

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

| | | | |
|---|-------|------|--|
| 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 | Exam #1 |

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 |

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|----|-------|------|---|
| 13 | 10/22 | Weds | The gains from market integration: “The Digital Divide” |
| 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 |

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

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|----|-------|------|--|
| 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 | Exam #2 |
| 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> |

Part III. Prediction, Learning, Decision, and Discrimination

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|----|-------|------|---|
| 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

| P-Set | Topic | Release Date | Due Date |
|-------|--|--------------|-----------------------|
| 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 monopoly 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
 - †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
 - †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
 - †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
 - †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
 - †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
 - †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
 - †Schelling, Thomas C. *Micromotives and Macrobehaviors*, “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
 - †Keys, Benjamin J., Tanmoy Mukherjee, 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
 - [†]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
 - [†]Chen, Irene Y., Emma Pierson, Sherri Rose, Shalmali Joshi, Kadija Ferryman, and Marzyeh Ghassemi. “Ethical machine learning in healthcare.” *Annual Review of Biomedical Data Science* 4, no. 1 (2021): 123-144.
 - [†]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.
 - [†]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
 - [†]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
 - [†]Raymond, Lindsay. “The Market Effects of Algorithms” MIT Sloan Working Paper, July 2024