COURSE OF STUDY Master's Degree in Economics and Finance
ACADEMIC YEAR *2023-2024*
ACADEMIC SUBJECT Quantitative analysis for economic-financial decisions

General information	
Year of the course	*I year*
Academic calendar (starting and ending date)	*II semester (19-02-2024 / 29-03-2024 e 15-04-2024 / 07-06- 2024)*
Credits (CFU/ETCS):	*8 UFC*
SSD	*SECS S01*
Language	*Italian*
Mode of attendance	*Optional*

Professor/ Lecturer	
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Department and address	*Department of Economics and Finance/ Largo Abbazia S. Scolastica - 70124 Bari*
Virtual room	*Teams code to share with students*
Office Hours (and modalities: e.g., by appointment, on line, etc.)	*At the end of each lesson*

Work schedule	
Hours	

Total	Lectures	Hands-on (laboratory, workshops, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
200	*56*		*144*
CFU/ETCS			
8	*56*		

Learning Objectives	*The course is aimed at expanding the knowledge of the tools used for the collection, organization and analysis of data to support decisions in the economic-business and financial fields, often assumed in conditions of uncertainty, as well as at providing interpretative solutions in the related practical cases.*
Course prerequisites	*A basic knowledge of descriptive and inferential statistical methodology is required, as well as of financial statement analysis techniques for the control of economic and financial performance*

Teaching strategies	*Frontal teaching, including the analysis of practical cases*
Expected learning outcomes in terms of	
Knowledge and understanding on:	o Multivariate analysis techniques o Assessment of economic-financial performance
Applying knowledge and understanding on:	o Data management o Benchmarking o Forecasts on the health of a company
Soft skills	• *Making informed judgments and choices*

	o Making decisions in conditions of uncertainty, having acquired greater familiarity in dealing with practical cases in the economic-financial field
	• *Communicating knowledge and understanding*
	  o Interacting with the stakeholders of the economic-financial institution
	• *Capacities to continue learning*
	  o being versatile and managing to adapt one's decisions to the reference context
	  o modelling and envisioning solutions, interpreting model results and operationally supporting decision-making processes

Syllabus	
Content knowledge	*Association measures for quantitative and qualitative traits. Dependence. Simple and multivariate linear regression. Cobb Douglass function. Choice of variables. Dummy variables. Hypothesis violation and residual analysis. logistic regression. Financial applications (risk measurement of financial instruments, portfolio variance, capital asset pricing model).* *Time series and breakdown into the various components. Stationary and non-stationary time series. Estimation methods using analytic function and moving averages. Predictive methods. Simple and complex index numbers.* *Statistical analysis of balance sheet data. Balanced scorecards. Non-financial reporting indicators. Reclassification of the financial statements, financial ratios and formats for their interpretation. Benchmarking. Use of statistical methods in management control (determination of the break even point, operating leverage, budgeting).* *Multidimensional analysis techniques to evaluate the economic-financial performance of companies (principal component analysis, cluster analysis, discriminant analysis, Roc curve). Indicators of business crisis and Altman's model. Notes on the use of statistical methods in management control and in the analysis of margins and financial flows. Practical test for verifying the reasonable prosecution of the remediation and checklist for the preparation of the remediation plan pursuant to the Executive Decree of the Ministry of Justice dated 28.09.2021.*
Texts and readings	*Borra, A. Di Ciaccio (2008), Statistica – Metodologie per le scienze economiche e sociali, McGraw-Hill, Milano (Capp. 5, 6, 16, 17 e 19).* *L. Biggeri, M. Bini, A. Coli, L. Grassini, M. Maltagliati (2012), Statistica per le decisioni aziendali, Pearson, Milano (Capp. 1, 2, 3, 5, 6, 8).*
Notes, additional materials	*Insights covered in the classroom also with reference to practical cases*
Repository	*Lecture notes/slides available on the teacher's website*

Assessment	
Assessment methods	*The verification takes place at the end of the course with an oral exam in which the student must demonstrate the level of knowledge acquired and be able to identify the most appropriate analysis technique in relation to the problem to be addressed, also through the solution of assigned exercises or the comment of the output of proposed multivariate analyses. The theoretical and applied parts contribute to form the final evaluation in equal measure. Any negative outcome of the exam taken does not affect the possibility of taking the exam starting from the next exam.*
Assessment criteria	*Each of the following areas will contribute equally to the final outcome of the*

	exam:
	• *Knowledge and understanding*
	• *Applying knowledge and understanding*
	• *Communicating knowledge and understanding*
	• *Autonomy of judgment*
	• *Communication skills*
	• *Capacities to continue learning*
Final exam and grading criteria	*The final grade is assigned in thirtieths; The exam is passed when the mark is greater than or equal to 18. The transversal skills foreseen in the learning outcomes affect the final evaluation, because the student must have developed autonomy of judgment and adequate argumentation and exposition skills.*
Further information	