



# UNIVERSITÀ DEGLI STUDI DI PALERMO

<b>DEPARTMENT</b>	Scienze Economiche, Aziendali e Statistiche		
<b>ACADEMIC YEAR</b>	2019/2020		
<b>BACHELOR'S DEGREE (BSC)</b>	STATISTICS FOR DATA ANALYSIS		
<b>INTEGRATED COURSE</b>	ECONOMICAL STATISTICS 2 - INTEGRATED COURSE		
<b>CODE</b>	18230		
<b>MODULES</b>	Yes		
<b>NUMBER OF MODULES</b>	2		
<b>SCIENTIFIC SECTOR(S)</b>	SECS-S/03		
<b>HEAD PROFESSOR(S)</b>	VASSALLO ERASMO	Professore Associato	Univ. di PALERMO
<b>OTHER PROFESSOR(S)</b>	VASSILIADIS ELLI	Ricercatore	Univ. di PALERMO
	VASSALLO ERASMO	Professore Associato	Univ. di PALERMO
<b>CREDITS</b>	12		
<b>PROPAEDEUTICAL SUBJECTS</b>	06674 - ECONOMIC STATISTICS 1 19596 - STATISTICAL INFERENCE		
<b>MUTUALIZATION</b>			
<b>YEAR</b>	3		
<b>TERM (SEMESTER)</b>	Annual		
<b>ATTENDANCE</b>	Not mandatory		
<b>EVALUATION</b>	Out of 30		
<b>TEACHER OFFICE HOURS</b>	<b>VASSALLO ERASMO</b> Monday 14:30 15:30 Ufficio docente o da remoto via Teams Tuesday 14:30 15:30 Ufficio docente o da remoto via Teams  <b>VASSILIADIS ELLI</b> Tuesday 12:00 14:00 Stanza del docente		

DOCENTE: Prof. ERASMO VASSALLO

<b>PREREQUISITES</b>	The course requires knowledge of the basic concepts of descriptive and inferential statistics, as well as the specific content of Economic Statistics I. Also, the course requires basic knowledge of R and SAS.
<b>LEARNING OUTCOMES</b>	<p>Knowledge and understanding Acquire: 1. Statistical tools and techniques useful to the analysis of economic phenomena in a micro and macro context, as well as measurement, estimation and interpretation with use of appropriate statistical software; 2. Understanding the evolution of economic phenomena, searching the data sources of economic statistics. 3. Skills on electronic spreadsheets, statistical and econometric software and skills on script writing with R. 8. Knowledge of product and service markets and segmentation of the target market.</p> <p>Applying knowledge and understanding Be able to: use independently statistical tools to answer business questions (sales analysis, process monitoring, prediction of sales, cost and production efficiency) and macroeconomic planning (analysis of demand, impact analysis, analysis of the economic framework and trend, measures of productivity and production efficiency, measures of income inequality) making use of open-source software.</p> <p>Making judgments Be able to: identify scope and conditions of the proposed instruments, read correctly the results and evaluate their implications for firms, areas and economic systems.</p> <p>Communication skills Be able to: explain conditions, tools and results of the analysis also to a non-technical audience through oral presentations or written reports.</p> <p>Learning skills Be able to: consult official reports and statistics from Istat, OECD, Eurostat, etc. and relative scientific publications with analysis of the national and international literature.</p>
<b>ASSESSMENT METHODS</b>	Written and oral test for each module. The final mark takes into account both tests. The written exam focuses on practical skills and interpretation about the resolution of a problem of economic statistics usually with the use of a statistical model for time series or cross-section series. The written test takes about an hour and it is structured so that the student can successfully use different strategies and alternatives analysis. In particular, it is required attention to meaning and interpretation of the data and results with the support of statistical software such as R and SAS. The oral exam is focused on all the topics of the syllabus and, besides, mathematical and statistical proofs or short exercises can be requested. The oral exam takes about half an hour. Moreover, taking into account the resolution dated September 28, 2015 of CdS L-41, the oral exam also includes two questions on the English book specifically indicated for each module, in order to assess the understanding of the English text and the ability to formulate a relative response. The first question will concern the translation of a phrase randomly chosen, the second question will concern the general understanding of a paragraph randomly selected. The student's assessment takes into account some factors in both written exam and oral exam: knowledge of concepts and subjects, practical use skills, proper use of statistical language. The lowest positive rating (18) is attributed a minimum knowledge of the arguments, whereas the maximum rating (30) is attributed to a full and mature knowledge of the arguments. The overall evaluation is a simple mean of the two evaluations for the two modules.
<b>TEACHING METHODS</b>	Lessons in classroom, specific lectures, tutorials, labs and homeworks with wide use of R and SAS statistical software. Preparation of teaching materials and slides uploaded on the course website.

