Evaluating Information and Analyzing Media
Communication Studies 221
Josh Pasek, Ph.D.
Winter 2022

Class
In general, the course meets 10:00AM-11:00AM on Mondays and Wednesdays in B844 East Hall. Labs meet in 2230 USB at your designated section times. **Given COVID rates at this time, we will be starting the first couple of weeks online**. The online lecture and lab links can be found on canvas.

Please note that we will be trying a new format this term where only half of the class attends each lecture period. This can be found in each week's description below.

Office Hours
Prof. Pasek: Mondays 11:15-12:15 in 5413 North Quad and Zoom or by appointment.
(email: jpasek@umich.edu)
        https://umich.zoom.us/j/93710923108
        Meeting ID: 937 1092 3108

Graduate Student Instructors

Name	Sections	Office Hours	Location	Email
Mia Zhu	002, 003	Th 12:00-1:00& apt.	Zoom	mqzhu@umich.edu
Edwin Wang	004, 005	Fri 4:15-5:15 & apt.	5340 NQ	edwinwwh@umich.edu

Please do not visit office hours for GSIs other than your own. Hours may be updated on Canvas.

Are You "Following the Science?"

In February of 2020, as cases of the novel coronavirus that caused COVID-19 began to spread across the globe, public health experts from the U.S. Centers for Disease Control (CDC) told Americans that, despite their widespread use in some Asian countries, there was no need to wear a mask in public. In April, the organization publicly reversed course, suggesting that Americans make and wear cloth facemasks whenever they left their houses.

The following May, after vaccines became widely available to American adults, the CDC announced that fully vaccinated individuals would no longer need to wear their masks. But in July, the agency again publicly reversed course, asserting that masks would remain an important component of the pandemic response, even for vaccinated individuals, when local case rates were high.

These sorts of reversals and seeming contradictions led many to wonder how scientific the nation's response to COVID-19 actually was. After all, governors in states from Florida, where schools were told that it was illegal to require masks or vaccinations, to California, where playgrounds were closed at times and vaccine cards were checked for public events, all

claimed to be "following the science." And the rules in place across different countries betrayed even more variability.

Does this seem somewhat contradictory? It should. In life, we are constantly exposed to claims about what is true, how the world works, and what we should do about it. Some of these claims come from trusted acquaintances, others stem from news reports, and additional assertions reach us through Facebook, casual conversations, and emails. We find ourselves in this constant stimulation environment without a single easy way to determine which of the things we hear are actually true, which may be misleading, and which are completely false. And even when we find out what messages are coming from credible sources, the content of those messages may still be subject to change over time.

Clearly, mask wearing cannot both be needed and unnecessary. But how should we evaluate which messages to follow and when to change our views? Sadly, most of the time we simply aren't given enough information to weigh the evidence and must place our trust in others. But in an era of disinformation and conflicting messages, this can be a recipe for being misled or even falling down the rabbit hole of conspiracy theories.

Frequently, the problem comes when people try to "do their own research." While looking behind official messages or working to unpack seeming contradictions can be an important task, too many people stop at the first information they find and many more are reluctant to look at the information that those recommendations are taken from. The original sources of these recommendations often lie in the scientific literature, and the data they are based on are often distorted by the time they appear in news outlets or other information streams.

