Quantitative Research Methods

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Office: Lundberg 204 (to the left of Old Main if you are looking at it from the Quad).
Office Hours: Tuesday before class or by appointment.

Course Overview
This course focuses on social scientific, empirical, and quantitative approaches to the study of communication. To be capable of reading, understanding, utilizing, and conducting research, you must be conversant with the diverse methods used to generate knowledge. The course surveys the major research designs and research techniques that are at the core of contemporary approaches to the scientific analysis of communicative phenomena. We will address the processes of advancing hypotheses, variable definition and measurement, sampling, survey research, experimental research, and writing research reports. Completion of this course will provide you with the foundation necessary to conduct your own research.

Goals
• Understand the link between theory and empirical research
• Understand the characteristics, advantages, and disadvantages of research designs
• Be able to read, interpret, and conduct quantitative communication research
• Be able to critically evaluate quantitative research manuscripts
• Complete a research project from conception to submission (to a conference and/or journal).

Readings
Articles on Canvas
Recommended reading: https://www.amazon.com/Basics-Social-Research-Earl-Babbie/dp/1305503074

Course Assignments

Class Participation and Clarifying Questions (10%) 
We will read an article each week. This seminar has less reading than most – so reading the article very carefully and multiple times is expected. We are reading articles to help us understand methodological concepts. Offering a critique is fine – but it should only come after understanding and be very well thought out (i.e., don’t knock it till you know it).

You are learning new concepts and should have questions. Learning is maximized when you ask meaningful questions that help clarify any potential confusion you may have after reading and/or engaging in last week’s class. Please 1) prepare (at least) two clarifying questions you would like the class to address and 2) actively participate in addressing other students’ questions in class. Write them out and bring them to class every week. They can address information from the week before or the current week.
Participation is crucial. Graduate classes are seminars. We all have to speak and engage. Print out the readings for the week and bring them with you to class.
Epistemology and Scale Assignments (5% each)
You’ll have two short take home assignments. The first explores epistemology. In the second, you find and critique a scale used in quantitative research. Look to canvas for more details on each assignment.

“Mock Reviewer Assignment” (20%)
In this assignment, you will act as a reviewer for an article submission to a journal. Your job is to apply everything you’ve learned about research methods to critique and offer feedback to the author(s). Your comments must be concrete, fair, and accurate. They should demonstrate your ability to understand what counts as “sound” quantitative research. You will examine the rationale, hypotheses, procedures, sampling, measures, analyses, and interpretation, and limitations. If you see a weakness, you need to point it out and give concrete feedback for improving the manuscript.

Final project (60%)
There are 2 options for this assignment.

Option A. You complete a research project by yourself. This will be a full manuscript. You will pick a target conference and a target journal with word limit between 4,000 and 6,500 words (see me if you need help finding one). I will put a non-exhaustive list of journals on Canvas. The goal is to write a publishable or presentable paper that you can submit after the semester. The final paper will consist of the four sections found in most research articles (rationale, methods, results and discussion). You can use a faculty member’s existing data or use the data we are collecting this semester. You can also collect your own data (see the ‘who has final say over the data’ section).

Option B. You complete a research project with a co-author (i.e., in pairs). This will be a full manuscript. You will pick a target conference and a target journal with word limit of >7,499 words (see me if you need help finding one). I will put a non-exhaustive list of journals on Canvas. The goal is to write a publishable or presentable paper that you can submit to a conference after this semester. The final paper will consist of the four sections found in most research articles (rationale, methods, results and discussion). Authors will contribute equally and be listed in alphabetical order on the project. You can use a faculty member’s existing data or use the data we are collecting this semester. You can also collect your own data (see the ‘who has final say over the data’ section).

APA style
All work must be written in accordance with the most recent guidelines of the American Psychological Association (APA).

Respect and Etiquette
In-class: We will discuss sensitive topics in this class. Our goal is to have an open a comfortable classroom environment. Comments that are disrespectful will not be tolerated. Here are some things to remember:

- When another student is speaking, listen respectfully, without interrupting.
• Do not explain things to a peer unless a question is asked of you directly. Even if you are trying to be helpful, this can come across as condescending when you are not in a position of authority.
• Ask questions when you do not understand something, and don’t assume you know what others are thinking or what motivates them (everyone has different fields of experience).
• Do not expect individuals to speak on behalf of their (perhaps perceived) gender, race, culture, class status, or sexuality. It is unfair to expect someone to be a “spokesperson.”
• Commit to learning, not debating.

Who has final say over the data?
Good question. I am the principle investigator on data we are collecting. This means that while I’ve taken your research interests into consideration, the final construction of the project is based on my thoughts and knowledge on social scientific theory, and anticipation of hypotheses and results. Therefore, as the ‘leader’ of this project I have control over the data – meaning that you must clear it with me before submitting to a conference or journal. It is possible that two different projects have the same hypothesis. The same results cannot be published or presented twice. If that sounds frustrating, you are welcomed to conceptualize a survey, find the appropriate measures, fill out the IRB paperwork, and collect the data. I can and will help you through the process of collecting your own data if you decide to.

Academic honesty & the University Honor Code.
Plagiarized work will receive an F for the assignment and may, depending on the severity of the infringement, receive a failing grade for the course and/or expulsion from the university. Refer to the university honesty/honor code for further policies pertinent to this class.

Reasonable Accommodation Policy
If you have a disability, I strongly encourage you to contact the Disability Resource Center and myself so that the classroom environment can be made conducive to your learning style.

Copyright Notice
All materials from this course including the syllabus, course notes, activities, paper assignments, exams, etc. are copyrighted as the intellectual property of the instructor (unless otherwise noted and credited) and are not to be duplicated or reproduced without permission. Refrain from taking pictures of slides.
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| Jan 7   | Course introduction  
Introduction to research methods  
Foundations of social science |                                                  |
| Jan 14  | Research paradigms  
Ethics in research                                                 | Book Chapter -  
Miller  
CITI Training Due |
| Jan 21  | Designing a research project  
Library research  
Writing rationales                                                   | Epistemology  
homework due  
Arroyo Article |
| Feb 4   | Units of analysis  
Variables  
Relationships  
Research questions and hypotheses                                     | Research proposal due  
Curran Article  
Arroyo Article again |
| Feb 11  | Conceptualization  
Operationalization  
Levels of measurement  
Types of scales                                                          | Calabrese et al. Article |
| Feb 18  | Sampling  
Reliability  
Validity                                                               | Punyanunt-Carter et al. Article |
| Feb 25  | Survey research  
Experimental research  
Critiquing and evaluating an article                                    | Rationale Due |
| March 3 | SPRING BREAK                                                        |                                                   |
| March 10| Data and Statistical Analysis I  
• Type 1 and 2 errors  
• Statistical Assumptions  
• Data cleaning  
• Univariate analyses                                               | Scale homework due |
| March 17| Data and Statistical Analysis II  
• Comparing means                                                        | Jaasma Article |
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<td>Data and Statistical Analysis III</td>
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<td>Interpreting Data</td>
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<td>Writing results and discussion sections</td>
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<td>April 7</td>
<td>Data and Statistical Analysis IV</td>
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<td>• Analysis of structure</td>
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<td>April 14</td>
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<td>April 21</td>
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