

University of Florida
Food and Resource Economics Department

AEB 6933 Labor Economics Spring 2016

Section: 1036

Tuesday 1:55 pm – 2:45 pm
Thursday 1:55 pm – 3:50 pm
Classroom: NPB 1200

Instructor and Contact Information

Instructor:	Dr. Conner Mullally
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Office Hours:	Monday, 3pm – 5pm.
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E-Learning: There is an e-learning webpage for this course. To access E-learning you need your Gatorlink username and password. The site can be accessed at <http://lss.at.ufl.edu>. Click the “e-learning in Canvas” button. If you have difficulty accessing the page, contact UF computing Help Desk at (352) 392-HELP. Note that E-learning page may not be working the first week of class. Grades will be posted under the ‘Grades’ tab and assignments will be posted under ‘Assignments’ on the home screen.

Course description: This course has two goals. The first goal of the course is to provide an overview of modern empirical tools for conducting research in labor economics and related fields; these tools are sometimes referred to as “microeconometrics.” The second goal of this course is to turn each of you into capable users of the statistical package Stata. If you do not own Stata you can run version 13 using UF Apps (<http://info.apps.ufl.edu>), or Stata/IC can be rented for 6 months by students from the Stata website (do not rent Small Stata). All assignments will be written so that they will run on version 13 of Stata. You should have a laptop computer that you can bring to class with access to Stata.

Readings: We will make heavy use of two books. The first book we will use is “An Introduction to Stata Programming” by Christopher Baum (henceforth referred to as ISP). The second edition of ISP is available from Stata Press: <http://www.stata-press.com/books/introduction-stata-programming/>. You can find the first edition on Amazon for a lower price. I recommend the second edition, since the first edition was written for Stata 10 (the current version is 14), but you may use the first edition. You will need to download the data sets used in the book. They can be found at the link above.

The other main text used in the course is “Mostly Harmless Econometrics” by Josh Angrist and Jörn-Steffen Pischke (MHE). MHE will be our main reference for the methods we will learn in this class. I will supplement it with other sources when necessary. We will also read journal articles that include applications of the methods studies in class.

Other helpful resources include:

- Imbens, Guido and Jeffrey Wooldridge. “What’s New in Econometrics?” <http://www.nber.org/minicourse3.html>. This is a set of lecture notes, slides, and videos describing many of the methods covered in the class.
- Morgan, Stephen and Christopher Winship. *Counterfactuals and Causal Inference: Methods and Principles for Social Research*. New York: Cambridge University Press, 2007.
- Wooldridge, Jeffrey. *Econometric Analysis of Cross Section and Panel Data*. Cambridge, MA: MIT Press, 2002.
- Cameron, A. Colin and Pravan Trivedi. *Microeconometrics: Methods and Applications*. New York: Cambridge University Press, 2005. There is a helpful webpage for the book: <http://cameron.econ.ucdavis.edu/mmabook/mmaprograms.html>.
- Cameron, A. Colin and Pravan Trivedi. *Microeconometrics Using Stata*. College Station, Texas: Statacorp, 2009.
- Statalist, an online bulletin board where you can ask other Stata users for help and find answers to questions not readily solved elsewhere: <http://www.stata.com/statalist>

Course structure: Each week we will cover a different aspect of microeconomic methods and practice. You will be responsible for completing assigned readings related to each topic.

In addition, during the first seven weeks of the course (up until the beginning of Spring Break), you will be responsible for working through two chapters of ISP per week and turning in Stata output (i.e., your Stata log file) showing me that you have worked through every example given in the chapters covered each week. In addition to replicating the examples in ISP, I will also assign problems for you to complete that involve Stata programming or test your knowledge of the methods covered in class. Your Stata log file and your answers to any assigned methodological problems will be turned in together each week.

Once Spring Break arrives, we will have worked through every chapter in ISP, and you will all be capable Stata programmers. When you return from Spring Break, you will continue to turn in Stata output every week, but the output will consist of solutions to assigned problems, rather than examples from ISP.

Course requirements and points breakdown:

ALL ASSIGNMENTS WILL BE AVAILABLE ON CANVAS. ALL DUE DATES WILL BE POSTED ON THE COURSE CALENDAR ON CANVAS.

