SOC 383-12: Quantitative Analysis
Spring 2017

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Office Hours	MWF 10 - 11	**Class Location**	Golisano 103
	T 10 – 12, or by appointment	**Class Hours**	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.

> Salkind, Neil J. 2017. *Statistics for People Who (Think They) Hate Statistics*. Sage. 6th edition.
>
> > 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. 4th 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) This course introduces the central issues and strategies involved in the collection and analysis of quantitative data with an emphasis on survey research, experimental designs, and statistical analysis using SPSS. The course is concerned with demonstrating the logic and meaning of statistical procedures and the conditions under which they are meaningful. This course is the "quantitative" half of the 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 understand the reason behind quantitative research, conduct basic social research, analyze the results and know how to read results from social science journals, 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.

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 quantitative methods; relatedly, demonstrate a clear understanding of what quantitative analysis can and cannot do.

3. Understand basic statistical language and communicate that knowledge effectively both written and orally.

4. Develop your own research agenda and investigate a sociological issue using appropriate literature and quantitative methods in a substantive final paper.

5. Understand and apply appropriate quantitative techniques demonstrated through in-class and out-of-class exercises.

6. Understand and apply key theoretical frameworks to the application of proper quantitative methods.

Attendance and Evaluation

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 unit (e.g., if you've earned a B+, your grade will be lowered to a B). Each additional missed class after that, will reduce your grade by another grade unit. 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.

However, in the course of an academic career, there are times when you may be called to engaged in school-sponsored events including conferences, field trips, or athletic games. These will be considered official absences and will not factor into the absence policy. Students will provide each instructor with an agreement letter prior to the end of the first week of the semester (or by the second day of January term) notifying them that they may occasionally have to miss class for an event or competition and will work with the faculty member to complete any missed assignments. In the event that an activity is not known prior to the drop/add period the student will notify the instructor as soon as they are aware of the conflict.

In all cases and for all activities students will present the faculty member with a hard copy of a letter detailing the activity, dates of the activity and acknowledgement of the class assignments that will be missed and date for submission of any course work. Students are expected to notify their instructors in whose courses they will be missing academic work -- preferably two weeks before each absence from class -- due to extra-curricular or co-curricular participation. When applicable, the letter also will be signed by appropriate college personnel coordinating the event and will include anticipated departure times. For athletic competitions, students will be excused from class an hour before the scheduled departure time when traveling to away games and an hour before the start of a home competition. In cases in which a student will miss more class sessions than what is outlined in the class syllabus (e.g. 3 absences are allowed), the student will not be disadvantaged by having the final grade reduced due to representing the College as long as all missed work is completed.

Tardiness: We will begin class promptly at the starting point every day. For that reason, you will be sanctioned for showing up late to class. On the attendance roster in D2L, you will be marked as tardy, instead of present for that day. **Every three tardies equals one absence.** Furthermore, if you are **fifteen minutes late or more to class, you will be marked as absent,** even if you sit in on the rest of the class period (which I would still recommend). For these reasons, it is important to show up to class right on time (and preferably five minutes early).

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.

>= 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-	<= 59.9 = F

You should also know 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+).

Resources

E-mail: My email address is 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=UUxqTWpOTWdKLU1IfGRlZmF1bH R8ODM2MjQ4NzhjNmQzMWI1YmQyYThlYTA0YjBlZjFjNzQ.

D2L: This will be the place to upload your assignments and all of the small deadlines that come with your 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 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: Hartwick 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 braselmanne@hartwick.edu, or AccessAbilityServices@hartwick.edu. AccessAbility Services is located on the 5th 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.

Course Breakdown

There are essentially three major "chunks" to this course, which we will attempt to integrate through the assignments and the course calendar.

Statistics: We will understand both basic concepts in statistics by hand and how to read things through SPSS. Descriptive vs inferential statistics, sampling, probability, levels of measurement, univariate analysis, measures of central tendency, measure of dispersion, bivariate analysis and multivariate analysis all will be covered. We will pay particular attention to understanding how we build theory and using a theory as a heuristic device for applying the use of statistics

Why We Research and Research Methods: Here we go through some of the history of sociological research, the scientific method, and methods of research in sociological theoretical paradigms. We will also talk more deeply on what is a theory and how we test it.

Application/The Research Process: Finally, this course also includes some practical elements where you will need to understand both 1) how to read sociological research, and 2) how to conduct research yourself. Topics will include formulating the research problem/agenda,

operationalizing it, gathering data, writing a research report. You will also need to use proper language when discussing research, including, but not limited to, properly using the terms variables, scales, causation, reliability, validity, causality, etc. This is where you put it all together.

All assignments are due at the beginning of class, even when uploaded to D2L

Requirement	Description	Percent of Final Grade
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. You will be allowed one 3x5 index card as a helpful guide to use with these tests	40%
Research Paper	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. See the attached rubric for specific guidelines.	25%
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.	15%
Mini-Quiz Mondays	Every other Monday, there will be a mini-quiz that should take approximately twenty minutes to complete. This quiz will be easy if you have done the reading/homework for the previous day and have been following along with lectures.	15%
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.	5%

Course Schedule Unit 1

Because I like to adapt you all as we go, sometimes schedules change. Thus, I will provide outlines of what our next steps are as the class goes on. Here is an example of one of the outlines, and what we'll be doing for the first four weeks.

