Economics 329: Experimental Economics

Northwestern University; 2020 Winter; Mon/Wed, 12:30 – 1:50 pm; Section Fri 12:30 – 1:30 pm; Harris L07

Professor: Scott Ogawa (sogawa@northwestern.edu; Kellogg 3481)
TA: Clement Bohr (clementbohr2022@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.

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; and send me an email if you are having trouble finding people to work with. Problem sets will typically consist of one to two questions that you will submit to be graded, along with other practice problems that you do not need to submit.

You will also propose your own experiment and describe what question you hope to answer. This proposal should be under two pages and include a short literature review. This can be thought of as a final problem set and will be part of your problem-set grade.

Quizzes

There will be three short tests (i.e. quizzes). You can miss up to one, though this may have a slight adverse effect on your grade; please speak with the professor as soon as possible if you know in advance that you need to miss a quiz. The quizzes will cover anything from class (including student presentations) from the previous three weeks.

Wed, Jan 29 (week 4) -- **Wed, Feb 19** (week 7) -- **Mon, Mar 9** (week 10)

Final Exam

The final exam will be similar to some of the problem set questions. It will be open notes and open computer (in fact you will take it on your computer). The focus of this final will be your ability to analyze data in order to test economic models. **Scheduled final exam time is Wed, Mar 18, 3:00 - 5:00 pm.** If you have a valid reason to not be on campus at this time, you can take the exam remotely, but it must be during these two hours.

Project

The main project will be collaborative and done in groups of up to four.[1] 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.

[1] For Winter of 2020, the groups will be assigned by the end of week 2 (with some input from you). For the problem sets, you may never work with somebody who is *also* in your project group. We hope this gives you an opportunity to get to know more people in the class.

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 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).

Sections
You are expected to attend a majority of sections so that you can be a participant in other people's experiments. The exact number that you can miss will be announced during the first two week. You have some flexibility with regards to which ones to miss (with some guidance, to be discussed in class), and you are also welcome to attend all of them if you want. Occasionally a part of section may also be used to cover material that we did not have time for in class.

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.

Weekly Schedule
- Monday: Student presentation(s) based on experiments from previous week; Lecture and/or quick experiment.
- Wednesday: Quiz some days; Student presentation(s); Lecture/discussion.
- Friday: Experiments run by students; Sometimes an optional example to help with upcoming problem set.

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.

Links: Academic Integrity; Accessible NU; Student Enrichment