



UNIVERSIDADE LUSÍADA
LISBOA

Course Unit Program
Econometrics

Academic Year 2024/2025

1. Organic Unit

Faculty of Business and Economic Sciences

2. Course

ECONOMICS

3. Cycle

1st

4. Course Unit

Econometrics (03316)

5. Scientific Area

6. Curricular Year

2nd

7. Type of Curricular Unit / Semester

2nd Semester



UNIVERSIDADE LUSÍADA
LISBOA

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 GUILHERME BERSE RODRIGUES LAMBAIS

12. Assistants

13. Teaching Language

Portuguese

14. General Objectives

The content of this curricular unit has the general objective of providing the basic principles of econometrics.

15. Specific Objectives

The content starts from the basic concepts of statistical inference and linear regression and evolves towards encompassing a set of concepts and tools of the most modern techniques of causal inference and prediction.

16. Skills to be acquired

Familiarize students with the main introductory concepts of econometrics. Thus, after attending this curricular unit, students should be able to formalize an economic problem, load a dataset and, based on the linear regression model and specific software, build models, implement the regressions, and interpret the results.

17. Teaching Methodology

In order to fulfill the stated objectives, teaching is done in theoretical-practical classes and tutorial classes. In the theoretical-practical classes, the presentation of the different points of the subject is made, which is completed with the respective practical component. In the tutorial classes, the main points of the program are discussed, as well as guiding students to carry out practical cases.



UNIVERSIDADE LUSÍADA
LISBOA

18. Course Unit Program

1. Econometrics: what is it and its difference applications
2. Statistical inference
 - 2.1 Design-based inference
 - 2.2 Model-based inference
 - 2.3 Asymptotic theory
 - 2.4 Hypothesis tests and confidence intervals
3. Regression
 - 3.1 Linear regression
 - 3.2 The mechanics of OLS
 - 3.3 The statistics of OLS
4. Causality
 - 4.1 Contrafactuals and causal effects
 - 4.2 Randomized Control Trials
 - 4.3 Observational studies and quasi-experiments
5. Prediction
 - 5.1 Time series
 - 5.2 Big data and machine learning

19. Assessment Methods

The continuous assessment score results from the weighted average of two tests to be carried out (40% each) and problem sets (20%).

20. Didactic Resources

The exposition of the program themes will be done using slides, interactive tutorials, and the software R.

21. Sustainability Objectives

During the curricular unit, the work methodology will take into account the sustainable development objectives, with emphasis on objective 4, seeking to ensure inclusive and quality education for all, and for objective 8, promote inclusive and sustainable economic growth, full and productive employment and decent work for all.

22. Keywords

Econometrics
Linear Regression Model
OLS
Causal Inference
Applied Economics



UNIVERSIDADE LUSÍADA
LISBOA

23. Main Bibliography

Author(s): BLACKWELL, Matthew
Title: A user's guide to statistical inference and regression
Edition: Year: 2024
Local: Harvard University
Publisher:

Author(s): HANK, Christoph; ARNOLD, Martin; GERBER, Alexander and
SCHMELZER, Martin
Title: Introduction to Econometrics with R
Edition: Year: 2024
Local: University of Duisburg-Essen
Publisher:

Author(s): Joshua D. Angrist and Jörn-Steffen Pischke
Title: Mastering 'Metrics: The Path from Cause to Effect
Edition: Year: 2015
Local: Princeton
Publisher: Princeton University Press

24. Complementary Bibliography

Author(s): STOCK, James and WATSON, Mark
Title: Introduction to Econometrics
Edition: 4 Year: 2019
Local: New York
Publisher: Person

Author(s): GOLDBERGER, Arthur
Title: Introduction to Econometrics
Edition: Year: 1998
Local: Cambridge
Publisher: Harvard University Press



UNIVERSIDADE LUSÍADA
LISBOA

Ficha técnica MIP / MIP Datasheet	
Título / Title	Course Unit Program 'ECONOMETRIA': Academic Year 2024/2025
Autor / Author	Prof. Doutor GUILHERME BERSE RODRIGUES LAMBAIS
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	