Date	Topic	Required Reading	Assignment Due
Part I: Conceptual Introduction			
M, 2/6	Introduction to Course		After Class - Have/Get SPSS Installed on your Computer
W, 2/8	The Research Process/ Introduction to Statistics	Salkind Ch. 1	Screenshot of SPSS Due to D2L Answer 2 questions (your choice!) from pg. 17
F, 2/10	Types of Research/ Introduction to SPSS	SGM Ch. 1	*From here on out, bring your devices to class
DESCRIBING DATA, PT. 1			
M, 2/13	MQM Ways to Sample, Pt. 1 SPSS Input of Data	SGM Ch. 2	SGM Ch. 1 Exercises Survey Results Due
W, 2/15	Ways to Sample, Pt. 2 Mean, Median, and Mode	Salkind Ch. 2 19-31	
F, 2/17	Levels of Measurement/ SPSS Practice	Salkind Ch. 2 31 - 38	Research Paper Topic Due
REPRESENTING DATA			
M, 2/20	MQM Range, Variance, and Standard Deviation In SPSS	Salkind Ch. 3	SGM Ch. 2 Exercises (skip question 1) Salkind Ch. 2 Exercises

Date	Topic	Required Reading	Assignment Due
W, 2/22	Frequency Distributions In SPSS	Salkind Ch. 4 59-63	Salkind Ch. 3 (skip #2, #5, #6, #12, #13)
F, 2/24	LIBRARY DAY		3 Sources related to your topic due
REPRESENTING DATA PT. 2			
M, 2/27	MQM Refresher on Levels of Measurement Histograms and Bar Charts	SGM Ch. 3 Salkind Ch. 4	
W, 3/1	Pie Charts		
F, 3/3	Dispersion, Variance and Standard Deviation		SGM Ch. 3 Exercises (Skip IQR on #s 4 – 7) Salkind Ch. 4 Exercises
UPCOMING SECTIONS!			
STATISTICAL SIGNIFICANCE			
USING A SAMPLE TO DESCRIBE A POPULATION			
F, 3/24	MID-TERM EXAM		

Spring Break

HYPOTHESIS TESTING and CHI-SQUARE TESTS			
T-TESTS and ANOVAs			
CORRELATIONS and SIMPLE LINEAR REGRESSION			
MULTIPLE LINEAR REGRESSION			
F, 5/5	SCHOLARSHIP SHOWCASE		NO CLASS

Date	Topic	Required Reading	Assignment Due

PUTTING IT ALL TOGETHER

Monday, 5/15

12:00 – 3:00 PM

FINAL EXAM[±]

[±] 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), you'll be able to study something that relates to sociology 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 at least **twelve (12)** scholarly sources. You will construct a research questions, develop a hypothesis, and use your knowledge of statistical techniques to answer your question properly. You may use datasets that already exist, or you may construct your own dataset (n >=50) to answer this question.

Throughout the semester, there will be several mini-steps that you will need to complete, which will help keep you on track with the paper. These are all worth a certain percentage of your final paper (to be determined), but in all, 20% 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 80%.

The steps are as follows. All assignments, except the Library Day second step, are due to D2L by five PM the day they are assigned.

> **Friday 2/17: Step 1** – Simple enough – write up your research question. What do you want to know about? Identify what sorts of variables you'll need access to to answer this question.

> **Friday 2/24: Step 2** – More details will be passed out in class, but you'll need to provide evidence that you understand ASA style citation format by coming up with a mini-bibliography (related to your topic) in our library research day. This will be due at the end of class.

> **Friday, 3/24: Step 3 -** One-Page Introduction: This should include a paragraph that introduces the topic in a creative and intriguing way, a paragraph where you talk about how this relates to sociology and the theoretical framework you use, and a paragraph where you 1) enter in your research question, 2) discuss your hypothesis, and 3) talk about the specific method you'll use (you'll be able to flesh that out more later).

> **Friday, 4/7: Step 4** – Literature Review Outline Because this paper will also include a pretty hefty literature review, at this point I would like to see an outline or rough draft of the literature review/theoretical perspective, as well as six sources included in a references page.

Friday, 4/14: Step 5 - This is a small assignment, but I would like the name of your dataset, as well as a brief (half-page) description of the dataset (e.g., where it's from, who conducted it, what it's original use is, and any other pertinent information.

Friday 4/28: Step 6 – At this point, you should have an idea of what method you'll be undertaking to answer your research question. For this assignment, you should have everything previously edited (if need be), as well as 1) the method you plan to use to, 2) the exact variables you'll analyze, and 3) descriptive statistics for all of the variables you'll use.

Friday 5/12: Final Paper Due

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). Final papers should be no less than nine pages long, excluding references and a title page.

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   1 page (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 1 page   (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   2-3 pages (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

Research Question and Hypothesis 1 paragraph   (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   2 – 3 pages (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   2 – 3 pages (25%)

    A. Appropriate statistical techniques used; Tables well formatted and properly labeled with appropriate information[1], 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   1 page (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

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

E. Little relation to paper or makes little sense re paper topic
F. Not included in paper.

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)

Syllabus Confirmation Sheet

Name:

_____

By signing this sheet I indicate that I have received a copy of the syllabus, understand it, and agree to adhere to the standards of behavior and academic expectations outlined in it.

In particular, I understand all attendance and assignment responsibilities. I agree to attend the course, with the exception of documented illness or approved absence. I agree to provide all assignments, take all exams, and provide presentations as required.

I am aware that I am required to attend the final examination at the time indicated on the syllabus and the Hartwick College website (Calendar/final exam schedules). I acknowledge there will be no exceptions for this.

Finally, I am aware that the guidelines for the course may change as need be throughout the term. It will be my responsibility to make sure I take note of any announcements made that change due dates or deadlines, including asking fellow classmates about any announcements I missed.

Signature

_____

Date_____