



S220 Quantitative Methods in Economics and Business Administration

Syllabus (Winter Semester 2026/2027)

Instructor: Prof. Dr. Martin Biewen

Learning Target

Students know and understand different estimation methods and assess the quality of a statistical/econometric estimation. Students apply statistical test procedures to empirical questions and interpret the results in a scientifically correct way. They interpret estimation results in terms of economic and statistical significance.

Topics

The module covers the basics of econometric estimation and testing. The following topics are covered:

- 1) Introduction
- 2) Point estimation
- 3) Interval estimation
- 4) Statistical testing
- 5) Specific test procedures
- 6) Multivariate regression analysis
- 7) Introduction to Stata
- 8) Stochastic processes and time series models
- 9) Overview of multivariate statistical methods (including machine learning)

Structure

- Lecture: 90 minutes
- Tutorial: 90 minutes

Enrollment information

Registration necessary only for tutorials

Requirements

S110 Explorative Data Analysis, S111 Risk and Probability or equivalent for students studying in their minor

Coursework

- 6 ECTS-Credits (Lecture + tutorial)
- Written exam (60 Minutes), registration required.

Teaching methods

Oral participation, group discussion, self-study

Course Language

English.

Literature

Schira: Statistische Methoden der BWL und VWL: Theorie und Praxis

Fahrmeir/ Künstler/Pigeot/Tutz: Statistik. Der Weg zur Datenanalyse

Backhaus/Erichson/Plinke/Weiber: Multivariate Analysemethoden

Kohler/Kreuter: Datenanalyse mit Stata

Professor

Prof. Dr. Martin Biewen