

PPPE 6342 - RESEARCH DESIGN II

THURSDAY, 4:00 PM – 6:45 PM, SPRING 2022

JO 3.536 & [PPPE 6342 MICROSOFT TEAMS](#)

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Office hours: in Microsoft Teams by appt via [Calendly](#)

Course Overview

A large share of contemporary research in social sciences relies on quantitative research methods. Understanding them is imperative to being able to interpret and produce research. This course is designed to help you understand the relationship between theory, data and statistical techniques. It is about the research process just as much as it is about reinforcing your understanding of quantitative methods.

We will spend considerable time thinking about how theoretical insights can be translated into testable propositions, and how those propositions are best tested. We will do this through discussions of published research and by having you work with data and estimate models.

This is not a course in statistical theory; we will not spend a lot of time deriving likelihood functions or finding proofs, etc., although we will be explicit about the assumptions underlying the statistical procedures. Instead, this is a course in how to use statistical techniques to answer research questions.

Our primary goal in working on these skills is to help you increase your comfort with using statistical methods to ask and answer research questions, and to develop critical skills in evaluating others' research.

Course Objectives

By the end of the course, you will be able to

- Develop a systematic understanding of common research designs used in social sciences
- Increase comfort in developing research questions and converting them into testable hypotheses
- Identify research designs and techniques for answering research questions at hand
- Evaluate research papers in terms of design and threats to validity
- Implement a set of research designs using statistical techniques in Stata

Required texts

- **AP:** Angrist, J. D. and Pischke, J. S. (2008). *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton, NJ: Princeton University Press.
- **KKV:** King, Gary, Robert Keohane and Sidney Verba. (2021). *Designing Social Inquiry: Scientific Inference in Qualitative Research*. Princeton, NJ: Princeton University Press.
- **M:** Mohr, Lawrence B. (1995). *Impact Analysis for Program Evaluation*, 2nd Edition, Sage University Press. Thousand Oaks, CA: Sage.
- **SW:** Singer, Judith D., and John B. Willett. (2003). *Applied Longitudinal Data Analysis: Modeling Change and Event Occurrence*. New York: Oxford University Press. (wait on acquiring this book until Spring Break)

All the other required reading materials will be available electronically.

Optional reference texts:

- Chatterjee, S. and A.S. Hadi. (2015). *Regression analysis by example*. Hoboken, NJ: John Wiley & Sons.
- Shadish, William, Thomas D. Cook, and Donald T. Campbell. (2002) *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Boston: Houghton-Mifflin.
- Treiman, Donald (2009). *Quantitative data analysis: Doing Social Research to Test Ideas*. San Francisco, CA: John Wiley & Sons.

Course Format and Requirements

Each class meeting session will be conducted synchronously, either in-person or in Microsoft Teams, depending on the epidemiological situation in North Texas. Lectures will be followed by the discussion of assigned readings. Occasionally, we will allocate class time to applied work in Stata; most of this work, however, will be your homework practicum to be completed by the next class. If you have not worked with Stata before, I encourage you to acquire a 6-month individual student license and get yourself set up for applied work. There are many resources on using Stata on the Internet, such as [the Stata website](#), the [Stata channel on Youtube](#), resources provided through [the UCLA Center on Advances Research Computing](#), etc..

Written assignments will make up 60 % of your course grade; the other 40 % of your grade will be based on your participation in class sessions. Class participation will include asking and answering questions during class, completing statistical practicums, and engaging in the discussion of one of the assigned empirical papers as a discussion leader.

ACTIVITIES	PERCENTAGES
Class participation (asking and answering questions, completing practicums, etc.)	20%
Discussion leadership for one of the assigned papers	20%
Midterm Exam and Final Exam (2@20 %)	40%
Comparative Design Analysis	20%

Both exams will be cumulative take-home assignments that will need to be completed within a specified timeframe.

The Comparative Design Analysis (CDA) assignment will be a written comparative analysis of the design features of selected published research studies drawing on issues and research strategies addressed in this course. This exercise will provide you with an opportunity to develop skills in identifying and evaluating key design and methodological features of published research. In keeping with the view that a study's design features are best judged *relative* to both those of other studies and to the possibilities offered by the research circumstances, this exercise model will emphasize *comparative* strengths and weaknesses. Assignment guidelines and an example of a completed assignment will be provided. CDA will be due by May 12. Your work on the assignment, however, should begin in around mid-February.

