

# Swiss Leading House

## Economics of Education, Firm Behaviour and Training Policies



Co-Director  
Prof. Dr. Uschi Backes-Gellner



UNIVERSITÄT  
BERN

Co-Director  
Prof. Dr. Stefan C. Wolter

Fall Term 2015, University of Berne

### Leading House PH.D. Course

### Econometric Methods in Economics of Education

- Syllabus -

<b>Lecturer:</b>	Prof. Dr. Rainer Winkelmann; University of Zurich
<b>Workshop dates:</b>	November 16-20, 2015
<b>Location:</b>	The course takes place at the University of Berne; room B-105, Schanzeneckstrasse 1, 3012 Bern
<b>Preliminary Schedule:</b>	The lectures take place in the form of an intensive 5-day course. Monday, Nov. 16: 14:00-17:30 Tuesday, Nov. 17: 09:15-15:30 Wednesday, Nov. 18: 09:15-15:30 Thursday, Nov. 19: 09:15-17:30 Friday, Nov. 20: 09:15-12:30
<b>Module Number; ECTS:</b>	3 ECTS
<b>Course webpage:</b>	<a href="http://www.educationeconomics.uzh.ch/Lehre/Courses_en.html">http://www.educationeconomics.uzh.ch/Lehre/Courses_en.html</a>

### Course overview

The purpose of this course is to familiarize participants with econometric methods and models for empirical work in education economics. Topics include regression analysis, instrumental variables estimation, models for discrete and limited dependent variables, and models for heterogeneous treatment effects. Hands-on exercises using Stata focus on the human capital production function and the determinants of, and returns to schooling.

### Topics

- I. Linear regression  
Best linear predictor; Regression anatomy; Causal interpretation; Inference; Grouped data; Heterogeneity; Functional form; Weighting
- II. Dealing with endogeneity  
Instrumental variables; Panel/Twin models; Difference in differences; Regression discontinuity
- III. Discrete dependent variables  
Binary probit; Ordered/multinomial logit/probit; Interval data; Generalized linear models & Pseudo maximum likelihood
- IV. Sample selection models  
Censored regression; Incidental censoring / Roy model;
- V. Heterogeneous treatment effects and the potential outcomes model  
The identification problem; Heterogeneous potential outcomes; Matching; Local average treatment effect

[www.economics-of-education.ch](http://www.economics-of-education.ch)

The Swiss Leading House on "Economics of Education, Firm Behaviour and Training Policies"  
A Research Programme of the State Secretariat for Education, Research and Innovation SERI

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Applications to economics of education include topics such as:

### 1. School choice

- Sorting
- Parental background
- Sibling rivalry
- Conditional cash transfers
- Compulsory schooling laws (QoB)
- Voucher lotteries

### 2. Returns to Education

- Private
- Overeducation
- Transferability
- Sheepskin effects
- Non-pecuniary and social
- Non-cognitive skills
  
- Outcomes: Income, Employment, health, well-being, crime, growth

### 3. Production

- Class size (STAR, Maimonides)
- Teacher quality & performance incentives
- Private versus public
- Early tracking, age-at-entry
- All day schools and mothers labor supply
- Elite colleges
- School expansion
- Peer effects
- Curriculum changes
- Remedial teaching
- Early childhood education
- Vocational education
  
- Outcomes: Test-scores, money, completion, highest degree

### Key literature

- Angrist, J. D. and S. Pischke, Mostly Harmless Econometrics: An Empiricist's Companion, Princeton, University Press, 2008.
- Boes, S. and R. Winkelmann (2009). Analysis of Microdata. 2nd edition.
- Cameron, C. and P. Trivedi (2006). Microeconometrics.
- Winkelmann (2015) Econometric Methods for Education Economics, Skript.

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### Target audience and preconditions for participation

The course is particularly designed for doctoral students in economics of education. Doctoral students in economics or business economics with a strong interest in econometric analyses in economics of education are welcome as well.

### Credit requirements and grading

1. Full course attendance is required to receive ECTS-Points. Students are expected to come prepared to the course. It will facilitate discussions and improve overall learning. Course materials will be sent to participants ahead of time.
2. Individual take-home exam

### Application

The number of participants is limited. Course registration **until September 27, 2015**, is mandatory. Please send your application (including a one-page CV) to [curdin.pfister@business.uzh.ch](mailto:curdin.pfister@business.uzh.ch).

### WWF Statutory Course Policies

According to WWF study regulations, all exam dates are final as published in the VVZ and syllabus. This means that the final exam date is not negotiable. It will not be possible to take any exams on different dates.

Academic dishonesty in any form will not be tolerated. Anyone caught cheating or engaging in unethical behavior will be reported to the Dean's office according to the guidelines on academic dishonesty set forth by the University of Zurich.

The information in this syllabus supports the official information in the electronic university registration tool (VVZ-Vorlesungsverzeichnis). In cases of doubt, the official information at the VVZ is decisive.

For UZH students: Don't forget to officially register using the registration tool of the University of Zurich.