

SOCA 615¹
Data Analysis 1
Fall 2017

Class Meeting: Tuesday & Thursday: 2:30pm-3:45pm in Knapp Hall B5 Computer Lab

	Office:	Office Hours:	E-mail address:
Professor Corcoran	400-D Knapp	TTh 9:30am-10:30am	kecorcoran@mix.wvu.edu

Course Description:

This course is the first part of a two-semester sequence (615 and 616) designed to introduce students to a range of standard statistical techniques in sociological analysis. SOCA 615 begins with an introduction to the basic concepts, terminology, and procedures of data analysis, as well as the logic underlying those procedures. Next, we cover how to describe data (descriptive statistics) and probability distributions. The focus shifts mid-semester to basic statistical inference. We then end with statistical techniques regarding how to compare two groups and how to analyze associations between categorical variables. Throughout the semester, we will emphasize the application of the statistical techniques we are learning and the substantive interpretation of results in relation to sociologically-motivated research questions and theoretical hypotheses. Students will practice data analysis using the statistical software package STATA.

Expected Learning Outcomes:

Upon successful completion of this course, students will be able to:

- Understand how to calculate and interpret basic descriptive and inferential statistics.
- Be proficient in creating and managing datasets, recoding variables, and running basic descriptive and inferential analyses using *Stata*.
- Acquire statistical literacy and be able to determine when, why, and how various statistical tests are used.
- Clearly and effectively communicate the results of statistical analyses.
- Critically assess scientific and media reports of statistical analyses.

To reach these goals, students are expected to read the assigned material prior to each class meeting, arrive on time to class, and be prepared to discuss the readings. Completion of the reading assignments is important for successful completion of the course. University guidelines indicate students should spend at least two to three hours outside of class for every credit hour of this course (3 hrs x 3 credits = 9 hrs). This time should be spent on reading, assignments, and studying.

Course Readings:

The required textbooks for this course are:

¹ I acknowledge and thank Dr. Dilks for generously sharing her SOCA 615 syllabus. The current syllabus greatly benefitted from it and adopted many of its components, requirements, and policies.

Agresti, Alan. 2018. *Statistical Methods for the Social Sciences*, 5th edition.

Longest, Kyle C. 2015. *Using Stata for Quantitative Analyses*.

All other readings will be available on our E-CAMPUS website. I cannot help with technical problems. If you experience technical problems, please contact the ITS service desk at 304-293-4444 or email itshelp@mail.wvu.edu. Technical problems do **not** earn extensions on assignments or excuse failure to do the assigned readings for the day.

Course Notes:

The powerpoint slides used in lectures may be accessed through e-Campus prior to each lecture. The slides are not a substitute for lecture attendance and reading the textbook pages.

Other Materials:

Bring a cheap hand calculator with a square-root key to classes. Also, bring a USB flash drive to class in order to save work during STATA lab sessions. To work on assignments, you may use the computers in Knapp B5. As an enrolled student you should be able to receive a computer lab key. Please see Barb Reiprich in the main office. However, only Sociology students with a GA assignment will be able to obtain keys to Knapp Hall. Other students will be limited to computer lab access only when the building is open.

Quizzes: There will be quizzes throughout the semester, which will test your understanding of both the basic terminology and core concepts of each chapter along with more advanced ideas including the interpretation of output and results.

Homework: A series of homework will be assigned typically weekly. These assignments will require using the statistical knowledge and techniques you've learned and may require analyzing data. Assignments will be evaluated by their accuracy, clarity, organization of ideas, and critical analysis. Assignments vary in size and scope. Assignments must be turned in as scheduled. Extensions of deadlines are granted only under extreme circumstances (e.g., serious illness or emergencies) with documentation, and only after students meet with me in person to explain their situation. Raw tables produced by STATA will not be accepted. Results from STATA should be presented in professional tables like those presented in the text. Questions requiring extensive hand calculations may be hand-written clearly (if I can't read it, I won't grade it). Other than that, **ALL WORK MUST BE TYPED**.

Activities:

Throughout the semester, there will be individual and group activities. These will give you a chance to review and apply the material you have learned. Some of these activities will be lab assignments that involve using STATA. The lowest two activity scores will be dropped. This means you can miss two activities without penalty. It is important that you keep up to date on the assigned readings and regularly attend class to be prepared for these activities.