Stata assignments, 60 points total (due before class on Tuesday every week unless otherwise indicated): See the description above. You will turn in approximately one Stata assignment per week, or 15 total. You may work together on your Stata assignments, but you must turn in your own assignment.

Empirical project, 30 points total (deadlines on January 29, February 29, March 25, April 1, and April 20): Your second class requirement is an empirical project. Your empirical project can take one of two forms:

1. A replication and extension of an existing paper, chosen by you and approved by me.
2. Original empirical research, proposed by you and approved by me.

I will post the requirements for the empirical project and what I expect to receive at each deadline.

Class participation, 10 points total: You will be expected to attend class, have completed the readings assigned for each class period, and participate in class discussions.

Course outline: As stated above, the course will cover Stata programming by reading and replicating the examples in ISP, and cover methods in microeconometrics through readings from MHE and journal articles. The schedule of readings from ISP is below:

Stata readings:

1. ISP, Chapters 1 – 2: Complete by Tuesday, January 12
2. ISP, Chapters 3 – 4: Complete by Tuesday, January 19
3. ISP, Chapters 5 – 6: Complete by Tuesday, January 26
4. ISP, Chapters 7 – 8: Complete by Tuesday, February 2
5. ISP, Chapters 9 – 10: Complete by Tuesday, February 9
6. ISP, Chapters 11 – 12: Complete by Tuesday, February 16
7. ISP, Chapters 13 – 14: Complete by Tuesday, February 23

Methodological readings, calendar of topics:

Week 1: Introduction to the Rubin Causal Model, causal diagrams, threats to causal inference

Week 2: Randomized experiments: design and analysis

Week 3: Randomized experiments: design and analysis (continued)

Week 4: Estimation of treatment effects using linear regression

Week 5: Matching methods; matching versus regression

Week 6: Robust inference

Week 7: Robust inference (continued)

Week 8: Instrumental variables

Week 9: Instrumental variables, part 2: local average treatment effects

Week 10: Difference-in-differences and related methods

Week 11: Difference-in-differences and related methods (continued)

Week 12: Regression discontinuity designs

Week 13: Adjusting for multiple hypotheses

Week 14: Identifying structural parameters, mediation analysis

Week 15: Conclusion

Methodological readings, reading list:

Use the following guide to determine how closely you should read anything from the list below:

**** = Read closely, * = Skim, No stars = optional**

1. Introduction to the Rubin Causal Model, causal diagrams, threats to causal inference
 - a. **MHE Chapters 1 – 2
 - b. **Pages 245-256 (stop at “Graphical Identification Criteria”) and 262-266 (stop at “Drawing DAGs for Social Networks”) in Elwert, F. 2013. “Graphical Causal Models.” In Morgan, S. (ed.), *Handbook of Causal Analysis for Social Research*. New York: Springer Netherlands. http://link.springer.com/chapter/10.1007/978-94-007-6094-3_13.
2. Randomized experiments: design and analysis
 - a. **Bloom, H. 1995. “Minimum Detectable Effects: A Simple Way to Report the Statistical Power of Experimental Designs.” *Evaluation Review* 19(5): 547-556. <http://erx.sagepub.com/cgi/content/abstract/19/5/547>.
 - b. *McKenzie, D. 2012. “Beyond Baseline and Follow-up: The Case for More T in Experiments.” *Journal of Development Economics* 99(2): 210-221. <http://www.sciencedirect.com/science/article/pii/S030438781200003X>.
 - c. *Duflo, E., R. Glennerster, and M. Kremer. “Using Randomization in Development Economics Research: A Toolkit.” Technical Working Paper 333. Cambridge, MA: National Bureau of Economic Research, 2006. <http://www.nber.org/papers/t0333>.

