

COMM 7790

Statistical Applications in Communication II:

Spring 2022

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Office Hours: Tuesday and Thursday 1:30-3:30pm, and by appointment (situation depending, I am available to meet either in-person or via zoom)

Class Location: JRN 342
Time: TuTh: 3:55 – 5:15pm

COURSE MATERIALS

Strongly Suggested Texts:

- Hayes, A. F. (2005). *Statistical Methods for Communication Science*. New York: Routledge
- Berry, W. D., & Feldman, S. (1985). *Multiple Regression in Practice*. Sage Publications.

**Any additional required readings will be posted on CARMEN

Suggested Texts: note –texts are meant to supplement your learning, you will not be tested on any material unique to these texts

- Agresti, A., & Finlay, B. (1997). *Statistical Methods for the Social Sciences*. Upper Saddle River, NJ: Prentice Hall.
- Gravetter, F. J., & Wallnau, L. B. (2005). *Essentials of Statistics for the Behavioral Sciences*. Belmont, CA: Thomas Wadsworth [beginner/intermediate level]
- Keppel, G., & Wickens, T. D. (2004). *Design and Analysis: A researcher's handbook*. Upper Saddle River, NJ: Prentice Hall

Additional Materials:

- This course requires access to statistical software (SPSS or R). If you would like to use a different type of software, let the instructor know.
- Please bring a calculator and paper with you to every class!

ABOUT THIS COURSE

Course Description and Goal:

This course intends to provide a foundation for basic statistical techniques in communication research, with a focus on ANOVA and Regression analyses.

Objectives:

*The ultimate goal of this class is to **learn the arguments that underlie statistics**. As such, this is NOT a math class, but instead a class about how to infer meaning from numbers.*

1. To improve quantitative reasoning skills and provide a foundation for further statistical learning (through exams)

2. To understand, and be able to implement, a variety of statistical techniques (homework)
3. To understand concepts related to ANOVA and Regression (exams)
4. To learn and practice running statistical analyses (homework)

Mode of Delivery:

This mode of delivery for this course has yet to be determined due to the evolving threat of COVID-19. Thus, the mode of delivery for this course will likely be decided upon on a week-to-week basis in an effort to keep everyone safe and comfortable. When a decision gets made, students will be informed as soon as possible via email sent through Carmen. THUS, KEEP YOUR CARMEN NOTIFICATIONS ON given that class delivery mode is not specified on the syllabus.

- It is hoped that the majority of this class will take place in-person. In case this is not possible (due to COVID-19 or otherwise) students will be informed as soon as possible via email that the lecture will be moved to Zoom.
- The zoom lectures will take place at 3:55pm on Tuesdays and Thursdays. The zoom link to each lecture will be posted on Carmen and sent through email for students to join. Joining the lecture synchronously in these instances will be required unless otherwise specified.

ASSIGNMENTS & EVALUATION

Exams:

There will be two exams in this course, a midterm and a final. These exams intend to assess your conceptual knowledge of the material and will consist mostly of multiple-choice, true/false, and short answer items. Simple computations may be necessary in order to answer an item correctly. The final exam will not be cumulative, per say, however in order to perform well on this exam, foundational statistical knowledge will be required. These exams will be worth 62% (31 % each) of your final grade.

Problem Sets:

Note that the method for turning in assignments might change, we will discuss this in class. For now, know that these will be due every Tuesday at the beginning of class and are worth 10 points. Also note the late assignment policy. All of the other details specified below could change.

There will be 12 problem sets assigned throughout the semester. In general, these sets will be due at the beginning of class on TUESDAY of every week (unless otherwise specified). It is expected that students work on these problem sets **ALONE**. Each problem set will be graded on a 10-point scale. All problem sets should be turned in via the dropbox on Carmen (although we can discuss format preferences in the class). **Please use .doc or pdf. formats, 'pages' will not be accepted.** Generally, these problem sets will include a series of questions related to the material discussed in lecture and in the readings from the preceding week. In order to do well on these sets, the following guidelines must be met: 1) all work is neat, legible, and obvious (make sure the answer is clearly stated), 2) you show EACH STEP to any math problem involving hand computations (I suggest using Microsoft Equation and excel), 3) Provide and label all relevant documents for computer-generated answers (e.g., SPSS/R output & syntax with answers labeled on the printout), and 4) be turned in by the due date. Late problem sets **will** be accepted (note course policy here) but for a reduction in points (-3 for every day late up to 3 days). These sets will comprise 38% of your final grade.

GRADING SCALE

	Maximum Points	% of Grade
Midterm Exam	100	31
Final Exam	100	31
Problem Sets (12)	120	38
Total	320	100

Below is the scale that will be used to calculate final grades:

Grade	Percentage	Points
A	93% - 100%	297 – 320
A-	90% - 92.9%	288 – 296
B+	87% - 89.9%	278 – 287
B	83% - 86.9%	265 – 277
B-	80% - 82.9%	256 – 264
C+	77% - 79.9%	246 – 255
C	73% - 76.9%	233 – 245
C-	70% - 72.9%	224 – 232
D	60% - 69.9%	192 – 223
E	< 60%	< 191

POLICIES AND MISCELLANEOUS

Late or Absent Assignments and Missed Exams:

UNLESS OTHERWISE STATED, assignments are due at the beginning of class on the due date specified on the syllabus. Late problem sets **will** be accepted but for a reduction in points (-3 for every day late up to 3 days). Exams **MUST** be taken at the specified date and time - the only exceptions to these rules are tragic, extraordinary, and totally unforeseen personal circumstances that are convincingly **documented** no later than 24 hours after the due date.

