

Introduction

Economics 302 - Microeconomic Theory II: Strategic Behavior

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Welcome to ECON 302!

- Instructor: Shih En Lu
- This hour:
 - 1 Overview of the course material
 - 2 Functioning of the course

When Markets Work Well

- In ECON 201, you focused on markets where:
 - ① transactions do not directly impact third parties;
 - ② there are many buyers and many sellers; and
 - ③ everyone knows all the relevant information (e.g. characteristics of the good).
- As a result:
 - ① the buyer's benefit and seller's cost correspond to the benefits and costs for society;
 - ② market participants take prices as given, and buy [sell] as long as their valuation of the good is higher [lower] than the price; and
 - ③ these valuations accurately reflect the buyers' benefit and the sellers' cost.

What Can Go Wrong? (I)

- Much of this course deals with these market failures:
 - ① Externalities and public goods
 - ② Market power: monopoly, oligopoly
 - ③ Asymmetric Information: hidden action (moral hazard), hidden characteristic (adverse selection)
- Some transactions impact third parties.
- As a result, the buyer's benefit and seller's cost may fail to match the benefits and costs for society.

What Can Go Wrong? (II)

- Some markets fail to have many sellers.
- In this case, sellers realize that selling more leads to a lower price.
- So while selling an extra unit at P dollars still brings in P from the sale, it also costs the firm through a lower price on all the units that would have been sold anyway. **Marginal revenue is less than the price.**
- The seller will therefore produce a quantity where its **marginal cost is below the price** \implies inefficiency!
- Similar problem arises when there are few buyers.

What Can Go Wrong? (III)

- Sometimes, information about a good can be incomplete. This is especially problematic when one side of the market knows less than the other.
- An insurance company doesn't know exactly how risky its customers are. So it can have a hardtime gauging the cost of the service it provides.
- Insured customers are tempted to act less carefully, and one cannot fully monitor their behaviour.
- These problems can preclude the efficient outcome, and could even make the market unravel completely.

Where Game Theory Comes In

- Under perfect competition, as long as you know the price, you can maximize utility/profit without worrying about other market participants' behaviour.
- When there are two or more firms with market power, each firm must anticipate other firms' behaviour, which affects the price.
- When there is hidden information, the uninformed party must take into account how the informed party will react to its decisions.
- How do we analyze these complex situations?
- Game theory: a toolbox for studying “strategic” behaviour.

- Office hour information: see syllabus / TBD
 - My main office hours (no appointment necessary) will be in person.
 - I will also have Zoom office hours by appointment only.
- Come and see us during office hours or by appointment - don't be shy, but be well prepared.
- Textbooks: none required. See syllabus/outline for recommendations.
- Slides will be posted before lecture. They are **not** sufficient on their own as notes: you should complete them with your own notes during class.

Attendance (? points)

- Vote on whether you want attendance to be graded!
- Taken during lectures via Canvas quizzes.
- If there are multiple quizzes during a lecture, you must be present during **all** quizzes to receive **any** points.
- **Falsely answering that you are present is academic dishonesty. You should NOT answer present even if you're on your way to class.** Manually checking attendance disrupts the whole class, so **falsely answering present is very disrespectful of other students' (and Shih En's) time. As such, the penalty for doing so will be HEAVY: typically an attendance score of 0 for the semester.**
- You **will not** be allowed to make up or receive an adjustment for the **first three** lectures missed for a valid reason, since you can still get full marks from the others. **If you miss a class for a valid reason, keep any relevant documentation, but please DO NOT contact me until you've missed 4 classes for valid reasons.**

Homework (32 points)

- 9 problem sets. Discuss problems with each other - most of you will learn a lot from each other - but **write your own solutions**.
- Each problem set is worth 4 points, and you only need 32 points for the maximum grade benefit.
- Due **on Canvas** by the **beginning** of lecture on dates indicated on the syllabus. **Late assignments will not be accepted**. If you encounter an issue with Canvas and the deadline is imminent, email your problem set to your TA.
- You **will not** be allowed to make up or receive an adjustment for the **first** problem set missed for a valid reason, since you can still get 32 points from the other 8. **If you miss a problem set for a valid reason, keep any relevant documentation, but please DO NOT contact me until you've missed 2 problem sets for valid reasons.**

Homework (cont'd)

- Problem sets are **graded for completeness only, so don't copy from other students, tutors or last semester's solutions.**
 - You will get full credit as long as your solutions show that you made a serious attempt at each question, even if they're completely wrong.
 - Very similar assignments will be deemed evidence of academic dishonesty.
- **You need to check your solutions for accuracy once solutions are posted.**
- **Most tutorials will mainly focus on problem sets. You should attend them unless you find problem sets easy.**

The Purposes of Problem Sets (I)

- Problem sets serve a dual purpose:
 - ① Make you learn and practice answering basic questions (like in high school).
 - ② **Deepen your understanding** of the material and develop your **problem solving skills** by **making you think** about how to approach and analyze settings that are less familiar by using/combining the basic tools you were taught in different ways.
- **If you get solutions and learn them by heart, you will not achieve goal #2.**
 - Instead, you should attempt the problems yourself and/or with classmates, and, if necessary, asking the teaching staff to help you get started on a problem.

