

Instructor:

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Office Hours: Mondays 2:30-3:30pm

Thursdays 2pm-3pm

And by appointment

Course Prerequisites: Proficiency in basic statistics and regression (e.g., the material that is covered in CCJS 620 and 621, or something equivalent to a first-year MA sequence) is essential for this course.

Required Text:

Joshua D. Angrist and Jörn-Steffen Pischke (2009). *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton, NJ: Princeton University Press.

In addition to the required text, there will also be a number of required readings throughout the semester that you should plan to access via Google Scholar or some similar search engine.

Optional Supplementary Text: If you would like a supplementary volume for reference, this one is an authority on econometric methods:

Wooldridge, Jeffery. *Econometric Analysis of Cross-Section and Panel Data*. Cambridge: MIT Press. (ISBN-10: 0262232197; ISBN-13: 9780262232197)

Additionally, Wooldridge's homepage has a link dedicated to these texts where you can download the datasets used in his examples, as well as the solutions to some of the exercises: <https://www.msu.edu/~ec/faculty/wooldridge/books.htm>.

Note: The Wooldridge text is a highly technical volume, but gives the mathematical foundations for each of the techniques we will use throughout the semester. You should only get it if you are seeking a technical reference for this material. I do not consider it essential for this course by any means.

Course Objectives: Specific course objectives are as follows:

1. Gain a thorough understanding of the concept of econometric identification and its applications to empirical research.
2. Differentiate between associational and causal inference.
3. Understand the form and assumptions of empirical approaches to causal inference.
4. Recognize the limitations of statistical and econometric analyses and identify pitfalls in their interpretations.
5. Communicate constructive critique of empirical research in written and oral form.
6. Execute and interpret applications of empirical approaches to causal inference.
7. Increase facility and competency analyzing data using Stata.

Course Requirements: Your grades will be based on your performance on the following assignments according to the weighting listed below.

<p>Analytic Notes 20%</p>	<p>Every class period part of your preparation for class will require you to complete a set of analytic notes. Each set of notes will have four sections: key takeaways, questions/points of confusion, a brief analytic summary of the week's readings and annotated further reading. I will provide a template and you must use it to complete your notes.</p> <p>Importantly, you must complete these notes on your own without consultation from your classmates or anyone else. By requiring you to complete these on your own, I will have a better understanding of how each person is understanding and engaging with the material.</p> <p>The analytic notes will be graded on a 5-point scale from Phenomenal to Unacceptable. By grading the notes in this way, the goal is to take off much of the grading pressure, while still rewarding effort. The worst of your analytic notes will not count toward your final grade.</p>
<p>Peer Reviews 25%</p> <p>Peer Review 1: 10%</p> <p>Peer Review 2: 15%</p>	<p>In addition to learning about the technical features of causal inference we will also discuss some of the literature relevant to each topic in a seminar format. Learning to constructively critique manuscripts is an essential skill for researchers of any type (but especially academics). Consequently, I will require you to compose two peer reviews which constructively critique an article. Peer Review 1 will come in the first half of the semester and Peer Review 2 will come in the second half of the semester. I will assign you at random to a week and to an article for each of these peer reviews.</p>
<p>Problem Sets 25%</p>	<p>Almost everything I know about the practice of applied econometrics, I learned doing a problem set.</p> <p>With problem sets, you get out what you put in.</p> <p>Enough platitudes about problem sets? Never.</p> <p>Problem sets will be assigned regularly and will generally be due two weeks after they have been assigned unless otherwise noted. You will complete your problem sets in teams of two.</p> <p>Importantly, I consider problem sets to be professional work product and as a consequence they should always be typed, clearly labeled (and otherwise easy to navigate), and contain polished tables and figures. I will provide a template that you must use to document your code.</p> <p>Like the analytic notes, problem sets will be graded on a 5-point scale ranging from Phenomenal to Unacceptable. By grading the problem sets in this way, the goal is to take off much of the grading pressure, while still rewarding effort. The worst of the problem sets will not count toward your final grade.</p>
<p>Final Exam 30%</p>	<p>The final exam for this course will consist of questions and applications that require you to work with Stata; it will be distributed on the last day of classes.</p>

Late/Make-up Assignments: Make sure you complete your assignments on time! Students will automatically lose 1 letter grade for every day that an assignment is late. Assignments turned in more than 5 days past due will not be considered. In the exceptional circumstance that would make exam participation or paper completion impossible, the student should notify me via email as soon as possible but no later than 1 week prior to the exam, and we will make other arrangements in compliance with University policy and at the instructor's discretion.

