35777 and 35778 Econometric Methods

Module number
Added by the coordinator for the respective program
Module title
35777 Econometric Methods (Lecture) and 35778 Econometric Methods (Tutorial)
Module coordinator
Prof. Dr. Harry Haupt, Prof. Dr. Joachim Schnurbus

Examination number	**Credit points (ECTS)**	**Hours per week (SWS)**
Added by the coordinator for the respective program	5	2+2
Availability	**Duration**	**Recommended semester**
Every winter semester	1 semester	1-3

Workload
Lecture 2 SWS (28 h contact and 42 h self-study). Tutorial 2 SWS (28 h contact, 42 h self-study). We are calculating with 15 semester weeks (lectures & tutorials plus 1 exam week). Each SWS is included in the calculation with 60 minutes.
Module applicability
Added by the coordinator for the respective program
Reference to the LPO I
Recommended prerequisites
Bachelor's level understanding of calculus, probability, matrix algebra, statistics (including inferential methods), regression and testing methods. Basic knowledge of R software is an advantage.
Requirements
none
Language of instruction
English

Content
This module provides an introduction into core methods of modern econometrics at international standard master's level. The following content is covered: Least squares based regression analysis and estimation principles, random sample econometric model, hypothesis testing in regression, exact and approximate inference, endogeneity, and heteroscedasticity.
Intended learning outcomes (ILOs)
Students who have successfully completed the module are able: • to give a systematic overview of the core principles of modern econometrics. • to understand regression estimation and inference methods and their basic interpretations • to apply the acquired methods and principles to data-based problems. • to perform econometric analyses and will know the underlying mathematical assumptions and the corresponding statistical properties of important regression-based testing and estimation procedures. • to critically assess empirical results, identify potential pitfalls, falsify statements while quantifying the underlying uncertainty, and develop and interpret sound simple models.

Teaching methods
Interactive frontal teaching and discussion of the course content. Teaching of theoretical principles and illustration by examples in lecture and tutorial. Weekly (accessible) lecture and exercise materials and required literature. Some of the tutorials are hands-on using the open-source statistical software R.
Required attendance
Examination (type of examination, scope)
Portfolio: Final grade (based on max. 70 points) determined from Exercises (single/group): max.10 points; Written exam (60 minutes), max. 60 points. The precise mode of assessment will be announced at the start of the semester.
Overall grade relevance
100%
Exam resit opportunities
Recommended reading
- Wooldridge, J. (2019) Introductory Econometrics. 7e. Cengage - Stock J.H. & M.M.Watson (2019) Introduction to Econometrics. 4e. Pearson. - Angrist J.D. & J.S. Pischke (2009) Mostly Harmless Econometrics. Princeton Univ. Press. - Hansen, B. (2022) Econometrics. Princeton Univ. Press.
Additional notes