

## SOC 384-12: Quantitative Analysis in Criminal Justice

### Fall 2016

<b>Instructor</b>	Ryan Ceresola	<b>E-mail</b>	ceresolar@hartwick.edu
<b>Office Location</b>	Golisano 338	<b>Phone Ext.</b>	x4272
<b>Office Hours</b>	MWF 10 - 11	<b>Class Location</b>	Golisano 301
	T 10 – 12, or by appointment	<b>Class Hours</b>	MWF 8:40 – 10:00

### Readings and Software

There are two required texts for this course. Please buy or rent them, because you will definitely need them to complete the readings and the assignments. They're available at the bookstore, but you can buy them online, too.

Gau, Jacinta. 2015. *Statistics for Criminology and Criminal Justice*. Sage. 2<sup>nd</sup> edition.  
ISBN: 1483378454

Companion website: <https://study.sagepub.com/gau2e>

Sweet, Stephen, and Karen Grace-Martin. 2011. *Data Analysis with SPSS: A First Course in Applied Statistics*. Allyn & Bacon. 4<sup>th</sup> edition. ISBN: 0205019676

Also, you need to make sure that the current version of the SPSS program is installed and working on your laptop or personal desktop. It is free through the school; and if you're having trouble installing it/accessing it you'll need to go to the help desk who will install it for you. You also will need a simple calculator that you should bring to class every day. You will be provided with a Z-score chart that also should be brought to class daily.

### Course Description

(From Course Catalog) Similar to SOCI 383, this course is designed to introduce students to the central issues and strategies involved in the collection and analysis of quantitative data but with an emphasis on survey research, experimental designs, and statistical analysis using SPSS as they pertain to the study of criminology and criminal justice. The course is concerned with demonstrating the logic and meaning of statistical procedures and the conditions under which they are meaningful. This course will qualify as the “quantitative” half of the sociology department’s two-term requirement in sociological analysis. Both halves give central importance to identifying and developing meaningful research questions, recognizing crucial theory-method linkages, developing research plans, evaluating the credibility of research findings and presenting the results of one’s research.

Prerequisite: SOCI 105 and/or SOCI 285 as well as SOCI 301 or permission of instructor. (QFR, EL) (4 credits)

## Purpose

This course is designed to teach you how to conduct basic quantitative social research, analyze the results and write a professionally formatted paper detailing your findings.

The first part of the course focuses specifically on elementary statistics. You will review the basis and assumptions inherent in using univariate and multivariate statistics commonly employed in sociological research using hand calculations as well as computer assistance. To that end, you will learn to employ data sets and use SPSS to calculate these statistics as well as learn how to interpret their findings. You will learn to identify types of variables and levels of measurement, how to present data, how to find measures of central tendency, and how to find measures of dispersion. You will also learn the steps involved in calculating z-scores, and how to create point estimates with proper confidence intervals.

The second part of the course focuses on hypothesis testing. You will learn a variety of bivariate quantitative methodologies, such as chi-square tests, t-tests, analyses of variance, and correlations. Finally, you will be introduced to regression analyses. Through it all, I will teach these methods with an emphasis on appropriate application of techniques to questions asked.

## Grading Breakdown

Your letter grade for the course will be derived from the percentage of points you earn on each assignment as detailed in the course breakdown below. The percentage you earn on total assignments gives letter grades by this breakdown.

$\geq 93 = A$	$80 - 82.9 = B-$	$67 - 69.9 = D+$
$90 - 92.9 = A-$	$77 - 79.9 = C+$	$63 - 66.9 = D$
$87 - 89.9 = B+$	$73 - 76.9 = C$	$60 - 62.9 = D-$
$83 - 86.9 = B$	$70 - 72.9 = C-$	$\leq 59.9 = F$

You should note that I don't curve tests, nor do I round grades in any meaningful way. The only rounding I do is at the .05 level (e.g., if you earned an 89.95% as your final grade, then Congratulations, you've received an A-. If you earned an 89.94%, your grade is still a B+).