Grade Distribution: Final grades will be assigned according to the distribution below. I will round up from .5 to the closest letter grade; for example, an 89.4% is a B+ and an 89.5% constitutes an A-. Students must earn a B or better for progress toward the Master's or Ph.D. in Criminology and Criminal Justice.

A+	97% - 100%	B+	87% - 89%	C+	77% - 79%	D+	67% - 69%	F	Less than 60
A	93% - 96%	B	83% - 86%	C	73% - 76%	D	63% - 66%		
A-	90% - 92%	B-	80% - 82%	C-	70% - 72%	D-	60% - 62%		

Course Expectations:

I expect all students to:

- a) Attend class regularly, on-time and prepared to learn!
- b) Ask for clarification when you don't know what I am saying. Seriously.
- c) Be prepared to answer and ask questions during class. We all learn better when we discuss the material instead of just listening to me talk.
- d) Come to office hours if you need assistance or if you just want to chat.

Office Hours: I strongly encourage you to take advantage of my office hours throughout the semester. Office hours are a wonderful opportunity for us to get to know each other better and for you to get some personalized learning time. You are more than welcome to come visit me in pairs or in small groups. If you cannot make it to office hours because of a structural impediment, you are welcome to request an appointment.

E-mail and Technology: I will generally respond rather quickly to your emails, but there may be times when I am unable to do so. I ask that you save substantive questions for class or office hours.

Please keep your cell phones off or on silent during class.

Please do not take audio or video recordings of class sessions without my express consent and the consent of your classmates.

Students with Disabilities: If you have a documented physical or learning disability, I am willing to make the necessary accommodations. Please contact me by the second week of the semester at the latest, so that we can discuss these accommodations.

Religious Observances: The University of Maryland policy on religious observances provides that a student will not be penalized because of observances of their religious beliefs; students will be given an opportunity, whenever feasible, to make up within a reasonable time any academic assignment that is missed due to individual participation in religious observances.

Names/Pronouns and Self Identifications

The University of Maryland recognizes the importance of a diverse student body, and we are committed to fostering equitable classroom environments. I invite you, if you wish, to tell us how you want to be referred to both in terms of your name and your pronouns (he/him, she/her, they/them, etc.). The pronouns someone indicates are not necessarily indicative of their gender identity. Visit trans.umd.edu to learn more.

Additionally, how you identify in terms of your gender, race, class, sexuality, religion, and dis/ability, among all aspects of your identity, is your choice whether to disclose (e.g. should it come up in classroom conversation about our experiences and perspectives) and should be self-identified, not presumed or imposed.

I will do my best to address and refer to all students accordingly and will support you in doing so as well.

Academic Integrity: It is essential that you follow guidelines for originality and attribution in your work. In brief, this means submitting your own work unless otherwise specified and properly citing source material you use to produce your work. A useful resource can be found at: <http://deanofthecollege.vassar.edu/documents/originality/originalityandattribution.pdf>

The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. The Code sets forth the standards for conduct at Maryland for all students.

It should go without saying that cheating, plagiarism, or other violations of the University of Maryland Code of Academic Integrity will not be tolerated. Potential violations will be reported to the Honor Council. For more information on the Code of Academic Integrity or the Honor Council, see: <http://shc.umd.edu/SHC/Default.aspx>.

Weekly Outline:

<u>Week</u>	<u>Date</u>	<u>Topic</u>	<u>Required Readings</u>	<u>Due Dates</u>
1	1/30	Introduction to Causality & Research Design and Agnostic Regression	MHE Ch. 1 & 3.1 Freedman, D. A. (1991). Statistical models and shoe leather. <i>Sociological methodology</i> , 291-313.	
2	2/11 or 2/13	Potential Outcomes Framework & Experimental Designs	MHE Ch. 2 Holland, Paul. (1986). "Statistics and Causal Inference," <i>Journal of the American Statistical Association</i> , 81: 945-970.	PS 1 Due Analytic Notes 1 Due
3	2/13 or 2/15	Seminar: Experimental Designs	Heller, Sara B. (2014). "Summer jobs reduce violence among disadvantaged youth." <i>Science</i> 346(6214), 1219-1223. Heckman, James and Jeffrey Smith. (1995). "Assessing the Case for Social Experiments." <i>Journal of Economic Perspectives</i> . 9, 85-100. Sampson, Robert J. (2010). "Gold Standard Myths: Observations on the Experimental Turn in Quantitative Criminology," <i>Journal of Quantitative Criminology</i> , 26, 489-500. Berk, Richard. (2005). "Randomized Experiments as the Bronze Standard," <i>Journal of Experimental Criminology</i> , 1, 417-433.	Review Report 1A Due Analytic Notes 2 Due
4	2/20	Introduction to Selection on Observables Designs: Regression Adjustment and Matching	MHE 3.2 & 3.3 Apel, Robert and Gary Sweeten. (2010). Propensity score matching in criminology and criminal justice. In Alex R. Piquero and David Weisburd (Eds.), <i>Handbook of Quantitative Criminology</i> . New York: Springer. 543-562. Rosenbaum, Paul R., and Donald B. Rubin. (1983). The Central Role of the Propensity Score in Observational Studies for Causal Effects. <i>Biometrika</i> 70, 41-55. Rosenbaum, Paul R., and Donald B. Rubin. (1984). Reducing Bias in Observational Studies Using Subclassification on the Propensity Score. <i>Journal of the American Statistical Association</i> 79, 516-524.	PS2 Due Analytic Notes 3 Due