The Purposes of Problem Sets (II)

- Isn't the point of problem sets to help you prepare for exams?
- It's the other way around!
 - Problem sets help you learn.
 - Exams are just there to measure what you learned, much of it by doing problem sets - not just how to answer very similar questions, but also how to use course concepts to answer new questions.
- If there were no cheating concerns, I would make ECON 302 problem sets graded for content and worth much more, and I would make exams mostly take-home.

- Not necessary, not encouraged.
- Not discouraged either **if they don't teach you problem sets before due dates or help you cheat (e.g. by giving you solutions)**
- Tutoring companies that teach problem sets or provide solutions **before** due dates can hurt you in 2 ways:
 - You lose an opportunity to develop your problem solving skills, and are instead led to learn solutions by heart.
 - You **could be caught for plagiarism** if your solution follows theirs too closely (**even if it's not identical**) and lose up to all problem set points for the semester. I take this issue very seriously: **in Spring 2023, 26 students were penalized for plagiarism.**
- Again: problem sets are graded for completeness only. You can get 100% even if everything is wrong, as long as you show that you tried every question seriously.
- **If you decide to attend a cram school, choose one that will explain problem sets only ****AFTER**** they're due.**

Essay (20 points)

- 300-500 words, in-class (75 minutes)
- You will evaluate a statement, indicating whether you agree, conditionally/partly agree, or disagree with it. There is no “right” answer.
- Detailed instructions will be provided in advance, but the statement to evaluate will be given only at the time of writing.
- You will receive two scores (10 points each): a “content” score for the quality of your analysis, and a “language” score for the quality of your writing.
- You will have the opportunity to rewrite the essay after getting it back for a new “language” score. (If your language score was already very high, you will be able to slightly improve the content score.)

Exams (108 points)

- A midterm (40 regular points) and a final (68 regular points)
- New from 2018 onward: two kinds of questions, “regular” (108 points, used to be called “basic”) and “challenge” (around 30-35 points this semester)
- **New from Spring 2023 onward: $\geq 50\%$ of regular points will be for questions that should be familiar** (more on this later)
- Even with more familiar questions and excluding “challenge” questions from the denominator, **exam averages may be somewhat low**. In my view, **this is totally normal in a properly evaluated intermediate micro course**. Why?
 - Problem-solving should be an important part of theory courses.
 - Problem-solving must be tested with less familiar questions, which are inherently harder: otherwise, you may instead be testing rote-learning.

Types of Exam Questions

- Exams will have 3 kinds of questions:
 - ① At least 50% of regular questions: taken from lectures (examples from slides, Canvas quiz questions), problem sets or posted exams given after 2017. The numbers/variables/functions may be changed, but the wording will mostly remain the same (hints may be removed).
Sometimes, the modifications may change the steps necessary to solve the problem.
 - ② Rest of regular questions: qualitative questions about major course concepts (e.g., explanations from class, definitions) and straightforward application of course material (problems whose solutions are simple and/or built on familiar arguments, applying definitions).
 - ③ Challenge questions: mostly more difficult problems (requires crafting unfamiliar arguments based on course material), occasionally subtle qualitative questions.
- With challenge questions, top students can earn more than 108 points. In that case, the excess is converted into a bonus, but **cannot** fully make up for a low essay score - see course documents for the formula.

Grading Scheme

- Out of 160+: Attendance (?) + problem sets (32) + essay (20) + exams (108) + possible bonus/penalties
- There is no set pass mark due to variation in exam difficulty across semesters. **There is no fixed grading scale.**
 - Percentage scores have no inherent meaning: 50% could be an A+ or an F, depending on the exam!
- There is no set grade distribution due to variation in student quality across semesters. **There is no fixed curve.**
 - I will follow department grading guidelines except in exceptional circumstances (e.g., exceptionally strong/weak cohort, very oddly shaped grade distribution, widespread academic dishonesty).
 - **New from Spring 2023 onward:** A score of $46 + X + Y$, where X is the 10th percentile on exams (among students with a valid final exam score), and Y is 90% of the maximum attendance score, guarantees a C- or better. Thus, **if you get at least the 10th percentile on exams, you are guaranteed to pass by maximizing attendance and problem set scores and getting at least 14/20 on the essay (not hard with the rewrite).**

