Syllabus of ECON2843−850: Elements of Statistics

Class time and location: 12/22/2025 - 1/16/2026, online through Canvas and McGraw-Hill Connect.

Instructor: Chang Gao, PhD student at OU

Office hours: Online, every Thursday 8:00-9:00am and via Zoom; or you can make an appointment with me by email.

[Click here for the Zoom meeting link]

Link to most course material: https://github.com/changao1/ECON2843-winter-2025

The best way to reach out to me is email: chang.gao@ou.edu, I will promise to reply to your email within 24 hours of your sending it.

Course Objective

Upon completion of this course, my goal is that you are able to: Understand why statistics is important, be familiar with statistical terms and applications, and to recognize the role of statistics in an Artificial Intelligence (AI) − Large Language Models (LLMs) driven context.

Assessment Structure

Your grade will be based on 8 homework (5% each, 40% in total) and the higher one between: (1) 40%× final exam + 20%× optional midterm exam, (2) 60%× final exam. This means if your final exam grade is higher than midterm, it will be used as your 60% course grade; the midterm is truly optional.

Homework will be online through the McGraw-Hill Connect platform. You could have multiple attempts for the homeworks, there is no time limit to work on them as long as you submit them before the deadline of 1/13/2026. Each homework contains 20-30 multiple choice as well as some true/false questions.

Both the midterm (optional) and final exam (not optional) will be online through the McGraw-Hill Connect platform, they will be open-book exams. You will have ≥ 50 hours windows (for each one) to pick a time to take the exams at your convenience, the length of midterm exam will be 90 minutes and the length of final exam will be 120 minutes. The optional midterm contains 30-40 multiple choice questions, the final contains 50-60 multiple choice questions. The midterm exam covers section 1 and 2, the final exam covers all the sections. For each of the exams, only 1 attempt is allowed. The optional midterm dues on 1/5/2026 and the final exam dues on 1/16/2026.

Grading Scale

90-100	A	60-64	D
80-89	B	< 59	F
65-79	C		

I will curve the grades to 90 if median of final grades is below 90.

Textbook

Business Statistics: Communicating with numbers by Jaggia and Kelly. You can access the ebook from McGraw-Hill Connect.

Academic ethics

Cheating on assignments and exams, or plagiarizing (misrepresenting as one's own anything done by another) is penalized by the University of Oklahoma. A student found in such a situation will be given an F in the class and will be brought to University of Oklahoma Honor Council for further penalties. For further information, refer to https://www.ou.edu/integrity.

Title IX

Title IX is a federal statute prohibiting sex discrimination. Gender cannot be a basis for a person's exclusion from participation in, denial of benefits, or subjecting him or her to discrimination under any education program or activity, including employment. For further information, refer to https://www.ou.edu/eoo/about/title-ix.

Course Outline

Section	Content	Chapter in Textbook
1	Introduction to Data and Statistics	1, 2, 3
2	Probability and Distribution	4, 5, 6
3	Sampling and Sampling Distribution	7, 8
4	Hypothesis Testing	9, 10, 11, 12
5	Analysis of Variance and Inference	13, 14