Exams: There will be three exams. Exams 1 and 2 extend our normal class period. The final exam is on Wednesday, December 13, 8am-11am. This is our scheduled final exam time period

plus one hour. The exams will require you to demonstrate the statistical concepts and techniques you have learned along with the ability to apply such to real data using Stata.

Grades:

I will regularly update the E-CAMPUS gradebook with your grades. Make sure to keep all of your returned assignments and exams in case you have questions regarding your grades. The grade breakdown is provided in the chart below. Do not wait till the last minute (before a quiz/exam) to discuss matters such as grades or comprehension problems. If you are concerned about your grade or understanding come talk to me immediately. Grades are never negotiable. I do not bump grades. Your grade will be based on your performance in the class.

Incompletes (I) will only be given in extraordinary circumstances. A copy of WVU's formal policy on incompletes can be found here:

http://catalog.wvu.edu/graduate/advisingcoursesdegrees/advising_and_evaluation/#Incompletes.

Grade Breakdown

Grade Breakdown:

Exam 1	15%
Exam 2	15%
Final Exam	20%
Quizzes	20%
Homework	20%
Activities	10%
Total	100%

Grading Rubric

90 – 100 %	A
80 – 89 %	B
70 – 79 %	C
60 – 69 %	D
59% and below	F

Class policies:

I reserve the right to make changes to the syllabus throughout the semester. In the event of changes to the course schedule, you will be informed in class, and an updated schedule will be posted on e-Campus.

Attendance Policy

You are expected to be on time and to attend class regularly. Attendance in the class is imperative for your success in the class. It will be difficult for you to achieve a passing grade if you do not regularly attend. Attending class can only increase your opportunities to learn and succeed. In addition, we will cover some material in class that is not found in the text. If an absence is unavoidable, it will be the student's responsibility to come talk to another student or come see me to find out what they missed. Consistent with WVU guidelines, students absent

from because of authorized University activities will have the opportunity to make-up work at an alternate time. Make-up work for absences due to any other reason will be at the discretion of the instructor.

Electronic Devices Policy:

Cell phones are not allowed in class. **ALL CELL PHONES MUST BE TURNED OFF** (not placed on vibrate) prior to the beginning of class. Students may not use cell phones or other electronic devices (including but not limited to tablets, PDAs, MP3 players, and so on) during class except laptops/computers for the purposes of taking notes only, unless told otherwise by me; all prohibited devices must be turned off and **placed out of sight until the class** has concluded. **A student's first violation of this policy will result in a verbal warning (one verbal warning per semester), and each subsequent violation even during the same lecture will result in a 1% deduction in the student's overall course grade.** Using laptops/computers for any purpose other than taking notes (or using STATA during specific lab activities) will result in the same penalties. If I see electronic devices during quizzes or exams (unless for the purposes of using STATA as specifically allowed by me), this will be considered cheating and I will enforce West Virginia University's academic integrity policy.

Classroom Behavior Policy:

I will not tolerate inattention or incivility to me or to other students in the class. When I am speaking to you and to the class, I expect to have your undivided attention. When another student is speaking, I expect you to give him/her your undivided attention. If you have a question, raise your hand and I will be happy to answer it. You should arrive to class on time; coming to class late disrupts everyone. You should stay for the entire class period unless you made prior arrangements with me. Do not get up and leave during class sessions (this includes when we doing in-class activities), unless you are ill or have spoken with me prior to the class. Do not get up and leave in order to make/receive a phone call or text message. Do not read newspapers, magazines, or any other material during class unless it pertains to what we are doing. Do not sleep during class. If you are going to sleep, text message, read newspapers, surf the web, do work for other classes, or be disruptive, do not come to class. **A student's first violation of this policy will result in a verbal warning (one verbal warning per semester), and each subsequent violation even during the same lecture will result in a 1% deduction in the student's overall course grade.**

Academic Integrity:

I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the West Virginia University Academic Catalog at <http://catalog.wvu.edu/undergraduate/coursecreditstermsclassification/#academicintegritytext>. Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see me before the assignment is due to discuss the matter.