Missing Course Requirements

- **See the document posted online for detailed rules and deadlines.**
- Fill out an **Academic Concession Self-Declaration Form** and include it in your **first email** (unless you're asking for a religious accommodation, in which case the form is not required).
- Email me **before the midterm exam** if you will miss the final for religious reasons.
 - Otherwise, only medical emergencies may lead to an accommodation for missing the final, and even in that case, your request for an accommodation may be rejected if your course grade before the final exam is an F or if you also missed the midterm for any reason.

Scared of ECON 302?

- I've posted some tips online from me and from former students. Go read them if you're worried.
- You are **not** expected to solve all problem set questions on your own. Remember that unfamiliar questions are there to develop your problem-solving skills. **Work with friends and/or attend office hours (Shih En's and/or a TA's) when you get stuck.**
- **Low exam scores do NOT mean that you're not learning or that the course is too hard:** as explained earlier, they're normal on certain types of exams.
- Think of unfamiliar problem set or exam questions as **puzzles, not work**, since you can get a lot wrong and still get a good grade.
 - Solving them should be much more **rewarding** and **fun** than doing a familiar problem with new numbers. A positive attitude can go a long way!

My Personality (and Avoiding Misunderstandings)

- I'm blunt. If you're wrong, I'll say it directly. **I'm not judging you as a person - participation is encouraged, and learning from mistakes is important.**
- If an error is easily avoided, I will point that out and explain why. **This is to show you that the question is do-able, not to scold you for making the mistake.**
- Ultimately, **I want all of you to succeed.** Any frustration or impatience (hopefully rare!) is **not intentional** or directed at you, but rather due to the message not getting through.

My Expectations (I)

- Don't leave class before time unless I'm done.
- **Read the course staff's emails.**
- **Never fall behind.** You should understand everything in a week's lecture slides before the following week's lectures.
- Learn and understand the **definitions**. Many exam questions are new, and you will have trouble understanding them if you do not learn *exactly* what the words mean.
- As a 4-credit course, ECON 302 should take 8-12 hours of your time per week. Lecture and tutorial take up 3.5-4 hours, so you should spend **4-8.5 hours per week outside of class on average** (more in some weeks, less in others).
 - In a typical week, you should probably spend 1-2 hours going over slides and your lecture notes (reviewing definitions and arguments made in class) and the rest of the time **on problem sets (doing and reading solutions)**.
 - Be prepared to spend extra time on this course if you do not master the relevant material from pre-requisite courses.

My Expectations (II)

- **Everybody** should aim for full marks on attendance and problem sets.
- **Read the syllabus when it's posted.** You'll probably find it helpful to read "Details about grading," but it's not absolutely necessary.
- **Read the writing exercise document (in Canvas) carefully before the in-class essay and again before doing the at-home rewrite.**
- **If you need to miss a course requirement, read the relevant document BEFORE contacting me.** If not, skip it.
- If you're considering asking for a regrade, read the regrade policy. If not, skip it.
- **Don't ask for an exception to course policies** (e.g., "Can you shift some weight from this exam to that exam?"): the answer is **no**, and you may be penalized for asking.
 - Don't worry: there is no penalty if you ask for a *clarification* (e.g., your situation is unusual, and you're not sure how the course policies apply).
 - Of course, **any question about the course content is encouraged.**

Extra Information: Why So Many Challenge Questions?

- They **reward deeper understanding and creativity**, which are important qualities for students intending to pursue further studies in economic theory.
 - I don't want the difference between A+/A/A- students to be mainly based on who makes the fewest careless mistakes.
- Suppose you have a bad day on the midterm. If the final only has easy questions, you can't catch up! So **challenge questions make the course more forgiving**.
- Even A+ students may struggle to get over 50% on challenge questions. That's why I exclude them from the denominator. However, I expect A/A+ students to get *some* challenge points, so although they are almost like bonus questions, they are not quite entirely optional if you're aiming for a high grade and want a healthy margin for error on regular questions.

Extra Information: Why This Course Is Very Quantitative

- (Much of) microeconomic theory =
 - ① express common sense hypotheses as precise mathematical assumptions, and then
 - ② use math again to derive results from the assumptions and make sense of the world.
- Math helps identify hidden/implicit assumptions that might not always hold, and helps avoid conflating related but different concepts.
- We will use things that you should have learned in ECON 103, ECON 201, MATH 157 and ECON 233.