

COMM 7790

Statistical Applications in Communication II

Spring 2026

Faculty instructor

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Student hours: Wednesdays 1:00pm – 3:00pm EST, or by appointment

Course location

Derby Hall 3116

Time: Tuesdays and Thursdays from 3:55pm – 5:15pm

Course description

This course intends to provide a foundation for basic statistical techniques in communication research, with a focus on ANOVA and regression analyses. Focus is on conceptual understanding rather than mathematical computation. Students will gain hands-on experience practicing their learning through various assignments using R software.

Course learning outcomes

- Students will develop a clear conceptual understanding of simple and multiple regression, analysis of variance and covariance, moderation, and data visualization. Other topics in linear models may be introduced as time allows.
- Students will acquire skills to select and implement the appropriate aforementioned statistical models. By the end of the course, students will be able to correctly formalize their theoretical hypotheses using statistical models, apply statistical tests, identify model assumptions, interpret model parameters, perform model comparisons, and report the analysis and results in APA style.
- Students will gain experience using R software to test these statistical models.

Mode of delivery

This course will be in-person for this semester, but we will use the online Zoom format only when necessary (e.g., work travel – as already noted in the course schedule, medical reasons, health concerns). We will use Carmen to organize the course lectures, assignments, and other materials. Assignments should be submitted via Carmen as well.

Each student should install R and RStudio on their own computer for all of the in-class exercises and take-home assignments.

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 missing class may lead to falling behind in the course material.

Course materials

Field, A., Miles, J., & Field, Z. (2012). *Discovering statistics using R*. SAGE.

Any additional reading materials will be provided on Carmen.

Course technology

Technology support

For help with your password, university email, Carmen, or any other technology issues, questions, or requests, contact the Ohio State IT Service Desk. Standard support hours are available at ocio.osu.edu/help/hours, and support for urgent issues is available 24/7.

- Self-Service and Chat support: ocio.osu.edu/help
- Phone: 614-688-4357(HELP)
- Email: servicedesk@osu.edu
- TDD: 614-688-8743

Technology skills needed for this course

- Basic computer and web-browsing skills
- Navigating Carmen (go.osu.edu/canvasstudent)
- CarmenZoom virtual meetings (go.osu.edu/zoom-meetings)

Required equipment

- Computer: current Mac (MacOs) or PC (Windows 10) with high-speed internet connection
- Microphone: built-in laptop or tablet mic or external microphone
- Other: a mobile device (smartphone or tablet) to use for BuckeyePass authentication

Required software

- Microsoft Office 365: All Ohio State students are now eligible for free Microsoft Office 365. Full instructions for downloading and installation can be found at go.osu.edu/office365help.
- R and RStudio

Carmen access

You will need to use BuckeyePass (buckeyepass.osu.edu) multi-factor authentication to access your courses in Carmen. To ensure that you can connect to Carmen at all times, it is recommended that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the BuckeyePass - Adding a Device help article for step-by-step instructions (go.osu.edu/add-device).
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click Enter a Passcode and then click the Text me new codes button that appears. This will text you ten passcodes good for 365 days that can each be used once.
- Download the Duo Mobile application (go.osu.edu/install-duo) to all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357(HELP) and IT support staff will work out a solution with you.

Grading

This class has 1000 possible points, which are distributed as follows:

Weekly Question Submissions (x10)	100 points (10 points each)
Weekly Homework Assignments (x10)	400 points (40 points each)
Final Presentation	250 points
Final Paper	250 points

Assignments

Weekly Question Submissions (10 points x 10)

You will be expected to review the assigned readings and share your questions/thoughts prior to (most) Tuesday class sessions each week.

- Prior to our Tuesday class, you will be expected to submit 3 – 5 questions about the assigned readings for the week.
- There should be at least one question per assigned reading.
- These questions are intended to help me identify areas that need more attention in class. Please provide sufficient detail/context in your question so I can understand the problem. Ultimately, my goal is to use these questions to tailor my lectures and assignments to your needs.
- If you do not have a question about a particular reading, please briefly summarize the key points of the reading.
- Questions are due **Tuesdays at 9am** during the marked weeks on the syllabus.
- **Note: There are 11 question submission opportunities throughout the semester. Your lowest discussion grade will be dropped – i.e., only your 10 best scores count towards your grade.**

Weekly Homework Assignments (40 points x 10)

You will be expected to complete a take-home assignment that will ask you to apply the past week's material.

- Homework assignments will be a mix of practice problems, conceptual questions, and applications to your own data.
- Homework assignments are expected to be completed individually. However, research is often a collaborative venture, so please feel free to seek high-level help, such as when de-bugging code. All submitted material, though, should reflect the student's own work.
- Homework assignments will be due **Thursdays at 9am** during the marked weeks on the syllabus.
- **Note: There are 11 homework assignment opportunities throughout the semester. Your lowest assignment grade will be dropped – i.e., only your 10 best scores count towards your grade.**

Final Presentation (250 points)

At the end of the semester, students will share conference-style presentations on an individual research project using a statistical approach learned during the semester.

