

## Syllabus

### Contents

Answering empirical research questions in a credible way is challenging. The methods covered by most standard econometrics classes typically impose strong assumptions that are hard to justify in many applications. This course focuses on the main empirical research methods that aim to answer empirical research questions with as few assumptions as possible. The objective of this course is to enable students to understand and apply these methods. We will also compare these methods to the methods taught in standard econometrics classes. We illustrate the methods using key applications from labour economics that are easy to understand by students from different backgrounds. Methodologically, the course will cover the following:

1. Introduction to causal analysis
2. The potential outcome model
3. Identification versus estimation
4. Method 1: Exploiting rich data to handle endogeneity issues
5. Method 2: Exploiting exogenous variation with an instrumental variable
6. Method 3: Exploiting policy discontinuities with a regression discontinuity design
7. Method 4: Exploiting policy changes with a difference-in-differences approach

We illustrate each method with interesting applications from labour economics where we focus on the challenges involved in applying the methods and how to master them.

The last lecture takes place in the PC-lab where we demonstrate how to conduct an empirical application with STATA. This serves as direct preparation for the assignment

### Target group

The course targets two groups of students. The first one is students with particular interest in labour economics. The course will inform students how to answer important questions of empirical labour economics in a credible way. This covers questions such as

- How to measure gender pay gaps, returns to education or compensating wage differentials?
- What are the labour market effects of immigration on natives and migrants?
- Are training programs and other measures effective in improving the labour market prospects of unemployed workers?
- How to measure the work disincentive effect of social insurance?
- What are the effects of firm policies such as flexible working time, different remuneration schemes or health measures on various employee and firm outcomes such as motivation, health, turnover or firm performance?

The second group of students targeted by this course includes master students and beginning PhD students who consider writing an empirical master thesis or conducting empirical research with micro-level data (e.g. of individuals, households or firms). Although we use applications from labour economics, the methods we cover in this course are widely applicable to all kinds of research questions and fields. The applications will help to better understand the challenges involved in applying these methods, which is crucial for any application one may have in mind.

***Prerequisites***

Students should be familiar with basis statistics (expectations, conditional expectations, distribution functions) as well as standard OLS and instrumental variable approaches such as 2SLS.

***Readings***

A list with recommended readings will be provided on ADAM. References for further readings will be provided on the slides.

***Assignment***

Empirical group assignment. Students will receive data with which they have to apply one or more of the methods covered in class.

***Dates***

Monday, 14:15-17:35, WWZ S14, 16.09.-21.10.2019 (C. Wunsch).

There will be two blocks of 90 min with 20 min break in between.

Monday, 14:15-18:00, WWZ PC-Labor S18 HG.37, 28.10.2019 (V. Zabrodina).