

Economics 310-2: Intermediate Microeconomics II

Northwestern University, Spring 2024

Prof. Piotr Dworczak

Logistics

Time: Tue/Thu 9:30AM-10:50AM
Location: Lutkin Hall
Instructor email: piotr.dworczak@northwestern.edu
Office hours: Wed 2:15PM-3:15PM (KGH 3359) (start in week 2)
Fri 4:00PM-5:00PM ([Zoom](#); KGH 3359 by appointment)

Teaching assistants:

Julien Manili:	julienmanili2028@u.northwestern.edu OHs: Wed 4:00PM-5:30PM (KGH 3198)
Aaron Wolf:	aaronwolf2027@u.northwestern.edu OHs: Wed 1:00PM-2:30PM (KGH 3411)
Jingyuan Wang:	jingyuanwang2023@u.northwestern.edu OHs: Mon 10:30AM-12:00PM (KGH 3411)

Discussion sections: (start in week 2 of the quarter)

Mon 3:00PM-3:50PM in Tech. Inst. M164 (sec 21; Julien)
Mon 4:00PM-4:50PM in Tech. Inst. L251 (sec 23; Julien)
Mon 4:00PM-4:50PM in Tech. Inst. M164 (sec 25; Jingyuan)
Wed 3:00PM-3:50PM in Tech. Inst. M164 (sec 22; Aaron)
Wed 4:00PM-4:50PM in Tech. Inst. L221 (sec 24; Aaron)
Wed 4:00PM-4:50PM in Tech. Inst. L150 (sec 26; Jingyuan)

Important dates:

April 25 (Thu): Midterm I
May 23 (Thu): Midterm II
June 4 (Tue): Final exam

Course Description

This course introduces the major topics of microeconomics that are a continuation of material covered in ECON 310-1. The course provides students with analytical tools to understand economic phenomena and develops foundations for analyzing market settings with strategic players and incomplete information.

The course consists of three blocks. First, we cover basic social choice theory and apply it to the study of competitive markets. We show in what sense and under what assumptions markets lead to desirable social outcomes. Second, we delve into the analysis of strategic behavior and incomplete information by studying the theory of games and decision making under uncertainty. We will also talk about auctions and mechanism design. In the final (short) block, we return to the question of how well markets work, but this time equipped with tools that allow us to consider a more nuanced perspective, taking inequalities and imperfect information into account.

Course goals. This course discusses a mixture of abstract and practical concepts. Correspondingly, the main goal is to teach you how to apply these abstract concepts to better understand economic reality. After taking this course, you should be well equipped to analyze simple microeconomic systems using mathematical modeling and basic economic concepts such as efficiency and equilibrium. Most importantly, this course aspires to teach you how to think like an economist, by appreciating the role of preferences, information, and incentives in the analysis of human behavior.

Prerequisites. The economics requirement for this course is Econ 310-1. We will heavily rely on the ideas and optimization techniques covered in Econ 310-1 to analyze the behavior of supply, demand, and prices in the whole economy. Notes from Econ 310-1 are in general a good reference when you want to remind yourself of these techniques. The mathematics requirement for this course is single-variable calculus.

Textbooks. No textbook is assigned for this class. For background reading, one of the following texts is recommended:

- D. Besanko and R. Braeutigam, *Microeconomics* (Wiley, 6th edition, 2020)
- H. Varian, *Intermediate Microeconomics: A Modern Approach* (Norton, 9th edition, 2014)
- B. Stevenson and J. Wolfers, *Principles of Microeconomics*, (Macmillan Learning, 2020)

Discussion sections. Teaching Assistants will hold discussion sections every week. The discussion sections will elaborate on the material from the lecture, primarily through solving problems (similar to the ones that are assigned as homework). TAs will also run weekly office hours.

The lectures and the discussion sections go hand in hand. Mastering the material requires attending both: Lectures are more theoretical and focus on high-level understanding of the concepts and their connection to the real world; discussion sections equip you with practical problem-solving skills.

Requirements and grading.

Problem sets. Weekly problem sets will be assigned. Generally, problem sets will be posted on Fridays, and will be due on **Friday at midnight** of the following week. Problem sets are graded on effort, not correctness (correct answers will be posted on Canvas). Late submissions will not be graded. You can download the problem sets from Canvas, and you will have to upload your solutions to Crowdmark. When computing the average problem set score, your lowest individual score will be dropped. This allows you to miss a problem set, if necessary, without adverse consequences. **10%** of the total score is based on problem sets.

There will occasionally be “bonus questions” in problem sets. These questions are optional, and they do not give you any immediate points. However, if your total score is right below a cutoff for a better grade at the end of the term, I may “upgrade” you to the better grade if you showed engagement and effort throughout the quarter, e.g., via active participation in the lectures, attending office hours, or submitting answers to these bonus questions.

The 60/30/0 rule. The grading system is designed to provide maximal flexibility to students, acknowledging the fact that many of you start internships early in the summer. **90%** of your total score is based on exams: two midterms and a final, with one of the three contributing 60%, one 30%, and one 0% to the total score. If you only take the two midterms, you will get 60% for the better of the two midterms, and 30% for the worst of the two midterms. If you take the final exam, you will get 60% for the final (no matter how the score compares to the scores from the midterms), and 30% for the better of the two midterms (and 0% for the worst of the two midterms). You are allowed to show up for the final exam and decide not to submit it after completing it. However, once you submit your final exam, the final exam score counts.

This system is designed to incentivize you to take the two midterms and not to show up to the final. Note that you take some risk by taking the final since you may make your total score lower if your final score is worse than the score from the midterms. At the same time, the system allows you to make up for your midterms scores if you are not happy with them. In particular, you cannot lose by showing up for the final if you did not take one of the midterms.

