

# Master Schedule for 14.03/14.003 Fall 2025

## Microeconomic Theory and Public Policy

August 30, 2025

### I. Themes: Theory, Causal Tests, Evidence and a First Application

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1	09/03	Weds	Minimum wages and employment: Theory and evidence
2	09/08	Mon	Testing theory: The fundamental problem of causal evidence The method of Differences in Differences

### II. The Foundation of Economic Theory: Consumer Preference, Choice, Optimization and Demand

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3	09/10	Weds	Introducing consumer theory: The foundation of microeconomics (+ Minimum wage wrap-up)
4	09/15	Mon	Consumer theory continued
5	09/17	Weds	Consumer sovereignty: The Carte Blanche principle and health insurance demand
6	09/22	Mon	From preferences to demand curves
7	09/24	Weds	Income effects, substitution effects, and the design of anti-poverty programs
8	09/29	Mon	Giffen goods and subsistence consumption
9	10/01	Weds	Consumer theory wrap-up
	10/06	Mon	<b>Exam #1</b>

### Part III. From Consumer Demand to Market Demand to General Equilibrium and International Trade

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10	10/08	Weds	Applied competitive analysis: The incidence of a tax
	10/13	Mon	<i>No lecture: Indigenous Peoples Day</i>
11	10/15	Weds	Applied competitive analysis: The cartelized market for real estate brokers
12	10/20	Mon	Putting markets together: The Edgeworth box

13	10/22	Weds	The gains from market integration: “The Digital Provide”
14	10/27	Mon	International trade and the principle of comparative advantage
15	10/29	Weds	Does trade raise national income? The method of Instrumental Variables
16	11/03	Mon	The free trade dilemma: Evidence from Indian villages

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#### Part IV. Market Failures: Externalities, Risk, and Moral Hazard and Adverse Selection

17	11/05	Weds	Externalities: Definition, consequences and remedies <i>Will be tested on Exam #3 not Exam #2</i>
	11/10	Mon	<i>No lecture: Veterans Day</i>
	11/12	Weds	<b>Exam #2</b>
18	11/17	Mon	Risk, safety, and coordination failure
19	11/19	Mon	Private information: The market for lemons
20	11/24	Mon	Adverse selection, moral hazard, and subprime lending
	11/26	Weds	<i>No lecture: Thanksgiving Holiday</i>

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#### Part III. Prediction, Learning, Decision, and Discrimination

21	12/01	Mon	Tentative guest lecture: The Pulse of Ethical Machine Learning in Healthcare, Prof. Marzyeh Ghassemi, MIT CSAIL
22	12/03	Weds	Prediction, machine learning, and decision-making
23	12/08	Mons	Discrimination in labor markets: Ban the box policies
24	12/10	Weds	Artificial Intelligence, discrimination, and competition in housing markets

## Problem set release and due dates

<b>P-Set</b>	<b>Topic</b>	<b>Release Date</b>	<b>Due Date</b>
1	Minimum wage, research design, causal inference	Weds 09/03	Thurs 09/18 @midnight
2	Consumer theory	Weds 09/17	Thurs 10/2 @midnight
3	Applied Competitive Analysis, Market demand, General equilibrium	Mon 10/08	Thurs 10/23 @midnight
4	Trade and welfare	Mon 10/27	Thurs 11/06 @midnight
5	Externalities, Risk and Safety, Adverse Selection and Moral Hazard	Mon 11/19	Thurs 12/04 @midnight

## Recitation dates

Recitation	Date
1	09/05/25
2	09/12/25
Student Holiday	09/19/25
3	09/26/26
4	10/03/25
Post-Exam Friday	10/10/25
5	10/17/25
6	10/24/25
7	10/31/25
8	11/07/25
Post-Exam Friday	11/14/25
9	11/21/25
Thanksgiving	11/28/25
10	12/05/25

## Detailed class and topic schedule

For readings marked with a †, you are responsible for *familiarizing yourself* with the reading before lecture.

