

ECON 302: Microeconomic Theory II: Strategic Behavior

Lectures: W 14:30-17:20 in B 9201
 Instructor: Shih En Lu (shihenl@sfu.ca)
 Office Hours: W 13:30-14:20 in WMC 4661 – no appointment necessary
 Fridays on Zoom (<https://sfu.zoom.us/j/4142842639>) **by appointment only**
(must email me ALL times that work for you by 5pm Thursday)
 Website: www.sfu.ca/~shihenl/302/

TA: Azraf Ahmad (azrafa@sfu.ca)	Tutorial:	D106	D109	D110	D113
Office Hours: W 10:30-12:30	Time:	Th 9:30	Th 10:30		F 11:30
Room: WMC 1651	Room:	AQ 5051	AQ 4120		AQ 5051

Note: Tutorials and office hours start on 1/13. Come to office hours early enough to be done by the end time, keeping in mind that there may be a queue. Some office hours may be moved, in which case you will be advised.

The following documents, posted online, are an integral part of this syllabus: “Policy on Missed Requirements” and “Regrade Policy”. You should consult them, as needed, for more details about the parts of this document labeled with a star (*). The “Details about Grading” document on Canvas contain more precise grading information.

I. GENERAL INFORMATION

Course Description

Aspects of microeconomic theory concerned with strategic behavior, imperfect information, and market failure. Topics include game theory and oligopoly; uncertainty and insurance; asymmetric information and market power, externalities and public goods, together with related issues in welfare economics. Prerequisite: ECON 201/301. Quantitative.

Textbooks

Refer, as needed, to the textbook you had for ECON 201. See this course’s outline (www.sfu.ca/outlines.html) for a partial list of textbooks previously used in ECON 201, some of which are on reserve at the library. You may also consult this free resource:

- McAfee, Lewis and Dale, *Introduction to Economic Analysis* (see <https://www.mc4f.ee/Papers/Introecon/ieav21.pdf>).

The above books cover most, but not all, of this course’s topics: many universities cover intermediate microeconomics in only one semester. You may find the following books useful, especially for the topics marked “+” in the course schedule (see end of this document):

- Watson, *Strategy: An Introduction to Game Theory*, W.W. Norton & Company.
- Tadelis, *Game Theory: An Introduction*, Princeton University Press.
- Gibbons, *Game Theory for Applied Economists*, Princeton University Press.
- Osborne, *An Introduction to Game Theory*, Oxford University Press.

Note: While Osborne is a good book in general, be warned that its usage of the expression “perfect information” is nonstandard and will be considered incorrect in this course.

Technical Requirements

You must have devices and an internet connection that enable you to:

- **Participate in Canvas quizzes while in class**
- Scan/capture images of handwritten work (*e.g.*, problem sets) and upload them to Canvas
- Use Zoom, with video and audio, for remote instruction (if needed) and office hours
- Watch and listen to videos on SFU Mediasite (stream.sfu.ca) if you miss class

Moreover, if the in-class essay, midterm exam and/or final exams need(s) to be conducted remotely, you will need **two internet-enabled devices**: one for taking the exam (*e.g.* computer) and one through which you will be proctored (must be Zoom-capable with video and audio).

COVID-19 Safety

Depending on the epidemiological situation, Prof. Lu may institute a masking requirement in the classroom even if there is no such provincial or university requirement.

Rapid tests can be picked up for free at most pharmacies, so **you should have rapid tests at your disposal at home as you may need a positive test to justify an absence.***

Lectures, Tutorials, Office Hours and Communication

Questions during lecture are encouraged. Lecture slides are just a sketch of the material, so **you should take your own notes to complement them.**

All lecture videos from Fall 2020, when this course was delivered remotely, will be available on Canvas. This semester's material will be very similar, with significant differences noted in the course outline.¹ If you miss a class, you are welcome to see the course staff during office hours after watching the corresponding video from Fall 2020.

Tutorials will focus on problem-solving by going over problem sets (most weeks) and additional examples (some weeks, time permitting). **If you find that there isn't enough problem-solving during lectures, attend tutorials.** You should also ask about the parts of the lectures that you find unclear. Take advantage of the small group size to ask questions!

At office hours, you are encouraged ask any question you have about the course material (be specific), microeconomic theory, or grad school in economics. For advice about textbooks and studying, see the Canvas FAQ and the "Tips" document on the course website.

Read all emails sent to you by the course staff: they may contain important announcements. You may email the course staff. Although we will usually respond promptly, we cannot guarantee it.

II. REQUIREMENTS AND GRADING

If you need to miss a course requirement, please immediately consult the course policy on missed requirements*, BEFORE contacting the instructor. That document lays out the rules in detail (documents to submit, deadlines, and what happens if your request is accepted).

- **No academic concession is available for attendance or problem sets before the 4th/5th lecture with quiz or the 2nd problem set missed for valid reasons.**
- Students that miss the final, even for a valid reason, may not receive an academic concession if they also missed the midterm or are failing this course before the final.
- Religious accommodation requests for the final must be made before the midterm.

¹ This semester's lectures will not be recorded: experience from 2021-22 showed that most students prefer Fall 2020 videos to class recordings.

Your grade in this course is based on the following five assessments:

- Problem Sets (maximum 32 points)
- Lecture Attendance² (maximum 17 points)
- Midterm March 5, in class (40 regular points)
- Final To be announced (68 regular points)

Your **numerical course grade (G)** is the sum of all points earned³, up to the maxima above, minus a potential penalty detailed in the “Regrade Policy” document. (Don’t worry: most semesters, no one is penalized.) The caps allow you to lose some points without impacting G for reasons like illness, with no need for academic concessions. Missing classes or problem sets voluntarily may be risky, especially early in the semester: you may need that leeway later.

