Module description: Empirical Methods in Economics

Module Code	w.BA.XX.2EmpME.XX
ECTS Credits	3
Language of Instruction/Examination	English
Module Description	Vast amounts of data are collected across the globe on a daily basis: Insurance companies collect detailed information about the costs of their clients' last doctor or hospital visit and the pharmaceuticals they use; banks gather information on the income, wealth, credit-worthiness, and transactions of their clients, and tech giants (e.g., Apple, Google) harvest data on essentially any dimension of our personal life from consumption patterns to social interactions via email, social media, or mobile devices. One key advantage of the improved data availability is that it allows policymakers, companies, and scientists alike to answer a series of highly relevant real-world questions. For example, companies can use information about their clients to evaluate the effects of a recently run ad campaign on their sales and profits; public health offices might be interested in the impact of a smoking ban on cigarette consumption, and students might wonder if it is worthwhile to do a Master's degree in terms of their future income. On the other hand, answering such questions requires solid statistical knowledge on how to properly analyze the newly available data. This module introduces students to the most important quantitative methods used in financial and economic research and provides an introduction to the statistical software Python. Students learn how to carry out an empirical project in which they apply the techniques taught in class based on real-world data (e.g., Bloomberg, SwissHousehold Panel, and DataSight, which will be provided in class to all participants). Topics include linear regression analysis and the analysis of longitudinal data (panel data). Examples from the literature and computer tutorials offer hands-on experience in utilizing the methods. The distinctive feature of the module is a learning-by-doing approach with a strong emphasis on the application of methods to real data and the correct interpretation of results.
Organizational Unit	Institut für Wirtschaftsinformatik
Module Coordinator	Andrea Maria Günster
Deputy Module Coordinator	Nicole Bellert
Program and Specialization	• Elective module (see module table)
Legal Framework	Academic Regulations BSc dated 29.01.2009, for the degree programs in Business Administration, International Management, Business Information Technology, Business Law, Business Law and Applied Law, first adopted on 12.05.2009

Module Category	**Module Type** Compulsory Elective	**Program Phase** Main Study Period

Prerequisite Knowledge	The course is aimed at BSc students with a solid knowledge in (basic) statistics and a strong preference for working with data and statistical software.
Contribution to Program Learning Objectives (by the concerned Module)	• Professional Competence • Methodological Competence • Social Competence • Self-Competence

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Contribution to Program Learning Objectives	**Professional Competence** • Knowing and Understanding Content of Theoretical and Practical Relevance • Apply, Analyze, and Synthesize Content of Theoretical and Practical Relevance • Evaluate Content of Theoretical and Practical Relevance **Methodological Competence** • Problem-Solving & Critical Thinking • Scientific Methodology • Work Methods, Techniques, and Procedures • Information Literacy • Creativity & Innovation **Social Competence** • Written Communication • Oral Communication • Teamwork & Conflict Management **Self-Competence** • Learning & Change
Module Learning Objectives	Students... • are able to explain the basic principles of modern empirical economics. • are able to interpret empirical results and conduct statistical significance tests. • are able to explain the obstacles in the causal interpretation of empirical results. • are able to work with the statistical software Python. • are able to plan and apply the methods discussed in class in their own work (e.g., module project, Bachelor's thesis). • are able to summarize their empirical findings and present them to their peers.
Module Content	• Introduction to key empirical methods in finance and economics (linear regression, panel data methods) • Introduction to the statistical software Python • Working with real-world data (Bloomberg, Swiss Household Panel) • Methods are illustrated using simulated and real-world data
Links to other modules	This module is linked to the following modules: • w.BA.XX.1QMeth.XX • w.BA.XX.1Stat-PiE.XX • w.BA.XX.1Stat.XX
Digital Learning Resources	• Practice and Application Exercises (with Key)
Methods of Instruction	• Exercises • Problem-Oriented Teaching • Project Work • Lecture Social Settings Used: • Individual Work • Group Work

Type of Instruction		Classroom Instruction	Guided Self-Study	Autonomous Self-Study
	Large Class	20 h	-	
	Small Class	-	-	
	Group Instruction	-	-	
	Practical Work	8 h	-	
	Seminar	-	-	
	Total	**28 h**	**0 h**	**62 h**

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Performance Assessment	End-of-module exam		Form	Length (min.)	Weighting
	-				
	Permitted Resources				
	Others	**Assessment**	**Format**	**Length (min.)**	**Weighting**
	Written Assignment	Grade	Gruppenarbeit	0	100.00

Classroom Attendance Requirement	None No
Compulsory Reading	• Wooldridge, J. (2008). Introductory Econometrics: A Modern Approach. 4th edition. New York: Nelson Education. ISBN 978-0324660548.
Recommended Reading	
Comments	