

## Module description

Module title					Abbreviation
Econometrics 2					12-M-0E2-161-m01
Module coordinator				Module offered by	
holder of the Chair of Econometrics				Faculty of Management and Economics	
ECTS	Meth	od of grading	Only after succ. cor	nly after succ. compl. of module(s)	
5	nume	umerical grade			
Duration		Module level	Other prerequisites	Other prerequisites	
1 semester		graduate			
Contents					

#### Description:

This module deals with the basics, concepts and methods of the generalized least squares (GLS) framework. Partly as a motivation for the GLS model and partly for its own right, different specification and data problems as well as violations of model assumptions of the OLS estimator (as introduced in "Ökonometrie I" ("Econometrics I")) are discussed. This includes multicollinearity, a test for structural breaks, heteroskedastiticy and autocorrelation.

Linear algebra is used as formal aid.

#### Syllabus:

- 1. Specification analysis
- 2. Multicollinearity
- 3. Heteroskedastiticy
- 4. Autocorrelated disruptive terms
- 5. Generalized least squares (GLS)

#### Intended learning outcomes

Students acquire essential knowledge of the fundamentals, methods and concepts for estimating the generalized linear regression model (GLS) and can apply and interpret it. They are sensitized for specification problems, data problems and violations of the assumptions of the classical linear model (OLS) in order to be able to recognize, to assess and therefore adequately deal with these problems in theory and practice. This enables them to critically assess the use of the estimation methods in scientific work, to work independently on adequate implementation of empirical analyzes and to answer selected (economic) scientific issues if available data with the above-mentioned involved problems. The competences acquired in this course serve as a prerequisite for "Econometrics III", "Microeconometrics" und "Financial Econometrics".

**Courses** (type, number of weekly contact hours, language — if other than German)

 $V(2) + \ddot{U}(2)$ 

 $\textbf{Method of assessment} \ (\textbf{type}, \textbf{scope}, \textbf{language} - \textbf{if other than German, examination of fered} - \textbf{if not every semester, information on whether} \ (\textbf{type}, \textbf{scope}, \textbf{language} - \textbf{if other than German, examination of fered} - \textbf{if not every semester, information on whether} \ (\textbf{type}, \textbf{scope}, \textbf{language}) \ (\textbf{type}, \textbf{language})$ module is creditable for bonus)

- a) written examination (approx. 60 minutes) or
- b) term paper (approx. 15 pages)

Language of assessment: German and/or English

creditable for bonus

#### Allocation of places

#### **Additional information**

#### Workload

150 h

#### **Teaching cycle**

Teaching cycle: summer semester



# Module description

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

.\_

### Module appears in

Master's degree (1 major) Economathematics (2016)

Master's degree (1 major) Business Management (2015)

Master's degree (1 major) China Business and Economics (2016)

Master's degree (1 major) International Economic Policy (2015)

Master's degree (1 major) China Language and Economy (2016)

JMU Würzburg • generated 18.04.2025 • Module data record 130613