty and in assisting to educate all members of the university community on academic integrity issues.

A student accused of academic dishonesty will either accept the accusation or request a hearing before a student panel, who will make a decision on the accusation of academic dishonesty. In addition to academic sanctions imposed by the faculty, students found guilty of academic dishonesty also face consequences from the honor code council ranging from attending a mandatory class in ethics to expulsion from the campus. More information about CU-Boulder’s Honor Code may be found at www.colorado.edu/honorcode/.

### **Netiquette**

All students should be aware that their behavior impacts other people, even online. I hope that we will all strive to develop a positive and supportive environment and will be courteous to fellow students and your instructor. Due to the nature of the online environment, there are some things to remember.

1. Always think before you write. In other words, without the use of nonverbals with your message, your message can be misinterpreted. So please think twice before you hit submit.
2. Keep it relevant. There are places to chat and post for fun everyday stuff. Do not stray from the discussion in the assigned questions.
3. Never use all caps. This is the equivalent of yelling in the online world. It is not fun to read. Only use capital letters when appropriate.
4. Make sure that you are using appropriate grammar and structure. In other words, I don’t want to see anyone writing “R U” instead of “are you”. There are people in the class that may not understand this type of abbreviation, not to mention it does nothing to help expand your writing and vocabulary skills. Emoticons are fine as long as they are appropriate. A smile ☺ is welcome; anything offensive is not.
5. Treat people the same as you would face-to-face. In other words, it is easy to hide behind the computer. In some cases, it empowers people to treat others in ways they would not in person. Remember there is a person behind the name on your screen. Treat all with dignity and respect and you can expect that in return.
6. Respect the time of others. This class is going to require you to work in groups. Learn to respect the time of others in your group and your experience will be much better. Always remember that you are not the only person with a busy schedule, be flexible. Do not procrastinate! You may be one that works best with the pressures of the deadline looming on you, but others may not be that way. The same is true for the reverse. The key to a successful group is organization, communication and a willingness to do what it takes to get it done.

Website: <http://www.albion.com/netiquette/corerules.html>

Compiled by Melissa Landin, Instructor, Dept. of Communication, Inver Hills Community College, mlandin@inverhills.edu

## **Technology Requirements and Support**

Please see the “Technology Requirements and Support” page in the “Getting Started” section of the course.

## **University Policies**

Please see the “University Policies” in the “Getting Started” section of the course.