GRADE ASSIGNMENT	A	93% - 100%	A-	90% - 92%	
B+	87% - 89%	B	83% - 86%	B-	80% - 82%
C+	77% - 79%	C	73% - 76%	C-	70% - 72%

Good luck and enjoy the course.

Course Schedule

Week 1 – Jan 20	<p>Introduction to the course and each other</p> <p>Intake survey</p>
Week 2 – Jan 27	<p>The nature of scientific inquiry</p> <p>“IT IS, IN FACT, THE SOCIAL SCIENCES THAT SHOULD BE LABELED THE HARD SCIENCES.” (HERBERT SIMON, 1987 NOBEL LAUREATE IN ECONOMICS)</p> <ul style="list-style-type: none"> • KKV – Chapters 1 and 2 • Angrist, J. and J.-S. Pischke (2010). “The Credibility Revolution in Empirical Economics: How Better Research Design Is Taking the ‘Con’ Out of Econometrics,” NBER working Paper 15794. • Video: “How Should Economics Shape Policy” Chicago Booth School, University of Chicago, July 19, 2019. • Elliott et al. (2021). Decision-makers need constantly updated evidence synthesis Nature, December 15, 2021 – comment.
Week 3 – Feb 3	<p>Causal logic, validity</p> <p>“IF YOU THINK YOU CAN OR YOU THINK YOU CAN’T, YOU’RE RIGHT.” (QUOTE ATTRIBUTED TO HENRY FORD)</p> <ul style="list-style-type: none"> • Shadish et al. (2002) Chapter 1 • KKV - Chapters 3, 4, 5, 6 • Sections: Foundations, Sampling, Measurement in Trochim, William (2001). The Research Methods Knowledge Base. • Imbens, G. M. and J. M. Wooldridge (2008). Recent Developments in the Econometrics of Program Evaluation, NBER working paper 14251.
Week 4 – Feb 10	<p>Research design, data structures</p> <p>“[I]N THE INTERPLAY BETWEEN DESIGN AND STATISTICS, DESIGN RULES!” (SHADISH, <i>ET AL.</i>, 2002:XVI)</p> <ul style="list-style-type: none"> • Sections on Design, Analysis in Trochim, William (2001). The Research Methods Knowledge Base. • Mohr – Chapters 4, 5, 10 • AP – Chapters 1, 2, 3 • McConnell et al. (2021). The Effects of Employment Counseling on Labor Market Outcomes for Adults and Dislocated Workers: Evidence

	<p>from a Nationally Representative Experiment, <i>Journal of Policy Analysis and Management</i> 40 (4): 1249-1287.</p> <ul style="list-style-type: none"> • Deaton, Angus and Nancy Cartwright. (2016). Understanding and Misunderstanding Randomized Controlled Trials, NBER working paper 22595.
Week 5 – Feb 17	<p>Regression discontinuity - Application</p> <ul style="list-style-type: none"> • Mohr – Chapter 6 • AP – Chapter 6 • Niu and Tienda. (2009). The impact of the Texas top ten percent law on college enrollment: A regression discontinuity approach. <i>Journal of Policy Analysis and Management</i> 29(1): 84-110. • Angrist, Joshua D. (1997). “Using Maimonides’ Rule to estimate the Effect of Class Size on Scholastic Achievement.” National Bureau of Economic Research, Working Paper 5888.
Week 6 – Feb 24	<p>Difference-in-differences - Application</p> <ul style="list-style-type: none"> • Mohr – Chapter 7 • AP – Chapter 5 <ul style="list-style-type: none"> ▪ Cantoni, Enrico & Vincent Pons. (2019). “Strict ID Laws Don’t Stop Voters: Evidence from a U.S. Nationwide Panel, 2008-2016” NBER Working Paper No. 25522. ▪ Schwartz and Rothbart. (2019). Let Them Eat Lunch: The Impact of Universal Free Meals on Student Performance. <i>Journal of Public Policy Analysis and Management</i> 39 (2): 376-410.
Week 7 – March 3	<p>NON-EXPERIMENTAL DESIGN & ECONOMETRIC REMEDIES</p> <p>Instrumental variables - Application</p> <ul style="list-style-type: none"> • AP – Chapter 4 • Schuetz, J. (2009). No renters in my suburban backyard: Land use regulation and rental housing, <i>Journal of Policy Analysis and Management</i> 28 (2): 296-320. • Aichele R. and G. Felbermayr. (2013). The Effect of the Kyoto Protocol on Carbon Emissions. <i>Journal of Policy Analysis and Management</i> 32 (4): 731-757.
	Midterm Exam

