

Industrial Organization I: Syllabus

Class Description

This course is the first of three courses in the Ph.D. sequence in Industrial Organization in the economics department (257, 258, and 260). The goal of the sequence, and especially the first two quarters, is to provide broad general training in the field, introducing you to the central questions around imperfect competition, market structure, innovation and regulation, as well as the models and empirical methods commonly used to tackle these questions. The third quarter provides an opportunity for students to write a supervised research paper, and gain experience presenting their work.

Students in the Economics Ph.D. program who intend to take IO as a field must take 257 and 258, and students who further intend to write theses in IO are strongly recommended to continue through 260. All three classes are also open to students in other fields and Stanford departments, and traditionally many students in 257 fall into this category. All students taking 257, however, should have taken the first year graduate sequence in Economics, or have equivalent preparation in microeconomics and econometrics.

Course Requirements

Historically, this class has required substantial time on problem sets focusing on empirical applications and econometrics. We will do our best to structure the problem sets so that you spend your time on the economics rather than on programming and debugging. That said, some programming cannot be avoided and is part of the learning experience; all students, regardless of their specific interest, are expected to complete all parts of the problem sets. The specific assignments are as follows.

- a) *Problem Sets.* There will be 4 problem sets. They will entail substantial empirical and computational exercises. Problem sets will be due: Friday, October 2; Friday, October 16; Friday, November 6; and Friday, November 20.
- b) *Class Preparation.* Before most classes, we will assign one or two papers, and **students will be expected to familiarize themselves with this material.**

Class grades will be based on problem sets (50%) and class participation (50%). Both are essential parts of the course and we expect students to take them seriously, and participation and active discussion would be particularly important for more lively experience given the remote nature of instruction.

Outline of Topics

We plan to divide the class roughly into four parts. Part 1 (taught by Liran and Paulo) will provide an introduction to the standard methods used to model and analyze consumer demand and imperfect competition. Part 2 (taught by Liran and Paulo) will cover some applications of imperfect competition modeling: the analysis of mergers, collusion, and auctions. Part 3 (taught by Ignacio) will cover the theory and empirics of market structure, imperfect information and two-sided markets. Part 4 (taught by Paulo) will discuss dynamic models in IO and the measurement of productivity.

Class Schedule

1. Monday, September 14 (Liran): Pricing and Market Power
2. Wednesday, September 16 (Liran): Pricing and Market Power
3. Monday, September 21 (Liran): Pricing and Market Power
4. Wednesday, September 23 (Paulo): Demand Estimation
5. Monday, September 28 (Liran): Demand Estimation
6. Wednesday, September 30 (Liran): Demand Estimation
7. Monday, October 5 (Paulo): Mergers
8. Wednesday, October 7 (Paulo): Collusion and Price Fixing
9. Monday, October 12 (Paulo): Single Unit Auctions
10. Wednesday, October 14 (Paulo): Multi Unit Auctions
11. Monday, October 19 (Paulo): Other Topics in Auctions
12. Wednesday, October 21 (Paulo): Demand Estimation in Strategic Environments
13. Monday, October 26 (Ignacio): Static Entry
14. Wednesday, October 28 (Ignacio): Repositioning
15. Monday, November 2 (Ignacio): Strategic Entry Deterrence and Predation
16. Wednesday, November 4 (Ignacio): Consumer Search and Imperfect Information
17. Monday, November 9 (Ignacio): Two-Sided Markets
18. Wednesday, November 11 (Paulo): Single Agent Dynamics
19. Monday, November 16 (Paulo): Productivity and Competition
20. Wednesday, November 18 (Paulo): Productivity and Trade