- Presentations will be 12 minutes with 5 – 7 minutes for questions.
- Presentations will emphasize the statistical approach in greater depth than a typical conference presentation.
- Additional details about the presentation will be provided in class (and on Carmen).

- Presentations will occur during the last week of the semester.

Final Paper (250 points)

Accompanying the final presentation, students will submit a final paper that provides greater depth about their individual research project.

- The final paper will not be a full empirical paper. Instead, emphasis will be placed on the Methods and Results section (along with figures/tables), with a relatively brief Introduction and Discussion section at the beginning and end, respectively.
- The final paper will use APA format.
- Additional details about the paper will be provided in class (and on Carmen).
- The final paper is due during finals week.

Late assignments

All deadlines are in Eastern Standard Time (EST). Submitting work after the deadline yields a -10% point penalty for the submission. For each additional day after the deadline, students lose an additional -10% off the submission.

Extensions: Students may receive an extension for an assignment if they **contact me 48 hours prior to the submission deadline**. The length of an extension will be evaluated on a case-by-case basis.

Grading scale

Please note that 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. The official grading scale is as follows:

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

Faculty feedback and response time

Grading and feedback

For weekly assignments, you can generally expect feedback within **7 days**. If it is going to take longer than 7 days, you will receive a course announcement from me.

E-mail

I will reply to e-mails within **24 hours on school days**. I do not respond to emails over the weekend, and I do not expect you to respond to emails over the weekend. Please email me through OSU email and not the Carmen messaging system, as Carmen sometimes does not notify me that I have an unread message.

University 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>.

Student Services

The Student Service Center assists with financial aid matters, tuition, and fee payments. Please see their site at: <https://contactbuckeyelink.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.

Additional Disclaimer

This syllabus represents a contract "in the works." Events that transpire over the semester may require modifications to the course. In the event of a change, I will announce the change and update the syllabus on Carmen. Ultimately it is your responsibility to keep up with any such modifications and to be aware of current policies, deadlines, etc. I reserve the right to modify course policies throughout the semester.

Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a welcoming community. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Civil Rights Compliance Office (CRCO):

Online reporting form: <http://civilrights.osu.edu/>

Call 614-247-5838 or TTY 614-688-8605

civilrights@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Civil Rights Compliance Office to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

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

Counseling and Consultation Services / Mental Health Statement

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 or someone you know are 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 and 24-hour emergency help is also available through the 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline.

Military-Connected Students

The [Military and Veterans Services](#) (MVS) Office offers a wide range of resources for military-connected students. Whether using educational benefits or not, all military-connected students are encouraged to learn more about how the university supports military-connected students (i.e., information about tutoring, transition services, access to the veteran's lounge, etc.). For service members, should you receive military orders during the semester or know of classes that will be missed due to service commitments, please speak with your instructor as soon as possible on possible accommodations. MVS contact information: milvets@osu.edu; 614-247-VETS; veterans.osu.edu/; 185 Student Academic Services Building, 281 W. Lane Avenue.

Disability Statement (with Accommodations for Illness)

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If students anticipate or experience academic barriers based on a disability (including mental health and medical conditions, whether chronic or temporary), they should let their instructor know immediately so that they can privately discuss options. Students do not need to disclose specific information about a disability to faculty. To establish reasonable accommodations, students may be asked to register with Student Life Disability Services (see below for campus-specific contact information). After registration, students should make arrangements with their instructors as soon as possible to discuss your accommodations so that accommodations may be implemented in a timely fashion.

If students are ill and need to miss class, including if they are staying home and away from others while experiencing symptoms of viral infection or fever, they should let their instructor know immediately. In cases where illness interacts with an underlying medical condition, please consult with Student Life Disability Services to request reasonable accommodations.

slds@osu.edu

<https://slds.osu.edu/>

098 Baker Hall, 113 W. 12th Ave

614-292-3307 phone

Academic Misconduct

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the [Committee on Academic Misconduct](#) (COAM) expect that all students have read and understand the University's [Code of Student Conduct](#), and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute Academic Misconduct.

The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: Any activity that tends to compromise the academic integrity of the University or subvert the educational process. Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an excuse for academic misconduct, so please review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If an instructor suspects that a student has committed academic misconduct in this course, the instructor is obligated by University Rules to report those suspicions to the Committee on Academic Misconduct. If COAM determines that a student violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in the course and suspension or dismissal from the University.

If students have questions about the above policy or what constitutes academic misconduct in this course, they should contact the instructor.

Artificial Intelligence and Academic Integrity

There has been a significant increase in the popularity and availability of a variety of generative artificial intelligence (AI) tools, including ChatGPT, Sudowrite, and others. These tools will help shape the future of work, research and technology, but when used in the wrong way, they can stand in conflict with academic integrity at Ohio State.