Some examples to make the 60/30/0 rule clear:

- 1) You submit all problem sets, you score 50% on the first midterm, 80% on the second midterm, and you do not take the final exam. Total score:
 $10 + 60 \times 80\% + 30 \times 50\% + 0 \times 0\% = 73.$
- 2) In the same situation, suppose you submit the final exam and score 50%. Total score:
 $10 + 60 \times 50\% + 30 \times 80\% + 0 \times 50\% = 64.$
- 3) Suppose the situation is the same as in case #2 but you score 90% on the final. Total score:
 $10 + 60 \times 90\% + 30 \times 80\% + 0 \times 50\% = 88.$

There will be no make-up exams. Because of the above re-weighting rules, you are allowed to miss one midterm exam or the final without providing a reason, and you can still score 100% for the course. The University allows no exceptions to the published final examination schedule, so you must take the final exam at the appointed hour (if you decide to take it). Please do not ask to take the final at a different time or place. In the unlikely case that you cannot take one of the midterms **and** the final exam at the regular time and place, we will assign an incomplete grade.

If you have questions about exam grading, you should first compare your answer to the posted solution. If you would like a score to be reconsidered, your next step is to submit your exam and a written request, explaining why you think reconsideration is appropriate, to your TA. In order to consider all such requests together and in a timely manner, requests must be submitted by the end of the week in which exams are returned. Adjustments in partial credit are typically not made, and if an adjustment is made, the exam may be referred to an independent grader, who will review either the question or the entire exam and assign a replacement grade that may be higher or lower than the original.

Schedule and topics.

The lectures constitute the core element of the course and attendance is mandatory. The following is an outline of the course schedule:

Week 1: Social choice

Week 2: General equilibrium

Week 3: General equilibrium

Week 4: Uncertainty and risk

(Midterm on Apr 25)

Week 5: Game theory

Week 6: Game theory

Week 7: Mechanism Design

Week 8: Auctions

(Midterm on May 23)

Week 9: Inequality and Market Design

(Final exam on Jun 4)

AccessibleNU. Any student requesting accommodations related to a disability or other condition is required to register with AccessibleNU (accessiblenu@northwestern.edu) and provide us with an accommodation notification from AccessibleNU, preferably within the first two weeks of class. All information will remain confidential.

NUHelp. Students can find useful resources for safety and security, academic support, and mental and physical health and well-being at the [NUhelp website](#) and app.

Quarter-Long Study Group Opportunity – Registration Required. If you would like to study with other students in this class, consider joining a [Peer-Guided Study Group](#). Participants will meet weekly with about 5 to 8 other students and a peer facilitator, a student who has already taken and done well in the course. During sessions, students review concepts, work through practice problems, bring their questions, and work together to develop answers.

Students register for the full quarter on CAESAR, and attendance is expected weekly. Study Group sessions are listed on CAESAR below course lecture and discussion sections (when searching for study groups, enter “SG” in the Course Number field in CAESAR to get a complete list of sections). Feel free to contact Borislava at pgsq@northwestern.edu with any questions. Provided through [Academic Support & Learning Advancement](#).

Drop-In Peer Tutoring – No Appointment Needed. Students are welcome to stop by [Drop-In Peer Tutoring](#) to get support with a specific question or issue, or just talk through course materials with others. Tutoring is offered for this course and many introductory courses in Biology, Chemistry, Economics, Engineering, Math, Physics and Statistics. Tutoring takes place Sundays through Thursdays. **Check specific times, courses, and locations on the [Drop-In Peer Tutoring website](#).** Feel free to contact Valerie at valerie.wolf@northwestern.edu with any questions. Provided through [Academic Support & Learning Advancement](#).

Academic Integrity. Students in this course are required to comply with the policies found in the booklet, "[Academic Integrity at Northwestern University: A Basic Guide](#)". Any form of cheating, including improper use of content generated by artificial intelligence, constitutes a violation of Northwestern’s academic integrity policy.

Laptop and Mobile Communications Policy. Except in the case of proven medical necessity, as a general rule, students may not use a laptop computer during the lectures. Such devices must remain in your bag and may not be placed on your desk. However, you may use a tablet (or equivalent device) for taking notes under two conditions: (1) the device lies flat on the desk, so that the student behind you cannot see your screen (and is not distracted by it), and (2) you sit in one of the front rows. Any use of the tablet for purposes other than taking notes is not allowed. Mobile devices should have the ringer turned off and be placed in pockets or backpacks. Students may not make or receive phone calls, surf the web, or send or receive text messages during class.

In-person versus remote teaching. Lectures, discussion sections, and exams take place in-person. If we are forced to move to remote teaching, the syllabus will be updated to accord with university guidelines and recommendations.

Class recordings. Unauthorized student recording of classroom or other academic activities (including advising sessions or office hours) is prohibited. Unauthorized recording is unethical and may also be a violation of University policy and state law. Students requesting the use of assistive technology as an accommodation should contact AccessibleNU. Unauthorized use of classroom recordings – including distributing or posting them – is also prohibited. Under the University’s Copyright Policy, faculty own the copyright to instructional materials – including those resources created specifically for the purposes of instruction, such as syllabi, lectures and lecture notes, and presentations. Students cannot copy, reproduce, display, or distribute these materials. Students who engage in unauthorized recording, unauthorized use of a recording, or unauthorized distribution of instructional materials will be referred to the appropriate University office for follow-up.

Final Disclaimer. Please note that the specifics of this course syllabus are subject to change in the case of unforeseen circumstances. Instructors will notify students of any changes as soon as possible. Students will be responsible for abiding by the changes.