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Course Unit Program
Quantitative Methods

Academic Year 2024/2025

1. Organic Unit

Institute of Psychology and Educational Sciences

2. Course

PSYCHOLOGY

3. Cycle

1st

4. Course Unit

Quantitative Methods (20318)

5. Scientific Area

6. Curricular Year

2nd

7. Type of Curricular Unit / Semester

1st Semester



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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 MIGUEL DA COSTA NUNES DE FREITAS

12. Assistants

Prof. Doutora ANA CRISTINA DOS SANTOS LOPES

13. Teaching Language

Portuguese

14. General Objectives

This module aims to develop the necessary knowledge and skills for students to become critical consumers of research. The module is designed to help students developing skills in how to design and implement a research study, how to measure human behaviour, and how to analyze and interpret data. Throughout the semester, students will focus on research that involves conducting bivariate and multivariate analyses.

15. Specific Objectives

- Critically read psychological research (its design, analysis, and interpretation).
- Select and use (with the appropriate software) techniques to analyze, report, and conclude from quantitative data, including inferential tests of group differences.
- Understand how to measure and analyze behaviour, and understand strengths and limitations of different research methodologies.
- Write the Method and Results sections of a study.

16. Skills to be acquired



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- Foster a positive attitude towards science
- Understand the fundamentals of research in psychology
- Analyze research by identifying the variables involved
- Distinguish univariate, bivariate and multivariate strategies in data analysis according to the nature of psychological phenomena
- Develop problem solving skills in data analysis in behavioural sciences
- Decode a scientific paper, according to the steps of the scientific method

17. Teaching Methodology

Classes are theoretical and practical, using the expository, interrogative and active method, with discussion of the themes and their practical implications, as well as the realization of practical exercises for application of knowledge. We will use pedagogical techniques that value peer collaboration and learning by guided discovery, by exploring statistical analysis software. Autonomy and critical thinking will be encouraged.

18. Course Unit Program

1. Basic concepts in research: research questions/ goals and hypotheses; variables.
2. Research designs and planning of studies in Psychology
3. How to set up a database
4. Data analysis with SPSS
5. Choosing the appropriate statistical techniques based on the study variables and goals
6. Bivariate and Multivariate Analysis
 - t-student
 - ANOVA two-way
 - Repeated Measures ANOVA
 - Mixed design ANOVA
 - Nonparametric tests
 - Correlation
 - Regression
 - Reliability

19. Assessment Methods

According to the Regulamento Geral de Avaliação da Universidade Lusíada, students must sit:

- A) Two written tests (60%)
- B) Final written Exam (40%)

20. Didactic Resources



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Powerpoints
Databases
Scientific articles
Computers and IBM SPSS software
Recommended readings

21. Sustainability Objectives

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Target 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

Target 4.7: By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development.

22. Keywords

Inferential Statistics
Hypothesis testing
Bivariate analyses
Multivariate analyses



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23. Main Bibliography

Author(s): Gravetter, F.J. & Forzano, L-A. B.
Title: Research methods for the behavioral sciences
Edition: 6^a Year: 2019
Local: Boston
Publisher: Cengage Learning

Author(s): Howell, D. C.
Title: Fundamental Statistics for the Behavioral Sciences
Edition: 9^a Year: 2017
Local: Boston
Publisher: Cengage Learning

Author(s): Dancey, C. & Reidy, J.
Title: Statistics without maths for psychology
Edition: 8th Year: 2020
Local:
Publisher: Pearson

24. Complementary Bibliography

Author(s): Marôco, João
Title: Análise Estatística com o SPSS Statistics
Edition: 6^a Year: 2014
Local: Lisboa
Publisher: Report Number

Author(s): Martinez, L., & Ferreira, A.
Title: Análise de Dados com SPSS, Primeiros Passos
Edition: 3^a Year: 2010
Local: Lisboa
Publisher: Escolar Editora



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Ficha técnica MIP / MIP Datasheet	
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Classificação / Classification	-
Descritores / Descriptors	-
Colaborador(es) / Colaborator(s)	-
Data Hora / Date Time	
Formato de dados / Data Format	Texto / Text, PDF
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