Syllabus

Course Description

Course Title	Applied Econometrics
Course Code	27277
Course Title Additional	
Scientific-Disciplinary Sector	ECON-05/A
Language	German
Degree Course	Bachelor in Economics, Politics and Ethics
Other Degree Courses (Loaned)	
Lecturers	dr. Jan Ditzen, Jan.Ditzen@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/44644
Teaching Assistant	
Semester	Second semester
Course Year/s	2
CP	7
Teaching Hours	42
Lab Hours	21
Individual Study Hours	-
Planned Office Hours	21
Contents Summary	The course introduces students to modern applied econometric methods through a mixture of lectures, computer courses and tutorials. Each topic will be discussed from a methodological and applied perspective. At the end of the course, students will be able to successfully tackle quantitative problems and issues that arise in management and social science research.
Course Topics	The course consists of the following contents: - Introduction to the theory and practice of linear univariate and multivariate regressions and their interpretations - Testing hypotheses using the t-test, Wald and F-tests and

	calculating confidence intervals - Further topics: Models with quadratic terms, dummy variables and predictions - Linear regressions with endogeneity and heteroscedasticity - Difference-in-difference estimators - Introduction to time series and panel data Literature - Outlook on machine learning and spatial regression models
Keywords	Linear regression model; hypothesis tests; cross-sectional data; panel data; time series data
Recommended Prerequisites	
Propaedeutic Courses	No prerequisites, but basics in statistics are expected
Teaching Format	Lectures and exercises will take place in presence, lectures and exercises will be available online via Teams
Mandatory Attendance	Participation is recommended, but not compulsory
Specific Educational Objectives and Learning Outcomes	ILO (Intended Learning Outcomes) ILO 1 Knowledge and understanding ILO 1.1 Estimate and interpret econometric models for the empirical analysis of the above problems; ILO 1.2 the ability to model social and economic phenomena; ILO 1.3 the ability to economically interpret the results of the various mathematical-statistical models used in economics; ILO 1.4 basic knowledge of data management and computer programming for the statistical and econometric analysis of socio-economic data; ILO 1.5 Knowledge of the specialised vocabulary of the topics in this field of study. ILO 2 Ability to apply knowledge and understanding ILO 2.1 the ability to communicate fluently and spontaneously with native speakers on economic topics; ILO 2.2 the ability to independently analyse data and explain empirical relationships between real-world phenomena; ILO 2.3 the ability to create and test simple statistical and econometric models; ILO 2.4 the ability to apply quantitative methods to solve economic problems;

	ILO 2.5 the ability to read, write and communicate in relation to the technical language of quantitative methods in the three official languages of instruction ILO 3 Making judgements ILO 3.1 Acquire the necessary judgement and methodological tools to critically analyse data, sources, assumptions and implications of scientific practice and the political, ethical and legal contexts in which economic phenomena are situated and with which they interact. ILO 4 Communication skills ILO 4.1 Proficiency in written and spoken Italian, German and English, including the translation of these languages. Intercultural competence. Conceptual conciseness, ability to capture facts in writing, especially for scientific and science-based texts ILO 5 Learning skills ILO 5.1 Fostering critical thinking and analytical skills to recognise complex problems in their long-term dynamics and in the diversity of their - also ethical - implications
Specific Educational Objectives and Learning Outcomes (additional info.)	
Assessment	A. Modality "participating" and "non-participating" students Assessment 1: Group work (voluntary; 20%): Both participating and non-participating students can take part in a data research project that accounts for 20% of the final grade. Students will work on a practical empirical project using real data and R statistical software. The task includes data management, writing R script files and interpreting the results using statistical and econometric methods. Project work is valid for one academic year and cannot be credited beyond that (ILOs: 1.1, 1.3, 1.4, 1.5, 2.2, 2.3, 2.4, 2.5, 3.1, 4.1 (German), 5.1). Assessment 2: Final written examination (30 % if participating in

	group work, otherwise 100 %): Students must solve theoretical, practical and computational questions related to a specific problem, demonstrating knowledge and understanding of the theories and methods covered (ILOs: 1.1, 1.3, 1.5, 2.2, 2.3, 2.4, 2.5, 3.1, 4.1 (German), 5.1). The examination modalities are the same for participating and non-participating students.
Evaluation Criteria	All students must achieve a passing grade based on the combined score from the written exam and the take-home research project. The following aspects are relevant to the examination: Correctness of answers, ability to interpret R outputs and a critical appraisal of regression results taking into account econometric and economic theories. The following aspects are relevant for the take-home research project: Correctness of answers, ability to successfully conduct an econometric project in R, interpretation of R outputs and a critical appraisal of results.
Required Readings	J. M. Wooldridge, Introductory Econometrics: A Modern Approach, Cengage, 6th Ed. ISBN 9781305270107
Supplementary Readings	
Further Information	
Sustainable Development Goals (SDGs)	Quality education, No poverty