| Module title | | | Abbreviation |
|---|---|---|---|
| **Econometrics 1** | | | 12-M-OE1-161-m01 |
| **Module coordinator** | | **Module offered by** | |
| Holder of the Chair of Econometrics | | Faculty of Business Management and Economics | |
| **ECTS** | **Method of grading** | **Only after succ. compl. of module(s)** | |
| 5 | numerical grade | -- | |
| **Duration** | **Module level** | **Other prerequisites** | |
| 1 semester | graduate | -- | |

**Contents**

Description:
This module deals with the basic concept and methodology of the ordinary least squares (OLS) regression model. In particular, model assumptions and properties are discussed and formally motivated. In addition, the module examines linear restrictions on the model's explanatory variables as well as dummy variables and introduces tests to verify simple and multiple linear restrictions.

Linear algebra is used as formal aid.

Outline of syllabus:
1. Random variables
2. Important distributions
3. Point estimates
4. Simple linear regression model
5. Model assumptions
6. Model properties
7. Simple hypothesis tests
8. Multiple linear regression model
9. Linear restrictions
10. Dummy variables
11. Multiple hypothesis tests

**Intended learning outcomes**

The students acquire knowledge of the basics, concepts and methods used in the classical linear regression model and understand the role of econometrics in science and data analysis. In particular, they learn how to analytically derive, calculate and interpret the coefficients, standard errors and p-values of a classic regression output of the multiple regression model. Furthermore, they are able to formally state and motivate the assumptions and properties of OLS and know how to deal with transformed and dummy variables. Additionally, students will be able to test multiple linear restrictions on the parameters and will be able to apply these tests to real economic, business and social science questions.
The competences acquired in this course serve as a prerequisite for "Econometrics II", "Econometrics III", "Microeconometrics" und "Financial Econometrics".

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

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**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether 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**

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**Additional information**

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| **Workload** |
| --- |
| 150 h |
| **Teaching cycle** |
| -- |
| **Referred to in LPO I** (examination regulations for teaching-degree programmes) |
| -- |
| **Module appears in** |
| Master's degree (1 major) Economathematics (2016)<br>Master's degree (1 major) Business Information Systems (2016)<br>Master's degree (1 major) Business Management (2015)<br>Master's degree (1 major) China Business and Economics (2016)<br>Master's degree (1 major) International Economic Policy (2015)<br>Master's degree (1 major) China Language and Economy (2016) |