

**Economics of Education
Syllabus - Spring 2024
Harris Public Policy School**

(syllabus is subject to change, this version: February 7, 2024)

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Email subject line must include "PPHA 48500", otherwise your emails may be missed.

Description

This course is PhD level introduction to the economics of education. It introduces microeconomic theories of returns to education and frontier econometric methods that are employed in investigating issues in education. The course pays attention to causal inference and predictions about impact of education policies. Primary focus is on early childhood and K-12 education in the US.

Prerequisites: The field of Economics of Educations uses theoretical and empirical tools from various fields such as microeconomics, labor economics, industrial organization and public economics. A good understanding of consumer theory, competitive equilibrium, probability and statistics and regression analysis are required. We build on that foundation and take it to the frontier of contemporary analytical tools required for the study of the question.

Goals: The goal of this course is to introduce various questions and methodological innovations with an aim to initiate a PhD thesis. You will be heavily involved in discussions. You will prepare a presentation on a paper of your choice from the weekly assignment. I will moderate the discussions. We will determine the procedure together in the first day of the class. Also, we will discuss the reading list for the following week at the end of each class and make adjustments depending on your interests.

Requirements and Grading:

The course will be graded based on

- Weekly assignments and presentations - 50%
- Term Project – 50%
 - 40% for the project
 - 10% for peer review of your classmates' projects

The course is designed to be .

Weekly Readings and Assignments

Please see below the weekly topics and associated readings.

There is no bad/silly question or comment. You are expected to participate in the discussions with your questions and comments even if you are not the presenter. When a question is raised, please do not hesitate to answer it or even speculate about it. In fact, potentially wrong answers are most welcome, as wrong answers/intuitions are a good starting point for learning and progress.

Term Project

In your term project, you will prepare a research proposal to be submitted to foundation for financial support. You must raise a novel and interesting question that is of policy relevant. An NSF proposal sets a maximum of 15 pages. Your proposal will be a maximum 20 pages (Calibri, 12 points, double space) addressing the following points:

1. What is the question and why is it relevant?
2. What has the literature said about is so far?
3. What is your data?
4. What is the methodology of your project? What is unique about it?
5. Why do you think that this is the right dataset and the right method?

The deadlines for the term project are as follows:

- April 10: Submit the question you want to study along with news articles or policy debate illustrating the importance of the issue; identify the foundation to which you are applying and explain briefly why the foundation would be interested in funding your research.
- April 17: Submit a list of the scientific articles you plan to review (you may expand the list later as you learn more about the topic)
- April 23: Submit your proposal for data and methodology. Be specific about your data source and empirical strategy.
- May 1: Submit your full research proposal of maximum 20 pages
- May 2: Projects will be assigned for peer review
- May 6: Peer reviews returned

- May 12: Submit your final proposal of maximum 20 pages after responding to the review of your proposal
- May 15: In class presentations (depending on time, we may add an additional class)

You need to specify the source of the data and the variables you intend to use. You also need explain your empirical strategy and why the data and your strategy are appropriate.

Proposals with preliminary findings demonstrating the issue are more likely to be funded or supported. You are strongly encouraged to demonstrate some preliminary findings with actual data and analysis. If your work mainly consists of a methodological contribution, you are strongly encouraged to sketch your theoretical arguments.

Readings

We will introduce the required analytical tools in class. You may refer to your Microeconomic Theory textbook to refresh your mind. There are several good resources for econometrics. The following online book (also available in print) provides a good foundational introduction to causal inference:

Causal Inference: The Mixtape
by Scott Cunningham

<https://mixtape.scunning.com/>

Wednesday, March 20

- *Introduction with a focus on Policy Impact in Education; Why government in education? Externalities and natural Monopolies; State of the PK-12 education in the US*
- Theory: The Human Capital Model and Education as Signaling
- A brief on Empirical Methods by the Professor

Mincer, Jacob. 1958, "Investment in Human Capital and Personal Income Distribution," *Journal of Political Economy*, Vol. 66, No. 4 (Aug., 1958), pp. 281-302

Becker, G. S. (1993). *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education* (3rd ed.). Chicago: University of Chicago Press.

