

## **Syllabus**

### **Contents**

This course targets advanced master and beginning PhD students who either are interested in becoming familiar with the full set of available state-of-the-art empirical research methods for micro-level data, or have a special interest in empirical questions that go beyond average causal effects. It complements the course “Empirical Research Methods in Labour Economics” and covers the following topics:

1. Causal mediation analysis:  
These methods allow estimating the part of a treatment effect that occurs via a certain hypothesized channel.
2. Dynamic causal models:  
These methods can be used when there is dynamic selection into a treatment and/or the outcome of interest is a duration.
3. Distributional causal effects:  
These methods can be used when interest is in the effect of a treatment on the entire distribution of a variable rather than just the effect at the mean.
4. Bunching analysis:  
These methods can be used when within-policy variation at a certain cutoff point but the conditions for using a regression discontinuity design are not satisfied.

We illustrate these methods using applications that are easy to understand by students from different backgrounds. Moreover, at the end of the course there will be a demonstration of an application with STATA that serves as a direct preparation for the assignment.

### **Prerequisites**

Students need to be familiar with basis statistics (e.g. expectations, conditional expectations, law of iterated expectations, distribution functions, Bayes rule). Moreover, although it is not required to have attended the course “Empirical Research Methods in Labour Economics”, students must be familiar with the potential outcome model as well as semi-parametric approaches (in particular inverse probability weighting and matching) for the estimation of causal effects, which are covered at the beginning of the course “Empirical Research Methods in Labour Economics”. Finally, in the assignment students will have to apply one of the methods covered in the course to provided data. Hence, they have to be familiar with a statistical software package such as STATA or R.

### **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 of the methods covered in class.

### **Dates**

Monday, 14:15-17:35, WWZ S14, 04.11./11.11./18.11./25.11./09.12.2019 (C. Wunsch).

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

Friday, 14:15-18:00, WWZ S17 (PC lab), 13.12.2019 (V. Zabrodina).