Syllabus

Course Description

Course Title	Econometrics for Finance
Course Code	27348
Course Title Additional	
Scientific-Disciplinary Sector	ECON-05/A
Language	Italian
Degree Course	Bachelor in Economics and Management
Other Degree Courses (Loaned)	
Lecturers	dr. Greta Goracci, Greta.Goracci@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/46136 Prof. Francesco Ravazzolo, Francesco.Ravazzolo@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/36066 Dr. Sara Casagrande, Sara.Casagrande2@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/52142
Teaching Assistant	
Semester	Second semester
Course Year/s	3
CP	6
Teaching Hours	36
Lab Hours	18
Individual Study Hours	-
Planned Office Hours	18
Contents Summary	The course covers various topics related to modelling and time series analysis, with the aim of studying and interpreting economic and financial phenomena.

	It is structured around three main areas: (1) the linear regression model (2) the ARIMA models; and (3) models for volatility analysis. Each topic is presented in depth from a theoretical point of view theoretical perspective and the main practical applications are discussed. The course includes guided exercises to support understanding of key concepts as well as practical analysis of real data sets using R software.
Course Topics	1. The linear regression model - Simple/multiple linear regression - Estimation and inference on regression parameters - Goodness of fit and multicollinearity - Residue analysis and diagnostics 2. ARIMA models - AR model - MA model - ARMA model - Forecast 3. GARCH models - volatility analysis - Tests for ARCH effects - ARCH/GARCH models
Keywords	Linear regression; time series analysis; volatility
Recommended Prerequisites	Probability and statistics
Propaedeutic Courses	
Teaching Format	Lectures and exercises
Mandatory Attendance	No obligation to attend, however attendance recommended
Specific Educational Objectives and Learning Outcomes	ILO (Intended Learning Outcomes) ILO 1 Knowledge and understanding ILO 1.1 knowledge of basic and intermediate level mathematical tools for understanding and analysing economic mechanisms through theoretical models and empirical applications ILO 1.2 knowledge of tools for static, dynamic, and comparative analysis of data on individuals, firms and economies

	ILO 1.3 knowledge and understanding of descriptive statistics, the fundamentals of probability theory and sample methods, standard distributions and their application to economic analysis as well as linear and non-linear regression ILO 2 Ability to apply knowledge and understanding ILO 2.1 know how to analyse economic data using descriptive statics, parametric and non-parametric methods as well as linear and non-linear regression and interpret the results ILO 2.2 know how to set up and carry out an empirical project using econometric software and financial or economic databases ILO 2.3 knowing how to use IT tools for the analysis of economies ILO 3 Autonomy of judgement ILO 3.1 choose the most appropriate quantitative and qualitative methods of analysis ILO 3.2 find the necessary information in databases, legal sources and scientific literature ILO 3.3 using logical reasoning to combine information and analytical methods, also using modern software packages, to arrive at a solution ILO 4 Learning ability ILO 4.1 retrieve information from databases, scientific literature, laws and regulations as required in professional life ILO 4.2 to analyse, critically process and integrate data, information and future experience, also using advanced software
Specific Educational Objectives and Learning Outcomes (additional info.)	Knowledge and understanding: - Advanced knowledge and understanding of methods econometric methods related to common types of data financial and corporate data. Application of knowledge and understanding: - Ability to apply econometric methods to real types of financial data using specific software. - Ability to interpret analysis results in the context of common financial and business problems. Formulation of judgements:

	- Ability to think critically and make effective decisions based on appropriate econometric analysis appropriate. Communication skills: - Ability to effectively communicate the results of econometric analyses, even to a non-specialist audience. non-specialists.
Assessment	(60% of the final subject grade): Final written examination (40% of the final subject grade): Group project Analysis of a real data set using the R sofware ILO assessed 1 -- 4
Evaluation Criteria	Final written examination: 60% Project: 40% Students must pass the final examination (i.e. correctly answer at least 60% of the questions in the questions in the exam) to obtain a passing grade in the course. course.
Required Readings	Jim H. Stock and Mark W. Watson, Introduction to Econometrics, Pearson International 4th Edition.
Supplementary Readings	--
Further Information	--
Sustainable Development Goals (SDGs)	Gender equality, Quality education