STAT 1211/2210 - Applied Categorical Data Analysis

Fall 2025

Lecture: MoWe 9:30AM - 10:45AM
5201 Wesley W Posvar Hall

Instructor Information: Yeon-Jung Seo (Office: 1828 Wesley W Posvar)
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Office Hours: TBA or by appointment (held in my office)

TA: He, Jie (Office: 1825 Wesley W Posvar, Email: jih162@pitt.edu)

TA Information & Office Hours: Our TA will grade homework assignments and hold office hours throughout the semester. TA office hours will begin in the second week of classes, with details posted on Canvas during the first week.

Course Summary & Prerequisites: This is an introductory course on the analysis of categorical response data. Topics include two- and three-way contingency tables, logistic regression, and loglinear regression. The prerequisite is an introductory applied statistics course. Students should be familiar with basic concepts of random variables and linear regression. STAT 1000 (and, to a lesser extent, STAT 0200) satisfies these prerequisites.

Objectives: The purpose of this course is to introduce techniques for analyzing contingency tables, with applications in the social sciences, medical sciences, and other fields where relationships between qualitative variables are of interest. By the end of the course, students will:

- Understand a variety of methods for analyzing categorical and count data, and know in which contexts these methods are appropriate.
- Be able to apply these methods in practical research settings.
- Develop a working knowledge of the statistical software **R** for categorical data analysis.

Required Text: Agresti, Alan. *An Introduction to Categorical Data Analysis* (2nd or 3rd Edition). John Wiley & Sons, Inc., New York.

Software: This course will use the statistical software **R**. **R** is open-source and free to use, and no prior coding experience is required. To run **R**, you will need two components:

- **R** – the programming language that performs the statistical analyses.
- **RStudio** – the integrated development environment (IDE) that provides an organized workspace for writing and running R code.

Both programs can be installed at no cost. Installation instructions will be provided in class and on Canvas.

Course Management: Course materials and announcements will be managed through **Canvas**.

Course Notes: Lecture slides will be posted as PDF files on the course Canvas page as they become available. Sample R code and data sets will also be provided.

Homework Assignments: A problem set will be assigned approximately once per week. All homework assignments will be posted in the Assignments section on Canvas and must be submitted via Canvas by the stated deadlines. **Late submissions will not be accepted.** To receive full credit, you **must show** all work; providing only a final numerical answer will not be sufficient. **The lowest homework score will be dropped. Missed assignments cannot be made up after the deadline.**

Extra Credit: No extra credit will be offered in this course. As stated above, assignments **cannot** be made up after the deadline.

Exams: Exams 1 and 2 will be held during regular lecture periods. Additional details will be announced via Canvas. If you must miss an exam due to a documented, legitimate excuse (e.g., illness, family emergency, university-related activity, court appearance), a make-up exam may be arranged at a mutually convenient time with the instructor or TA. Appropriate documentation is required. If you cannot provide documentation, you will receive a score of zero for the exam. Early exams (including Exams 1, 2, and the final) will **not** be permitted under any circumstances. **Missing the final exam will result in a grade of zero. Do not schedule travel before the end of the university's final exam period.**

Grading: Final letter grades (using the plus/minus scale) will be assigned based on a curve. The specifics of the curve, such as the grade corresponding to the class average, will depend on overall class performance and will be determined at the end of the semester.

Homework	20%	
Exam 1	25%	(Monday, Oct. 6)*
Exam 2	25%	(Monday, Nov. 10)*
Final Exam	30%	TBA*

***Tentative Exam Dates/Weeks:** Please note that the weeks for Exams 1 and 2 may be adjusted based on the pace of material covered in lecture. The final exam date is set by the university and will not change.

Email Policy: For any communication via email, please use your University-issued email address (username@pitt.edu). Include "STAT 1211" (or "STAT 2210") in the subject line to ensure a timely response. I am happy to answer questions by email and will typically reply within 24 hours of receiving your message (often much sooner). Emails sent over the weekend will be answered on Monday, usually in the morning.

Copyright Notice: These materials may be protected by copyright. United States copyright law, 17 USC section 101, et seq., in addition to University policy and procedures, prohibit unauthorized duplication or retransmission of course materials.
See Library of Congress Copyright Office and the University Copyright Policy.

Statement on Classroom Recording: To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use.

Academic Integrity: Students in this course will be expected to comply with the University of Pittsburgh's Policy on Academic Integrity. Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. This may include, but is not limited to, the confiscation of the examination of any individual suspected of violating University Policy. Furthermore, no student may bring any unauthorized materials to an exam, including dictionaries and programmable calculators.
To learn more about Academic Integrity, visit the Academic Integrity Guide for an overview of the topic. For hands-on practice, complete the Academic Integrity Modules.

Disability Services: If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and Disability Resources and Services (DRS), 140 William Pitt Union, (412) 648-7890, drsrecep@pitt.edu, (412) 228-5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

Your Well-being Matters: College/Graduate school can be an exciting and challenging time for students. Taking time to maintain your well-being and seek appropriate support can help you achieve your goals and lead a fulfilling life. It can be helpful to remember that we all benefit from assistance and guidance at times, and there are many resources available to support your well-being while you are at Pitt. You are encouraged to visit Thrive@Pitt to learn more about well-being and the many campus resources available to help you thrive.
If you or anyone you know experiences overwhelming academic stress, persistent difficult feelings and/or challenging life events, you are strongly encouraged to seek support. In addition to reaching out to friends and loved ones, consider connecting with a faculty member you trust for assistance connecting to helpful resources.
The University Counseling Center is also here for you. You can call 412-648-7930 at any time to connect with a clinician. If you or someone you know is feeling suicidal, please call the University Counseling Center at any time at 412-648-7930. You can also contact Resolve Crisis Network at 888-796-8226. If the situation is life threatening, call Pitt Police at 412-624-2121 or dial 911.

Disclaimer: While this syllabus is not expected to change, the instructor reserves the right to modify due dates, homework coverage, exam dates, add or remove material, and/or adjust lecture content as needed to ensure the success of the course.