Georg-August-Universität Göttingen **Module M.WIWI-QMW.0004: Econometrics I**	6 C 6 WLH

Learning outcome, core skills:	Workload:
This course enables students to approach empirical research problems within the framework of the linear regression model, including model specification and selection, estimation, inference and detection of heteroscedasticity and autocorrelation. Moreover, the students can apply the methods discussed to real economic data and problems using the statistical software package R and they are able to assess estimator properties (finite sample and asymptotic). This course enables students to access more advanced topics in econometrics.	Attendance time: 56 h Self-study time: 124 h

Course: M.WIWI-QMW.0004.Lec **Econometrics I** (Lecture) *Contents*: The lecture covers the following topics: 1. Introduction to the basic multiple regression model, model specification, OLS estimation, prediction and model selection, Multicollinearity and partial regression. 2. The normal linear model, including maximum likelihood and interval estimation, hypothesis testing. 3. Asymptotic properties of the OLS and (E)GLS estimators. 4. Generalized linear model: GLS and EGLS estimators, properties of these, heteroskedastic and autocorrelated models, testing for heteroscedasticity and autocorrelation.	2 WLH
Course: M.WIWI-QMW.0004.Ex **Econometrics I** (Exercise) *Contents*: The practical deepens the understanding of the lecture topics by applying the methods from the lecture to economic problems and data, and reviewing and intensify theoretical concepts.	2 WLH
Course: M.WIWI-QMW.0004.Tut **Econometrics I (Tutorial)** *Contents*: The tutorials are small classes with max. 20 students, which give room for applying the concepts to specific problem sets and discussing questions, that students might encounter regarding the concepts addressed in the lecture and practical. A part of the tutorial are hands-on computer exercises using the software R. This enables students to conduct regression analysis in practice and prepares them for others (applied) courses.	2 WLH
Examination: Written examination (90 minutes) M.WIWI-QMW.0004.Mp: Econometrics I	6 C

Examination requirements:	
The students demonstrate their understanding of basic econometric concepts. They show that they can apply these concepts to real economic problems.	

Admission requirements:	Recommended previous knowledge:
none	Basic knowlegde in statistics and mathematics
Language:	**Person responsible for module:**

English	Prof. Dr. Helmut Herwartz
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: not limited	

English | Prof. Dr. Helmut Herwartz