All students have important obligations under the Code of Student Conduct to complete all academic and scholarly activities with fairness and honesty. Our professional students also have the responsibility to uphold the professional and ethical standards found in their respective academic honor codes. Specifically, students are not to use unauthorized assistance in the laboratory, on field work, in scholarship, or on a course assignment unless such assistance has been authorized specifically by the course instructor. In addition, students are not to submit their work without

acknowledging any word-for-word use and/or paraphrasing of writing, ideas or other work that is not your own. These requirements apply to all students undergraduate, graduate, and professional.

To maintain a culture of integrity and respect, these generative AI tools should not be used in the completion of course assignments unless an instructor for a given course specifically authorizes their use. Some instructors may approve of using generative AI tools in the academic setting for specific goals. However, these tools should be used only with the explicit and clear permission of each individual instructor, and then only in the ways allowed by the instructor.

Religious Accommodations

Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement **and** the student has notified their instructor, in writing during the first 14 days after the course begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact the [Civil Rights Compliance Office](#).

Policy: [Religious Holidays, Holy Days and Observances](#)

Intellectual Diversity

Ohio State is committed to fostering a culture of open inquiry and intellectual diversity within the classroom. This course will cover a range of information and may include discussions or debates about controversial issues, beliefs, or policies. Any such discussions and debates are intended to support understanding of the approved curriculum and relevant course objectives rather than promote any specific point of view. Students will be assessed on principles applicable to the field of study and the content covered in the course. Preparing students for citizenship includes helping them develop critical thinking skills that will allow them to reach their own conclusions regarding complex or controversial matters.

Grievances and Solving Problems

According to University Policies, if you have a problem with this class, you should seek to resolve the grievance concerning a grade or academic practice by speaking first with the instructor or professor. Then, if necessary, take your case to the department chairperson, college dean or associate dean, and to the provost, in that order. Specific procedures are outlined in Faculty Rule 3335-8-23. Grievances against graduate, research, and teaching assistants should be submitted first to the supervising instructor, then to the chairperson of the assistant's department.

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 immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. 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; 098 Baker Hall, 113 W. 12th Avenue.

Accessibility of course technology

This online course requires use of CarmenCanvas (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.

- Canvas accessibility (go.osu.edu/canvas-accessibility)
- Streaming audio and video
- CarmenZoom accessibility (go.osu.edu/zoom-accessibility)
- Collaborative course tools

Course Schedule Spring 2026

Week 1

January 13

- Topic: Intro to Course
- Homework: Download R & RStudio

January 15

- Topic: Descriptive Statistics and Data Visualization

Week 2

January 20

- Big Picture and Intro to ANOVA
- Homework: Question Submission #1

January 22

- Topic: Factorial ANOVA
- Homework: Homework #1

Week 3

January 27

- Topic: Contrasts and Multiple Comparisons
- Homework: Question Submission #2

January 29

- Topic: Within-subjects/Repeated Measures ANOVA
- Homework: Homework #2

Week 4

February 3

- Topic: Mixed ANOVA
- Homework: Question Submission #3

February 5

- Topic: ANOVA Catch-up and Writing a Methods Section
- Homework: Homework #3

Week 5

February 10

- Topic: ANOVA Assumptions, Diagnostics, and Model Evaluation
- Homework: Question Submission #4

February 12

- Topic: Intro to Regression

- Homework: Homework #4

Week 6

February 17

- Topic: Linear Regression with a Single Predictor
- Homework: Question Submission #5

February 19

- Topic: Linear Regression with a Single Predictor and Connections to ANOVA
- Homework: Homework #5

Week 7

February 24

- Topic: Linear Regression with Multiple Predictors
- Homework: Question Submission #6

February 26

- Topic: Linear Regression and Covariates
- Homework: Homework #6

Week 8

March 3

- Topic: Regression Assumptions, Diagnostics and Model Evaluation I
- Homework: Question Submission #7

March 5

- Topic: Regression Assumptions, Diagnostics and Model Evaluation II
- Homework: Homework #7

Week 9

March 10

- Topic: Linear Regression and Nonlinear Relationships
- Homework: Question Submission #8

March 12 – potentially on Zoom!

- Topic: Catch-up and Conference Presentation Discussion
- Homework: Homework #8

Week 10

March 17 and March 19: Spring break!

Week 11

March 24 – potentially on Zoom!

- Topic: Moderation and Interaction Effects I

- Homework: Question Submission #9

March 26

- Topic: Moderation and Interaction Effects II
- Homework: Homework #9

Week 12

March 31

- Topic: Logistic Regression I
- Homework: Question Submission #10

April 2

- Topic: Logistic Regression II
- Homework: Homework #10

Week 13

April 7

- Topic: Everyday Regression Problems
- Homework: Question Submission #11

April 9

- Topic: Intro to Mediation
- Homework: Homework #11

Week 14

April 14

- Topic: Wrap-up

April 16

- No class!

Week 15

April 21

- Conference presentations

April 23

- Conference Presentations

Week 16

Final paper due May 1!

~ This schedule is subject to change per the needs of the course ~