### 1 The consequences of minimum wage laws for earnings and employment (9/3)

- What is 14.03/14.003 about?
- Application: Minimum wages and employment – Theory and evidence
  1. Minimum wage and employment in the standard competitive model
  2. Minimum wage and employment in monopsony model
  3. How can we empirically distinguish these cases?
- Required reading
  - *Mastering 'Metrics*, Chapter 5, Differences-in-differences
- Recommended reading
  - Banerjee, chapter 10.1 and 10.2, Monopoly
  - Recommended reading : Banerjee, Mathematical appendix

### 2 Testing theory: The fundamental problem of causal inference (9/08)

- The fundamental problem of causal inference (FPCI)
  - The Rubin Causal Model (RCM)
  - Experiments and the RCM
  - Quasi-experiments in economics
- The method of Difference-in-Differences (DD)
- Required reading
  - †Card, David and Krueger, Alan B., “Minimum wages and employment: A case study of the fast-food industry in New Jersey and Pennsylvania,” *American Economic Review*, 84(4), September 1994, 772 – 93.
  - *Mastering 'Metrics*, Chapter 1, Randomized trials
- Recommended reading
  - Math Tools for 14.03/003
  - Holland, Paul W. “Statistics and Causal Inference.” *Journal of the American Statistical Association*, 81(396), 1986, 945-960.
  - Cengiz, Doruk, Arindrajit Dub, Attila Lindner, and Ben Zipperer. 2017. “The Effect of Minimum Wages on Low Wage Jobs” *The Quarterly Journal of Economics* 134, no. 3 (2019): 1405-1454.
  - Dugger, Celia W. “Wage Laws Squeeze South Africa’s Poor” *New York Times*, September 26, 2010.
  - Krueger, Alan B. “The Minimum Wage: How Much is Too Much?” *New York Times*, October 9, 2015.
  - Neumark, David. “Who Really Gets the Minimum Wage.” *Wall Street Journal*, July 6, 2014.

### 3 Introducing consumer theory: The foundation of microeconomics (9/10)

- Minimum wage wrap-up (if not already wrapped)
- The axioms of consumer theory
  - Existence of a utility function
  - Properties of utility functions
  - Cardinality versus ordinality
  - Monotone transformations
- Recommended reading
  - Banerjee, Chapter 3, Preferences
  - Krugman, Paul. 1995. *Development, Geography, and Economic Theory (Ohlin Lectures)*. Cambridge: MIT Press, Chapters 1 and 3, pp. 1-7, 67 - 88.

### 4 Consumer sovereignty: The Carte Blanche principle (9/15)

- Utility maximization and constrained optimization
- The indirect utility f'n
- Expenditure minimization and the expenditure function
- Relationship between expenditure and indirect utility f'ns
- Applications of consumer theory
- The regression discontinuity method
- Required reading
  - † Bleemer, Zachary, and Aashish Mehta. “Will studying economics make you rich? A regression discontinuity analysis of the returns to college major.” *American Economic Journal: Applied Economics* 14, no. 2 (2022): 1-22
  - *Mastering 'Metrics*, Chapter 4, “Regression Discontinuity Designs”
- Recommended reading
  - Finkelstein, Amy, Nathaniel Hendren, and Mark Shepard. “Subsidizing health insurance for low-income adults: Evidence from Massachusetts.” *American Economic Review* 109, no. 4 (2019): 1530-1567 (will be discussed in class)
  - Liscow, Zachary, and Abigail Pershing. “Why is so much redistribution in-kind and not in cash? Evidence from a survey experiment.” *National Tax Journal* 75, no. 2 (2022): 313-354.

### 5 Consumer theory continued (9/17)

### 6 From preferences to demand curves (9/22)

- Where demand curves come from

- Uncompensated ('Marshallian') demand
- Compensated ('Hicksian') demand
- Relationship between indirect utility f'n, expenditure f'n, and demand f'ns
- Recommended reading
  - Banerjee, Chapter 4, Individual demands

## 7 Income effects, substitution effects, and the design of anti-poverty programs (9/24)

- Normal, Inferior, and Giffen goods
- Incentivizing work: Labor supply and the Earned Income Tax Credit
- Required reading
  - <sup>†</sup>Eissa, Nada, and Jeffery B. Liebman. "Labor Supply Response to the Earned Income Tax Credit." *Quarterly Journal of Economics*, 111 No.2 (1996): 605–637.
- Recommended reading
  - Banerjee, Chapter 5.1, Consumer Comparative Statics: Price and Income Consumption Curves

## 8 Income, substitution, and subsistence (09/29)

- Connecting compensated and uncompensated demand curves: the Slutsky equation
- Testing the theory: Rice and noodle subsidies in China
- Required reading
  - <sup>†</sup>Jensen, Robert and Nolan Miller, "Giffen Behavior and Subsistence Consumption." *American Economic Review*, 98(4) (2008), 1553-1577.
- Recommended reading
  - Banerjee, Chapter 5.3, Consumer Comparative Statics: Decomposing Price Effects

## 9 Consumer theory wrap-up (10/01)

### Exam #1 (10/06)

## 10 Applied competitive analysis: The incidence of a tax (10/08)

- Aggregating individual to market demands
- Producer and consumer surplus in competitive equilibrium
- Distinguishing deadweight losses from transfers
- Application: Tax incidence
- Required reading
  - <sup>†</sup>Chetty, Raj, Adam Looney, and Kory Kroft. "Salience and taxation: Theory and evidence." *American Economic Review* 99, no. 4 (2009): 1145-1177.

