

MCMC 532

Quantitative Research Methods

Spring 2014
Tuesday 6:30 - 9:00
Comm 1250

Name:	Scott D. McClurg	
Title:	Professor	
Email:	mcclurg@siu.edu	
Office:	3130 Faner Hall	1234 MCMA
Office Hours:	Thursday 1:00 - 3:00	Monday 9:00 - 11:00
	By appointment	By appointment

1 Course Description

This course introduces basic quantitative research designs, foundational mathematics of statistics, and basic statistical methods. While most of courses focus on the theory and substance of mass communication, this course instead focuses on the principal concepts of the quantitative analysis in the literature. The specific topics include:

1. the basic principles of social scientific research;
2. the purpose and use of analytical statistics and graphs;
3. the analysis of communications data.

In the course of studying these topics, you are required to master some mathematical formulas and learn how to use a computer program for data analysis. Although these requirements may be intimidating to you, the course is designed to help you learn the skills necessary for succeeding in this class. Despite the emphasis on statistics and data analysis, this is not primarily a course in mathematics. The key difference is that you will learn how to apply the techniques to the study of actual communication phenomena. So instead of simply memorizing formulas and computer commands, you will learn to apply that knowledge. To this end, class time will be split between discussion, lecture, and hands-on applications. Please note that this class is basic and introductory. The program and techniques you will learn are but the tip of the iceberg. To be a successful quantitative social scientist, exposure to more techniques and software is *necessary*.

2 Course Requirements and Graded Evaluation

2.1 Overview

There are four requirements for this class: class participation, in-class computer assignments, homework, and a replication project. The weight assigned to these requirements is below.

Participation	200 points	Weekly
In-Class Assignments (4)	200 points	Varied
Homework Assignments (6)	300 points	Varied
Replication Project	300 points	April 23rd

2.2 Class Preparation and Participation

Attendance and participation are mandatory for this course. It is imperative that you come prepared to discuss all course material each week. Active participation accounts for 200 points towards your final grade. These points are based on my qualitative assessment of how actively you engage the material and class, the quality of that engagement, and your ability to force ably *but* respectfully engage classmates.

2.3 In-Class Assignments

Over the course of the semester we will have **four** in-class assignments. These are designed to introduce you to how to obtain data, organize it in a statistical package, and to analyze the data with the software. My goal is for you to be *introduced* to statistical software and quantitative analysis in a computerized environment. Each assignment is worth **50 points**. You will be judged on completion of the assignment, as well as your mastery of the material. Students may work together on *these assignments*, but each student must turn in his/her own work for graded.

2.4 Homework Assignment

There are **six** homework assignments that are **50 points** each. These assignments are more varied, with some asking you to summarize a research paper, others asking you to practice your mathematical skills, and still others focusing on interpretive of quantitative data. In each case, the goal is have the students work on aspects of the class *independently*. As such, students should not work together on these assignments.

2.5 Replication Project

Your final requirement is to replicate the analysis in a published paper. This will require you to obtain the data, code it in the same manner as the authors, and then attempt to produce the main graphs and/or tables from the paper. The bulk of your paper should focus on clear explanation of data and how to interpret the statistics, though you should also reflect on the process and what you've learned. I will provide more details in a assignment sheet that will be available by the second week of class. This assignment will be worth **300 points** and will be graded on the quality of the writing, the clarity of the replication, and demonstration of class concepts.

2.6 Grading Scale

1000 to 900	A
899 to 800	B
799 to 700	C
699 to 600	D
Below 600	F

3 Class Policies

3.1 Absences

You are expected to attend every class period. If you arrive after attendance is taken, you will be considered absent for the day. If you must miss class for some reason, you can receive an excused absence by contacting me **in advance**. I reserve the right to see documentation for your absence and to decide what constitutes a reasonable excuse. If you must miss class, you are responsible for finding out what you missed.

3.2 Missed Assignments

All assignments are due on the date assigned. Any assignment not turned in on time will lose half a letter grade for each day it is late. Any assignment more than 48 hours late will not be accepted. **It is considered bad form to turn in late work in graduate classes, so I encourage you to meet your deadlines.** See “Problems and Emergencies” for the only exceptions to this policy.

3.3 Incompletes

There will be no incompletes given in this class except in cases of emergency or where university policy applies to the contrary.

3.4 Cheating and Academic Misconduct

Any student engaging in academic misconduct will receive an F in my course and be reported to the Dean. I will also recommend your expulsion from the graduate program. I suggest that, as a start, you use the following common sense criteria to ensure your work does not violate scholarly standards:

- Group work not approved by the instructor constitutes academic fraud.
- Representing anyone else’s written work as your own is plagiarism.
- Representing anyone else’s ideas as your own is academic misconduct.
- Using unauthorized resources on exams or in papers is cheating.
- Turning in work from other classes without permission is academic misconduct.

If you have any questions about what constitutes cheating or academic misconduct, you should examine the university policy and/or ask the instructor prior to turning in any assignment.