Problematically, many people are reluctant to even attempt to understand original scientific research and even more lack the training to do so.
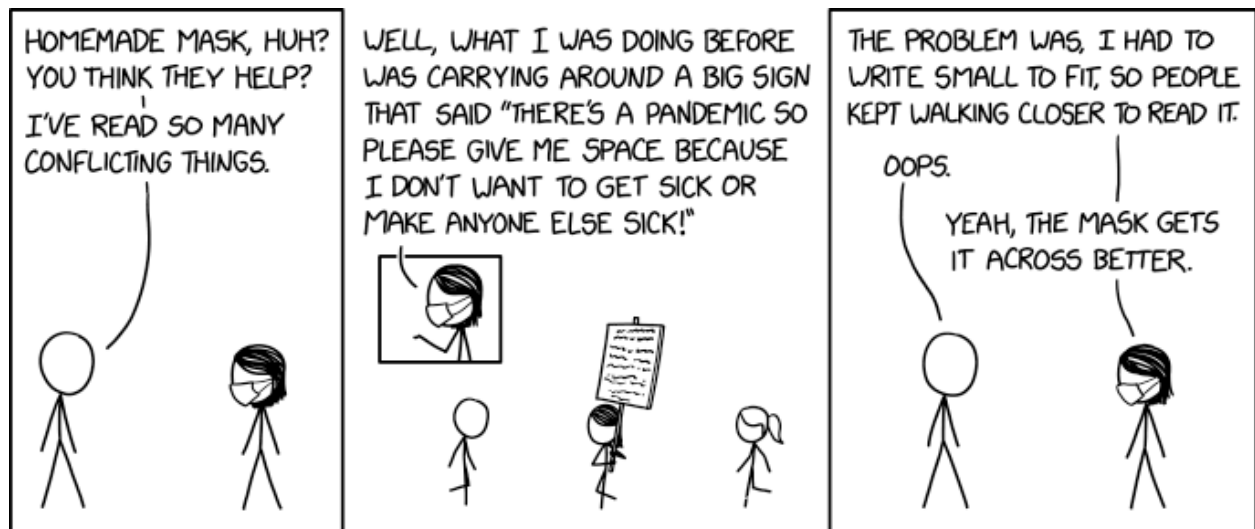
As the quantitative research literacy course in the Communication and Media curriculum, this course focuses on the core skills necessary to think through and critically evaluate scientific arguments and evidence. It offers basic tools for understanding results from the

scientific study of human behavior, marketing data, and public opinion polls. By the end of the semester, you will have the tools to read and understand social science as it appears in the news and to differentiate between casual opinions and well-evidenced arguments.

Communication and Media 221 explores the fundamentals underlying the development of knowledge, theories, and evidence, and the collection of data to describe society. The course works through explanations of how to conceptualize and enact research that studies people's use of media through methods including experiments, surveys, and naturalistic observation.

In this course, you will be expected to understand some of the basic principles of scientific research. You will learn some of the different ways that scientific studies can be designed, that data can be collected, and that data can be analyzed when studying mass communication phenomena. These same skills are central to the interpretation and communication of marketing data and public opinion information. For each of these areas, we explore a variety of techniques and assess the assumptions that researchers make in using each of those techniques. From this, you will be able to recognize what we can and cannot conclude in our examinations. These skills will also help you when you encounter scientific information in real world settings.

Course Learning Goals

By the end of 221, you will have a much deeper understanding of how knowledge is generated in both academic and nonacademic settings. This knowledge should enable you to critically read and evaluate research in the social sciences and the presentation of information in the news and in various workplaces. You should be able to pick up and read the vast majority of research articles in the social sciences and marketing research reports, understanding what the key concepts are, how they were assessed in the research, and the basic analytical tools that were used. You should also be able to render an independent judgment on the quality of academic work you encounter as well as claims about the nature of society (e.g., public opinion, product market shares, etc.). These skills are seminal both in the rest of your academic career and beyond.

More specifically, by the end of 221, you should be able to:
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    - Understand types of evidence and the sorts of knowledge they engender.
    - Know the steps of the scientific method and how they are applied in social scientific research.
    - Recognize how theories relate to hypotheses in the scientific tradition.
    - Understand conceptualization and operationalization of key concepts in hypotheses.
    - Know the types of sampling and what they imply about the generalizability of research results.
    - Identify different types of study design and recognize what they can and cannot tell us about society.
    - Assess the reliability and validity of an operationalization.
    - Know what criteria are necessary to make a solid causal claim.
    - Conduct simple statistical tests in Microsoft Excel.
    - Evaluate the quality of evidence in social scientific research.

Course Materials

Recommended Texts:

Readings posted on the Canvas account.

Wrench, J. S., Thomas-Maddox, C., Richmond, V. P. and McCroskey, J. C. (any edition). *Quantitative Research Methods for Communication: A Hands-On Approach*. New York: Oxford University Press.

* This book is an excellent resource, especially if you are struggling with any methods we discuss or are looking for additional information about how to run analyses in Excel/Google Sheets. Note, however, that you will not be tested specifically on anything from this book that is not also present in the lecture slides.

Requirements

Grading

Participation and Section	25%
Research Critique Paper (February 9)	20%
Midterm Exam (March 14/16)	20%
Capstone Project (April 22)	35%

Participation and section grades are composed of the following parts:

Participation	10%
Section Homework	10%
Quizzes	5%

Class Format
This year, Comm 221 will be testing out a new format designed to both offer flexibility for the class and provide a more engaged in-person learning environment. To this end, class components will consist of 1) lecture content that is available online, 2) in-person activities and discussions conducted with half the class during each week's lecture slots, and 3) workshops/labs where students in individual sections will practice with hands-on learning.

