### PhD in Economics and Management 2017-18

# MICROECONOMETRICS Marco Bertoni

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#### **OBJECTIVES**

The course aims at introducing students to the econometric analysis of microeconomic data, with a specific focus on methods for drawing causal conclusions from observational data.

#### **COURSE EVALUATION**

All students will take a written examination. Additional marks will be awarded to students who present selected papers in front of the class at the end of the course.

#### **TOPICS**

- A) Causal inference
  - 1. Causality, potential outcomes, and causal parameters. The "gold standard" of randomization
  - 2. Selection on observables: regression, matching and the propensity score
  - 3. Instrumental variables: constant and heterogeneous treatment effects, average causal response
  - 4. Sharp and Fuzzy regression discontinuity designs
  - 5. Difference in differences and synthetic control methods
  - 6. Combining different identification strategies: IV-DID and Difference-in-Discontinuities
- B) Limited dependent variables and discrete choice models
  - 1. Binary choice models: linear probability, probit and logit models
  - 2. Censored regression, Tobit and Heckman selection models

#### **REFERENCES**

Angrist, J. D. and Pischke J.S. (2009). Mostly Harmless Econometrics

Cameron, A. Colin and Pravin K. Trivedi (2005). Microeconometrics

Greene, William (2010). Econometric Analysis, seventh edition

Wooldridge, Jeffrey M. (2010) Econometric Analysis of Cross Section and Panel Data, second edition