SYLLABUS: COMM 6661
STATISTICAL APPLICATIONS IN COMMUNICATION I
AU 2022 (16391)

Instructor: Matthew Grizzard

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Office hours: Wednesdays – 11am-12pm, 3145 Derby Hall

Course description

Fundamental principles of statistics commonly used in communication research. This course is the first in a sequence of graduate methodology classes required of all students enrolled in the M.A. or Ph.D. program in Communication.

Course learning goals and outcomes

Students will acquire working familiarity with the basic principles and theory behind descriptive and inferential statistics. By the end of the semester students will understand the difference between descriptive and inferential statistics, the logic of null hypothesis significance testing, and be able to conduct basic statistical analyses, including *t*-tests, a single-factor ANOVA, correlation, regression, and chi-square. Students who complete this course will be able to read and understand empirical research, analyze data from their research projects, and report results in accordance with APA standards. Students will develop these competencies through various homework assignments, a midterm, and a final exam.

Mode of delivery, time, and location

This course will be presented in-person on Mondays and Wednesdays, 9:35am-10:55am. The course meets in Journalism 224.

How this course works

The course will take a seminar/lecture format. The professor's lecture materials will be presented during regular class time, but may be supplemented with online activities to be completed outside of the classroom.

Students are encouraged to ask questions during class, and the professor will provide ample check-ins with the students during lecture.

Homework will be assigned nearly every week (see Course Schedule) and is due in hardcopy during class on Monday.

Students will need to acquire SPSS for this course (see the Course Technology section).

Course materials

Required

SPSS for Windows or Mac.

Additional supplementary readings and handouts that will be distributed through Carmen.

Recommended (not required but potentially very helpful)

Gravetter, F. J., & Wallnau, L. B. (2015). *Statistics for the Behavioral Sciences* (10th Ed.). Wadsworth.

Gonick, L., & Smith, W. (1993). *The Cartoon Guide to Statistics*. Harper Perennial.

*This humorous guide to statistics provides excellent examples and can aid in theoretical and conceptual understandings of how statistics work.

Grading and faculty response

Grading

Following are the point values and/or percentages for each assignment:

Assignments	Points and/or Percentage
Homework Assignments	**500 points (50%)**
Midterm	**250 points (25%)**
Final	**250 points (25%)**

Assignments

Homework Assignments – During most weeks during the semester, you will be given a homework assignment to complete (see Course Schedule for the assignment dates and due dates). There are 11 homework assignments in total, and I will drop 1 assignment from calculating your final grade. Homeworks will be assigned on Wednesdays and due the following Monday in hardcopy.

You **MUST NOT** work with other students when working through the assignments, and you **MUST** submit your own independently written answers for each problem. It is a violation of the Code of Student Conduct to prepare your written answers together and/or submit answers that are in effect copies of each other. It is a violation of course policies and the OSU code of Student Conduct to exchange answers, electronically or otherwise, or to collaborate in any way on these assignments. Violators of this policy will be sent to the Committee on Academic Misconduct in accordance with university policy.

For some questions, there will simply be a right or wrong answer. For others, partial credit may be earned by showing your work and the logic you used to arrive at the answer you did. Writing quality will matter when I grade your assignments. Be specific, precise, attentive to detail, and

careful in how you phrase your answers, as you will be graded based on your actual answer (what is on the page), not what you intended to say or said awkwardly. Do not wait until the last minute to start the assignments, as procrastination will show in the quality of your work.

Use Word or another word processing program you are comfortable with. Use the symbol font for Greek symbols (when needed) and learn to use Microsoft's Equation Editor to type equations when necessary. There are many helpful videos on YouTube related to using Microsoft's Equation Editor; the official Microsoft description is provided here https://support.microsoft.com/en-us/office/equation-editor-6eac7d71-3c74-437b-80d3-c7dea24fdf3f

You will turn in a hardcopy of your assignment. You should save back-up copies of your submitted assignments.

The answers for each question will be provided soon after the assignment is due. It is up to you to check your responses with the official answer sheet. If you do not understand any inconsistencies between the official answers and your own, you may contact me for assistance.

Frequently, we will discuss the assignments in class after the due date has passed and everyone has turned in their assignment.

Midterm – An open-note, open-book midterm will be assigned on October 12 and will be due on October 15 at 5pm EST. Again, you **MUST NOT** work with other students when working through the assignment, and you **MUST** submit your own independently written answers for each problem.