3.5 Problems and Emergencies

If a problem or emergency arises that prevents you from attending an exam, turning in a paper, or coming to class, you should contact Professor McClurg as soon as possible. The best way to contact me is via email (mcclurg@siu.edu). If you do not hear back from me within a reasonable amount of time you may call me. Students contacting me **prior** to missing an assignment will receive greater leniency. You are welcome to clarify what I consider to be an acceptable excuse to me at any point in the semester.

3.6 Grading Policies and Standards

Graded material is returned as promptly as possible. When students receive an assignment back and are dissatisfied with their grade, they must wait at least two days before asking for a review. To request such a review, the student must submit a single-spaced, one paragraph note explaining why the original grade is inappropriate. All assignments submitted for review can be graded up or down by the Professor.

3.7 Disability Policy

It is the policy of this university and professor to help disabled students succeed in the classroom. The student is responsible for notifying the professor and university of any special problems or needs as soon as possible. The professor and university is responsible for doing whatever they can within university policy to accommodate that student's needs. It is in your best interest to notify the professor and university **immediately** so that arrangements can be made as soon as possible. More information is available from Disabled Student Services.

4 Reading Assignments

This course is an intensive learning experience. You will learn primarily by reading and discussion. A great deal of this reading is in the one required book that are available from the University Bookstore. Other readings are available on-line at JSTOR (<http://www.jstor.org>), in the library, or through the Desire2Learn website (accessed at <http://online.siu.edu>).

4.1 Required Books

- Wimmer, Roger D. and Joseph R. Mominick. 2014. *Mass Media Research: An Introduction*. Boston, MA: Cengage Learning.

4.2 Recommended Books

- Bucy, Eric P. and R. Lance Holbert. 2011. *Sourcebook for Political Communication Research*. New York: Rutledge Press.
- Moore, Will H. and David A. Siegel. 2013. *A Mathematics Course for Political & Social Research*. Princeton, NJ: Princeton University Press.

5 Course Schedule and Reading Assignments

5.1 Quantitative Research Design

5.1.1 Week 1—January 14. Introduction to Class.

- Gerring, “The Problem of Unity Among Diversity.”
- Brady et al., “Reforming the Discussion of Methodology.” in *Rethinking Social Inquiry*. pp. 15-26.
- Holbert and Bucy, “Advancing Methods and Measurement: Supporting Theory and Keeping Pace with the Modern Political Environment” in *Sourcebook for Political Communication Research*.

5.1.2 Week 2—January 21. Foundations.

- MMR, Chapters 1-3.

5.1.3 Week 3—January 28. Sampling.

- MMR, Chapter 4.
- **Lab 1:** Data input and coding in SPSS.

5.1.4 Week 4—February 4. Experiments.

- MMR, Chapter 9.
- Iyengar, “Experimental Designs for Political Communication Research” in *Sourcebook for Political Communication Research*.
- King, “Publication, Publication.”
- **Homework 1:** Summary of Research Article

5.1.5 Week 5—February 11. Surveys.

- MMR, Chapter 7.
- Hoffman et al., “Political Communication Survey Research” in *Sourcebook for Political Communication Research*.
- Schuman and Presser, *Questions & Answers in Attitude Surveys*. Selection.

5.1.6 Week 6—February 18. Content Analysis.

- MMR, Chapter 6.
- Benoit, “Content Analysis in Political Communication”
- Lab 2: Loading and using data in SPSS.

5.2 Mathematic Foundations

5.2.1 Week 7—February 25. Probability and Distributions.

- Moore and Siegel, *A Mathematic Course for Political & Social Research*, Chapters 9 and 10.

5.2.2 Week 8—March 4. Linear Algebra.

- Moore and Siegel, *A Mathematic Course for Political & Social Research*, Chapters 12 and 13.
- **Homework 2:** Probability

5.2.3 Week 9—March 11. Spring Break

5.2.4 Week 10—March 18. Derivatives and Integrals.

- Moore and Siegel, *A Mathematic Course for Political & Social Research*, Chapters 5, 6, and 7.
- **Homework 3:** Linear Algebra

5.3 Statistical Tools

5.3.1 Week 11—March 25. Data Visualization.

- Excerpts from Cleveland
- Excerpts from Tufte
- **Homework 4:** Derivatives

5.3.2 Week 12—April 1. Descriptive Data Analysis.

- MMR, Chapter 10
- **Lab 3:** Describing data and making graphs

5.3.3 Week 13—April 8. Hypothesis Testing.

- MMR, Chapter 11

5.3.4 Week 14—April 15. Basic Inferential Statistics.

- MMR, Chapter 12
- **Homework 5:** Computing and interpreting statistical tests

5.3.5 Week 15—April 22. Linear Models.

- Reading on OLS and assumptions
- **Homework 6:** Basic Inferences

5.3.6 Week 16—April 29. Useful Statistical Models for Communication.

- Reading on MLE models
- Reading on logit/probit
- Reading on SEM
- **Lab 4:** Estimating and interpreting linear model.