Spence, Michael, 1973, "Job Market Signaling," *The Quarterly Journal of Economics*, Aug., 1973, Vol. 87, No. 3 (Aug., 1973), pp. 355-374

James J. Heckman, 2006, "Skill Formation and the Economics of Investing in Disadvantaged Children," *Science*, New Series, Vol. 312, No. 5782 (Jun. 30, 2006), pp. 1900-1902

Almond, Douglas, Janet Currie and Valentina Duque, 2018, "Childhood Circumstances and Adult Outcomes: Act II," *Journal of Economic Literature*, December 2018, Vol. 56, No. 4, pp. 1360-1446

Deming, David J. 2022, "Four Facts about Human Capital," *Journal of Economic Perspectives*, Volume 36, Number 3—Summer 2022—Pages 75–102

Tyler, John H. , Richard J. Murnane, John B. Willett, 2000, "Estimating the Labor Market Signaling Value of the GED." *The Quarterly Journal of Economics*, Vol. 115, No. 2 (May, 2000), pp. 431-468

Clark, Damon, and Paco Martorell. 2014. "The Signaling Value of a High School Diploma." *Journal of Political Economy* 122 (2): 282–318

Huntington-Klein, Nick, 2021, "Human capital versus signaling is empirically unresolvable." *Empirical Economics* (2021) 60:2499–2531

Acemoglu, Daron and David Autor (June 2012). "What Does Human Capital Do? A Review of Goldin and Katz's *The Race between Education and Technology*" *Journal of Economic Literature*: 426-463.

Wednesday, March 27

Returns to Education and the Mincer equation

Lemieux, T. 2003. 'The "Mincer Equation" Thirty Years After Schooling, Experience and Earnings' Center for Labor Economics, University of California, Berkeley

Hanushek, Eric A., Ludger Woessmann, 2008, "The Role of Cognitive Skills in Economic Development." *Journal of Economic Literature*, Vol. 46, No. 3 (Sep., 2008), pp. 607-668

Heckman, James J., Lance J. Lochner, Petra E. Todd, 2006, "Earnings Functions, Rates Of Return And Treatment Effects: The Mincer Equation And Beyond" *Handbook of the Economics of Education*, Volume 1, 2006, Pages 307-458

Ashenfelter, O., Alan Krueger 1994, "Estimates of the Economic Return to Schooling from a New Sample of Twins." *The American Economic Review*, Vol. 84, No. 5 (Dec., 1994), pp. 1157-1173

Angrist, Joshua D., Alan B. Krueger, 1991, "Does Compulsory School Attendance Affect Schooling and Earnings?" *The Quarterly Journal of Economics*, Vol. 106, No. 4 (Nov., 1991), pp. 979-1014

Acemoglu, Daron, and Joshua Angrist. 2000. "How Large Are Human-Capital Externalities? Evidence from Compulsory Schooling Laws." *NBER Macroeconomics Annual* 15: 9–59.

Wednesday, April 3

The Education Production Function: Input and Output

Lazear, Edward P., 2001, "Educational Production" *The Quarterly Journal of Economics*, Vol. 116, No. 3 (Aug., 2001), pp. 777-803

Hanushek, Eric A. 2020 "Chapter 13 - Education production functions" *The Economics of Education (Second Edition) A Comprehensive Overview*, 2020, Pages 161-170

Hanushek, Eric A., 1981, "Throwing Money at Schools," *Journal of Policy Analysis and Management*, Vol. 1, No. 1 (Autumn, 1981), pp. 19-41

Hoxby, Caroline Minter, 1996, "How Teachers' Unions Affect Education Production." *The Quarterly Journal of Economics*, Vol. 111, No. 3 (Aug., 1996), pp. 671-718

Krueger, Alan B. "Experimental Estimates of Education Production Functions." *Quarterly Journal of Economics* 114, no. 2 (1999): 497-532.

Jepsen, Christopher and Steven Rivkin. "Class Size Reduction and Student Achievement: The Potential Tradeoff between Teacher Quality and Class Size." *The Journal of Human Resources*, 44, no. 1 (winter 2009): 223-250.

Angrist, Joshua D., Victor Lavy, 1999, "Using Maimonides' Rule to Estimate the Effect of Class Size on Scholastic Achievement" *The Quarterly Journal of Economics*, Vol. 114, No. 2 (May, 1999), pp. 533-575

Hoxby, Caroline M., 2000, "The Effects of Class Size on Student Achievement: New Evidence from Population Variation." *The Quarterly Journal of Economics*, Vol. 115, No. 4 (Nov., 2000), pp. 1239-1285

Wednesday, April 10

Peer Effects

Manski, C.F., 1993. "Identification of endogenous social effects: The reflection problem." *Rev. Econ. Stud.* 60, 531–542.

Angrist, J. (2014). 'The perils of peer effects', *Labour Economics*, Vol. 30, pp. 98–108.

