Syllabus
Course description

Course title	Econometrics for Finance
Course code	27348
Scientific sector	SECS-P/05
Degree	Bachelor in Economics and Management
Semester and academic year	2nd semester 2022/2023
Year	3
Credits	6
Modular	No

Total lecturing hours	36
Total lab hours	18
Total exercise hours	-
Attendance	Suggested, but not required
Prerequisites	Probability and Statistics course strongly suggested
Course page	

Specific educational objectives	The course refers to the complementary educational activities and belongs to the scientific area of Economics. The course provides the fundamentals of econometrics, statistical modelling and time series analysis to study economic and financial phenomena. In particular, the course covers three main topics: (1) The linear regression model; (2) ARIMA models; (3) GARCH models The aim is to develop specific skills in applied econometric research by a mixture of lectures and computer classes

Lecturers	Greta Goracci Office: BZ I3.06 e-mail: greta.goracci@unibz.it
Scientific sector of the lecturer	SECS-P/05
Teaching language	English
Office hours	18 hours Cockpit – students' zone – individual timetable
Lecturing assistant	Andrea Menapace
Teaching assistant	-
Office hours	none
List of topics covered	1. The linear regression model

	• Simple/Multiple linear regression
	• Estimation and inference on the regression coefficients
	• Goodness of fit and multicollinearity
	• Residual Analysis and Diagnostics
	2. ARIMA models
	    • AR models
	    • MA models
	    • ARMA models
	    • Forecasting
	3. GARCH models
	    • Volatility analysis
	    • Tests for ARCH effects
	    • ARCH/GARCH models

Teaching format	Frontal lectures

Learning outcomes	Knowledge and understanding: • Advanced knowledge and understanding of statistical methods related to common types of financial and business data. Applying knowledge and understanding: • Ability to apply statistical methods to real financial data sets using statistical software. • Ability to interpret the results of the analyses in the context of common finance and business problems. Making judgments • Ability to think critically and make effective decisions based on appropriate statistical analyses. Communication skills • Ability to communicate effectively the results from statistical analyses, even to a non-specialised audience.

Assessment	Final Exam (60% of the final grade in the subject):
	    Written exam
	Assignment (40% of the final grade in the subject):
	    Analysis of a real dataset through the R software
	
	The final exam assesses the understanding of the theoretical concepts introduced during the course The assignment measures the student's ability to apply the methods to real datasets and to interpret the results.

Assessment language	English

Evaluation criteria and criteria for awarding marks	Final exam: 60% Assignment: 40% Students must pass the final exam (i.e. answer correctly at least 60% of the questions in the exam) to receive a passing grade in the course.

Required readings	Jim H. Stock and Mark W. Watson, *Introduction to Econometrics*, Pearson International 4th Edition.Christiaan Heij, Paul de Boer, Philip Hans Franses, Teun Kloek, and Herman K. van Dijk, Econometric Methods with Applications in Business and Economics, Oxford University Press.
Supplementary readings	Further references will be given in class