5	2/27	Seminar: Selection on Observables	<p>Johnson, Brian D. and Megan Kurlychek, (2010). “Juvenility and Punishment: Sentencing Juveniles in Adult Criminal Court,” <i>Criminology</i>, 48, 725-758</p> <p>Loughran, Thomas A., Edward P. Mulvey, Carol A. Schubert, Jeffrey Fagan, Alex R. Piquero, and Sandra H. Losoya. (2009). “Estimating a Dose-Response Relationship between Length of Stay and Future Recidivism in Serious Juvenile Offenders,” <i>Criminology</i>, 47, 699-740.</p> <p>Almond, Douglas, Kenneth Y. Chay, and David S. Lee. (2005). “The Costs of Low Birth Weight,” <i>Quarterly Journal of Economics</i>. 120 (3), 1031–1083.</p> <p>Arceneaux, Kevin, Alan Gerber, and Donald Green. “Comparing Experimental and Matching Methods Using a Large-Scale Voter Mobilization Experiment.” <i>Political Analysis</i>, 2006, 14, 37–62.</p>	<p>Review Report 1B Due</p> <p>Analytic Notes 4 Due</p>
6	3/6	Transition from Selection on Observables → Selection on Unobservables	<p>Krueger, A. B. (1993). How computers have changed the wage structure: evidence from microdata, 1984–1989. <i>The Quarterly Journal of Economics</i>, 108(1), 33-60.</p> <p>DiNardo, J., & Pischke, J. (1997). The Returns to Computer Use Revisited: Have Pencils Changed the Wage Structure Too? <i>The Quarterly Journal of Economics</i>, 112(1), 291-303.</p>	<p>PS3 Due</p> <p>Analytic Notes 5 Due</p>
7	3/13	<p>COMBO CLASS: Introduction to Panel Data Methods and Seminar: Fixed Effects & Random Effects</p>	<p>MHE Ch. 5</p> <p>Angrist, Joshua D. and Alan B. Krueger (1999.) “Empirical strategies in labor economics,” chapter 23 in: Orley C. Ashenfelter and David Card, eds., <i>Handbook of Labor Economics</i>, vol. 3A. Elsevier, 1277-1366. Section 2.2.2</p> <p>Seminar Papers: Paternoster, Raymond, Shawn Bushway, Robert Brame, and Robert Apel. (2003). The effect of teenage employment on delinquency and problem behaviors. <i>Social Forces</i>, 82, 297-335.</p> <p>Apel, R., & Horney, J. (2017). How and why does work matter? Employment conditions, routine activities, and crime among adult male offenders. <i>Criminology</i>, 55(2), 307-343.</p> <p>Bjerk, D. (2009). How much can we trust causal interpretations of fixed-effects estimators in the context of criminality? <i>Journal of Quantitative Criminology</i>, 25(4), 391-417.</p>	<p>Review Report 1C Due</p> <p>Analytic Notes 6 Due</p>

