### Learning outcome, core skills:
This lecture provides a detailed introduction and discussion to the theory of several topics of econometrics. In a practical course the students will apply the methods discussed to real economic data and problems using the statistical software packages Eviews and R.

### Workload:
- **Attendance time:** 56 h
- **Self-study time:** 124 h

### Courses:

1. **Econometrics I (Lecture)**
   **Contents:**
   - Multiple linear regression model: Estimation, Inference and Asymptotics.
   - Maximum likelihood modeling.
   - Generalized least squares.
   - Stochastic regressors.
   - Instrumental variable estimators.
   - Dynamic models, weak exogeneity, cointegration, stochastic integration.

2. **Econometrics I (Tutorial)**

### Examination:
**Written examination (90 minutes)**
**Examination requirements:**
- Linear regression models, generalized linear regression models.
- OLS, GLS, EGLS estimation.
- Multiplicative heteroskedasticity, autocorrelation.
- LM specification testing, Durbin Watson test.
- Convergence in probability, convergence in distribution.
- Asymptotics (consistency, asymptotic normality) of OLS estimators.
- IV estimation, GMM estimation.

### Admission requirements:
None

### Recommended previous knowledge:
Notwendige: Mathematik (lineare Algebra), Statistik.
Erwünscht: Einführung in die Ökonometrie (oder vergleichbare Vorlesung)

### Language:
English

### Person responsible for module:
Prof. Dr. Helmut Herwartz

### Course frequency:
every semester

### Duration:
1 semester[s]

### Number of repeat examinations permitted:
twice

### Recommended semester:
2 - 3

### Maximum number of students:
not limited