

Data Analysis for Business Applications

MA321 Syllabus Section 85B Fall 2026

Info

3 Credits

Mon 6:30pm - 9:20pm

Room: C409

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

This course covers intermediate statistics topics with applications to business. Students graph, manipulate, and interpret data using statistical methods and Excel. Topics include data transformations, single and multiple regression, time series, analysis of variance, and chi-square tests. Applications are from the areas of retail, finance, management, and marketing. Prerequisite(s): MA 222

Outcomes

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

1. Graphically display data using EXCEL.
2. Mathematical manipulation of data using formulas in EXCEL.
3. Plotting and analyzing time series graphs.
4. Investigating trend, cyclical and seasonal components of time series.
5. Applying smoothing techniques for forecasting with time series.
6. Correlation and graphing regression line.
7. Simple linear regression.
8. Multiple linear regression.

Course Materials

Textbook

Some readings are from an OER textbook that is free. 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

- Simple Regression
- Multiple Regression
- Time Series
- Seasonality
- Applications of Normal Distributions
- Inventory Models
- Economic Order Quantity
- Newsvendor Problem
- Empirical Probability Distributions

Evaluation

Your grade will come from these parts:

- Quizzes (88%)
- In Class Work Credits (8%)
- Homework Credits (4%)

Each of these parts is described in more detail below

Quizzes

Your quiz grade will come from 5 quizzes, roughly covering 2 or 3 weeks 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 Work Credits (8%) (1-3 per class)

These are credits you obtain for demonstrating you have completed assigned problems during class.

These 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. You must be in attendance to earn these credits. 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. There is not a way to turn these assignments in by emailing them to me or submitting in Brightspace, or any other digital way of submitting them.

You show them to me and I mark them as complete when you are in class.

You may miss up to 2 classes and you can still show me the assignments from those classes when you are in class again. But you may not do this more than 2 weeks worth.

Homework Credits (4%)

These are credits you obtain for the problems assigned between classes.

You show me the homework at the beginning of the class and you will earn a single credit for each successful assignment completion. As with the in class work, homework can only be turned in by showing it to me, not by emailing it or submitting it in Brightspace.

Some homeworks will be counted for a grade, but not always.

Midterm, Final Exam

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

AI Policy

Your use of AI in this course is not restricted. Generally all assignments use AI in some form, and you are free to use AI tools in whatever way you find helpful on them.

For some assignments though the AI is meant to be used in a particular way, with a specific tool, prompt, or technique, and working that way is part of what the assignment is teaching. When an assignment calls for that, please try to adhere to it.

The quizzes are the exception. Those are pen and paper with no notes, no internet, no phone, no software, and no AI tools, so use the AI to help you learn the material rather than in place of learning it.