Attendance:

To do well in this course it is HIGHLY RECOMMENDED that you attend class. There is no formal attendance policy in this course, because you are graduate students, but suffice it to say it is a very bad idea to miss.

Carmen:

All class materials, and assignment grades, will be posted on Carmen. A list of these materials include supplemental readings, handouts, data sets, and problem sets. Please make a habit of checking Carmen daily so that you are adequately prepared for class and for completing the assignments.

Challenging Grades:

There may be instances in which students feel as though the grade posted in the gradebook is inaccurate. This inaccuracy could be based on instructor error or an instance in which the student feels

they can make a case for a different grade. In either instance, students must contact the instructor **within two weeks** of the date in which the grade was posted. After this time, the grade on that assignment will be considered “closed”. Thus, students are encouraged to monitor their grades throughout the semester and challenge any decisions as soon as possible.

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.

Academic Dishonesty and Misconduct

Academic Dishonesty is a serious offense. All work that you submit for this course must be your own and unassisted by the work or ideas of present or past COMM7790 students or any persons other than the instructor. That means you are expected to work independently on all problem sets. To do otherwise is to cheat. If any form of academic dishonesty is detected, the instructor will follow the procedures and penalties outlined by Ohio State University.

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/>

Accessibility Accommodations for Students with Disabilities:

Requesting Accommodations

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know via email immediately so that we can privately discuss options. You are also welcome to register with Student Life Disability Services to establish reasonable accommodations. After registration, make arrangements with me as soon as possible to discuss your

accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu ; 614-292-3307; slds.osu.edu ; 098 Baker Hall, 113 W. 12th Avenue.

Religious Holidays:

Students who will be observing a religious holiday on a class date or exam date must provide date/event written notification to the instructor within the first two weeks of the semester so that alternative arrangements can be made.

SOC Diversity Statement:

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 Ohio State Title IX Coordinator, Kellie Brennan, 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

In the event you must quarantine because of exposure to someone diagnosed with COVID-19 OR you are feeling ill with COVID-19 symptoms, you still will be able to make progress in this class. Please contact your instructor right away, as some accommodations may require extra set-up or planning. The quarantine plan for this course is to record the class session and post the recording on Carmen. This requires a minimum of 1-hour advance notice for device and room set-up.

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 prior to the next class meeting. All materials will be made available on Carmen, including lecture recordings and slides. At least 1 hour advance notice is necessary for device and room set-up. Alternate assignments or extensions may be arranged.

Instructor illness or absence

If the *instructor* is quarantined or is experiencing respiratory symptoms but is well enough to teach, the in-person sessions will be moved online to Zoom. You will be notified via email no later than 3 hours before the class is scheduled to meet. Given that this is a morning class, please get in the habit of checking your email before you leave.

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.

Campus closure

Should The Ohio State University Main Campus move to full online instruction due to closure, please wait for your instructor to email directions for the next session. Our in-person classes will be moved to Zoom and links to the meetings will be provided.

Please note that the instructor reserves the right to adjust the syllabus according to the needs of the class

TENTATIVE SCHEDULE (*required readings are **bolded**, suggested readings are not*)

Week	Date	Topic	Reading (#'s = chapter #)	Assignments Due Date
1	1/11 (T)	Intro to course, statistics, measurement	GW: 1	
	1/13 (Th)	Descriptive statistics	GW: 3,4	
2	1/18	Statistical Inference: Estimation	GW: 5,6	Problem Set 1
	1/20	Statistical Inference: Estimation	AF: Ch. 5	
3	1/25	Statistical Inference: Significance tests, Effect size, and power	GW: 7,8; KW:8	Problem Set 2
	1/27	T-test review		
4	2/1	Introduction to ANOVA	KW: 1; H: 14	Problem Set 3
	2/3		KW: 7	

		One-Way Anova model and assumptions		
5	2/8	One-Way Anova comparisons	KW: 4, 5	Problem Set 4
	2/10	Intro to Factorial Designs	KW: 10	
6	2/15	Two Factor Designs: Major effects	KW: 11	Problem Set 5
	2/17	Two Factor Designs: Simple effects and comparisons	KW: 12	
7	2/22	Two Factors Designs: Interaction contrasts	KW: 13	Problem Set 6
	2/24	Within Subjects Designs: Single Factor	KW: 17	
8	3/1	Within Subjects: Major, Simple Effects, Interaction	KW: 16	Problem Set 7
	3/3	Mixed-Design	KW: 19	
9	3/8	Review		
	3/10	Exam 1	H: 12	
10	3/15	NO CLASS SPRING BREAK		
	3/17	NO CLASS SPRING BREAK		
11	3/22	Correlation & Bivariate regression	AF: 9; BF: pp.9-12	
	3/24	Model Assumptions & Violations	H: 12	
12	3/29	Multivariate Relationships	H: 13	Problem set 8
	3/31	Multiple Regression	H: 13	
13	4/5	Specification Errors	BF: pp. 18-26	Problem set 9
	4/7	Residual Plots	BF: 26-50, 73-88	
14	4/12	Categorical Variables	McClendon p. 93 - 132	Problem set 10
	4/14	Categorical Variables		
15	4/19	Multiple and Partial Correlations	AF: Ch. 11	Problem set 11
	4/21	Stepwise Regression and Review	Baron& Kenny	
Final Exam: Monday 5/2 6:00pm-7:45pm				

I would like to acknowledge Dr. Hee Sun Park, Gwen Wittenbaum, Joyce Wang, and Andrew Hayes for their contributions to the production and creation of this course.