General Information	
Academic subject	Data Mining
Degree course	Economia ed Amministrazione delle Aziende
Curriculum	
ECTS credits	6 CFU/ECTS
Compulsory attendance	No
Language	Italian (English on demand)

Subject teacher	Name Surname	Mail address	SSD
	Massimo Bilancia	massimo.bilancia@uniba.it	SECS-S/01 (Statistica)

ECTS credits details			
Basic teaching activities			

Class schedule	
Period	First Semester
Year	First Year1°
Type of class	Frontal lectures and lab exercises

Time management	
Hours	150
In-class study hours	48
Out-of-class study hours	102

Academic calendar	
Class begins	September 1425, 202019
Class ends	December 221, 202019

Syllabus	
Prerequisites/requirements	
Expected learning outcomes	- The course aims to provide the basic elements of time series econometrics - The student will learn to estimate and use in practice the models learned during the theoretical part of the course, through the use of the most used data analysis tool, with specific applications to market forecasting and financial time series. - The student will be able to decide on the most appropriate model to be used to generate forecasts in the various fields of application envisaged (economic and financial series, sales analysis, volume and traffic time series forecasts, environmental and energy demand time series forecasts). - At the end of the course, the student will have acquired the necessary preparation to generate reports containing economic/financial forecasts. - The course aims to provide the basic elements of time serie econometrics, on which to base the possibility of following courses of a more advanced nature in econometrics.
Contents	Part I. 1. Basic tools for forecasting 32. Simple regression

	3.4. Multiple regression 45. Decomposition techniques 5.6. Exponential smoothing – Basic tools 6.7. Exponential smoothing – Advanced tools 78. ARIMA models – AR and MA models 8.9. ARIMA models – Non-seasonal ARIMA models 910. ARIMA models – Model choice and forecasting 101. ARIMA models – Seasonal ARIMA models Part II. Lab The software used is R CRAN, freely available at http://cran.r-project.org.
Course program	
Bibliography	M. Bilancia (20208) Dispense per il Corso di Metodi Statistici Multivariati – Versione 1.2 Febbraio 20208. Freely available under Creative Commons 4.0 CC BY-NC-ND Licence.
Notes	
Teaching methods	Frontal lectures and practical computing exercises
Assessment methods	PC skill test on a real dataset
Evaluation criteria	Grade in 30/30
Further information	