Week 9 – March 17	No Class - Spring Break
Week 10 – March 24	<p>NON-EXPERIMENTAL DESIGN & ECONOMETRIC REMEDIES</p> <p>“WHEN STATISTICS DO NOT SEEM TO MAKE SENSE, I FIND IT IS GENERALLY WISER TO PREFER SENSE TO STATISTICS.” (John Maynard Keynes, economist)</p> <p>Propensity Scores - Application</p> <ul style="list-style-type: none"> • Rosenbaum, P. R. and D. B. Rubin. (1985). “Constructing a control group using multivariate matched sampling methods that incorporate the propensity score.” <i>The American Statistician</i> 39, 33–38. • Fraker, T. and R. Maynard. (1987). “The Adequacy of Comparison Group Designs for Evaluations of Employment-Related Programs,” <i>The Journal of Human Resources</i>, XXII (2), 194-227. • Scott, T. 2015. Does Collaboration Make Any Difference? Linking Collaborative Governance to Environmental Outcomes, <i>Journal of Policy Analysis and Management</i> 34 (3): 537-566.
Week 11 – March 31	<p>Time-series designs - Application</p> <ul style="list-style-type: none"> • Mohr – Chapter 9 • Krueger, Alan B. and Diane M. Whitmore (2000). “The Effect of Attending a Small Class in the Early Grades on College-Test Taking End Middle School Test Results: Evidence from Project Star.” NBER Working Paper 7656. • Card, D., “Using Regional Variation in Wages to Measure the Effects of the Federal Minimum Wage,” <i>Industrial and Labor Relations Review</i>, Vol. 46, No. 1, Oct. 1992, pp. 22- 36. • Coopersmith, J. et al. (2022). Internal and External Validity of the Comparative Interrupted time-series Design: a Meta-Analysis. <i>Journal of Policy Analysis and Management (early access)</i> https://doi.org/10.1002/pam.22361
Week 12 – April 7	<p>Modelling change over time</p> <ul style="list-style-type: none"> • SW – Chapters 1-4 • Isaac, Larry, Larry Christiansen, Jamie Miller, and Tim Nickel (1998). “Temporally Recursive Regression and Social Historical Inquiry: An

	Example of Cross-Movement Militancy Spillover,” <i>International Review of Social History</i> , Vol. 43, pp. 9-32 [See esp. Table 2].
Week 13 – April 14	<p>NON-EXPERIMENTAL DESIGN & ECONOMETRIC REMEDIES</p> <p>Event history analysis - Application</p> <ul style="list-style-type: none"> • SW – Chapters 9 – 11, 13 - 15 • Hiroi and Omori. 2013. Causes and Triggers of <i>Coups d'état</i>: An Event History Analysis, <i>Politics and Policy</i> 41 (1): 39-64.
Week 14 – April 21	<p>"EVERYTHING THAT CAN BE COUNTED DOES NOT NECESSARILY COUNT; EVERYTHING THAT COUNTS CANNOT NECESSARILY BE COUNTED." (ALBERT EINSTEIN)</p> <p>Measurement issues and alternative explanations</p> <ul style="list-style-type: none"> • Brooks, Sarah M. (April 2004), “Explaining Capital Account Liberalization in Latin America,” <i>World Politics</i>, Vol. 56, pp. 389-430. (see especially Table 3). • McWilliams, Abigail and Donald Siegel, 2000. “Corporate Social Responsibility and Financial Performance: Correlation or Misspecification?” <i>Strategic Management Journal</i>, Vol. 21, pp. 603-09.
Week 15 – April 28	<p>Principal components, factor analysis, the logic of scaling – Application</p> <ul style="list-style-type: none"> • Jong-A-Pin, Richard. (2009). “On the Measurement of Political Instability and Its Impact on Economic Growth,” <i>European Journal of Political Economy</i> 25, 15–29. • Suarez-Villa, Louis and Manfred M. Fischer (1995). “Technology, Organization and Export-Driven Research and Development in Austria’s Electronics Industry.” <i>Regional Studies</i>, pp. 19-42. • Tittle, Charles R., “Influences on Urbanism: A Test of Predictions from Three Perspectives,” <i>Social Problems</i>, Vol. 36, No. 3, June 1989, pp. 270- 85.
Week 16 – May 5	Final Exam

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.