Final – A cumulative final will be assigned the final week of the semester. The final is also open note and open book. Again, you **MUST NOT** work with other students when working through the assignments, and you **MUST** submit your own independently written answers for each problem.

The final exam will be due December 9 at 5pm EST.

Late assignments

Unless otherwise notified, assignments are due before the beginning of class on the due date.

An assignment will be accepted for full credit so long as it is not submitted more than 24 hours after the due date. The only exceptions to these rules are totally unforeseen circumstances that are convincingly documented and communicated to me before the 24-hour window.

Please be on time with your assignments. If you are late turning in an assignment, you make everyone wait for the answers, as the assignment will not be discussed in class until everyone has turned it in.

Extensions and other accommodations will be provided if absences or late assignments are the result of medical emergencies. In these cases, an alternative assignment may be substituted by the professor.

Grading scale

93–100: A
90–92.9: A-
87–89.9: B+
83–86.9: B
80–82.9: B-
77–79.9: C+
73–76.9: C
70 –72.9: C-
67 –69.9: D+
60 –66.9: D
Below 60: E

Please note: Carmen Canvas, OSU's grading and class management software, does not round fractions up. Please take that into account in computing grades. I do not manually round up grades. There may be opportunities for extra credit depending on the discretion of the instructor.

Attendance, participation, and discussions

Credit hour and work expectation

This is a 3-credit-hour course. According to Ohio State policy, students should expect around 3 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 6 hours of homework (reading and assignment preparation, for example) to receive a grade of (C) average.

Student participation requirements

There is no formal attendance policy for this course. However, you should always attend class. If I believe attendance is slipping, I reserve the right to create an attendance policy. Not attending class will make learning the course material difficult. Some of the material that will appear on exams will only be presented during lecture, and many of the SPSS techniques to be discussed are not documented anywhere except during lecture.

A Helpful Note on Mathematics Anxiety

Often one of the greatest barriers to mastering material in methodology courses is fear of mathematics. Many students lock up with anxiety when they are asked to do any computation, and this anxiety typically interferes with the ultimate goal of conceptual understanding. Together, we will attempt to work on making mathematics comfortable for you throughout the semester.

In this course, we will look at the formulae behind the statistical tests that are quickly done by computers. While the formulae seem complex, this class does not require an advanced

understanding of mathematics. If you can add, subtract, multiply, divide, square, and take the square root of a number (using a calculator), you have all the necessary mathematical skills that you need. The difficulties surrounding statistics involve understanding (a) the linkages between the conceptual realm and the operational realm and (b) the assumptions that underlie statistical tests.

Although this is an introductory course, it is still intended to be challenging. I expect you (a) to work hard, (b) to prepare for class, and (c) to do what you need to do to learn the material, both in and out of class. You will not succeed if you do not dedicate time and energy to reading and contemplating the material and working through the examples in the text.

You will likely find yourself working harder during your first year of graduate school at Ohio State than you have ever worked before. This is normal for graduate school, and you will hopefully find the work that you put in both personally and professionally rewarding.

Faculty feedback and response time

I am providing the following list to give you an idea of my intended availability throughout the course. (Remember that you can call **614-688-HELP** at any time if you have a technical problem.)

General Questions

If you have questions about course content, please bring them up during our regularly meetings. Questions that you have are likely to be shared by your classmates, so it will benefit learning objectives if you bring them up during class. I will also open a discussion board on Carmen for you to post questions.

Grading and feedback

For large weekly assignments, you can generally expect grading within a week.

E-mail

I will reply to e-mails within **24-48 hours on school days**.

Discussion and communication guidelines

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Cameras on:** Because I rely on seeing your faces and your reactions to determine whether you are understanding and following my presentations, I ask that you please acquire a webcam and leave it on during class meetings (see Course Technology section).
- **Open discussions:** It is impossible to fake understandings of material and succeed in graduate school. To master material and advance, you must acknowledge when you do not understand a concept. It is my duty as the instructor of this class to ensure that you are acquiring the basic knowledge of statistics that is required to begin your graduate

school journey. The more open we are in our discussions about what we understand and do not understand, the more successful I will be in teaching you and the more successful you will be in learning about statistics. I thus expect you to speak up when you do not understand a concept or statistical procedure.

Course Technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at https://ocio.osu.edu/help/hours, and support for urgent issues is available 24x7.

