

**PhD in Business Administration and Quantitative Methods**  
**Universidad Carlos III de Madrid**  
**Research Methods 2012-2013**

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**Instructor:** Manuel Bagues, Office: 7.0.17, Email:mfbagues(at)emp.uc3m.es

**Schedule:** MW 9:30 - 11:30 AM, Room: 11.0.17

**Course Objectives:** The course introduces PhD students to the main empirical strategies for causal inference. It has a practical flavor  $\Rightarrow$  emphasis is not on proofs but on intuitions and on applications. I will presume that you already know basic Econometrics and Statistics.

**Course material:** Slides and suggested readings are available through the intranet. The following textbooks are also highly recommended, particularly the first one:

- Angrist, J. and J.S. Pischke (2009), *Mostly Harmless Econometrics*, Princeton University Press.
- Hayashi, F. (2000), *Econometrics*, Princeton University Press.
- Wooldridge, J. (2002), *Econometric Analysis of Cross Section and Panel Data*, MIT Press.
- Wooldridge, J. (2003), *Introductory Econometrics: A Modern Approach*. South-Western College Publishing.

**Software requirements:** We will use STATA for exercises and take-home assignment.

**Grade Policy:** Midterm (25 per cent) and final exam (75 per cent). Participation in class is highly encouraged

**Academic Honesty:** As a Universidad Carlos III student, you have agreed to abide by the University's academic honesty policy. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.

**Extra Help:** Do not hesitate to come to my office during office hours or by appointment to discuss a homework problem or any aspect of the course.

**Important Dates:**

Midterm ..... May 14  
Course Final ..... June 10

## **Course Outline:**

1. Introduction
2. Making regression make sense
3. Instrumental variables in action
4. Differences-in-differences
5. Regression discontinuity designs
6. Structural analysis
7. Non-standard Standard error issues