UNIVERSIDADE LUSÍADA
LISBOA

Course Unit Program
Psychometrics

Academic Year 2025/2026

1. Organic Unit

Institute of Psychology and Educational Sciences

2. Course

PSYCHOLOGY

3. Cycle

1st

4. Course Unit

Psychometrics (20316)

5. Scientific Area

6. Curricular Year

2nd

7. Type of Curricular Unit / Semester

2nd 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 JOÃO JOSÉ DA SILVA PISSARRA

12. Assistants

13. Teaching Language

Portuguese

14. General Objectives

To raise students' awareness of the importance of Psychometrics as an area of interest that is transversal to the different areas of Psychology and endow them with knowledge for the validation of
scales and tests.

15. Specific Objectives

Promote the development of skills regarding the process of elaboration, validation
and assessment of psychological tests.
Gain familiarity with different types of psychological tests.
Develop the necessary knowledge for application, coding, interpretation and description of psychological tests.

16. Skills to be acquired

Students should:
- Understand what a psychological assessment instrument is;
- Develop the ability to select relevant evidence to assess psychological constructs, based on psychometric criteria;
- Understand psychometric theory and its relation to the construction of psychological tests;
- Use psychometric techniques;
- Carry out, with relative autonomy, psychometric studies of instruments used in psychological assessment.

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

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

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

1. introduction
1.1 Psychometrics: definition, basic concepts
1.2 Psychometrics field of reference
1.3. the relation of Psychometrics with different areas of Psychology
2. Psychological Tests
2.1 Historical aspects about the emergence of tests
2.2 Definition of test as a standardized measuring instrument
2.3 Public opinion and attitudes of psychologists towards tests.
2.4 Advantages of using standardized measuring instruments.
2.5 Advantages of tests in relation to other assessment processes.
2.6 Criticism and objections to tests.
2.7 Classification of tests:
2.7.1. maximum performance tests, typical response tests and projective tests.
2.7.2 Other possible classifications.
2.8. The process of constructing a test
2.9 The process of adapting a test
2.10. The item response theory (IRT) versus classic theory
3. Different types of tests
3.1 General intelligence and specific aptitudes tests
3.2 Personality tests: unidimensional and multidimensional questionnaires and inventories
3.3 Interests and values questionnaires.
3.4. Sensorial and psychomotor tests
4. Metric characteristics of the tests
4.1 Sensitivity
4.1.1 Definition
4.1.2 Factors that can alter the sensitivity of a test
4.1.3 How to perform the sensitivity study
4.2 Reliability
4.2.1 Definition of Reliability
4.2.2 Calculating the reliability coefficient: test-retest method, method of parallel forms (alternative or equivalent), split-half method, and internal consistency method (Cronbach's alpha)
4.3 Validity
4.3.1 Definition of validity
4.3.2.Types of validity: content validity, construct validity (by the exploratory and confirmatory factorial analysis method), criterion validity (predictive validity and concurrent validity)
5. The process of creating Norms
5.1. The importance of norms
5.2 Different types of norms
5.2.1 Norms focused on age / developmental norms: e.g. I.Q. mental age
5.2.2. Frequency-centered norms: quartiles, deciles, percentiles
5.2.3.Norms focused on mean and standard deviation (typical norms) / Intra-group norms: T-scores, Z-scores

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

6. The concepts of standardization and adaptation
7. Ethical and deontological questions posed to the use of psychological tests
8. Rules for administering tests
9. Computerized testing: the new reality!
10. Psychometric study of a scale
11. Consultation and critical analysis of a test manual

19. Assessment Methods

According to the Regulamento Geral de Avaliação da Universidade Lusíada, students must sit:
A) Two written tests

20. Didactic Resources

Powerpoints and databases
Computers and IBM SPSS software
Scientific papers
Recommended bibliography

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

Tests
Scales
Validation
Validity
Reliability

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):	H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, and K. J. Sher (Eds.)		
Title:	APA Handbook of Research Methods in Psychology, Vol 1: Foundations, Planning, Measures, and Psychome		
Edition:		Year:	2012
Local:			
Publisher:	American Psychological Association		

Author(s):	Finch, H., French, B. F. & Immekus, J. C.		
Title:	Applied Psychometrics using SPSS and AMOS		
Edition:		Year:	2016
Local:			
Publisher:	IAP, Information, Age Publishing		

Author(s):	Cohen, R.J., Shneider, W.J., & Tobin,		
Title:	Psychological testing and assessment: An introduction to tests and measurement		
Edition:	10th	Year:	2021
Local:	NY		
Publisher:	McGraw-Hill.		

24. Complementary Bibliography

Author(s):	D. (2021).		
Title:	Modern Psychometrics: the science of psychological assessment		
Edition:	4th Edition	Year:	2021
Local:	NY		
Publisher:	Routledge		

Author(s):	Price, L. R. (2017)		
Title:	Psychometric methods: Theory into practice		
Edition:	1th	Year:	2017
Local:	NY		
Publisher:	Guilford Press.		

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 'PSICOMETRIA': Academic Year 2025/2026
Autor / Author	Prof. Doutor JOÃO JOSÉ DA SILVA PISSARRA
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, 2025

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