3. Randomized experiments: design and analysis (continued)
 - a. **Crépon, B., E. Duflo, M. Gurgand, R. Rathelot, P. Zamora. 2013. “Do Labor Market Policies have Displacement Effects? Evidence from a Clustered Randomized Experiment.” *Quarterly Journal of Economics* 128(2): 531-580. <http://qje.oxfordjournals.org/content/128/2/531.full.pdf+html>.
 - b. *Baird, S., A. Bohren, C. McIntosh, and B. Ozler. 2014. “Designing Experiments to Measure Spillover Effects.” Penn Institute for Economic Research Working Paper 14-006. https://docs.google.com/file/d/17O7mmhAt2AiiIbhi_iahtopRuNuDGZ2QyKfMOMbn5TR6EcnZzRgZIR0oK3gJ/edit.
 - c. *Aronow, P and C. Samii. 2015. “Estimating Average Causal Effects under Interference between Units.” Unpublished. <http://arxiv.org/abs/1305.6156>.
4. Estimation of treatment effects using linear regression
 - a. **MHE Chapter 3 (through 3.3.1)
 - b. **Pages 256-260 in Elwert, F. 2013. “Graphical Causal Models.” In Morgan, S. (ed.), *Handbook of Causal Analysis for Social Research*. New York: Springer Netherlands. http://link.springer.com/chapter/10.1007/978-94-007-6094-3_13.
 - c. *Aronow, P. and C. Samii. 2015. “Does Regression Produce Representative Estimates of Causal Effects?” *American Journal of Political Science*, forthcoming. <http://onlinelibrary.wiley.com/doi/10.1111/ajps.12185/full>.
 - d. *Lin, W. 2013. “Agnostic Notes on Regression Adjustments to Experimental Data.” *The Annals of Applied Statistics* 7(1): 295-318. <http://www.stat.berkeley.edu/~winston/agnostic.pdf>.
 - e. *Solon, G., S. Haider, and J. Wooldridge. 2015. “What Are We Weighting For?” *The Journal of Human Resources* 50(2): 301-316. <http://jhr.uwpress.org/content/50/2/301.full.pdf>.
 - f. *Belloni, A., V. Chernozhukov, and C. Hansen. 2014. “Inference on Treatment Effects after Selection among High-Dimensional Controls.” *Review of Economic Studies* 81(2): 608-650. <http://restud.oxfordjournals.org/content/81/2/608.full>.
5. Matching methods; matching versus regression
 - a. **MHE Chapter 3 (3.3.2 through the end of chapter 3)
 - b. **Imbens, G. 2015. “Matching Methods in Practice.” *The Journal of Human Resources* 50(2): 373-419. <http://jhr.uwpress.org/content/50/2/373.full.pdf+html>.
 - c. *King, G. and R. Nielsen. 2015. “Why Propensity Scores Should Not Be Used for Matching.” <http://gking.harvard.edu/publications/why-propensity-scores-should-not-be-used-formatching>.
 - d. Farrell, M. 2015. “Robust Inference on Average Treatment Effects with Possibly More Covariates than Observations.” Unpublished manuscript. <http://arxiv.org/pdf/1309.4686>.
6. Robust inference
 - a. **MHE Chapter 8
 - b. *MacKinnon, J. and H. White. 1985. “Some Heteroscedasticity-Consistent Covariance Matrix Estimators with Improved Finite Sample Properties.” *Journal of Econometrics* 29(3): 305-325. <http://www.sciencedirect.com/science/article/pii/0304407685901587>.
7. Robust inference (continued)
 - a. **Cameron, A. and D. Miller. “A Practitioner’s Guide to Cluster-Robust Inference.” *The Journal of Human Resources* 50(2): 317-372. <http://jhr.uwpress.org/content/50/2/317.short>.
 - b. Wooldridge, J. 2008. “Cluster-Sample Methods in Applied Econometrics: An Extended Analysis.” Unpublished. <http://www-personal.umich.edu/~jdinardo/clusterextended.pdf>.
8. Instrumental variables: the basics
 - a. **MHE Chapter 4, Sections 4.1 – 4.2.2