- **Carmen:**
    - Carmen, Ohio State's Learning Management System, will be used to host materials and activities throughout this course. To access Carmen, visit Carmen.osu.edu. Log in to Carmen using your name.# and password. If you have not setup a name.# and password, visit my.osu.edu.
    - Help guides on the use of Carmen can be found at https://resourcecenter.odee.osu.edu/carmen
    - **This online course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.**
        - Carmen accessibility
- **Carmen Zoom:**
    - Office hours will be held through Ohio State's conferencing platform, Carmen Zoom. A separate guide to accessing Carmen Zoom and our office hours is posted on the course Carmen page under Files.
    - Students may use the audio and video functions if a webcam and microphone are available. If not, there is still a chat function within Carmen Zoom for the student to live chat with the professor or TA in the virtual office hours room.
    - Carmen Zoom help guide
- **Self-Service and Chat support:** http://ocio.osu.edu/selfservice
- **Phone:** 614-688-HELP (4357)
- **Email:** 8help@osu.edu
- **TDD:** 614-688-8743

Baseline technical skills necessary for online courses

- Basic computer and web-browsing skills

- Navigating Carmen

Necessary equipment

- Computer: Current Mac (OS X) or PC (Windows 7+) with high-speed internet connection
- Web cam and microphone
    - Webcams or devices with webcams may be available to our grad students. The School of Communication has a small pool of iPads and laptops that are available for faculty/staff/grad students needing a device to check out. If you need such a device, submit a request to the School of Communication's technical support personnel (asctech@osu.edu).

Necessary software

- Word processor with the ability to save files under .doc, .docx, .rtf, or .pdf. Most popular word processing software programs including Microsoft Word and Mac Pages have these abilities.
- OSU students have access to Microsoft Office products free of charge. To install, please visit https://osuitsm.service-now.com/selfservice/kb_view.do?sysparm_article=kb04733
- SPSS (R is recommended as an alternative)
    - SPSS and R are statistical analysis and data manipulation packages widely used throughout the scientific community. These are but two of many statistical software programs you should become familiar with during your days in graduate school. However, because SPSS is the one program most faculty and graduate students in this program are familiar with, we will use it.
    - R is quickly becoming a standard package for use in many disciplines both in and outside of the social sciences. Familiarity with R will equip you to both better understand the similarity of the various packages and also enable you to take courses in cognate departments that emphasize the package. R is freely downloadable from https://www.r-project.org/. Many online resources are available to help students become more familiar with the computing and coding environment.
    - SPSS is available on all graduate student office computers in the School of Communication in Derby Hall as well as throughout public computing labs operated by OSU's Office of Information Technology. It also can be licensed for use on your personal machine by acquiring a copy and installation codes through the OSU Office of Information Technology. For most students in this class, there is no charge for the license. SPSS can be downloaded and installed from OSU, but it will not work without first acquiring the license codes. For details, see
        - https://ocio.osu.edu/software/directory/slwin/#spss for the Windows version and

- https://ocio.osu.edu/software/directory/slmac/#spss1103 for the Mac version.

- You can also contact the School of Communication's technical support personnel in Derby Hall, for assistance (asctech@osu.edu).

Other course policies

Student Academic Services

Arts and Sciences Advising and Academic Services' website provides support for student academic success. Information on advising issues such as tutoring, transfer credits, academic standing, and contact information for Arts and Sciences advisors can be obtained through this website. The site is: http://advising.osu.edu/welcome.shtml

Student Services

The Student Service Center assists with financial aid matters, tuition and fee payments. Please see their site at: http://ssc.osu.edu

Copyright Disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Diversity

The School of Communication at The Ohio State University embraces and maintains an environment that respects diverse traditions, heritages, experiences, and people. Our commitment to diversity moves beyond mere tolerance to recognizing, understanding, and welcoming the contributions of diverse groups and the value group members possess as individuals. In our School, the faculty, students, and staff are dedicated to building a tradition of diversity with principles of equal opportunity, personal respect, and the intellectual interests of those who comprise diverse cultures.

Title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at http://titleix.osu.edu or by contacting the Interim Ohio State Title IX Coordinator, Molly Peirano, at titleix@osu.edu

Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you are or someone you know is suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614-292-5766.

If you are thinking of harming yourself or need a safe, non-judgmental place to talk, or if you are worried about someone else and need advice about what to do, 24-hour emergency help is also available through the Suicide Prevention Hotline (Columbus: 614-221-5445)

COVID-19 and Illness Policies

University COVID policies

This is a placeholder for policies to be announced by OSU.

Student illness or absence

If *you* are too ill to participate in this course due to COVID-19 or another illness, please contact the instructor as soon as you are able. All materials will be made available on Carmen, including lecture recordings and slides. Alternate assignments or extensions may be arranged.

