

Vanderbilt University  
Leadership, Policy and Organizations  
Class Number 9553  
Maymester 2018

## Methods Practicum

William R. Doyle  
Office: 207E Payne  
Office Hours: We'll meet almost every day in May. If you need to see me at another time, let me know.  
w.doyle@vanderbilt.edu  
phone (615) 322-2904

### Course Overview

The overview includes an introduction to the course, guidelines on grading, and required texts.

### Introduction

This course is the final of a three semester series of courses designed to introduce you to the *practice* of research, particularly the applied side of quantitative research. The goal of this course to help you to prepare a paper that can be presented at a major research conference and, hopefully, submitted to a journal for publication.

During this session, we will work as a group to refine and improve your analysis. By the end of the term, each of you will have a completed paper suitable for presentation at a major research conference.

Along the way, you will continue to develop the same set of skills you have been working on all year, along with some more specific set of techniques that I will spend the first week describing.

### Grading

Evaluation for the course will be based on the following factors:

**Final Paper** The final paper should be a publication-ready manuscript, reporting the results of the analysis conducted over the course of the year. You will need to turn in a replication file with this paper. This will be worth 100% of your grade. The paper will be due at midnight on June 10.

**Presentation** You will give a presentation based on your paper on May 24. The presentation will be in preparation for the presentation you will give to all students and faculty in the fall. I will give you feedback on this presentation along with the rest of the class.

### Software

Stata will again be the order of the day for this semester.

### Schedule for Meetings

Class will meet from 12-3 in Payne 108.

## May 7

### Methods for Selection Bias: Propensity Score Matching

#### Readings:

Agodini, R. and Dynarski, M. (2004). Are experiments the only option? a look at dropout prevention programs. *Review of Economics and Statistics*, 86(1):180–194

Ho, D. E., Imai, K., King, G., and Stuart, E. A. (2007). Matching as nonparametric preprocessing for reducing model dependence in parametric causal inference. *Political Analysis*, page mpl013

Imbens, G. W. (2004). Nonparametric estimation of average treatment effects under exogeneity: A review. *Review of Economics and Statistics*, 86(1):4–29

Moffitt, R. A. (2004). Introduction to the symposium on the econometrics of matching. *Review of Economics and Statistics*, 86(1):1–3

Rubin, D. B. (2001). Using propensity scores to help design observational studies: Application to the tobacco litigation. *Health Services and Outcomes Research Methodology*, 2(3):169–188

Introduction to Treatment Effects in Stata: Part 1 <https://blog.stata.com/2015/07/07/introduction-to-treatment-effects-in-stata-part-1/>

Introduction to Treatment Effects in Stata: Part 2 <https://blog.stata.com/2015/08/24/introduction-to-treatment-effects-in-stata-part-2/>

## May 8

### Limited Dependent Variables: Count variables and Truncated Outcomes

#### Introduction to Poisson Regression in Stata:

<https://stats.idre.ucla.edu/stata/dae/poisson-regression/>

Agresti, A. (2015). Foundations of linear and generalized linear models. John Wiley & Sons, Chapter 7 (Available via web access from library)

#### Truncated Regression in Stata:

<https://stats.idre.ucla.edu/stata/dae/truncated-regression/>

Greene, Chapter 19

<http://people.stern.nyu.edu/wgreene/Lugano2013/Greene-Chapter-19.pdf>

## May 9

### Latent Class Analysis: Factor Analysis, PCA, etc

#### Readings:

Hagenaars, J. A. (2002). *Applied latent class analysis [electronic resource]*. Cambridge University Press, Cambridge; New York

ebrary, Inc (2015). *Advances in latent variables: methods, models and applications*. Springer, Cham; New York

Bartholomew, D. J. and ebrary, Inc (2011). *Latent variable models and factor analysis [electronic resource]: a unified approach*. Wiley, Hoboken, N.J., 3rd ed edition

McCutcheon, A. L. (1987). *Latent class analysis*. Sage Publications, Newbury Park

**May 10**

Instrumental Variables/ Regression Discontinuity

**May 11**

No Class: Commencement

**May 14**

Event History Analysis

**May 15**

Student Presentations: Amberly Dziezinski

**May 16**

Student Presentations: Karin Gegenheimer

**May 17**

Student Presentations: Richard Hall

**May 18**

Student Presentations: Shelby McNeill

**May 21**

Rapid-fire updates: Dziezinski and Gegenheimer

**May 22**

Rapid Fire updates: Hall and McNeill

**May 23**

Code-A-Rama: We'll hold the class from 10-4, students can come in and ask questions any time.

**May 24**

Conference-Style Presentations