Bruce Sacerdote. "Peer Effects in Education: How Might They Work, How Big Are They and How Much Do We Know Thus Far?" Chapter 4 from *Handbook of the Economics of Education*, 3, (2011), Elsevier B.V.

von Hinke, Stephanie, George Leckie and Cheti Nicoletti, 2019, "The Use of Instrumental Variables in Peer Effects Models," *Oxford Bulletin of Economics And Statistics*, 81, 5 (2019) 1179-1191

Sacerdote, Bruce 2001, "Peer Effects with Random Assignment: Results for Dartmouth Roommates," *The Quarterly Journal of Economics*, May, 2001, Vol. 116, No. 2 (May, 2001), pp. 681-704

Burke, Mary A., and Tim R. Sass. "Classroom Peer Effects and Student Achievement." *Journal of Labor Economics*, 31, no. 1 (January 2013): 51-82.

Boozer, M.A., Cacciola, S.E., 2001. Inside the black box of project star: Estimation of peer effects. *Economic Growth Center Discussion Paper No. 832.*

Abdulkadiroglu, Atila, Joshua Angrist and Parag Pathak "The Elite Illusion: Achievement Effects at Boston and New York Exam Schools." *Econometrica*, Vol. 82, No. 1 (January, 2014), 137–196

Lavy, Victor, M. Daniele Paserman, Analta Schlosser, 2012, "Inside The Black Box Of Ability Peer Effects: Evidence From Variation In The Proportion Of Low Achievers In The Classroom," *The Economic Journal*, Vol. 122, No. 559 (March 2012), pp. 208-237

Wednesday, April 17

Crime

Lochner, Lance, 2004, "Education, Work, and Crime: A Human Capital Approach." *International Economic Review*, Aug., 2004, Vol. 45, No. 3 (Aug., 2004), pp. 811-843

Lochner, Lance and Enrico Moretti, 2004, "The Effect of Education on Crime: Evidence from Prison Inmates, Arrests, and Self-Reports," *American Economic Review* Vol. 94, No. 1, March 2004 (pp. 155-189)

Chyn, Eric and Lawrence F. Katz, 2021, "Neighborhoods Matter: Assessing the Evidence for Place Effects." *Journal Of Economic Perspectives* Vol. 35, No. 4, Fall 2021 (pp. 197-222)

Deming David J., 2011, "Better Schools, Less Crime?" *The Quarterly Journal of Economics*, Vol. 126, No. 4 (November 2011), pp. 2063-2115

Cullen, Julie B., Brian A. Jacob, And Steven Levitt 2006, "The Effect Of School Choice On Participants: Evidence From Randomized Lotteries." *Econometrica*, Vol. 74, No. 5 (September, 2006), 1191–1230

Kling, Jeffrey R., Jens Ludwig, Lawrence F. Katz, 2005, "Neighborhood Effects on Crime for Female and Male Youth: Evidence from a Randomized Housing Voucher Experiment" *The Quarterly Journal of Economics*, Vol. 120, No. 1 (Feb., 2005), pp. 87-130

Wednesday, April 24

School Accountability

Loeb, Susanna and David Figlio, 2011, "School accountability" In E. A. Hanushek, S. Machin, & L. Woessmann (Eds.) *Handbook of the Economics of Education*, Vol. 3, pp. 383-423

McElroy, Katherine, 2023, "Does test-based accountability improve more than just test scores?" *Economics of Education Review*, Volume 94, 2023, 102381

Abdulkadiroglu, Atila, Joshua D. Angrist, Yusuke Narita and Parag Pathak, 2022, "Breaking Ties: Regression Discontinuity Design Meets Market Design," *Econometrica*, Vol. 90, No. 1 (January, 2022), 117–151

Deming, D. J., Cohodes, S., Jennings, J., & Jencks, C. 2016, "School accountability, postsecondary attainment, and earnings." *Review of Economics and Statistics*, 98(5), 848–862.

Hanushek, E. A., & Raymond, M. E. 2005, "Does school accountability lead to improved student performance?" *Journal Of Policy Analysis and Management*, 24(2), 297–327.