In general, Comm 221 will aim to be in-person as much as possible. Shrinking the size of the lectures will help ensure that this is possible more frequently (in addition to facilitating better discussions). But given current data on the state of COVID, **this may not always be a feasible or responsible option. Unless otherwise noted, both lectures and labs will meet in the designated classrooms.** As a general rule, the class will meet in person as long as three conditions apply: 1) the instructor of the class or section is not currently sick or required to quarantine, 2) the instructor is not required to care for others who are sick, quarantined, or otherwise required to be at home, and 3) case rates in the county are below 50 daily new cases per 100k residents in Washtenaw County (per: https://covidactnow.org/us/michigan-mi/county/washtenaw_county/?s=27621649). If case rates are between 50 and 100 cases per 100k, the teaching team will consider other information to determine teaching format and if they are greater than 100 cases per 100k, we will only meet online. **If we will not be meeting in person, you will be informed about an alternate meeting format.**

Because the formal lecture content for this class is prerecorded, requirements for class involve accessing and watching the videos associated with each week's lectures. To simplify this process as much as possible, each week's recorded lectures have been divided into 3-4 videos per week (of typically ~30 minutes in length). You should aim to watch the lectures before each week's lecture and lab. Materials should be available online at least a week ahead of class progress throughout the term.

Unlike many other classes, the workshops in Comm 221 are not simply a forum for reviewing material discussed in lecture. Instead, they are designed to serve as an independent learning environment and an occasion to practice many of the concepts that are central to the course. This means that 1) there will be some required information that is only covered in lecture, not in the workshops, 2) there will be some required information that is only covered in workshops, not in the lecture, and 3) the content of the workshops will not always reflect exactly what was learned in lecture in each week.

Papers
Course papers require you to analyze and write clearly about analyses you have conducted. You will be graded on your writing, your use of the specified analytic techniques, as well as the extent to which you identify important class ideas. All papers for this class should use APA style (American Psychological Association, 2009) and you will need to be familiar with the rules for writing and citation in this style. A good overview is available in Chapter 4 of the textbook as well as at:
https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_style_introduction.html

The research critique paper requires that you critique the way a journalist reported on a particular piece of research. The capstone project will require you to write up the results of your own analysis of some survey data. All papers need to be turned in on Canvas in advance of the class for which they are due.

Exam
The exam will require you to apply the concepts you have learned in class in a timed fashion. Exams from past courses will be posted on Canvas (though some were designed for longer class periods or were offered later in the semester and thus cover slightly more material). The exam will be given during the lecture time and consists of two parts, a research report and a set of largely short answer questions about the research report.

Because the learning goals for the class are entirely based on skills and are focused on your ability to digest research, testing in the class is focused on how well you can apply the concepts we are learning. Most test questions are short answer questions that ask you to analyze or identify the central concepts in research reports. **Be aware that memorizing the definitions of key terms will NOT be sufficient preparation for these examinations**. The exam will be open note, but we strongly recommend creating a cheat sheet both because it will help consolidate the information you need to know and because the practice of creating a cheat sheet serves to facilitate learning.

Homework
There will be six homework assignments throughout the term. They will be assigned in section and will typically be due by the beginning of the following week's section.

Quizzes
There will be a few quizzes to complete in addition to the homework throughout the term. These will be given in class during the lecture or section slots. For the first quiz, you may find it helpful to review the syllabus carefully. The lowest quiz grade for each person will be dropped. If you cannot make a lecture due to sickness or quarantine, we will make the quiz available in a timed format via canvas.

Some Recommendations and Resources

How to Succeed
In this class, we provide a number of tools to help you learn how to understand, evaluate, and produce good social science. We will test you on your ability to do just that. Your success in the class will be highly dependent on how well you utilize the tools we offer. It is hypothetically possible to pass the class without attending to all the lectures, but keeping up with lecture materials has proven an incredibly accurate indicator of overall class performance. Similarly, because we test how well you can apply the concepts in the readings and in class, you will not need to memorize any of the specific examples from the lectures or the textbook. Nonetheless, if you understand how concepts are applied in those examples, you will be much more likely to be able to apply them in the papers and during the exams.