- b. **Angrist, J. and A. Krueger. 1991. "Does Compulsory School Attendance Affect Schooling and Earnings?" *The Quarterly Journal of Economics* 106(4): 979-1014. <http://www.jstor.org/stable/2937954>.
 - c. *Bound, J., D. Jaeger, R. Baker. 1995. "Problems with Instrumental Variables Estimation When the Correlation Between the Instruments and the Endogenous Explanatory Variable is Weak." *Journal of the American Statistical Association* 90(430): 443-450. http://www.jstor.org/stable/2291055?seq=1#page_scan_tab_contents.
 - d. *Stock, J. and M. Yogo. 2005. "Testing for Weak Instruments in Linear IV Regression." In *Identification and Inference for Econometric Models*. D. Andrews, ed. Cambridge University Press, New York. <http://scholar.harvard.edu/stock/publications/testing-weak-instruments-linear-iv-regression>.
 - e. *Chernozhukov, V. and C. Hansen. 2008. "The Reduced Form: A Simple Approach to Inference with Weak Instruments." *Economics Letters* 100(1): 68-71. <http://www.sciencedirect.com/science/article/pii/S0165176507004107>.
 - f. Baum, C., M. Schaffer, and S. Stillman. "Enhanced Routines for Instrumental Variables/Generalized Method of Moments Estimation and Testing." *The Stata Journal* 7(4): 465-506. http://www.stata-journal.com/article.html?article=st0030_3.
 - g. Wooldridge, J. 2015. "Control Function Methods in Applied Econometrics." *The Journal of Human Resources* 50(2): 420-445. <http://jhr.uwpress.org/content/50/2/420.full.pdf+html>.
 - h. Brito, C. and J. Pearl. 2002. "Generalized Instrumental Variables." Proceedings of the Eighteenth Conference on Uncertainty in Artificial Intelligence. <http://arxiv.org/pdf/1301.0560>.
9. Instrumental variables: Local Average Treatment Effects (LATE)
- a. **MHE Chapter 4, Sections 4.4 – 4.6
 - b. **Duflo, E. and E. Saez. 2003. "The Role of Information and Social Interactions in Retirement Plan Decisions: Evidence from a Randomized Experiment." *The Quarterly Journal of Economics* 118(3): 815-842. <http://qje.oxfordjournals.org/content/118/3/815.short>.
 - c. *Bisbee, J., R. Dehejia, C. Pop-Eleches, and C. Samii. 2015. "Local Instrument, Global Extrapolation: External Validity of the Labor Supply-Fertility Local Average Treatment Effect." National Bureau of Economic Research Working Paper No. 21663. http://users.nber.org/~rdehejia/papers/bisbee_dehejia_pop_samii.pdf.
 - d. Heckman, J. and E. Vytlacil. "Econometric Evaluation of Social Programs Part II." Chapter 71 in Heckman, J. and E. Leamer (eds.) *Handbook of Econometrics*, vol 6B. Amsterdam: Elsevier B.V., 2007. <http://www.sciencedirect.com/science/handbooks/15734412>.
10. Difference-in-differences and related methods
- a. **MHE Chapter 5
 - b. **Card, D. and A. Krueger. 1994. "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania." *American Economic Review* 84(4): 772-793. <http://www.jstor.org/stable/2118030>.
 - c. *Lechner, M. 2011. "The Estimation of Causal Effects by Difference-in-Difference Methods." *Foundations and Trends in Econometrics* 4(3) 165-224. http://michael-lechner.eu/pdf/journals/99_Lechner_DiD_2011_ECO%200403%20Lechner_darf%20auf_s%20Netz.pdf.
11. Difference-in-differences and related methods (continued)
- a. **Autor, D. 2003. "Outsourcing at Will: The Contribution of Unjust Dismissal Doctrine to the Growth of Employment Outsourcing." *Journal of Labor Economics* 21(1): 1-42. <http://www.jstor.org/stable/10.1086/344122>. You do not need to pay close attention to the theoretical section. Pay attention to the empirical methods.

