Department of Economics
University of Toronto
Winter 2023

ECO3200H1S: Advanced Microeconomic Theory I
Instructors: Yoram Halevy, Marcin Peski, Xianwen Shi, Colin Stewart
Time: Tuesday 3:00-5:00pm
Location: GE100

Description

This is an advanced microeconomic theory course for Ph.D. students who are interested in conducting research in microeconomic theory and related fields. The goal is to help students have a smooth transition from consumers of economic research to producers. A variety of topics will be covered, combining some seminal papers with the current frontier of research. Lectures will cover only a subset of the papers listed below.

Assessment

Each student will give an oral presentation of a research idea in early April (exact date to be scheduled later) and submit a written research proposal by April 30th. Your course performance will be evaluated based on the quality of both your presentation and your research proposal.

Schedule (tentative, subject to change)

- 1/10, 1/17, Marcin Peski, Dynamic Matching and Assignment
- 1/24, 1/31, 2/7, Yoram Halevy, Models of Bounded Rationality, Stochastic Choice and Incomplete Preferences
- 2/14, Xianwen Shi, Bayesian Persuasion: Concavication and Linear Programming Approach
- 2/21, Reading Week, No Class
- 2/28, Xianwen Shi, Information Design Approach to Market Segmentation
- 3/7, 3/14, Xianwen Shi, The Wald Problem and Its Strategic Applications
- 3/21, Colin Stewart, Rational Inattention: The Basic Model
- 3/28, Colin Stewart, Information Cost Functions
- 4/4, Colin Stewart, Social Learning and Misspecified Models

Dynamic Matching and Assignment (Marcin)

- Shimer, Robert and Smith, Lones "Assortative Matching and Search", Econometrica 68, 2 (2000) pp. 343-369
- Choo, Eugene, "Dynamic Marriage Matching: An Empirical Framework", Econometrica 83, 4 (2015), pp. 1373--1423.
- Pęski, Marcin, "Tractable Model of Dynamic Many-to-Many Matching", American Economic Journal: Microeconomics, 2020

- Bogomolnaia, Anna and Moulin, Herve, "A New Solution to the Random Assignment Problem", Journal of Economic Theory 100, 2 (2001), pp. 295--328.
- Che, Yeon-Koo and Kojima, Fuhito, "Asymptotic Equivalence of Probabilistic Serial and Random Priority Mechanisms", Econometrica 78, 5 (2010), pp. 1625--1672.
- Baccara, Mariagiovanna, Lee, SangMok, and Yariv, Leeat, "Optimal dynamic matching", Theoretical Economics 15, 3 (2020), pp. 1221--1278.
- Akbarpour, Mohammad, Li, Shengwu, and Gharan, Shayan Oveis, "Thickness and information in dynamic matching markets", Journal of Political Economy 128, 3 (2020), pp. 783--815.
- Ata, Baris, Ding, Yichuan, and Zenios, Stefanos, "An achievable-region-based approach for kidney allocation policy design with endogenous patient choice", Manufacturing & Service Operations Management (2020).

Models of Bounded Rationality, Stochastic Choice and Incomplete Preferences (Yoram)

- List to be provided

Bayesian Persuasion: Concavication and LP Approach (Xianwen)

- *Kamenica and Gentzkow (2011), "Bayesian Persuasion," *AER*.
- *Kolotilin (2018), "Optimal Information Disclosure: A Linear Programming Approach," Theoretical Economics, 13(2), 607-636.
- *Smolin and Yamashita, "Information Design in Concave Games," working paper, August 2022.
- Survey paper 1: Bergemann and Morris (2019), "Information Design: A Unified Perspective," *JEL*.
- Survey paper 2: Kamenica (2019), "Bayesian Persuasion and Information Design," *Annual Review of Economics*.

Information Design Approach to Market Segmentation (Xianwen)

- *Brooks, Bergemann and Morris (2015), "The Limits of Price Discrimination," AER.
- Haghpanah and Siegel (forthcoming), Pareto Improving Segmentation of Multi-Product Markets, JPE.
- Eillot, Galeotti, Koh and Li (2022), "Market Segmentation through Information," working paper
- Shi and Zhang (2022), "Welfare of Price Discrimination and Market Segmentation in Duopoly," working paper.

The Wald Problem and Its Strategic Applications (Xianwen)

- *Wald (1945), "Sequential Tests of Statistical Hypotheses," Annals of Mathematical Statistics 16(2), 117-186.

- *Edwards (1965), "Optimal strategies for seeking information: Models for statistics, choice reaction times, and human information processing," Journal of Mathematical Psychology.
- Morris and Strack (2019), "The Wald Problem and the Relation of Sequential Sampling and Ex-Ante Information Costs," working paper.
- Albrecht, Anderson, and Vroman (2010), "Search by Committee," JET.
- *Henry and Ottaviani (2019), "Research and the Approval Process: The Organization of Persuasion," AER.
- *Chan, Lizzeri, Suen and Yariv (2018), "Deliberating Collective Decisions," Review of Economic Studies.

Rational Inattention: The Basic Model (Colin)

- Matějka and McKay (2015), "Rational Inattention to Discrete Choices: A New Foundation for the Multinomial Logit Model," AER.
- Caplin and Dean (2013), "The Behavioral Implications of Rational Inattention with Shannon Entropy," working paper.
- Caplin and Dean (2015), "Revealed Preference, Rational Inattention, and Costly Information Acquisition," AER.
- Caplin, Dean and Leahy (2018), "Rational inattention, optimal consideration sets, and stochastic choice," Review of Economic Studies.
- Steiner, Stewart, and Matějka (2017), "Rational Inattention Dynamics: Inertia and Delay in Decision-Making," Econometrica.

Information Cost Functions (Colin)

- Morris and Strack (2019), "The Wald Problem and the Relation of Sequential Sampling and Ex-Ante Information Costs," working paper.
- Hébert and Woodford (2021), "Neighborhood-based information costs," AER.
- Pomatto, Strack and Tamuz (2022), "The Cost of Information," working paper.
- Caplin, Dean and Leahy (2022), "Rationally inattentive behavior: Characterizing and generalizing Shannon entropy," JPE.
- Bloedel and Zhong (2022), "The cost of optimally-acquired information," working paper.

Social Learning and Misspecified Models (Colin)

- Bikhchandani, Hirshleifer, and Welch (1992), "A theory of fads, fashion, custom, and cultural change as informational cascades," JPE.
- Bohren (2016), "Informational herding with model misspecification," JET.
- Frick, Iijima and Ishii (2020), "Misinterpreting others and the fragility of social learning," Econometrica.
- Bohren and House (2021), "Learning with heterogeneous misspecified models: Characterization and robustness," Econometrica.