Course Policies

Students with Disabilities
If you think you need an accommodation for a disability, please let the professor or your GSI know as soon as is feasible. Some aspects of this course, the assignments, the online activities, and the way we teach can be modified to facilitate your participation and progress. As soon as you make us aware of your needs, we can work with the Office of Services for Students with Disabilities (SSD) to help us determine appropriate accommodations. SSD (734-763-3000; https://ssd.umich.edu) recommends accommodations through a Verified Individualized Services and Accommodations (VISA) form. The teaching team will treat any information you provide as private and confidential. Please note that we will not make any retroactive accommodations, so let us know of anything we may need to deal with in advance.

Absences
Illness/quarantine. **Please do not come to class or section if you feel sick or need to quarantine**. If you need to miss a lecture or lab/workshop section for these reasons, please go to http://www.lsa.umich.edu/advising/. Click on the button on the lower right side that reads "Report an Illness" and complete the subsequent form. This will report your status to *all* of your instructors. You must complete this form if you want to have an illness-related absence excused without a note from a doctor.

Religious holidays. Within the first two weeks of the semester, please notify your GSIs of any religious holidays for which you will be absent. If we do not hear about your need to be absent for a holiday, we will expect you to attend all class meetings.

Athletic and other university-related absences. If you are travelling to represent the University of Michigan, someone on your team will provide you with the appropriate paperwork to distribute to your instructors.

Other excusable absences. For family emergencies, funerals, and other such absences, you will need to notify the office of the Assistant Dean of Student Affairs (oad.lsa@umich.edu, or by phone at 734-764-7297), which will be able to inform all of your instructors. When you return to campus, bring documentation in support of your absence.

Grade Questions
When any major assignment (paper or exam) is returned to you, you must wait at least 24 hours before contacting your GSI with any questions you have. This ensures that you have time to read over the feedback given you and understand the issues your assignment faced. We have found that students who take the time to wait approach their GSIs with more useful questions and receive more helpful answers. We also expect you to bring questions to your GSI first, as they are more directly involved in the grading process and are permitted to resolve any grading errors.

Academic Honesty

A good student-teacher relationship operates on the basis of trust. From that basis, your professors and GSIs trust that you will do your utmost to complete coursework and to be honest with us if for any reason you are unable to fully meet a commitment to the class. We also trust your judgment that any advice you solicit from or offer to your peers will stay well outside the bounds of the University of Michigan's policies on plagiarism and cheating (see examples at https://lsa.umich.edu/lsa/academics/academic-integrity.html). That said, if any member of the teaching team encounters evidence that you have in any way, shape, or form copied material without attribution or collaborated to the point that the work you present is not entirely your own, we will immediately refer the incident to the office of the Assistant Dean. Because plagiarism and academic dishonestly hurt *everyone* in the class, we have no compunction about failing students who are found to have been dishonest. Put simply, this class has a zero-tolerance policy. There will be no second chances for cheating.

If you are unsure about whether some level of collaboration would count as too much, feel free to ask any member of the teaching team.

Flexibility

We recognize that lots of issues occur that can derail assignments or undermine progress during the term, and this is especially true amid the coronavirus pandemic. Throughout the class, we will consistently strive to be as flexible as is feasible. This means that if you have trouble turning in an assignment on time, you should come and talk to us. Similarly, if you are willing to redo work, we will attempt to re-evaluate it (so long as doing so does not pose an undue burden on the teaching team). Our ability to be flexible, however, depends on how early we know about the need for flexibility and whether being flexible would infringe on other class activities that need to be done. In practice, this means that we can be far more flexible if you come to us as soon as you can identify an issue. If, instead, you wait until the last minute, we will have less ability to offer recourse. Our goal in this class is to help you learn what we see as critically important, if difficult, material. If you are willing to work at it, we would love to reward that effort.

Additional Resources to Know

Michigan Communication and Media Professionals (MCMP)
Michigan Communication and Media Professionals (MCMP) is a student organization at the University of Michigan for people who — are communication and media majors, want to be communication and media majors majors, or are even the slightest bit interested in communication and media majors and all that it entails. For more information, see https://umichmcmp.wordpress.com.

Communication Studies Advising
The Communication Studies department offers advising for students who are interested in joining the major or understanding its requirements. Learn more by going to a scheduled meeting or visiting their website at https://lsa.umich.edu/comm/undergraduates/about-comm-studies-advising.html.

Sweetland Center for Writing
The Sweetland Center for Writing is a comprehensive center for improving student writing at all levels. They offer one-to-one tutoring for undergraduate students. Find them at www.lsa.umich.edu/sweetland/.

