UNIVERSIDADE LUSÍADA
LISBOA

Course Unit Program
Data Analysis

Academic Year 2024/2025

1. Organic Unit

Faculty of Business and Economic Sciences

2. Course

Business Management

3. Cycle

1st

4. Course Unit

Data Analysis (24105)

5. Scientific Area

6. Curricular Year

1st

7. Type of Curricular Unit / Semester

1st Semester

FUNDAÇÃO MINERVA CULTURA - ENSINO E INVESTIGAÇÃO CIENTÍFICA

Rua da Junqueira, 188 a 198 - 1349-001 LISBOA - Telefone 213 611 500 - Fax 213 638 307 - e-mail: info@lis.ulusiada.pt - https://www.lis.ulusiada.pt

8. Class type and workload (work time)

Theoretical classes:	
Practical classes:	
Theoretical-Practical Classes	30,00
Tutorial Guidance:	20,00

9. ECTS Credits

6,00

10. Scientific Area Coordinator

11. Regent

Prof. Doutor NUNO MIGUEL SIMÕES VENES

12. Assistants

Prof. Doutora CRISTINA MARIA FERNANDES NUNES, Prof. Doutor GUILHERME BERSE RODRIGUES LAMBAIS

13. Teaching Language

Portuguese

14. General Objectives

To introduce students to the methods of applied economic analysis.
To introduce the concepts of descriptive statistics.
To introduce students to the techniques of investigation and information processing.

15. Specific Objectives

Knowledge of the fundamental characteristics of economic and business variables.
Knowledge of the fundamental characteristics of economic and business information of a quantitative nature.
Acquisition of methods of exploratory analysis of statistical data that synthesize information.
Knowledge of the most relevant sources of information for the accomplishment of empirical works.

16. Skills to be acquired

The teaching is focused on the resolution of applications, that is, on the development of problem-solving capabilities of data analysis in economic and business sciences, through a systematic methodology of resolution: How to present the problem in quantitative terms? What are the useful concepts? Are the validity conditions verified? How to manipulate the concepts? What is the answer to the problem? The course is based on a good understanding of the methods and training of the conditions of app

FUNDAÇÃO MINERVA CULTURA - ENSINO E INVESTIGAÇÃO CIENTÍFICA

Rua da Junqueira, 188 a 198 - 1349-001 LISBOA - Telefone 213 611 500 - Fax 213 638 307 - e-mail: info@lis.ulusiada.pt - https://www.lis.ulusiada.pt

17. Teaching Methodology

Theoretical-practical classes (the teacher introduces the concepts through an application and deduces the abstract aspects); tutorial classes (the teacher presents the applications to the students and with their active participation a solution is sought).

18. Course Unit Program

CHAPTER 1 - RATES OF CHANGE AND INDEX NUMBERS.
1.1. Rates of variation.
1.2. Simple index numbers.
1.3. Aggregate or composite index numbers.
1.4. Nominal and real variables and price indices.

CHAPTER 2 - DESCRIPTIVE STATISTICS. EXPLORATORY DATA ANALYSIS.
2.1. Qualitative and quantitative data. Discrete and continuous variables.
2.2. Tabulation and graphical representation of data.
2.2.1. Tabular and graphical representation of qualitative data: frequency table, bar diagram, circular diagram.
2.2.2. Tabular and graphical representation of discrete quantitative data: frequency table, dot plots, bar diagram, cumulative frequency function.
2.2.3. Tabular and graphical representation of continuous quantitative data: frequency table, histogram, frequency polygon.
2.3. Location and dispersion measures.
2.3.1. Location measures: arithmetic mean, weighted mean, geometric mean and harmonic mean. Fashion. Properties.
2.3.2. Measures of dispersion: amplitude, mean absolute deviation, variance, standard deviation and coefficient of variation. Properties.
2.4. Data sorting. Stem-and-leaf diagram.
2.5. Median. Quartile, decile, percentile, quantile.
2.6. Form parameters. Asymmetry and flattening coefficients.
2.7. Diagram of extremes and quartiles. Comparison of samples. Outliers.
2.8. Concentration measures. Gini index and Lorenz curve.