## Indigenous Peoples Day (10/13)

### 11 Applied competitive analysis: Free entry in a cartelized market (10/15)

- Applied Competitive Analysis
- Required reading
  - †Hsieh, Chang-Tai, and Enrico Moretti. “Can free entry be inefficient? Fixed commissions and social waste in the real estate industry.” *Journal of Political Economy* 111, no. 5 (2003): 1076-1122.
- Recommended reading
  - Mian, Atif, and Amir Sufi. “The effects of fiscal stimulus: Evidence from the 2009 cash for clunkers program.” *The Quarterly Journal of Economics* 127, no. 3 (2012): 1107-1142.

### 12 Putting markets together: The Edgeworth box (10/20)

- General Equilibrium in a Pure Exchange Economy: The Edgeworth box
  - Contract curves
  - Gains from trade between consumers
  - The fundamental welfare theorems
- Required reading
  - Banerjee, Chapter 6, Exchange economies

### 13 The gains from market integration: “The Digital Provide” (10/22)

- The principle of arbitrage
- Required reading
  - †Jensen, Robert. “The Digital Provide: Information (Technology), Market Performance, and Welfare in the South Indian Fisheries Sector.” *Quarterly Journal of Economics*, 122(3), 2007, 879-924.

### 14 International trade and comparative advantage (10/27)

- Why do countries gain from trade?
- The principle of comparative advantage
- Where does comparative advantage come from?
- Example: The RA problem
- Recommended reading
  - Krugman, Paul. “The Accidental Theorist.”
  - Kristof, Nicholas D. “Let Them Sweat” *New York Times*, June 25, 2002, Section A.

## 15 Does trade raise national income? (10/29)

- How do we even test this question?
- The method of Instrumental Variables (IV) [also known as Two Stage Least Squares, 2SLS]
- Required reading
  - <sup>†</sup>Feyrer, James. “Trade and income—exploiting time series in geography.” *American Economic Journal: Applied Economics* 11, no. 4 (2019): 1-35.
- Recommended reading
  - *Mastering Metrics*, Chapter 3, Instrumental variables

## 16 The free trade dilemma (11/03)

- Why trade is *not* Pareto-improving
- Redistributive effects of trade: Evidence
- Required reading
  - <sup>†</sup>Topalova, Petia. “Factor immobility and regional impacts of trade liberalization: Evidence on poverty from India.” *American Economic Journal: Applied Economics* 2, no. 4 (2010): 1-41.
- Recommended reading
  - Autor, David. “Trade and Worker Welfare: Understanding the Costs and Benefits.” Center for Equitable Growth Policy Brief, October 2016.
  - Autor, David, David Dorn, and Gordon Hanson. “The China Syndrome: Local Labor Market Effects of Import Competition in the United States.” *American Economic Review*, 103 No. 6 (2013): 2121–2168.

## 17 Externalities: Definition, consequences and remedies (11/05)

- Externalities: Definition, Consequences and Remedies
- The problem of social cost: the Coase Theorem
- Required reading
  - <sup>†</sup>Anderson, Michael L. “Subways, strikes, and slowdowns: The impacts of public transit on traffic congestion.” *American Economic Review* 104, no. 9 (2014): 2763-2796.
- Recommended reading
  - Schmalensee, Richard, and Robert N. Stavins. “The SO2 allowance trading system: The ironic history of a grand policy experiment.” *Journal of Economic Perspectives* 27, no. 1 (2013): 103-122.
  - Bergstrom, Theodore, “Lecture 5 - Externalities,” UC Santa Barbara, March 2002.
  - Banerjee, Chapter 14, Externalities