*"We emphasize student achievement and success because achievement and success are essential if we are to shape future leaders and transform lives."*¹

<http://pvcaa.siu.edu/>

IMPORTANT DATES *

Semester Class Begins	01/13/2014
Last day to add a class (without instructor permission):	01/24/2014
Last day to withdraw completely and receive a 100% refund:	01/26/2014
Last day to drop a course using SalukiNet:	03/23/2014
Last day to file diploma application (for name to appear in Commencement program):	03/28/2014
Final examinations:	5/5 – 5/9/2014

* Note: For outreach, online, and short course drop/add dates, visit

Registrar's Academic webpage <http://registrar.siu.edu/>

SPRING SEMESTER HOLIDAYS

Martin Luther King, Jr.'s Birthday 01/20/2014

Spring Vacation 03/08—03/16/2014

WITHDRAWAL POLICY ~ Undergraduate only

Students who officially register for a session may not withdraw merely by the stopping of attendance. An official withdrawal form needs to be initiated by the student and processed by the University. For the proper procedures to follow when dropping courses and when withdrawing from the University, please visit <http://registrar.siu.edu/pdf/ugradcatalog1314.pdf>

INCOMPLETE POLICY~ Undergraduate only

An INC is assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. An INC must be changed to a completed grade within one semester following the term in which the course was taken, or *graduation*, whichever occurs first. Should the student fail to complete the course within the time period designated, that is, by no later than the end of the semester following the term in which the course was taken, or graduation, whichever occurs first, the incomplete will be converted to a grade of *F* and the grade will be computed in the student's grade point average. *For more information please visit:*

<http://registrar.siu.edu/grades/incomplete.html>

REPEAT POLICY

An undergraduate student may, for the purpose of raising a grade, enroll in a course for credit no more than two times (two total enrollments) unless otherwise noted in the course description. For students receiving a letter grade of A,B,C,D, or F, the course repetition must occur at Southern Illinois University Carbondale. Only the most recent (last) grade will be calculated in the overall GPA and count toward hours earned. *See full policy at*

<http://registrar.siu.edu/pdf/ugradcatalog1314.pdf>

GRADUATE POLICIES

Graduate policies often vary from Undergraduate policies. To view the applicable policies for graduate students, please visit

<http://gradschool.siu.edu/about-us/grad-catalog/index.html>

DISABILITY POLICY

Disability Support Services provides the required academic and programmatic support services to students with permanent and temporary disabilities. DSS provides centralized coordination and referral services. To utilize DSS services, students must come to the DSS to open cases. The process involves interviews, reviews of student-supplied documentation, and completion of Disability Accommodation Agreements.

<http://disabilityservices.siu.edu/>

STUDENT CONDUCT CODE

http://policies.siu.edu/other_policies/chapter3/conduct.html

SALUKI CARES

The purpose of Saluki Cares is to develop, facilitate and coordinate a university-wide program of care and support for students in any type of distress—physical, emotional, financial, or personal. By working closely with faculty, staff, students and their families, SIU will continue to display a culture of care and demonstrate to our students and their families that they are an important part of the community. For Information on Saluki Cares: (618) 453-5714, or siucares@siu.edu,

<http://salukicare.siu.edu/index.html>

EMERGENCY PROCEDURES

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. We ask that you become familiar with the **SIU Emergency Response Plan** and **Building Emergency Response Team (BERT)** programs. Emergency response information is available on posters in buildings on campus, available on BERT's website at www.bert.siu.edu, Department of Safety's website at www.dps.siu.edu (disaster drop down) and the Emergency Response Guideline pamphlet. Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. *It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.*

INCLUSIVE EXCELLENCE

SIU contains people from all walks of life, from many different cultures and sub-cultures, and representing all strata of society, nationalities, ethnicities, lifestyles, and affiliations. Learning from and working with people who differ is an important part of education as well as an essential preparation for any career. *For more information please visit:* <http://www.inclusiveexcellence.siu.edu/>

MORRIS LIBRARY HOURS

<http://www.lib.siu.edu/about>

LEARNING AND SUPPORT SERVICES

Help is within reach. Learning support services offers free tutoring on campus and math labs. To find more information please visit the Center for Learning and Support Services website:

Tutoring : <http://tutoring.siu.edu/>

Math Labs http://tutoring.siu.edu/math_tutoring/index.html

WRITING CENTER

The Writing Center offers free tutoring services to all SIU students and faculty. To find a Center or Schedule an appointment please visit <http://write.siu.edu/>

AFFIRMATIVE ACTION & EQUAL OPPORTUNITY

Our office's main focus is to ensure that the university complies with federal and state equity policies and handles reporting and investigating of discrimination cases. *For more information visit:*

<http://diversity.siu.edu/#>

Additional Resources Available:

SALUKINET: <https://salukinet.siu.edu/cp/home/displaylogin>

ADVISEMENT: <http://advisement.siu.edu/>

PROVOST & VICE CHANCELLOR: <http://pvcaa.siu.edu/>

SIU ONLINE: <http://online.siu.edu/>