To offset the effect of variations in exam difficulty across sections, the thresholds for letter grades are set so that **the distribution of grades falls within departmental guidelines**.⁴ Your **letter grade** will depend only on G and these thresholds. The minimum score threshold for a C- will be set **no higher** than the **10th percentile of exam scores plus 32 plus 90% of the maximum lecture attendance score**.

Problem Sets⁵

Problem sets count as one assessment in 9 parts, each graded out of 4 for completeness only. Show your steps on all questions. You are encouraged to help each other, but each of you must **handwrite** your OWN solutions. Submit them via Canvas (see Canvas for file requirements).

Do not copy anyone’s work, including a tutor’s, and do not let anyone copy your work:

solutions suspiciously similar to a past semester’s solution set or a classmate’s are evidence of academic dishonesty and may lead to serious consequences such as a score of zero for ALL parts of this semester’s problem set assessment. An academic dishonesty report will be filed, which may lead to further consequences. **Dozens of students have been penalized for plagiarism in this course, mostly for copying a tutor’s solutions.**⁶

Lecture Attendance

Lecture attendance counts as one assessment (via Canvas quizzes) in multiple parts. Marking yourself as present when you are not physically in class constitutes academic dishonesty and may lead to serious consequences such as receiving a score of zero for ALL parts of the attendance assessment. **I will deal strictly with any student caught cheating on attendance: such behaviour is highly disrespectful to other students since it can cause lost class time.**

Exams (Midterm and Final)

Exams cover all material from lectures and problem sets and are weighted roughly according to duration. The final is cumulative but emphasizes new material. See the “Details about Grading” document for information about question types. **Because a large part of exams is now drawn from lectures/problem sets/past exams, scores should be much higher than pre-2023.**

² If you or a household member are at high risk from COVID-19, see the policy on missed requirements.*

³ There is an exception if you earn more than 108 points on exams, which is possible with challenge questions. See the “Details about Grading” document.

⁴ If there is evidence that the group is abnormally strong or weak, the distribution may deviate from the guidelines. Usual variations in the strength of group across semesters are addressed within the departmental guidelines.

⁵ Most problems are the same as in past semesters, so solutions may be accessible. Consulting them before doing the problems is a bad idea: (i) An important purpose of problem sets is to make you actively think through the problems. Learning externally provided answers short-circuits the learning process. (ii) Risk of academic dishonesty. (iii) Problem sets are evaluated for completeness only, so there is no grade advantage to seeing the answers in advance.

⁶ Thus, if you use a tutoring service, you should demand that it cover problem set solutions AFTER the due date.

Late Submissions (Problem Sets)

No submission will be accepted after Canvas submissions are closed. If you have technical difficulties with Canvas, email your work to your TA before the deadline.

Inaccurate Records

You are responsible for ensuring that your scores shown on Canvas are complete and accurate. Report any inaccuracy by emailing your TA. No problem set, quiz, essay or midterm score will be corrected after the final exam even if you can show that a score is missing or inaccurate.

III. TENTATIVE COURSE SCHEDULE

Numbers are for lecture videos from Fall 2020. [Notable changes in brackets – see slides]
You are responsible for figuring out which sections of your textbook correspond to the lectures (ask if in doubt). Many textbooks omit some aspects of “plus” (+) topics below.

Problem sets are due at 8am on Thursdays (90 minutes before the start of the first tutorial), EXCEPT Problem Set 9, which is due at 11:59pm on April 9.

Preliminary Material

- | | |
|---------|---|
| 1/8 | 0. Introduction to course [if watching lecture video, stop after slide 7] |
| 1/8, 15 | 1. Review |

Part I. Externalities

- | | | |
|----------|--|-----------------------------------|
| 1/15, 22 | 2a. Externalities and government's role | 1/22-23: Problem set 1 due |
| 1/22 | 2b. Public goods, Common resources [common resources not covered in video] | |

Part II. Market Power and Games of Complete Information

- | | | |
|-----------|---|-----------------------------------|
| 1/22, 29 | 3. Monopoly | 1/29-30: Problem set 2 due |
| 2/5 | 4. Introduction to games, Expected utility theory [axioms no longer required] | |
| | 5. Iterated strict domin. [ISD & mixed str. simplified] | 2/5-6: Problem set 3 due |
| 2/12 | 6. Nash equilibrium | |
| | 7. Oligopoly | 2/12-13: Problem set 4 due |
| 2/19 | Reading Week | 2/26-27: Problem set 5 due |
| 2/26, 3/5 | 8. Introduction to dynamic games, Backward induction | |
| 3/5 | First 2 hours of class: Midterm (covers material up to Oligopoly, inclusive) | |
| 3/12 | 9. Repeated games+ | 3/12-13: Problem set 6 due |

Part III. Asymmetric Information (and Preferences over Risk)

- | | | |
|-----------|--|---|
| 3/19 | 10a. Price discrimination | 3/19-20: Problem set 7 due |
| 3/26 | 10b. Adverse selection | |
| 3/26, 4/2 | 11a. Signaling+ [semi-separating eq. now challenge only] | |
| 4/2, 9 | 11b. Attitudes toward risk | 4/2-3: Problem set 8 due |
| 4/9 | 12. Moral hazard+ | 4/9: Problem set 9 due |
| | | <i>Practice problems on moral hazard provided</i> |
| 4/10 | No Tutorial | |