## Learning Outcomes

1. Communicate effectively in written English on critical social issues as exemplified by proper use of ASA style format, following syllabus writing guidelines and writing clearly and concisely.
2. Recognize and evaluate the ethical implications of social inquiry and social policy as they relate to the criminal justice field; relatedly, demonstrate a clear understanding of what quantitative analysis can and cannot do.
3. Develop your own research agenda and investigate a criminological issue using appropriate literature and quantitative methods in a substantive final paper.
4. Understand and apply appropriate quantitative research methodologies demonstrated through in-class and out-of-class exercises.
5. Understand and apply key theoretical frameworks to the application of proper quantitative methods.

## Resources

**E-mail:** My email address is [ceresolar@hartwick.edu](mailto:ceresolar@hartwick.edu). E-mail me if you have any questions about the course, or to set up an appointment in my office. Online, I will only communicate with you through your Hartwick e-mail address.

**Office Hours:** My office hours are your opportunities to meet with me and discuss issues that you have with class, questions you have about course material, or general questions about majoring or minoring in Sociology. I will also schedule appointments with you if these office hours do not work for your schedule. You can sign up for office hours in two ways: 1) I have a link at the bottom of my e-mail signature so you can sign up there, or 2) you can use this link: <https://calendar.google.com/calendar/selfsched?sstoken=UUxqTWpOTWdKLU1IfGRIZmF1bHR8ODM2MjQ4NzhjNmQzMWl1YmQyYThlYTA0YjBIZjFjNzQ>.

**Attendance Policy:** It is my expectation that you will attend each class session, that you will arrive to class on time, and that you will stay for the entire session. I understand that you may find it necessary to miss a class if, for example, you have an emergency medical appointment or serious illness. It would be in your best interest to only miss class if those are the circumstances. If you miss **more than three** classes for any reason you will have been unable to participate in the course at the minimum level I expect, and your final grade for the course will be lowered by one grade (e.g., if you've earned a B+, your grade will be lowered to a C+). It is your responsibility to consult with a classmate to find out about any course material (including announcements) you miss during your absence before you return to class.

*Tardiness:* Because our class starts right away and it is imperative that you arrive prepared and ready for active learning, the tardiness policy of this class is that three tardies (defined as arriving to class after I take roll) will result in one absence being recorded.

**D2L:** While you will be turning in your homework assignments in the class, this will be the place to upload your research paper and all of the assignments that lead up to the research paper, as well as this being the best place to check up on your grades, as I will have the most updated grades posted there. I also will link pertinent information here including YouTube clips and other documents to help your success. Ensure that you familiarize yourself with the interface of this site, located at: <https://d2l.hartwick.edu/>.

**Technology:** The use of personal technology in class (including cell phones, tablets, and laptops) is disruptive to the me and fellow classmates and is therefore not permitted, except for when engaged in SPSS activities. If it becomes clear that you are using your laptop for purposes other than engaging in the coursework, I will ask you to put your laptop away and look over on another student's laptop.

**Academic Adjustments and/or Modifications:** artwick College is committed to upholding and maintaining all aspects of the Federal Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973. If a student with a disability wishes to request academic adjustments, they should contact Erin Braselmann, Director of AccessAbility Services, at [braselmann@hartwick.edu](mailto:braselmann@hartwick.edu), or [AccessAbilityServices@hartwick.edu](mailto:AccessAbilityServices@hartwick.edu). AccessAbility Services is located on the 5<sup>th</sup> floor of Yager Hall in the Center for Student Success. Any information regarding a student's disability will remain confidential. Requests for academic adjustments should be made as early as possible.

**Academic Integrity:** I will be following the Academic Integrity Policy described in the Hartwick guidelines and will enforce this policy to the full extent. These policies are available here: <http://www2.hartwick.edu/honestypolicy>. Students, or student groups, must do their own work—they will write their own papers and exams, prepare their own presentations, and cite the original sources of any material they draw on for their papers. Any deviations from these principles (including plagiarism, intended or not) will result in severe penalties, including a failing grade on the assignment and/or the course. You may work together on homework, if you feel that is the best way for you to learn, though exams will be solely your responsibility.