Instructor illness or absence

If the *instructor* is too ill to teach the course for a period of time, the designated backup for this course will step in. You will be notified via email from the School of Communication.

Academic Integrity Policy

Academic Misconduct

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct http://studentlife.osu.edu/csc/

I expect students who believe a classmate has violated this policy to come forth to me so the alleged violation can be investigated and appropriate action can be taken if needed. If possible, your identity will be protected. **You can be found in violation of the Code of Student Conduct for assisting others to violate the Code, including by turning a blind eye when you see it happening.** "Cheating" in graduate school simply cannot and will not be tolerated, and the consequences for doing so are severe.

Note, however, that I understand there is value to study groups and assisting others to acquire the understanding of the material in this class. **I encourage such study groups (even virtual ones)** and will do what I can to help such groups flourish. But conversations must steer clear of questions related to graded assignments.

Tentative Nature of the Syllabus

This syllabus represents a contract in the works. Events that transpire over the semester may require me to modify the administration of this course and therefore the syllabus. In the event I need to modify the syllabus, I will announce the modification in class and on Carmen. Ultimately, it is your responsibility to keep up with any such modifications and be aware of current policies, deadlines, etc.

Accessibility accommodations for students with disabilities

Requesting accommodations

Students with disabilities (including mental health, chronic or temporary medical conditions) that have been certified by the Office of Student Life Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office of Student Life Disability Services is located in 098 Baker Hall, 113 W. 12th Avenue; telephone 614- 292-3307, slds@osu.edu; slds.osu.edu.

Course schedule (tentative*)

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Week 1

- Aug. 24 – Introductions, Course Schedule, and Expectations

Week 2 – Introduction to Statistical Vocabulary (Chapter 1 in Gravetter & Wallnau)

- Aug. 29
- Aug. 31 (Homework 1 assigned; due Sept. 7)

Week 3 – Introduction to SPSS

- Sept. 5 – No Class – Labor Day
- Sept. 7 (Homework 2 assigned; due Sept. 12)

Week 4 – Frequency Distributions and Central Tendency, and Variability (Chapters 2-4 in Gravetter & Wallnau)

- Sept. 12
- Sept. 14 (Homework 3 assigned; due Sept. 19)

Week 5 – *Z*-Scores and Standardized Distributions (Chapters 5 & 6 in Gravetter & Wallnau)

- Sept. 19
- Sept. 21 (Homework 4 assigned; due Sept. 26)

Week 6 – Probability and Samples (Chapters 4-6 in Gravetter & Wallnau)

- Sept. 26
- Sept. 28 (Homework 5 assigned; due Oct. 3)

Week 7 – Hypothesis Testing Basics and review (Chapter 8 in Gravetter & Wallnau)

- Oct. 3
- Oct. 5 (Homework 6 assigned; due Oct. 10)

Week 8 – Midterm Week

- Oct. 10 – Midterm assigned (due Oct. 13, 5pm)
- Oct. 12 – No Class - Midterm workday

Week 9 – Hypothesis Testing Continued, Statistical Power, and Introduction of *t*-test (Chapters 8-11 in Gravetter & Wallnau)

- Oct. 17
- Oct. 19 (Homework 7 assigned; due Oct. 24)

Week 10 – *t*-test completed and discussion of Effect Size (Chapters 9 & 10 Hayes; Chapters 8-11, 17 in Gravetter & Wallnau)

- Oct. 24
- Oct. 26 (Homework 8 assigned; due Oct. 31)

Week 11 – ANOVA (one-factor; Chapter 12 in Gravetter & Wallnau)

- Oct. 31
- Nov. 2 (Homework 9 assigned; due Nov. 7)

Week 12 – Factorial ANOVA (Chapters 13 in Gravetter & Wallnau)

- Nov. 7
- Nov. 9 (Homework 10 assigned; due Nov. 14)

Week 13 – Correlation & Chi-square analysis; Effect Size reviewed (Chapter 14 and 15 in Gravetter & Wallnau)

- Nov. 14
- Nov. 16 (No Class – NCA Travel)

Week 14 – Correlation & Chi-square analysis; Effect Size reviewed (Chapter 14 and 15 in Gravetter & Wallnau)

- Nov. 21
- Nov. 23 (Homework 11 assigned; due Nov. 30)

Week 15 – Catchup Week; Measurement Theory

- Nov. 28
- Dec. 2

Week 16 – Final Exam Prep Week

- Dec. 5 (Final Exam Assigned; due Dec. 9)
- Dec. 7