Counseling and Psychological Services (CAPS)
Counseling and Psychological Services offers counseling services, educational and preventive initiatives, training programs, outreach and consultation activities, and provide guidance on how to "do something" to fully contribute to a caring healthy community. CAPS can be contacted on their 24-hour crisis line, 734-996-4747 and online at caps.umich.edu.

MiTalk
MiTalk offers mental health resources including online screenings for depression and anxiety, skill-building tools to help you manage stress and academic life, and digitally recorded workshops, lectures, and some relaxation exercises. The site is completely free of charge to U-M Students. Find them at mitalk.umich.edu.

Sexual Assault Prevention and Awareness Center (SAPAC)
If you or someone you know has been harassed, assaulted, or stalked, you can receive confidential support and academic advocacy at the Sexual Assault Prevention and Awareness Center (SAPAC). SAPAC can be contacted on their 24-hour crisis line, 734-936-3333 and online at sapac.umich.edu. Alleged violations can be non-confidentially reported to the Office for Institutional Equity (OIE) at institutional.equity@umich.edu. For those in the Ann Arbor area, reports to law enforcement can be made to University of Michigan Police Department at 734-763-3434.

Course Outline:

PART 1 – Knowledge, Social Science, and Measurement

Week of January 3, 2022 (Week 1)
Introduction to Evaluating Information and Analyzing Media
This week's recorded lectures discuss the purpose of the course, the syllabus, and the expectations for the class. We will also discuss how we know things and the roles different kinds of information play in our knowledge about the world. During the lecture period, we will discuss what constitutes scientific knowledge. In the GSI-led workshops, we will be introducing the labs and the tools we will be using to conduct analyses.

>   Lecture Recordings to Watch:
>   Lecture 01 – Knowledge

>   Recommended Readings:
>   None

>   Wednesday Lecture– **ALL SECTIONS (virtual)**

>   *LAB 1: Workshop: Introduction to Workshop Labs and Excel*

Week of January 10, 2022 (Week 2)
Science and Social Science, and the Scientific Literature
This week, we begin our exploration of social science. We consider how our understanding of the social world can be examined using the scientific method. We focus on the roles of theory, hypotheses, and data as sources of this understanding. We go over methods for finding and evaluating the quality of research. We will also work through the ways scholars communicate their findings and the challenge of translating technical language and concepts into the types of scientific stories you see in the news. This week's workshop will aim to improve your reading skills, allowing you to practice finding the information you need in social scientific research without having to read entire articles in depth.

>   Lecture Recordings to Watch:
>   Lecture 02 – Science in Social Science
>   Lecture 03 – Replication Citation and the Scientific Literature
>   Lecture 04 – Blaming the Media
>   Lecture 05 – How to Read Efficiently

>   Recommended Readings:
>   Wrench et al. "Empirical Research" Chapter
>   Wrench et al. "Searching for Previous Research and APA Style" Chapter

>   Monday Lecture Group – Edwin's sections (004/005)
>   Wednesday Lecture Group – Mia's sections (002/003)

>   LAB 2: Parsing Papers and Evaluating Media Coverage of Academic Work
>   ***Homework 1 Due***

Week of January 17, 2022 (Week 3)

Ideas to Concepts to Questions

If we want to test a scientific theory, we first have to figure out what that theory implies and how to address it specifically in our research. We discuss data and the role that data play in allowing us to test theories and hypotheses. In particular, we focus on the importance of measurement and the role of quantitative data as a way to test theories and hypotheses that can help us understand the world. We continue by examining the processes of conceptualization and operationalization. First, an idea or theory is translated into clear enough language that we can directly and unambiguously test it. We then become familiar with the process of operationalization and explore how operationalizations of different types can help us transition from hypotheses to data we can test. As we will see, not all operationalizations are equally good at addressing the variables we really want to measure. We further refine these key ideas during the lab periods.

      Lecture Recordings to Watch:
            Lecture 06 – Turning Social and Media Processes into Quantitative Data
            Lecture 07 – Understanding Variables
            Lecture 08 – Conceptualization
            Lecture 09 – Operationalization

      Recommended Readings:
            Wrench et al. "Variables" Chapter
            Wrench et al. "Measurement" Chapter

      NO Lecture Period This Week, lecture period has been replaced with an additional recording

      LAB 3: Conceptualization, Operationalization, and Measures
      Homework 2 Due

Week of January 24, 2022 (Week 4)
Sampling

This week, we introduce a key component in the design of any quantitative study—choosing a sample from which to collect data. Samples allow us to collect the data we need without having to talk to every single person or look at every single media source, saving both money and time while collecting data of equal quality. Figuring out whom or what to study constitutes one of the central challenges researchers encounter. We learn how to summarize data and consider key concepts in thinking about sampling in lab.