**Late Work Policy:** I'd prefer not to accept any late work, however, I understand that life sometimes gets in the way. Therefore, my late work policy is as follows: every day that an assignment is late it loses twenty-five percent of its total possible score. For example, if you turn in your final research paper two days late, you will lose fifty percent off the score, and *then* I'll start grading it. While this gives you at least *some* credit for the assignment, it's clear that turning assignments in on time is the best option. Because I post the answer for homework questions at the start of the class, I will not accept late work for homework. If you are going to be absent, work out with me or a classmate a way to show me that you completed the assignment during the

class period in which it is due. E-mailed copies of your homework must show up before the class in which it is due begins.

## Assignments and Evaluation

All assignments are due at the start of the class period, even if they're to be uploaded online.

<b>Requirement</b>	<b>Description</b>	<b>Percent of Final Grade</b>
Exams	There will be a mid-term and a final exam during this course. Exam questions will take multiple formats, and will require hand calculation and interpretation, among other skills.	40%
Research Paper	See the attached rubric for specific guidelines. There will be one major paper assigned through the course, where you'll conduct your own original research. To help you along, there will be small due dates throughout the semester.	30%
Homework Assignments	There will be quite a bit of homework for this course, as we will be going through two textbooks. I will grade homework to the degree with which it is completed in-class. It is your responsibility to review your own work for correctness in class and talk to your colleagues or to me if you do not understand a problem. You can always ask me to review a problem in class. We will go over the assignments in class, and I will post correct responses to D2L.	20%
Participation	Statistics is oftentimes a difficult subject to understand, and so it is important that you show up to class each day ready to learn (in addition to satisfying the requirements of the attendance policy). Furthermore, we will be spending time in class working together on problems, and you will be used as a resource by your fellow classmates. I expect you to be prepared not just for your benefit, but for theirs as well, and to engage in small group work with an open and helpful mind.	10%

## Course Schedule\*

Date	Topic	Required Reading	Assignment Due
<b>Part I: Conceptual Introduction</b>			
M, 8/29	Introduction to Course		
W, 8/31	Intro to Statistics	Gau: Ch. 1	Gau: Ch. 1: 1-10
F, 9/2	Key Concepts	SGM: Ch. 1	SGM: Ch. 1 Exercises Gau: Appendix A (if needed)
M, 9/5	<b>LABOR DAY HOLIDAY!</b>		
W, 9/7	Types of Variables	Gau: Ch. 2	
F, 9/9	Visualizing Data	Gau: Ch. 3, pgs. 32-53	Gau: Ch. 2: 1-20
<b>Part II: Introduction to SPSS</b>			
M, 9/12	Getting Started in SPSS	Gau: Ch. 3, pgs. 54-60	
W, 9/14	Organizing Data	SGM: Ch. 2	Gau: Ch. 3: 1 - 14
F, 9/16	Learning SPSS		SGM: Ch. 2 Exercises
<b>Part III: Measures of Central Tendency and Dispersion</b>			
M, 9/19	Mean, Median, and Mode	Gau: Ch. 4, pgs. 65-81	Research Paper Assignment 1 Due
W, 9/21	Shape and Deviation Score	Gau: Ch. 4, pgs. 81-86	
F, 9/23	Univariate Analyses in SPSS	SGM: Ch. 3	Gau: Ch. 4:1-20

---

M, 9/26	Dispersion, Variance and Standard Deviation	Gau: Ch. 5, pgs. 92-99	SGM: Ch. 3 Exercises
------------	---	---------------------------	----------------------

---

W, 9/28	Practical Application and Constructing Variables	Gau: Ch. 5, pgs. 100-112	
------------	--	-----------------------------	--

