COURSE OF STUDY *Marketing and Business Communication*
ACADEMIC YEAR *2023-2024*
ACADEMIC SUBJECT *Inference and Sampling Techniques*

General information	
Year of the course	First
Academic calendar (starting and ending date)	First semester (September 18th, 2023 – January 12th, 2024)
Credits (CFU/ETCS):	8
SSD	SECS-S/01- Statistics
Language	*Italian*
Mode of attendance	*No Compulsory*

Professor/ Lecturer	
Name and Surname	Paola Perchinunno, Samuela L'Abbate
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Telephone	
Department and address	DEMDI – Department of Economics, Management and Business Law University of Bari, 5th floor and rooms 52 and 54
Virtual room	*Microsoft Teams*
Office Hours (and modalities: e.g., by appointment, online, etc.)	*Monday to Friday by appointment only*

Work schedule			
Hours			
Total	Lectures	Hands-on (laboratory, workshops, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
64	64		
CFU/ETCS			
8	8		

Learning Objectives	Acquire knowledge of inferential statistics and sampling techniques and be able to apply them with those of descriptive statistics to cognitive sample surveys.
Course prerequisites	Knowledge of Descriptive Statistics (Statistics I)

Teaching strategie	Frontal lessons, exercises cases of study, and small surveys by building and proposing questionnaires. Processing in Excel.
Expected learning outcomes in terms of	
Knowledge and understanding on:	• Basic knowledge of statistical methodologies for the analysis and interpretation of phenomena. • Knowledge of Inferential statistics, probability and estimation problems. • Knowledge of sampling techniques for constructing sampling plans.
Applying knowledge and understanding on:	• Ability to apply the methodologies of inferential statistics and sampling techniques to analyze data and interpret them, developing inferences and reasoning about them.
Soft skills	• Ability to interpret statistical analyses using the techniques of statistical inference.

	• Ability to evaluate appropriate sampling plans. • Ability to describe the phenomena studied and interpret the statistical results obtained with specialized terminology. • Ability to deepen and update one's knowledge in the field of statistics.
Syllabus	
Content knowledge	Introductory notions to statistical inference Random variables and their distributions Logic and techniques of inference Population, sample, parameters, and estimators The sample surveys shall: • The main sampling plans. • Selection of sample units. • Estimated total: main estimates. • Procedure for estimating the total in simple random sampling. • Other estimates of the total: by difference, by quotient and by regression. • Efficiency comparisons. Problems of inference on averages Problems of inference on percentages Comparison between samples
Texts and readings	• Notes of the lectures • G. GIRONE, C. CROCETTA, A. MASSARI. Statistica, Bari, Cacucci, 2019. • S. MONTRONE - M. CRISTALLO, Tecniche di Campionamento (Lezioni), Ed. Arte Print, Matera, 2007
Notes, additional materials	Notes, slides, and other bibliographic materials will be furnished during the course
Repository	All teaching material will be available to students on web platforms Microsoft Teams.

Assessment	
Assessment methods	Oral exam which includes the application of the methodology to empirical cases and the related discussion of the results. For those attending there are 1 or 2 exemptions.

Assessment criteria	• Knowledge and understanding:
	  ○ Knowledge of the contents of the syllabus.
	  ○ Ability to report on problems addressed in class.
	• Applied knowledge and understanding:
	  ○ Describe statistical methodologies to be applied in analyzing data and interpreting them, developing inferences and reasoning about the same.
	  ○ Ability to link program content.
	• Autonomy of judgment:
	  ○ Exhibit skills related to the ability to choose the most appropriate tools in analyzing inferential problems, have autonomy of judgment in interpreting results, and be able to draw effective information from data.
	• Communicating knowledge and understanding:
	  ○ Describe the phenomena studied and interpret the statistical results obtained by showing expository skills and ability to present and interpret data with appropriate terminology.
	• Communication skills:
	  ○ Hypothesize an approach to employing acquired knowledge

Final exam and grading criteria	The evaluation criteria that contribute to the attribution of the final mark will be: knowledge and understanding, the ability to apply knowledge, autonomy of

	judgment, i.e., the ability to criticize and formulate judgments, communication skills. The Examination Committee has a score ranging from a minimum of 18 to a maximum of 30 points for a positive assessment of the student's performance. By unanimous vote of its members, the Board may award honours in cases where the final mark is 30.
Further information	