      Lecture Recordings to Watch:
            Lecture 10 – The Notion of Sampling
            Lecture 11 – Randomness and Bias
            Lecture 12 – Probability and Nonprobability Samples

      Recommended Readings:
            Wrench et al. "Sampling Methods and Replication" Chapter

      Monday Lecture Group – Edwin's sections (004/005)
      Wednesday Lecture Group – Mia's sections (002/003)

      LAB 4: Pivot Tables and Sampling

Week of January 31, 2022 (Week 5)
Ethics, Hypotheses, Causality, and Third Variables
We begin this week by talking about research ethics before moving into considering the data collection process. We also consider how our hypotheses inform research design more generally and how we can use design to make claims about what causes what. Because causality is a central goal in many types of research, identifying when causal claims are strong or weak is important. We also discuss third variables, which comprise an additional part of our hypotheses where we test proposals for how things are related. This week's lab we will generate hypotheses with third variables that will help guide our final projects.

> Lecture Recordings to Watch:
> > Lecture 13 – Ethics (Planning note: this lecture is ~1 hour long)
> > Lecture 14 – Hypotheses, Third Variables, and Causality
> > Lecture 15 – Causality and Research Design
>
> Recommended Readings:
> > Wrench et al. "Ethics" Chapter
>
> Monday Lecture Group – Edwin's sections (004/005)
> Wednesday Lecture Group – Mia's sections (002/003)
>
> LAB 5: THIRD VARIABLES
> *Homework 3 Due*

Week of February 7, 2022 (Week 6)
Measurement Quality
This week, we focus on the challenge of good measurement. The measures we produce are frequently imperfect. This is true because of challenges in the question-and-answer process and because operationalizations rarely map perfectly onto what we wish to study. When we examine how our measures relate to the concepts of interest, we consider two overarching dimensions of measurement: reliability and validity. We then work through improving measurement by measuring the same thing with multiple items. We will talk about reliability and validity in this week's labs. Your first papers are also due this Wednesday.

> ***Feb 9 - RESEARCH CRITIQUE PAPER DUE***
>
> Lecture Recordings to Watch:
> > Lecture 16 – Reliability
> > Lecture 17 – Validity
> > Lecture 18 – Combined Measures
>
> Recommended Readings:
> > Wrench et al. "Reliability and Validity" Chapter
> > Babbie, E. (2010) Indexes, Scales and Typologies. *The Basics of Social Research.* 5th ed. Wadsworth: USA. 167-169; 171-189; 196-198. (on Canvas).
>
> Monday Lecture Group – Edwin's sections (004/005)
> Wednesday Lecture Group – Mia's sections (002/003)
>
> LAB 6: RELIABILITY AND VALIDITY

Week of February 14, 2022 (Week 7)
Survey Research
This week, we begin the second part of the course, where we explore various types of operationalizations, starting with surveys. Surveys constitute one of the principal tools we have for understanding the social world. Like any other method, careful thought and planning are necessary if you want a survey to collect useful data. We explore the different types of surveys that can be conducted and their various uses. Because surveys depend fundamentally on asking questions, we conclude our look at surveys with a focus on survey questions and how researchers can ensure that their questions they ask elicit the responses they desire. This information will be useful for our class survey, a key part of the capstone project. It is also important for individuals who want to go on to communication-related fields such as marketing, which relies heavily on survey research. In this week's lab, we will design questions to use for a class survey that will be part of the final projects in the class.

> Lecture Recordings to Watch:
> > Lecture 19 – Surveys
> > Lecture 20 – Survey Errors
> > Lecture 21 – Survey Questions
>
> Recommended Readings:
> > Wrench et al. "Survey Research" Chapter
>
> Monday Lecture Group – Edwin's sections (004/005)
> Wednesday Lecture Group – Mia's sections (002/003)
>
> LAB 7: ASKING SURVEY QUESTIONS

Week of February 21, 2022 (Week 8)
Experiments
This week we delve into the world of experimentation. Specifically, we will focus on the logic of experimentation as well as some of the practical limits on experimental designs. We will look closely at the assumptions behind experimentation and conditions under which experiments can mislead. We will also consider how using the experimental method allows us to make claims toward causality or generalizability. The week's labs will focus on experiments and will work toward finalizing the hypotheses we will analyze for the final projects.