---

#### **Part IV: Z-Scores and Distributions**

---

F, 9/30	Z-Scores	SGM: Ch. 4, pgs. 77-84	Gau: Ch. 5: 1-19
---------	----------	---------------------------	------------------

---

M, 10/3	Z-Scores, pt. 2	Gau: Ch. 6, pgs. 133-143	SGM: Ch. 4 Exercises
------------	-----------------	-----------------------------	----------------------

---

W, 10/5	Population, Sample, and Sampling Distribution	Gau: Ch. 7	Gau: Ch. 6: 1-20
------------	---	------------	------------------

---

F, 10/7	Point Estimates & Confidence Intervals	Gau: Ch. 8	Gau: Ch. 7: 1-15
---------	--	------------	------------------

---

M, 10/10	Confidence Intervals, pt. 2		Research Paper Assignment 2 Due
-------------	-----------------------------	--	------------------------------------

---

W, 10/12	Review Day		Gau: Ch. 8: 1-20
-------------	------------	--	------------------

---

F, 10/14	Mid-Term Exam		
-------------	---------------	--	--

---

M, 10/17	<b>OCTOBER BREAK!</b>		
-------------	-----------------------	--	--

---

#### **Part V: Hypothesis Testing**

---

W, 10/19	Conceptual Introduction	Gau: Pgs. 188- 189; Ch. 9	
-------------	-------------------------	------------------------------	--

---

F, 10/21	Hypothesis Testing	SGM: Ch. 5, pgs. 105-110	Gau: Ch. 9:1-18
-------------	--------------------	-----------------------------	-----------------

---

M, 10/24	Hypothesis Testing in SPSS	SGM: Ch. 5, pgs. 110-116	Research Paper Assignment 3 Due
-------------	----------------------------	-----------------------------	------------------------------------

---

W, 10/26	Chi-Square Tests	Gau: Ch. 10, pgs. 202-213	SGM: Ch. 5 Exercises 1, 3, 4, 5, 6
-------------	------------------	------------------------------	---------------------------------------

---

F, 10/28	Cramer's V	Gau: Ch. 10, pgs. 213-224	
M, 10/31	T-tests	Gau: Ch.11, pgs. 231-245	Gau: Ch. 10:1-20
W, 11/2	Dependent Samples and Two Population T-tests	Gau: Ch.11, pgs. 246-259	
F, 11/4	T-tests in SPSS	SGM: Ch. 6, pgs. 146-149	Gau: Ch. 11:1-26
M, 11/7	Analysis of Variance (ANOVA)	Gau: Ch.12, pgs. 266-281	SGM: Ch. 6 Exercises 4, 7, 9
W, 11/9	Post-hoc Tests	Gau: Ch.12, pgs. 281-286	Research Paper Assignment 4 Due
F, 11/11	ANOVA in SPSS	SGM: Ch. 6, pgs. 135-146	Gau: Ch. 12:1-20
M, 11/14	Correlations	Gau: Ch. 13	SGM: Ch. 6 Exercises 1, 2, 3, 5 6, 8, 10
W, 11/16		SGM: Ch.5, pgs. 116-124	Gau: Ch. 13 1-20
F, 11/18	Introduction to Multiple Regression		SGM: Ch. 5 Exercises 2, 7, 8, 9, 10
M, 11/21	Introduction to Multiple Regression, pt. 2		Research Paper Assignment 5 Due
W, 11/23	<b>THANKSGIVING HOLIDAY!</b>		
F, 11/25			
M, 11/28	Multiple Regression: Dummy Variables		
W, 11/30	Multiple Regression:		

Interpretation/Research Paper Work  
Day

---

F, 12/2 Review Day

Final Research Paper Due

---

*Monday, 12/5*

*4:00 – 7:00*

**FINAL EXAM<sup>±</sup>**

\*The course calendar is subject to change, especially with reference to the removal or addition of readings or the continuation/truncation of certain subjects. Announcements in class trump what's on the syllabus. I will make substantial effort to ensure everyone is informed about such changes, but it is your responsibility to ensure you are aware of changes in syllabus that I announce by paying attention in class or asking your colleagues what you missed if you were absent.