Casey, Marcus, Jeffrey C. Schiman, Maciej Wachala, 2018, "Local Violence, Academic Performance, and School Accountability" *AEA Papers and Proceedings*, Vol. 108, May 2018, pp. 213-216

Doan, K. P. 2008, "No child left behind waivers: A lesson in federal flexibility or regulatory failure." *Administrative Law Review*, Winter 2008, Vol. 60, No. 1 (Winter 2008), pp. 211-227

Wednesday, May 1

Test-based accountability

Jackson, C. Kirabo, Jonah E. Rockoff, and Douglas O. Staiger, 2014, "Teacher Effects and Teacher-Related Policies", *The Annual Review of Economics*, 2014. 6:801–25

Bacher-Hicks, Andrew and Cory Koedel, 2023, "Chapter 2 - Estimation and interpretation of teacher value added in research applications," in Eric A. Hanushek, Stephen Machin, Ludger Woessmann (Eds), *Handbook of the Economics of Education*, Elsevier, Volume 6, 2023, Pages 93-134

Barlevy, Gadi, and Derek Neal. "Pay for Percentile." *The American Economic Review*, vol. 102, no. 5, 2012, pp. 1805–31

Holmstrom, Bengt, 1979, "Moral Hazard and Observability" *The Bell Journal of Economics*, Vol. 10, No. 1 (Spring, 1979), pp. 74-91

Holmstrom, Bengt, 1982, "Moral Hazard in Teams." *The Bell Journal of Economics*, Vol. 13, No. 2 (Autumn, 1982), pp. 324-340

Che, Yeon-Koo and Seung-Weon Yoo, 2001, "Optimal Incentives for Teams" *American Economic Review*, Vol. 91, No. 3, June 2001, pp. 525-541

Neal, Derek. 2010. "Aiming for Efficiency Rather Than Proficiency." *Journal of Economic Perspectives*, 24 (3): 119-32.

Fryer, Jr., Roland G., Steven D. Levitt, John List, and Sally Sadoff. 2022. "Enhancing the Efficacy of Teacher Incentives through Framing: A Field Experiment." *American Economic Journal: Economic Policy*, 14 (4): 269-99.

Fryer, Roland G., 2013, "Teacher Incentives and Student Achievement: Evidence from New York City Public Schools." *Journal of Labor Economics*, Vol. 31, No. 2 (April 2013), pp. 373-407

Neal, Derek. "The Consequences of Using One Assessment System to Pursue Two Objectives." *The Journal of Economic Education* 44, no. 4 (2013): 339–52

Neal, Derek, and Diane Whitmore Schanzenbach. "Left Behind By Design: Proficiency Counts And Test-Based Accountability." *The Review of Economics and Statistics* 92, no. 2 (2010): 263–83

Neal, Derek, 2011, "Chapter 6 - The Design of Performance Pay in Education," in Eric A. Hanushek, Stephen Machin, Ludger Woessmann (Eds), *Handbook of the Economics of Education*, Elsevier, Volume 4, 2011, Pages 495-550

Wednesday, May 8

School Choice and Research Design

Abdulkadiroglu, Atila and Tayfun Sonmez, "School Choice: A Mechanism Design Approach" *American Economic Review*, 2003, 93-3: 729-747

Abdulkadiroglu, Atila, Joshua D. Angrist, Yusuke Narita and Parag Pathak, 2017, "Research Design Meets Market Design: Using Centralized Assignment for Impact Evaluation", *Econometrica*, Vol. 85, No. 5 (September 2017), pp. 1373-1432

Abdulkadiroglu, Atila, Joshua D. Angrist, Yusuke Narita, Parag A. Pathak and Roman A. Zarate 2017, "Regression Discontinuity in Serial Dictatorship: Achievement Effects at Chicago's Exam Schools," *American Economic Review, Papers & Proceedings*, 107(5), 2017

Abdulkadiroglu, Atila, Joshua D. Angrist, Yusuke Narita and Parag Pathak, 2022, "Breaking Ties: Regression Discontinuity Design Meets Market Design," *Econometrica*, Vol. 90, No. 1 (January, 2022), 117–151

Abdulkadiroglu, Atila and Inkoo Back, 2024, "Research Design with Weighted Lotteries," *American Economic Review, Papers & Proceedings*, forthcoming

Wednesday, May 15

Term project presentations

University Resources, Disability Accommodations, and Academic Integrity

-For University policies on disabilities accommodations, please contact the Office of Student Disabilities Services via disabilities.uchicago.edu | 773-702-6000 | or disabilities@uchicago.edu

-For Title IX violations, please note that most employees of the University are mandatory reporters. If you have any questions about Title IX violations, please contact titleix@uchicago.edu

-For the University's Policy on Harassment, Discrimination and Sexual Misconduct, please see <http://harassmentpolicy.uchicago.edu/page/policy>.

-For incidents of bias, please report here

https://cm.maxient.com/reportingform.php?UnivofChicago&layout_id=9

-For policies on academic honesty and integrity, including incidents of plagiarism, please consult the Student Manual at <https://studentmanual.uchicago.edu/Policies/>