

Statistical Analysis

MA222 Syllabus Section BL4 Fall 2026

Info

3 Credits; 2 lecture and 2 lab hours
Mon 11:00am - 1:00pm
Room: B302A

Instructor Information

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office: B831 Science and Math
office hours: M 1-3, W 11-12, R 12-1, or appointment

Description

Studies the principles and methods of statistical analysis including probability distributions, sampling distributions, error of estimate, significance tests, correlation and regression, chi-square, and ANOVA. Introduces the use of the computer to store, manipulate, and analyze data. Prerequisite(s): mathematic proficiency (see beginning of Mathematics section).

Outcomes

Upon completion of this course, students will be able to:

1. Summarize and graphically display data.
2. Compute and interpret measures of center and spread.
3. Work with probability distributions, including the normal distribution.
4. Use sampling distributions and describe the error of estimate.
5. Construct and interpret confidence intervals.
6. Carry out significance tests and interpret the results.
7. Compute correlation and fit a regression line.
8. Apply chi-square tests.
9. Apply analysis of variance (ANOVA).
10. Use the computer to store, manipulate, and analyze data.

Meetings

The class meets every Monday 11-1 and then there is online work later in the week.

Course Materials

Textbook

[Intro Statistics](#) is free and online. No other textbook is required.

Software

We will be using Google Spreadsheets or other free software for all work in this course. Since these are web-based applications there is NO OTHER SOFTWARE required for the course besides a web browser.

Topics

- Displaying and Summarizing Data
- Measures of Center and Spread
- Probability
- Probability Distributions
- The Normal Distribution
- Sampling Distributions and Error of Estimate
- Confidence Intervals
- Significance Tests
- Correlation and Regression
- Chi-Square Tests
- Analysis of Variance (ANOVA)

Evaluation

Your grade will come from these parts:

- Quizzes - 82%
- In Class Assignments - 12% (submitted in class only)
- Online Assignments - 6% (submitted online only)

Each of these parts is described in more detail below

Quizzes (82%)

Your quiz grade will come from 5 quizzes, roughly covering 3 meetings of material each. The quizzes are 30 minutes each and are usually 5 or 6 questions each. These quizzes are with no notes, no internet, no phone, no software, no AI tools. Pen and paper and calculator only. They are some multiple choice, some short answer, some true false.

In Class Assignments (12%) (submitted in class only)

These are credits you obtain for demonstrating you have completed assigned problems during our in person meetings.

These **In Class Assignments** are done during class and you show them to me as you complete them. You will earn a single credit for each successful assignment completion. I decide if the work is complete enough to receive credit for.

The in class work can only be turned in by showing it to me during a meeting. There is not a way to turn that work in by emailing it to me or submitting it in Brightspace. You show it to me and I mark it as complete when you are in class. You must be in attendance to earn these credits.

Late Work Policy

You may miss up to 1 meeting and still show me the in class work from that meeting at the next meeting. But you may not do this more than once.

Online Assignments (6%) (submitted online only)

These are credits you obtain for the work assigned between our weekly meetings.

These assignments are done through Google Docs. You turn them in by sharing them with me in Google Docs. There are no dropboxes for this work, it is just sharing.

Late Work Policy

All assignments must be submitted by 11:59 PM EST on the day they are due. There is no credit for late assignments.

Midterm, Final Exam

There is NO MIDTERM and NO FINAL EXAM in this course.

AI Policy

Use of AI in this course is forbidden, with one exception. You may use AI to understand the content from the textbook, [Intro Statistics](#): to explain a passage or to check your understanding of a topic we are covering.

You may use AI to understand a topic, but you may not ask the AI to do particular problems for you.

Every other use of AI is not allowed. That includes the In Class Assignments and the Online Assignments, which are your own work. The quizzes are pen and paper with no notes, no internet, no phone, no software, and no AI tools.