> Lecture Recordings to Watch:
> > Lecture 22 – Experiments
> > Lecture 23 – Experiments and Causality
> > Lecture 24 – Limits of Experimentation
>
> Recommended Readings:
> > Wrench et al. "Experimental Design" Chapter
>
> Monday Lecture Group – Edwin's sections (004/005)
> Wednesday Lecture Group – Mia's sections (002/003)
>
> LAB 8: EXPERIMENTATION AND CAPSTONE HYPOTHESES

[SPRING BREAK]

Week of March 7, 2022 (Week 9)
Designing Observational Studies
This week we will focus on observational methods. We will discuss methods for observing behavior and patterns in textual data, with a specific focus on content analysis. We also will touch on a few additional methods for collecting social science data, focusing largely on new tools such as web scraping and so-called "big data" analytics. We will review for the midterm in labs.

> ***Homework 4 Due*** **on Monday**
>
> Lecture Recordings to Watch:
> > Lecture 25 – Coding Data
> > Lecture 26 – Observational Approaches
> > Lecture 27 – Social and Economic Indicators + Big Data
>
> Recommended Readings:
> > Wrench et al. "Content Analysis" Chapter
> > Wrench et al. "Big Data" Chapter (only in 3rd edition or later – also on Canvas)
>
> Monday Lecture Group – Edwin's sections (004/005)
> Wednesday Lecture Group – Mia's sections (002/003)
>
> LAB 9: MIDTERM REVIEW
> ***Homework 5 Due***

Week of March 14, 2022 (Week 10)
Combining Methods and Describing Data
This week we will focus on putting some of the methods we have learned together. In addition to the week's Midterm exam, we will discuss approaches to collecting data that have some of the features of multiple methods that we have seen so far. We will also discuss how to present simple descriptive information about our data. We will also begin to consider how to use data to test the reliability and validity of our measures. In this week's lab, we will be turning our class dataset into a form that can be easily used for our analyses.

> ***March 14/16 – MIDTERM, IN CLASS***
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> Lecture Recordings to Watch:
> > Lecture 28 – Mixing Methods
> > Lecture 29 – Distributions
>
> Recommended Readings:
> > Wrench et al. "Descriptive Statistics" Chapter
>
> Monday Lecture Group – Edwin's sections (004/005)
> Wednesday Lecture Group – Mia's sections (002/003)
>
> LAB 10: CLEANING, RECODING, AND DESCRIBING DATA

Week of March 21, 2022 (Week 11)
Comparisons Across Variables
We can use the data we have collected to test the quality of our measures as well as to begin testing our hypotheses. This week, we examine metrics of relations between variables that we can use to test hypotheses and determine "statistical significance." We learn about two key statistical tests that help us understand whether variables are related to one another: correlations and crosstabs.

> Lecture Recordings to Watch:
> > Lecture 30 – From Describing to Comparing
> > Lecture 31 – Challenges in Comparisons
> > Lecture 32 – Relations Between Variables
>
> Recommended Readings:
> > Wrench et al. "Chi-Square (χ2) Test of Independence" Chapter
> > Wrench et al. "Correlation" Chapter
>
> Monday Lecture Group – Edwin's sections (004/005)
> Wednesday Lecture Group – Mia's sections (002/003)
>
> LAB 11: CORRELATIONS AND CROSSTABS
> ***Homework 6 Due***

Week of March 28, 2022 (Week 12)
Data Analysis
Hypotheses require that we know more than just how variables are distributed; we also need to know how they compare to one another. This week we focus on the relations between variables, the ways in which they map onto our hypotheses. The lectures focus on how to more closely map correlations and crosstabs and correlations onto our hypotheses about how concepts relate. In particular, we will discuss how to test for mediation, moderation, and sources of spuriousness. We also discuss how statistical tools can help to solve more complex research questions and talk through how to assess whether data presented in research articles or in the news is accurate. Open lab periods will provide occasion for you to work on your final projects with the GSIs.