8	3/20	Spring Break		
9	3/27	Differences in Differences	<p>Bertrand, M., E. Duflo, and S. Mullainathan (2004), "How Much Should We Trust Differences in-Differences Estimates?", <i>Quarterly Journal of Economics</i>, February, 119(1): 249-275.</p> <p>Abadie, Alberto and Matias D. Cattaneo (2018). "Econometric methods for program evaluation," <i>Annual Review of Economics</i>, 10:465-503. Section 5.1</p>	<p>PS4 Due</p> <p>Analytic Notes 7 Due</p>
10	4/3	Seminar: Differences in Differences	<p>Card, David. (1990). "The Impact of the Mariel Boatlift on the Miami Labor Market." <i>Industrial and Labor Relations Review</i>, 43, 245–257.</p> <p>Card, David and Alan B. Krueger. (1994), "Minimum Wages and Employment - A Case Study of the Fast Food Industry in New Jersey and Pennsylvania", <i>American Economic Review</i>, 84, 772-793.</p> <p>Kilmer, B., Nicosia, N., Heaton, P., & Midgette, G. (2013). Efficacy of frequent monitoring with swift, certain, and modest sanctions for violations: Insights from South Dakota's 24/7 Sobriety Project. <i>American Journal of Public Health</i>, 103(1), e37-e43.</p> <p>Abadie, A., Diamond, A., & Hainmueller, J. (2010). Synthetic control methods for comparative case studies: Estimating the effect of California's tobacco control program. <i>Journal of the American Statistical Association</i>, 105(490), 493-505.</p>	<p>Review Report 2A Due</p> <p>Analytic Notes 8 Due</p>
11	4/10	Instrumental Variables	<p>MHE Ch. 4</p> <p>Bushway, Shawn and Robert Apel (2010). "Instrumental Variables in Criminology and Criminal Justice," in (eds. Alex Piquero and David Weisburd) <i>Handbook of Quantitative Criminology</i>. NY: Springer. 595-614.</p> <p>Spelman, W. (2008). Specifying the relationship between crime and prisons. <i>Journal of Quantitative Criminology</i>, 24(2), 149-178.</p>	<p>PS5 Due</p> <p>Analytic Notes 9 Due</p>

12	4/17	Seminar: Instrumental Variables	<p>Angrist, J (1990). "Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social Security Administrative Records." <i>American Economic Review</i>, 80(3): 313-336.</p> <p>Angrist, Joshua D. (2006). "Instrumental Variables Methods in Experimental Criminological Research: What, Why and How," <i>Journal of Experimental Criminology</i>, 2, 23-44.</p> <p>Kirk, David S (2009). "A Natural Experiment on Residential Change and Recidivism: Lessons from Hurricane Katrina." <i>American Sociological Review</i> 74(3): 484-505.</p> <p>Heaton, P. (2006). Does religion really reduce crime?. <i>The Journal of Law and Economics</i>, 49(1), 147-172.</p>	<p>Review Report 2B Due</p> <p>Analytic Notes 10 Due</p>
13	4/24	Regression Discontinuity	<p>MHE Ch. 6</p> <p>Berk, Richard. (2010). "Recent Perspectives on the Regression Discontinuity Design." In Alex R. Piquero and David Weisburd (Eds.), <i>Handbook of Quantitative Criminology</i>. New York: Springer. 563-579.</p>	<p>PS6 Due</p> <p>Analytic Notes 11 Due</p>
14	5/1	Seminar: Regression Discontinuity	<p>Berk, Richard D. and Jan de Leeuw. (1999). "An Evaluation of California's Inmate Classification System Using a Generalized Regression Discontinuity Design," <i>Journal of the American Statistical Association</i>, 94, 1045-1052.</p> <p>Chen, M. Keith and Jesse M. Shapiro. (2007). "Do Harsher Prison Conditions Reduce Recidivism? A Discontinuity-based Approach," <i>American Law and Economics Review</i>, 9, 1-29.</p> <p>Gaes, G. G., & Camp, S. D. (2009). Unintended consequences: Experimental evidence for the criminogenic effect of prison security level placement on post-release recidivism. <i>Journal of Experimental Criminology</i>, 5(2), 139-162.</p> <p>Tahamont, S. (forthcoming). The Effect of Facility Security Classification on Serious Rules Violation Reports in California Prisons: A Regression Discontinuity Design. <i>Journal of Quantitative Criminology</i>. DOI: 10.1007/s10940-019-09405-0</p>	<p>Review Report 2C Due</p> <p>Analytic Notes 12 Due</p>

15	5/8	Last Day of Class – Wrap Up	<p>Becker, G. S. (2006). On the economics of capital punishment. <i>The Economists' Voice</i>, 3(3).</p> <p>Donohue, J., & Wolfers, J. J. (2006). The death penalty: No evidence for deterrence. <i>The Economists' Voice</i>, 3(5).</p> <p>Donohue, J. J., & Wolfers, J. (2005). Uses and Abuses of Empirical Evidence in the Death Penalty Debate. <i>Stan. L. Rev.</i>, 58, 791.</p> <p>Rubin, P. H. (2006). Reply to Donohue and Wolfers on the Death Penalty and Deterrence. <i>The Economists' Voice</i>, 3(5).</p> <p>Take Home Final Distributed. Final set of Analytic Notes Due along with the Final Exam. Final Exam Due Date TBD.</p>	<p>PS 7 Due</p> <p>and</p> <p>Analytic Notes 13 Due</p>

NOTE: This syllabus provides a general plan for the course; deviations may be necessary.