**MODULE**  
**STATISTICAL ANALYSIS OF ECONOMICAL DATA**

*Prof. ERASMO VASSALLO*

**SUGGESTED BIBLIOGRAPHY**

- Koop G. (2013). Analysis of Economic Data. Wiley: New York, 4-th edition.  
 - Vassallo E. (2009). Laboratorio di Statistica Economica con R. Aracne: Roma  
 - Groebner D.F., Shannon P.W. and Fry P.C. (2014) Business Statistic. Pearson: New York.  
 Testo per la prova inglese: Capitolo 1 e capitolo 2 di Koop G. (2013). Analysis of Economic Data. Wiley: New York, 4-th edition.

<b>AMBIT</b>	50250-Statistico, statistico applicato, demografico
<b>INDIVIDUAL STUDY (Hrs)</b>	98
<b>COURSE ACTIVITY (Hrs)</b>	52

**EDUCATIONAL OBJECTIVES OF THE MODULE**

Provide statistical tools for the analysis of economic phenomena of specific interest in business and economics. The student must be able to read and interpret the main statistical data related to the structure and performance of firms as well as European, national or regional territory with specific reference to the macroeconomic framework, even with use of appropriate computing and statistical software (OpenOffice, Office Microsoft, Gretl, DEMETRA, etc.), and in particular R and SAS.

**SYLLABUS**

Hrs	Frontal teaching
4	statistical sources of economic data
4	Statistical models and econometric specifications in time and space
4	Classical approach to time series with deterministic business models
4	Naive methods, exponential smoothing, Holt-Winters models and predictive filters for economic analysis
4	Modern approach to time series with micro-economic and macro-economic data.
4	Census methods I and II; hybrid approach X12-arma and X13-arma
4	Tramo-Seats model (Bank of Spain) and Demetra approach (Eurostat)
4	Tools for statistical quality control
Hrs	Practice
2	statistical sources of economic data
6	Deterministic and classical models in the analysis of time series. Use of R and SAS for decomposition procedures, exponential smoothing and Holt-Winters techniques.
6	Seasonal adjustment models. Classic and modern approach with R and SAS. Reading and interpretation of the related textual and graphic outputs.
6	quality control

**MODULE  
MARKET ANALYSIS**

*Prof.ssa ELLI VASSILIADIS*

**SUGGESTED BIBLIOGRAPHY**

Brasini S., Freo M., Tassinari F., Tassinari G., Statistica aziendale e analisi di mercato, Il Mulino, 2002  
 de Luca A., Le ricerche di mercato, FrancoAngeli, 2012  
 Marbach G., Le migliori pratiche nelle ricerche di mercato, Rogiosi, 2016.  
 Testo per la prova inglese: capitoli 1 e 2 in Chakrapani C. Statistics in Market Research. Wiley: New York. 2004.

<b>AMBIT</b>	50250-Statistico, statistico applicato, demografico
<b>INDIVIDUAL STUDY (Hrs)</b>	98
<b>COURSE ACTIVITY (Hrs)</b>	52

**EDUCATIONAL OBJECTIVES OF THE MODULE**

Provide knowledge to use statistical methods for analysis of markets and analysis of market stakeholders. In particular, the student must acquire tools for the demand analysis (buyers, customers, consumers) and supply analysis (firms) with specific reference to the design and realization of a market research.

**SYLLABUS**

Hrs	Frontal teaching
2	Sample surveys for market researches
2	Main sampling techniques in a probabilistic and non-probabilistic context.
4	Panel data for market researches. Statistical methods for panel data analysis.
4	Questionnaires and scales of measurement
4	Statistical sources and classification of consumption. Analysis of demand
4	The purchasing behavior. Models and customer satisfaction measures
4	Market segmentation. The "a priori" segmentation techniques
4	Cluster Analysis for "a posteriori" segmentation
4	Conjoint Analysis in the flexible segmentation
Hrs	Practice
6	Design a questionnaire for specific market analysis.
6	Market segmentation
4	identification of the target market
4	positioning of a hypothetical product