- b. **Peri, G. and V. Yasenov. 2015. “The Labor Market Effects of a Refugee Wave: Applying the Synthetic Control Method to the Mariel Boatlift.” National Bureau of Economic Research Working Paper No. 21801. <http://www.nber.org/papers/w21801>.
 - c. *Abadie, A., A. Diamond, and J. Hainmueller. 2010. “Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California’s Tobacco Control Program.” *Journal of the American Statistical Association* 105(490): 493-505. <http://amstat.tandfonline.com/doi/abs/10.1198/jasa.2009.ap08746#.UrR2gqi0h64>.
12. Regression discontinuity designs
- a. **MHE Chapter 6
 - b. **Angrist, J. and V. Lavy. 1999. “Using Maimonides’ Rule to Estimate the Effect of Class Size on Scholastic Achievement.” *Quarterly Journal of Economics* 114(2): 533-575. <http://qje.oxfordjournals.org/content/114/2/533.short>.
 - c. *Imbens, G. and T. Lemieux. 2008. “Regression Discontinuity Designs: A Guide to Practice.” *Journal of Econometrics* 142(2): 615-635. <http://www.sciencedirect.com/science/article/pii/S0304407607001091>.
 - i. This is from a special issue of the *Journal of Econometrics* on RDD, found at <http://www.sciencedirect.com/science/journal/03044076/142/2>.
 - d. *Gelman, A. and G. Imbens. 2015. “Why High-Order Polynomials Should Not Be Used in Regression Discontinuity Designs.” National Bureau of Economic Research Working Paper No. 20405. <http://www.nber.org/papers/w20405>.
 - e. *Angrist, J. and M. Rokkanen. 2013. “Wanna Get Away? RD Identification Away from the Cutoff.” IZA Discussion Paper No. 7429. <http://ftp.iza.org/dp7429.pdf>.
 - f. Lee, D., and T. Lemieux. “Regression Discontinuity Designs in Economics.” Working Paper 14723. Cambridge, MA: National Bureau of Economic Research, 2009. <http://www.nber.org/papers/w14723>.
13. Adjusting for multiple hypotheses
- a. **Anderson, M. 2008. “Multiple Inference and Gender Differences in the Effects of Early Intervention: A Reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects.” *Journal of the American Statistical Association* 103(484): 1481 – 1495. <http://amstat.tandfonline.com/loi/uasa20>.
14. Identifying structural parameters, mediation analysis
- a. **Chetty, R. 2008. “Sufficient Statistics for Welfare Analysis: A Bridge between Structural and Reduced-Form Methods.” National Bureau of Economic Research Working Paper No. 14399. <http://www.nber.org/papers/w14399>.
 - b. **Imai, K., L. Keele, D. Tingley, and T. Yamamoto. 2011. “Unpacking the Black Box of Causality: Learning about Causal Mechanisms from Experimental and Observational Studies.” *American Political Science Review* 105(4): 765-789. <http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8432163&fileId=S0003055411000414>.
 - c. **Green, D., S. Ha, and J. Bullock. 2010. “Enough Already about “Black Box” Experiments: Studying Mediation Is More Difficult than Most Scholars Suppose.” *The Annals of the American Academy of Political and Social Science* 628(1): 200-208. <http://ann.sagepub.com/content/628/1/200.short>.
15. Conclusion: Debate over good empirical research practices
- a. **Brodeur, A., M. Lé, M. Sangnier, Y. Zylberberg. 2016. “Star Wars: The Empirics Strike Back.” *American Economic Journal: Applied Economics* 8(1): 1-32.
 - b. **Casey, K., R. Glennerster, and E. Miguel. 2012. “Reshaping Institutions: Evidence on Aid Impacts Using a Preanalysis Plan.” *Quarterly Journal of Economics* 2012(1): 1755-1812. <http://qje.oxfordjournals.org/content/127/4/1755.short>.

- c. *Olken, B. 2015. "Promises and Perils of Pre-Analysis Plans." *The Journal of Economic Perspectives* 29(3): 61-80.
http://www.jstor.org/stable/43550121?seq=1#page_scan_tab_contents.
- d. *Coffman, L. and M. Niederle. 2015. "Pre-Analysis Plans Have Limited Upside, Especially Where Replications Are Feasible." *The Journal of Economics Perspectives* 29(3): 81-97. http://www.jstor.org/stable/43550122?seq=1#page_scan_tab_contents.
- e. *Deaton, A. 2010. "Instruments, Randomization, and Learning about Development." *Journal of Economic Literature* 48(2): 424-455.
<http://www.aeaweb.org/articles.php?doi=10.1257/jel.48.2.424>.
- f. *Imbens, G. 2010. "Better LATE Than Nothing: Some Comments on Deaton (2009) and Heckman and Urzua (2009)." *Journal of Economic Literature* 48(2): 399-423.
<http://www.aeaweb.org/articles.php?doi=10.1257/jel.48.2.399>.

Grading:

The grading scale is as follows:

Letter grade	Point range	Notes
A	93 to 100	For general information about grading and grading policy at the University of Florida, please refer to: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx#grades
A-	90 to 92	
B+	87 to 89	
B	83 to 86	
B-	60 to 82	
C+	50 to 59	
E	0 to 49	

I reserve the right to revise this grading scale during the semester as necessary; grading scale revisions will never negatively affect your grade.

Miscellaneous:

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied:

“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”

The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor in this class.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

University grading policy: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at: <https://evaluations.ufl.edu>

Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at:

<https://evaluations.ufl.edu/results>