

# Microeconometrics

Spring 2018

Syllabus

Time: Tu-Thu, 9h30am-10h45am

Location: GA 309

Instructor: Valentin Verdier

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Office: GA 208B, meeting by appointment.

Textbook: *Econometric Analysis of Cross Section and Panel Data*, Jeffrey Wooldridge, 2010 (2nd edition)

## **Course objectives and organization:**

The objective of this course is for students to improve their understanding and knowledge of the tools available for analyzing microeconomic data and to prepare for adjusting existing methods to their specific needs (or perhaps even come up with new methods).

While this course is designed with an archetypal applied micro student in mind, I will not look at actual data very much. Applying the methods seen here to data or to Monte Carlo simulations as a side exercise would be great though, I would be happy to discuss work you do in this direction.

The course will be split into two parts: The first part will look at textbook treatments of essentials challenges in the analysis of microeconomic data, and will involve ~~reviewing~~ learning some fundamental tools needed for us to master to rest of the content of the course. The second part will look at special topics and will start whenever we are done with the first part. (I expect we will spend most of the semester on the first part.) The students will choose the special topics, I have a list in the syllabus and we can include topics not listed. There will be student presentations for the second part of the course.

**Grade:**

The grade will come from graded problem sets, an in-class exam, and the student presentations. We will also have two pre-tests which will count for bonus points.

**Chapters to read before the start of the semester:**

Chapters 1, 2, 3

**Topics:****Fundamentals**

1. Single equation linear model with exogenous covariates - Chapter 4
2. Single equation linear model with endogenous covariates - Chapters 5,6
3. Systems of equations, linear models with exogenous covariates: The special case of panel data - Chapter 7, Chapter 10, Chapter 11
4. Non-linear models: The basics - Chapters 12, 13, 14, 15
5. Non-linear models: The special case of panel data - Chapters 12, 13, 14, 15
6. Dependence (cluster dependence, long panels with serial dependence, spatial dependence...) - "Asymptotic Theory for Econometricians: Revised Edition", Halbert White, 2001 is a useful reference for this part that I advise you purchase.

## Special Topics

- Structural vs. reduced form debate
  - Heckman and Urzua JE 2010, Deaton JEL 2010, Imbens JEL 2010, Angrist and Pischke JEP 2010, Nevo and Whinston JEP 2010
- Regression discontinuity design
  - Hahn, Todd, Van der Klaauw Ecta 2001, Li and Racine's textbook, Fan and Gijbels 1992, Hansen's lecture notes: <http://www.ssc.wisc.edu/~bhansen/718/NonParametrics2.pdf>, Imbens and Lemieux JoE 2008, Imbens and Kalyanaraman ReStud 2012, Calonico, Cattaneo, Titiunik Econometrica 2014.
- Cross-sectional dependence
  - White 2001 textbook for cluster dependence, Conley Journal of Econometrics 1999, Jenish and Prucha JoE 2009 and 2012, Kuersteiner and Prucha JoE 2013, Kelejian and Prucha JoE 2007, Canay Romano and Shaikh Econometrica 2017
- Social interactions
  - Manski Review of Economic Studies 1993, Graham Econometrica 2008, Goldsmith-Pinkham and Imbens JBES 2013,...
- Network formation
  - Chandrasekhar and Jackson 2015, Leung 2015, de Paula, Richards-Shubik, Tamer 2015, Menzel 2015, Graham 2015
- Optimal Instruments
  - Chamberlain 1987, 1992a, 1992b Donald, Imbens and Newey Journal of Econometrics 2009

- Dynamic Models of Panel Data
  - Arellano and Bond Review of Economic Studies 1991, Wooldridge Journal of Applied Econometrics 2005, Torgovitsky working paper 2016
- Long Panel
  - Alvarez and Arellano Econometrica 2003, Hahn and Kuersteiner Econometrica 2004, Kim and Sun Journal of Econometrics 2013
- Marginal treatment effect models
  - Heckman and Vytlacil, Econometrica 2005
- Robust estimation and inference
  - Gourieroux, Monfort and Trognon Econometrica 1984
- Non-parametric IV
  - Newey and Powell Econometrica 2003, Blundell and Powell ReStud 2004, D'Haultfoeuille ET 2011
- Estimation of models of demand from aggregate data
  - Berry Levinsohn and Pakes 1992, Berry, Linton and Pakes 2004, Berry and Haile 2014, 1016
- Heterogenous effects with panel data
  - Suri Econometrica 2011