## Veterans Day: No lecture (11/10)

### Exam #2 (11/12)

## 18 Risk and safety regulation: Hockey helmets, etc. (11/17)

- Required reading
  - <sup>†</sup>Schelling, Thomas C. *Micromotives and Macrobbehaviors*, “Chapter 7: Hockey Helmets, Daylight Savings Time, and other Binary Choices,” New York: W.W. Norton and Company, 1978.
- Recommended reading
  - Banzhaf, H. Spencer. 2014. “Retrospectives: The Cold-War Origins of the Value of Statistical Life.” *Journal of Economic Perspectives*, 28 (4), 213–26.
  - Banerjee, Chapter 11.4, “Pareto efficient risk sharing”

## 19 Adverse selection (11/19)

- Required reading
  - Akerlof, George A. “The Market for” Lemons”: Quality Uncertainty and the Market Mechanism.” *The Quarterly Journal of Economics* (1970): 488-500.
  - Banerjee, Chapter 12, “Game Theory”
  - Banerjee, Chapter 15, “Asymmetric Information”

## 20 Moral hazard in the housing market: Subprime lending (11/24)

- Application: Moral hazard, Securitization and Subprime Lending
- Required reading
  - <sup>†</sup>Keys, Benjamin J., Tanmoy Mukkerjee, Amit Seru and Vikrant Vig. “Did Securitization Lead to Lax Screening? Evidence from Subprime Loans.” *Quarterly Journal of Economics*, 125 No. 1 (2010):307–362.
- Recommended reading
  - Einav, Liran and Amy Finkelstein, “Selection in Insurance Markets: Theory and Empirics in Pictures.” *Journal of Economic Perspectives*, 25 No. 1 (2011): 115–138.

## Thanksgiving holiday: No lecture (11/26)

## 21 Discrimination in labor markets: Banning the box (12/01)

- Statistical discrimination: Definition and logic
- Discrimination, prejudice, and ‘ban the box’ regulations

- Required reading
  - <sup>†</sup>Agan, Amanda, and Sonja Starr. “Ban the box, criminal records, and racial discrimination: A field experiment.” *The Quarterly Journal of Economics* 133, no. 1 (2018): 191-235.
- Recommended reading
  - Shannon, Sarah KS, Christopher Uggen, Jason Schnittker, Melissa Thompson, Sara Wakefield, and Michael Massoglia. “The Growth, Scope, and Spatial Distribution of People With Felony Records in the United States, 1948-2010.” *Demography* 54 (2017): 1795-1818.

## 22 Guest lecture (tentative): Prof. Marzyeh Ghassemi of MIT CSAIL and EECS, “The Pulse Of Ethical Machine Learning in Health” (12/03)

- Please familiarize yourself with these papers before the guest lecture
  - <sup>†</sup>Chen, Irene Y., Emma Pierson, Sherri Rose, Shalmali Joshi, Kadja Ferryman, and Marzyeh Ghassemi. “Ethical machine learning in healthcare.” *Annual Review of Biomedical Data Science* 4, no. 1 (2021): 123-144.
  - <sup>†</sup>Seyyed-Kalantari, Laleh, Haoran Zhang, Matthew BA McDermott, Irene Y. Chen, and Marzyeh Ghassemi. “Underdiagnosis bias of artificial intelligence algorithms applied to chest radiographs in under-served patient populations.” *Nature Medicine* 27, no. 12 (2021): 2176-2182.
  - <sup>†</sup>Yang, Yuzhe, Haoran Zhang, Judy W. Gichoya, Dina Katabi, and Marzyeh Ghassemi. “The limits of fair medical imaging AI in real-world generalization.” *Nature Medicine* (2024): 1-11.

## 23 Prediction, machine learning, and decision-making (12/08)

- End of life care: Doctors versus algorithms
- Algorithmic discrimination
- Required reading
  - <sup>†</sup>Einav, Liran, Amy Finkelstein, Sendhil Mullainathan, and Ziad Obermeyer. “Predictive Modeling of U.S. Health Care Spending in Late Life.” *Science* 360, no. 6396 (2018): 1462–1465.
  - Obermeyer, Ziad, Brian Powers, Christine Vogeli, and Sendhil Mullainathan. “Dissecting racial bias in an algorithm used to manage the health of populations.” *Science* 366, no. 6464 (2019): 447-453.

## 24 Artificial Intelligence, discrimination, and competition in housing markets (12/10)

- The surprising consequences of algorithmic decision-making for market competition and housing discrimination
- Required reading
  - <sup>†</sup>Raymond, Lindsay. “The Market Effects of Algorithms” MIT Sloan Working Paper, July 2024