Inclusivity statement:

The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion. If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with the Office of Disability Services (293-6700). For more information on West Virginia University's Diversity, Equity, and Inclusion initiatives, please see <http://diversity.wvu.edu>.

Special accommodations:

Students requesting special accommodations for exams are required to inform me at least one full week in advance of the exam and provide documentation at that time.

Inclement Weather:

While unlikely, if I need to cancel class due to inclement weather, I will send an email to your MIX account by 10:00am on the day of the canceled class (or sooner if possible).

Intellectual Property Policy:

All course materials, including lectures, powerpoint slides, your class notes, quizzes, exams, handouts, and other materials provided to students for this course are protected intellectual property. As such, the unauthorized purchase, sale, or distribution of these materials may result in disciplinary sanctions under the Campus Student Code.

Tentative Schedule:

The following course outline is tentative and subject to change throughout the course, it is meant merely to give you an approximate timeline for course materials. Changes will be announced in class. As new readings are posted, the schedule will be updated on e-Campus and announced in class. The pace at which we cover the material will be based on the class. Thus, we may cover some material faster or slower than scheduled.

Date		Topic	Readings
Week 1	Thursday, August 17	Introductions, Course Syllabus	
Week 2	Tuesday, August 22	Introduction to Statistical Methodology	Agresti, Chapter 1
	Thursday, August 24	Introduction to Stata	Longest, Chapters 1-2 Hamilton, Statistics w/Stata, Chapters 1-2 (e-campus)
Week 3	Tuesday, August 29	Sampling and Measurement	Agresti, Chapter 2
	Thursday, August 31	Sampling and Measurement Continued	

Date		Topic	Readings
Week 4	Tuesday, September 5	Univariate Statistics	Agresti, Chapter 3 Hamilton, Statistics with Stata, Chapter 3, excerpts from Chapter 5 (e-Campus) Wheelan, Naked Statistics, Chapters 2-3 (e-Campus) Longest, Chapter 4
	Thursday, September 7	Univariate Statistics Continued	
Week 5	Tuesday, September 12	Bivariate Statistics	Wheelan, Naked Statistics, Chapter 4 (e-campus) Longest, Chapter 7, pages 158-(top of) 167
	Thursday, September 14	Bivariate Statistics Continued	
Week 6	Tuesday, September 19	Flex/Catch up	
	Thursday, September 21	Exam 1 2:30-4:45pm	
Week 7	Tuesday, September 26	Probability Distributions	Agresti, Chapter 4 Wheelan, Chapters 5, 5.5, and 6
	Thursday, September 28	Probability Distributions continued	
Week 8	Tuesday, October 3	Probability Distributions continued	
	Thursday, October 5	Statistical Inference: Estimation	Agresti, Chapter 5
Week 9	Tuesday, October 10	Statistical Inference: Estimation Continued	
	Thursday, October 12	Statistical Inference: Estimation Continued	

	Date	Topic	Readings
Week 10	Tuesday, October 17	Statistical Inference: Significance Tests	Agresti, Chapter 6 Longest, Pages 137-151 Hamilton, Pages 145-151 (e-campus)
	Thursday, October 19	Statistical Inference: Significance Tests	
Week 11	Tuesday, October 24	Statistical Inference: Significance Tests	
	Thursday, October 26	Flex/catch up	
Week 12	Tuesday, October 31	Exam 2 1:30-3:45pm	
	Thursday, November 2	Comparison of Two Groups	Agresti, Chapter 7
Week 13	Tuesday, November 7	Comparison of Two Groups	
	Thursday, November 9	Comparison of Two Groups	
Week 14	Tuesday, November 14	Analyzing Association Between Categorical Variables	Agresti, Chapter 8 Longest, Chapter 5
	Thursday, November 16	No Class, work on assignment.	
Week 15	Tuesday, November 21	Fall Recess	
	Thursday, November 23	Fall Recess	
Week 16	Tuesday, November 28	Analyzing Association Between Categorical Variables	
	Thursday, November 30	Analyzing Association Between Categorical Variables	
Week 17	Tuesday, December 5	Catch up and Review	
Week 18	Wednesday, December 13, 8am-11am	Final Exam	