UNIVERSIDADE LUSÍADA
LISBOA

Course Unit Program
Projective Geometry

Academic Year 2025/2026

1. Organic Unit

Faculty of Architecture and Arts

2. Course

DESIGN

3. Cycle

1st

4. Course Unit

Projective Geometry (L5005)

5. Scientific Area

6. Curricular Year

1st

7. Type of Curricular Unit / Semester

2nd Semester

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8. Class type and workload (work time)

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

9. ECTS Credits

3,00

10. Scientific Area Coordinator

11. Regent

Prof. Doutor PEDRO JOSÉ GENTIL- HOMEM CORREIA DA SILVA

12. Assistants

13. Teaching Language

Portuguese

14. General Objectives

The main goal of the curricular unit is to equip students with the tools necessary for the correct standardised representation of design projects.

15. Specific Objectives

To know the different projection systems.
To operate systematic and prescriptive representations based on standardised and universal rules and procedures.
To promote rigour in the representation of design work.
To provide project design with unequivocal visual communication.

16. Skills to be acquired

To Master advanced and specific representation tools.
To develop Two and three-dimensional visual communication for objects in space.
To recognise and operate manipulation of representation processes.
To obtain the ability to produce technical drawing.

17. Teaching Methodology

Semester-long theoretical-practical curricular unit with a workload of 2 hours per week. Participatory exposition, drawing and debate, practical exercises according to the syllabus accompanied by the teacher.

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18. Course Unit Program

1. Orthogonal Projections - Monge's Method
2. Axonometry and Isometry
3. Conical projections
3.1 Monofocal
3.2 Bifocal
3.3 Trifocal
4. Sketch, sketch
5. Information drawing (outer and apparent contour lines)
6. Rigorous drawing and technical drawing
6.1 Representation techniques (expression and rigour)
6.2 Representation standards and codes (NP and ISO)
6.3 System of views (European and American methods)
6.4 Invisibility and auxiliary lines
6.5 Representation scales (general and detail);
6.6 Sections and details; Dimensioning; Tolerances;
6.7 Expression of tracings; Support and labelling.
7. Computer-aided design.
7.1 Brief notions on vectorial and raster software functions and applications
7.3 Brief notions on functions of software applications for pagination / composition

19. Assessment Methods

Continuous evaluation.
Attendance, participation and debate in class.
Exercises carried out in class.
Two written tests.
Other work considered relevant.
Final attendance test.
Exam

20. Didactic Resources

Participatory lectures.
Slide projections.
Multimedia resources.
Internet.

21. Sustainability Objectives

The course aims to fulfil the following Sustainable Development Goals for 2030 listed by the United Nations:
Goal 4. Quality Education: providing programme content that ensures quality professional performance.
Goal 8: Decent Work and Economic Growth: contributing to the training of better professionals with a critical sense capable of recognising and implementing good work practices that lead to economic growth.

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22. Keywords

Projective Geometry
Representation systems
Rigorous Drawing
Technical Drawing
Standardisation

23. Main Bibliography

Author(s): Frederick G. et al.
Title: Technical drawing.
Edition: Year: 1958
Local: New York
Publisher: Macmillan

Author(s): Cunha, L.
Title: Desenho Técnico
Edition: Year: 2003
Local: Lisboa
Publisher: Fundação Calouste Gulbenkian

Author(s): Silva, A, et. Al .(
Title: Desenho Técnico Moderno.
Edition: Year: 2002
Local: Lisboa
Publisher: Libel

24. Complementary Bibliography

Author(s): Adler, D. ed.
Title: Metric Handbook: Planning and Design Data.
Edition: Year: 1999
Local: Oxford
Publisher: . Architectural Press.

Author(s): Ribeiro, C.
Title: Geometria Projectiva- conceitos, metodologias e Aplicações
Edition: Year: 1991
Local: Lisboa
Publisher: Europress

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