

Economics 329: Experimental Economics

Northwestern University; 2023 Spring, Mon/Wed 12:30-1:50 pm; [University Hall 121](#)

Professor: Scott Ogawa (sogawa@northwestern.edu; Kellogg 3373)

TA: Yijun Liu (yijunliu2024@u.northwestern.edu)

Office Hours posted on Canvas; and by appointment.

Optional Textbook: “Markets, Games, and Strategic Behavior” by Charles Holt. Reference only; do not buy.

Objective

The primary objective of this course will be to use economic laboratory experiments – essentially interactive classroom activities – to (1) help you learn and solidify canonical economic theories, (2) give you insight into why and how models predict outcomes well and/or poorly, and (3) allow you to design and evaluate experiments, and (4) develop your skills in analyzing data and presenting results. In particular, this class will improve your ability to use economic analysis on *real* data.

Grades

Your grade will be based on five parts worth an equal amount: Problem Sets (including individual proposal at end of quarter), three closed-note quizzes, open-note final exam, group project, and participation.

- Weekly problem sets: 10%
- Tests: 60% of grade (40% based on short tests, 20% based on final exam)
- Project: 20%
- Participation: 10%

Problem Sets

You will submit Problem Sets online Monday before class. Problem sets will generally be done in groups of 2-3. Even if groups calcify during the quarter, there is no formal obligation to remain with the same group. You are discouraged from working alone though it is allowed. Problem sets will typically consist of one to two questions that you will submit (some to be graded, some simply checked for effort), along with other practice problems that you do not need to submit.

Short Wednesday Tests (i.e. “quizzes”)

There will be four short test (i.e. less than the full class) on Wednesdays. These quizzes will cover material (sometimes even stuff from student presentations) from the previous three weeks. They will typically consist of a very short closed-everything, paper-and-pencil portion, plus a short exercise on your computer. If you can solve each of the problem-set questions on your own you should be well-prepared. Each quiz will be 10% of your grade. If you need to miss one, that is okay though you should speak with the instructor ahead of time.

- Week 3: Apr 12
- Week 5: Apr 26
- Week 7: May 10
- Week 9: May 24

Final Exam

The final exam will be similar to some of the problem set questions. It will be open notes and open computer. The focus of this final will be your ability to analyze data in order to test economic models. **Scheduled final exam time is Friday, May 26, 12:30-1:50 pm.**

Project

The main project will be collaborative and done in groups of up to four. You will run an experiment during lecture/section, analyze the results, and present them to the class the following week. See “Project Guidelines” on Canvas for more details.

Participation

Engagement during class and section will not go unnoticed by the professor and the TA. Your performance in experiments will mostly be a way to show that you have stayed engaged. Top scorers will be recognized with a few bonus participation points; mostly, just try not to be a low scorer due to non-participation or chronic lack of effort. Finally, for problem sets and the project, you will fill out a short survey with regards to how your group worked together. In some situations we may look at answers to these surveys with regards to your participation grade (*not* your problem set or project grade).

Friday Sections

You should clear out your schedule so that you can attend on Friday, though given current enrollment (2023 Spring) you will only be required to attend up to three sections (plus the May 26 final exam). More details about all of this will be clearly communicated during the quarter.

Computers

You will sometimes need to have a laptop computer to participate in this class (though often a smartphone works). It will be easiest to bring your computer to each class since it will be used frequently. Also, when you are not using your computer, please close it and put it away. You will always need a computer in section.

Schedule of Topics

Weeks 1 - 3: Markets and Equilibrium

Design, identification, and statistical inference
Presentation guidelines
Supply and Demand; General Equilibrium

Weeks 4 - 6: Games (sequential and simultaneous)

Power calculations
Regression with interaction, log, and quadratic terms
Mixed-strategy equilibrium

Weeks 7 - 9 : Individual Choice and Selected Topics

Possibilities: Lotteries, auctions, lemon markets
Practice for final exam

Possible Experiments

Bold will likely be played in class at some point. *Italicized* exist in Veconlab and so are also good for student projects.

- Markets: **Pit Market**, *call market*, *double auction*, **lemons market**, labor markets, **general-equilibrium trade game**,
- Games: **Ultimatum/dictator game**, *trust game*, *prisoner's dilemma*, *coordination game*, *traveler's dilemma*, **guessing game (p-beauty contest)**, *centipede*, *voluntary contribution*, *gift exchange*, *any 2x2 game*, *auctions (first-price, second-price, all-pay, common-value)*, cheap talk, Bertrand (price) competition, Cournot (quantity) competition.
- Other: **Risk preference**, time preference, *information cascades*, *asset markets*, *vertical monopolies*, anything else you figure out how to implement.

[Official university policies](#) apply in this class. Also, if you ever use generative AI (ChatGPT) to come up with an answer, just let us know that is what you did and you are in the clear.