

**ECON 432 A: Empirical Industrial Organization**  
**Winter 2024**

Yuya Takahashi  
ytakahas@uw.edu  
Savery Hall, room 329

The course covers core topics in industrial organization, such as competition and market structure, product differentiation, entry and exit, cartel, and consumer dynamics. This course also discusses several empirical and numerical methods used in economics and then applies them to the analysis of recent antitrust issues. Specifically, we learn estimation of demand and supply, and computation of equilibrium of oligopolistic models. Then, we apply these methods to simulating mergers, which were recently proposed or already took place in the US and Europe. We evaluate the welfare impact of these mergers. While we will be using STATA to perform some analysis, this is not a STATA focused course and prior knowledge of STATA is not required.

**Reading.** There is **no required textbook** for this course. During the lectures, I will mainly use models and real-world examples from the following five textbooks:

1. Paul Belleflamme and Martin Peitz, *Industrial Organization: Markets and Strategies*, 2010, Cambridge University Press.
2. Jean Tirole, *The Theory of Industrial Organization*, 1988, The MIT Press.
3. Oz Shy, *Industrial Organization: Theory and Applications*, 1995, The MIT Press.
4. Peter Davis and Eliana Garces, *Quantitative Techniques for Competition and Antitrust Analysis*, 2009, Princeton University Press.
5. Luis Cabral, *Introduction to Industrial Organization*, 2000, The MIT Press.

You do **not** need to buy any of these textbooks. I will distribute class slides before every lecture. Additional readings for each topic are announced later.

**\*\*IMPORTANT NOTE**

**Lectures.** Lectures will be held **in person**, on Tuesdays and Thursdays from 1:30-3:20pm.

**Prerequisite.** Students are assumed to know intermediate microeconomic theory. I will review analytical tools such as calculus and basic game theory in the first lecture, and basic econometrics in the second lecture. For more specific/advanced concepts, I will cover them when needed.

**Materials.** For each lecture, class notes are posted by 8 am of the day of the lecture on Canvas. Homework assignments and notifications are also available there.

**Exam and Grading.** There will be two midterm exams, two problem sets (both analytical and empirical exercises) and one final exam. Each of these exams and problem

sets accounts for 20% of the course grade. The exams will cover materials from problem sets, practice questions and lecture materials.

Final exam: Cumulative; Date TBD

**Deadline of each problem set.**

Problem set 1: January 25 at 9:30am

Problem set 2: February 29 at 9:30am

**Office Hours** Tuesdays/Thursdays after class (4:00pm Savery Hall, Room 329); or by appointment.

**Outline Schedule (subject to change)**

Instruction begins on January 3, 2024

Last day of instruction is March 8, 2024

- Lecture 1 (Jan. 4) Introduction and review of intermediate microeconomics (technology, cost, demand, etc) and game theory
- Lecture 2 (Jan. 9) Review of basic econometrics and STATA
- Lecture 3 (Jan. 11) Monopoly
- Lecture 4 (Jan. 16) Product differentiation (location models)
- Lecture 5 (Jan. 18) Estimation of differentiated product models I
- Lecture 6 (Jan. 23) Estimation of differentiated product models II
- (Jan. 25) **Review session class**
- (Jan. 30) **Midterm 1**
- (Feb. 1) Cartel and collusions I (concept)
- Lecture 7 (Feb. 6) Cartel and collusions II (examples of cartels and collusions)
- Lecture 8 (Feb. 8) Estimation of entry model
- Lecture 9 (Feb. 13) Vertical restraints
- Lecture 10 (Feb. 15) **Review session class**
- Lecture 11 (Feb. 20) **Midterm2**
- (Feb. 22) Consumer dynamics
- (Feb. 27) Merger I (concept)
- Lecture 12 (Feb. 29) Merger II (merger examples)
- Lecture 13 (Mar. 5) Merger simulation
- Lecture 14 (Mar. 7) **Review session class**
- (Mar. 9 - 15) Final exam week