



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Architettura		
ACADEMIC YEAR	2020/2021		
BACHELOR'S DEGREE (BSC)	INDUSTRIAL DESIGN		
SUBJECT	STATISTICS FOR EXPERIMENTAL RESEARCH		
TYPE OF EDUCATIONAL ACTIVITY	A		
AMBIT	50237-Formazione scientifica		
CODE	14051		
SCIENTIFIC SECTOR(S)	SECS-S/02		
HEAD PROFESSOR(S)	BONO FILIPPA	Professore Associato	Univ. di PALERMO
OTHER PROFESSOR(S)			
CREDITS	6		
INDIVIDUAL STUDY (Hrs)	102		
COURSE ACTIVITY (Hrs)	48		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	1		
TERM (SEMESTER)	2° semester		
ATTENDANCE	Not mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	BONO FILIPPA Wednesday 12:00 - 13:00 da concordare con lo studente previa prenotazione		

PREREQUISITES	Mathematics
LEARNING OUTCOMES	Knowledge of Acquisition of the principal statistic and economic techniques necessary to collection and processing data for the reading social and economic phenomena. Ability to use the terminology and specific language of the scientific areas of the course. Ability to understand and comment the results of sample surveys, censuses and administrative provisions necessary in order to obtain a synthetic representation of the phenomena. Comprehension of Ability to carry out, in full autonomy, economic and statistical analyses with special reference to the productive sectors and the territorial districts. Ability to use the main indicators, to read the results and ability to implement strategic decisions. Ability to Be able to formulate an overall judgment on the peculiar characteristics of the observed and its peculiarities market. Ability to understand the meaning of the observed data and the result of the analysis carried out, check for accuracy and ability to design hypotheses policy. Ability to explanation and interpretation of the principal aspects of the analysis. Use of appropriate language and a specific terminology, both in a technical and divulgative language. Lifelong learning skills Ability to select the appropriate methodology to the aim of the study. To analyse and to Interpret the data in economic environment.
ASSESSMENT METHODS	The exam is written. The written test aims to ascertain the knowledge of the basic statistical tools, as well as their correct use and interpretation. The test is divided into three points: the first exercise concerns questions/exercises on descriptive statistics, the second exercise will contain questions on index numbers; a third exercise consists of questions regarding bivariate analysis. The written test aims to evaluate: a) the level of knowledge and understanding; b) applying knowledge; c) making judgement on obtained results. The test will last 90 minutes, The passing of this written test will be defined by the following evaluation criteria: EXCELLENT (30-30 cum laude) if the student will show excellent knowledge of the topics, excellent property of language, good analytical capacity, and the ability to apply the knowledge to solve the problems submitted; VERY GOOD (26-29) if the student shows good mastery of the subject, full property of language and the ability to apply the knowledge to solve the problems submitted; GOOD (24-25) if the student will show to have basic knowledge of the main topics, fairly good property of language, limited ability to independently apply the knowledge for the solution of the problems submitted; MORE THAN SUFFICIENT (20-23) if the student will show not to have full mastery of the main arguments but a good understanding of the same, satisfactory property of language, lack of ability to independently apply the knowledge acquired; SUFFICIENT (18-19) where the student will show minimum basic knowledge of the main teaching and technical language issues, minimum ability to apply the knowledge acquired; INSUFFICIENT if the student does not have an acceptable knowledge of the contents of the topics covered in the teaching. There is an ongoing test, for attending students, which consists of a group work (maximum three students) in which the student will choose a phenomenon to be analyzed and will produce a statistical report. The ongoing test will contribute to the final evaluation for a maximum of 6 points. Those who will carry out the ongoing test will have a reduced written task.
EDUCATIONAL OBJECTIVES	The course aims to shows the analytical and methodological tools to elaborate and represent economic phenomena at territorial level. The main objective is related to the presentation of the essential tools of the statistical analysis applied to the study of economic and social phenomena at territorial level. Particular attention will be given to the acquisition of analysis and processing tools for statistical data and to the use of the main statistical sources.
TEACHING METHODS	lectures, practice class
SUGGESTED BIBLIOGRAPHY	Materiale fornito dal docente e un libro a scelta tra: 1) Cicchitelli Giuseppe Statistica-Principi e metodi-terza edizione- Pearson-Prentice Hall 2) Alan Agresti - Christine A. Franklin Statistica: l'arte e la scienza d'imparare dai dati con MyLab e etext- Pearson-Prentice Hall

PER GLI STUDENTI STRANIERI:
 Alan Agresti - Christine A. Franklin
 Statistics the art and science of learning from data- Boston [etc.] : 3th
 international ed. Pearson. 2013.

SYLLABUS

Hrs	Frontal teaching
8	Scope of the course. Measurement of the phenomenon: scale of measure; variable's definition. Graphics for qualitative and quantitative characters. Frequency tables. The principal statistical sources. Frequency tables with excel. statistical sources.
10	Processing and statistical treatment of data: measures of location, central tendency, variability and symmetry. Concentration index. Lorenz Curve. Descriptive statistics with excel.
4	Istat seminar-Census and sample data. Sampling techniques. Survey structure. Households budget survey. The the datawarehouse Istat.
8	Relations between categorical variables: contingency tables. Chi-squared index. Relations between quantitative variables: correlation and interdependence. Cograduation index. Regression model.
2	The main summaries and statistical indexes
Hrs	Practice
8	Practical exercises on graphics, position and variability indices. Analysis of relations between variables.
2	The index number. Laspeyres and Paasche indices.
6	To build and draft a statistical report