> Lecture Recordings to Watch:
> > Lecture 33 – Testing Complex Hypotheses
> > Lecture 34 – Linear Regression
>
> Recommended Readings:
> > Wrench et al. "Hypothesis Testing" Chapter
> > Wrench et al. "Regression" Chapter
>
> Monday Lecture Group – Edwin's sections (004/005)
> Wednesday Lecture Group – Mia's sections (002/003)
>
> LAB 12: OPEN LAB

Week of April 4, 2022 (Week 13)
Generalizing and Concluding
The lectures this week zoom out from the analyses we have been conducting to think about what the results mean and how they can be interpreted. We will discuss the process of making generalizable statements about a group of people after a hypothesis has been tested. We also consider what we can make of our analyses and the limits of what can be said based on the data. This week we have open lab to help you with your capstone projects.

> Lecture Recordings to Watch:
> > Lecture 35 – Social Science Conclusions
> > Lecture 36 – Logical Fallacies and Tables
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> Recommended Readings:
> > Wrench et al. "Presenting Research" Chapter
> > Pasek, J. (2011). Writing the Empirical Social Science Research Article, A Guide for the Perplexed. Psychology Teacher Network, 21(4).
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> LAB 13: OPEN LAB

Week of April 11, 2022 (Week 14)
Social Science as a Way of Knowing
We return this week to some of the key questions that began our term. To do so, we step back to review some of the key differences between quantitative social scientific methods and other forms of systematic inquiry that can be used. Specifically, we examine how social scientific approaches and humanistic forms of knowledge – both used in the Communication and Media department – share qualities of systematic research and differ in important ways. We continue to offer open lab to help you with your capstone projects.

> Lecture Recordings to Watch:
> > Lecture 37 – The Humanistic Approach – An Alternate Way of Knowing
> > Lecture 38 – Recognizing Systematic Knowledge Generation
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> Recommended Readings:
> > TBD
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> Monday Lecture Group – Edwin's sections (004/005)
> Wednesday Lecture Group – Mia's sections (002/003)
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> LAB 14: OPEN LAB

Week of April 18, 2022 (Week 15)
Pulling it All Together
The final lecture of the semester will pull together the material you have learned and connect it to the main goal of the course—teaching you to be a critical consumer of the information around you, regardless of whether that source is academic, popular, or some person on YouTube. This toolkit will help you as you proceed in your future Communication and Media classes, but will also serve as a useful skill when you enter the job market in the future.

April 22 – CAPSTONE PROJECTS DUE*

Lecture Recordings to Watch:
 Lecture 39 – Wrap Up

Recommended Readings:
 None

Monday Lecture– **ALL SECTIONS**

Schedule at a Glance

Week of	Topic(s)	Lecture Recordings	Lab	Assignment	Lecture to Attend
1/5/22	Introduction	00-01	Intro and Google Sheets		W – **All Sections**
1/10/22	Science & Reading Articles	02-05	Parsing Papers & Evaluating Media	HW1 Due	M – Sections 004/005 W – Sections 002/003
1/17/22	Conceptualization and Operationalization	06-09	Conceptualization & Operationalization	HW2 Due	W – **No Lecture**
1/24/22	Sampling	10-12	Pivot Tables and Sampling		M – Sections 004/005 W – Sections 002/003
1/31/22	Ethics, Hypotheses, Third Variables, and Causality	13-15	Third Variables	HW3 Due	M – Sections 004/005 W – Sections 002/003
2/7/22	Measurement Quality	16-18	Reliability and Validity	***Paper 1 Due***	M – Sections 004/005 W – Sections 002/003
2/14/22	Surveys	19-21	Asking Survey Questions		M – Sections 004/005 W – Sections 002/003
2/21/22	Experiments	22-24	Experimentation and Capstone Hypotheses		M – Sections 004/005 W – Sections 002/003
3/7/22	Observational Data	25-27	Midterm Review	HW4 Due (Mon) HW 5 Due (Lab)	M – Sections 004/005 W – Sections 002/003
3/14/22	Combining Methods and Distributions	28-29	Cleaning, Recoding, and Describing Data	***MIDTERM EXAM***	M – Sections 004/005 W – Sections 002/003
3/21/22	Comparing Data	30-32	Correlations and Crosstabs	HW6 Due	M – Sections 004/005 W – Sections 002/003
3/28/22	Complex Hypotheses	33-34	Open Lab		M – Sections 004/005 W – Sections 002/003
4/4/22	Reaching Conclusions	35-36	Open Lab		M – Sections 004/005 W – Sections 002/003
4/11/22	The Humanistic Method	37-38	Open Lab		M – Sections 004/005 W – Sections 002/003
4/18/22	Putting it all together	39		***Capstone Due***	**M – All Sections**