<sup>±</sup> The exam will be available for the scheduled time period. No student will be allowed to take the final exam outside of the scheduled time period. There will be no exceptions to this rule, and missing an exam will affect your final course grade. Do not plan on leaving campus before this exam takes place.

## Final Paper in Quantitative Methods Guidelines and Rubric

Once you have the skills necessary to conduct your own original research (built in terms of statistical technique from this course, but also constructed through your knowledge of appropriate theory and other analyses of sociological subjects), the good news is that you'll be able to study something that relates to criminal justice and that interests you! This paper will essentially be a way for you to introduce yourself to a topic that you think is interesting, and attempt to solve a sociological problem or understand a connection. It will consist of an introduction, a literature review and theoretical framework section, a hypothesis (or more than one), and a methods section where you describe your data and your analytic strategy, a findings section, and a conclusion. You will need to use 20 scholarly sources (your texts may make up two of those). For samples of what is required, check out the SAGE journal articles under student resources in the companion website. While these articles will most likely use multiple regression techniques, and I will require bivariate analyses for the final paper, the structure and tabling method provide guidance.

Throughout the semester, there will be five mini-assignments that you will need to complete, which I use to help keep you on track with your paper. These are all worth 5% of the possible score you receive on your final paper. What that means is that 25% of your final research paper grade will be based on you turning in these mini-assignments. If you do none of these, and only turn in your final paper, the best score you can receive for the research paper section of the course is 75%.

The due dates are in the course catalog, and the steps are as follows:

First Step – Write up your research question; identify the types of variables you'll use to answer your research question (i.e., what variables they are and whether they're nominal, categorical, scale); and give me a list of two – three datasets where you might find this information.

Second Step – Everything previous (edited if need be), as well as the name of the data source you will use to answer your research question. You should also download the dataset you'll use, and run univariate statistics on your variables of interest. You should identify at least 3 – 4 variables that might be useful in this analysis.

Third Step – Everything previous (edited if need be), as well as beginning your literature review. By this due date, you should have at least ten sources cited (in ASA format), and about 3-4 pages of a literature review written.

Fourth step – Everything previous (edited if need be), and a solid rough draft of your literature review (i.e., all twenty sources cited and included in the literature review). You should also have a draft of your analytic strategy due. If we have not gone over your method yet, you are responsible for reading ahead and attempting to document how this is done.

Fifth Step – Everything previous (edited if need be), as well as a methods section that includes a description of your dataset, descriptive statistics of the data you have used (cut any variables from earlier univariate statistics that are unnecessary). You should also run the data analysis and upload SPSS output to D2L of your data (with all variables named and labeled properly).

Your final paper should include all of the necessary portions from your paper throughout the semester, as well as carefully crafted tables (that is, not cut from SPSS but written out using ASA style tabling).

Below, I am attaching a rubric so you'll have a clear understanding of what my expectations are, and so you'll know what is required of you. Many courses assign papers without giving clear guidelines, leaving you to wonder what sort of grade you might receive. This rubric should take the guesswork out.

***Introduction*** (3%)

- A. Clear, concise and gives overview of paper
- B. Clear and gives overview of paper
- C. Gives overview of paper but lacks clarity
- D. Only gives partial overview of paper
- E. Little relation to paper or makes little sense re paper topic
- F. Not included in paper.

***Theoretical Framework*** (10%)

- A. Clear, concise and relates directly to hypothesis
- B. Clear and relates directly to hypothesis
- C. Relates directly to hypothesis
- D. Partially relates to hypotheses
- E. Little relation to paper or makes little sense re paper topic
- F. Not included in paper.