CHAPTER 3 - CORRELATION AND REGRESSION.
3.1. Scatterplots.
3.2. Covariance.
3.3. Standardisation of a sample.
3.4. Linear correlation coefficient.
3.5. Simple linear regression.

19. Assessment Methods

Realization of works throughout the semester.
Realization of two evaluation tests.

FUNDAÇÃO MINERVA CULTURA - ENSINO E INVESTIGAÇÃO CIENTÍFICA

Rua da Junqueira, 188 a 198 - 1349-001 LISBOA - Telefone 213 611 500 - Fax 213 638 307 - e-mail: info@lis.ulusiada.pt - https://www.lis.ulusiada.pt

20. Didactic Resources

Notes and exercises available on Moodle.

21. Sustainability Objectives

SDG 4, SDG 8.

22. Keywords

Sample
Population
Average
Variance
Correlation
Regression
Index numbers

FUNDAÇÃO MINERVA CULTURA - ENSINO E INVESTIGAÇÃO CIENTÍFICA

Rua da Junqueira, 188 a 198 - 1349-001 LISBOA - Telefone 213 611 500 - Fax 213 638 307 - e-mail: info@lis.ulusiada.pt - https://www.lis.ulusiada.pt

23. Main Bibliography

Author(s):	ST. AUBYN, A. e VENES, N.		
Title:	ANÁLISE DE DADOS - APLICAÇÕES ÀS CIÊNCIAS ECONÓMICAS E EMPRESARIAIS		
Edition:	1ª	Year:	2011
Local:	Lisboa		
Publisher:	Verlag Dashöfer		

Author(s):			
Title:			
Edition:		Year:	
Local:			
Publisher:			

Author(s):			
Title:			
Edition:		Year:	
Local:			
Publisher:			

24. Complementary Bibliography

Author(s):	Chaves, C., Maciel, E., Guimarães, P. e Ribeiro J.C.		
Title:	Instrumentos Estatísticos de Apoio à Economia: Conceitos Básicos		
Edition:	1ª	Year:	1999
Local:	Lisboa		
Publisher:	McGraw-Hill de Portugal		

Author(s):	Silvestre, A. L.		
Title:	Análise de Dados e Estatística Descritiva		
Edition:	1ª	Year:	2007
Local:	Lisboa		
Publisher:	Escolar Editora		

FUNDAÇÃO MINERVA CULTURA - ENSINO E INVESTIGAÇÃO CIENTÍFICA

Rua da Junqueira, 188 a 198 - 1349-001 LISBOA - Telefone 213 611 500 - Fax 213 638 307 - e-mail: info@lis.ulusiada.pt - https://www.lis.ulusiada.pt

UNIVERSIDADE LUSÍADA
LISBOA

Ficha técnica MIP / MIP Datasheet	
Título / Title	Course Unit Program 'ANÁLISE DE DADOS': Academic Year 2024/2025
Autor / Author	Prof. Doutor NUNO MIGUEL SIMÕES VENES
Classificação / Classification	-
Descritores / Descriptors	-
Colaborador(es) / Colaborator(s)	-
Data Hora / Date Time	
Formato de dados / Data Format	Texto / Text, PDF
Estatuto de utilização / Usage	Acesso público / Public Access
Relação / Relation	Version 1,0

(c) Universidade Lusíada, 2024

FUNDAÇÃO MINERVA CULTURA - ENSINO E INVESTIGAÇÃO CIENTÍFICA

Rua da Junqueira, 188 a 198 - 1349-001 LISBOA - Telefone 213 611 500 - Fax 213 638 307 - e-mail: info@lis.ulusiada.pt - https://www.lis.ulusiada.pt