***Literature Review*** (15%)

- A. Clear, concise and relates directly to hypothesis and theory; describes variables and findings
- B. Clear and relates directly to hypothesis and theory, describes some variables and findings
- C. Relates directly to hypothesis and theory; poor descriptions of variables and/or findings
- D. Partially relates to hypotheses and theory; little or no descriptions of variables and/or findings
- E. Little relation to paper or makes little sense re paper topic.
- F. Not included in paper

**Hypothesis** (3%)

- A. Clear, concise and in appropriate context
- B. Clear and in appropriate context
- C. Appropriate context but lacks clarity
- D. Partial context
- E. Little relation to paper or makes little sense re paper topic
- F. Not included in paper.

**Methods** (25%)

- A. Clear. Concise, accurately describes data set, variables well described with levels of measurement and descriptives, data conforms to hypothesis.
- B. Clear, accurately describes data set, variables described, data conforms to hypothesis; describes variables and has descriptives
- C. Describes data set, variables described, data conforms to hypothesis
- D. Partly describes data set, variables partly described, data sort of conforms to hypothesis
- E. Little relation to paper or makes little sense re paper topic; variables poorly or not described, data set poorly or not described
- F. Not included in paper.

**Analysis** (25%)

- A. Appropriate statistical techniques used; Tables well formatted and properly labeled with appropriate information<sup>1</sup>, clear and concise, interpretation of data directly relates to hypothesis, theory and literature review.
- B. Appropriate statistical techniques used; Tables formatted, clear, interpretation of data mostly relates to hypothesis, theory and literature review.
- C. Appropriate statistical techniques used most of the time; adequate interpretation of data as it relates to hypothesis, theory and literature review.
- D. Appropriate statistical techniques used some of the time; Tables poorly explained, scant or wrong interpretation of data as it relates to hypothesis, theory and literature review.
- E. Wrong statistical techniques; Tables not explained or wrong or no tables, wrong or no interpretation of data as it relates to hypothesis, theory and literature review.
- F. Not included in paper.

**Conclusion** (3%)

- A. Clear, concise and gives summary of paper; gives policy impact or future research recommendations
- B. Clear and gives summary of paper; gives some policy impact or future research recommendations
- C. Gives adequate summary of paper; little policy impact or future research recommendations
- D. Gives inadequate summary of paper; neglects little policy impact or future research recommendations
- E. Little relation to paper or makes little sense re paper topic
- F. Not included in paper.

---

<sup>1</sup> Always include level of statistical significance; crosstabs should have appropriate percentages instead of raw count; regressions should have R<sup>2</sup> as well as a correlation matrix with means and standard deviation.

### **Citation (6%)**

- A. Appropriate number of source appropriately cited using ASA format
- B. Each source appropriately cited; inconsistent use of citation format.
- C. Missing some sources but cited using ASA format
- D. Missing some sources and inconsistent use of citation format
- E. Many missing sources and/or failure to use ASA format
- F. Few or no citations

### ***General writing guidelines***

If the paper does not meet the following guidelines or has inappropriate usages as noted the row will be checked and 1% from each check will be deducted from the final score

- \_\_\_\_ Not using Times New Roman 12 point font; 1 inch margins;
- \_\_\_\_ Missing Title page
- \_\_\_\_ Bibliography not including all citations (1% for each missing citation)
- \_\_\_\_ Illogical sequencing of sections; headings and tables not split between pages
- \_\_\_\_ Inappropriate word usages, spelling and paragraph structure
- \_\_\_\_ Vague, incoherent writing
- \_\_\_\_ Use of summaries included in secondary sources or class notes rather than original sources
- \_\_\_\_ Improper use of slang, colloquialisms or abbreviations (e.g. ampersands);
- \_\_\_\_ Inappropriate use of word prove
- \_\_\_\_ No page numbers
- \_\_\_\_ Not double spaced with appropriate spacing throughout paper
- \_\_\_\_ Tables cut and pasted from SPSS (automatic 5% deduction)
- \_\_\_\_ Not submitted both as an MS Word and .pdf document