UNIVERSIDADE LUSÍADA
LISBOA

Course Unit Program
Projective Geometry

Academic Year 2023/2024

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

Profª Doutora Arqtª MARIA LUISA ALVES DE PAIVA MENESES DE SEQUEIRA

12. Assistants

13. Teaching Language

Portuguese

14. General Objectives

The curricular unit of geometry, lasting 1 semester, is taught in 4 hours of theory and practice per week. It is intended that the student develop the capacity for geometric action, such as representation on two-dimensional supports, using representation systems based on universal codes, in their projectual and projective component.

15. Specific Objectives

Specifically, it is intended to address conical perspective as an abstract analysis of knowing how to see, in order to develop the ability to predict and evaluate objects through the representation of rigorous perspective. It is intended, therefore, that the student develops abstract reasoning, realizing the representation of objects in the use of representation systems, as support for the conceptual path of an object, essential in the creative act in architecture.

16. Skills to be acquired

The objectives described are intended to give the student the ability to acquire competence in the creation of imagined objects, as well as awareness of the analysis of the mental process of conception, with the abstract and rigorous representation of an object. It should also develop the ability to integrate procedural strategies and methodologies, whether in formal syntheses and articulations, or in the application of operational technical knowledge.

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17. Teaching Methodology

Communication of the subject, through oral exposition and follow-up of the drawing having as support the white-board in the execution of practical exercises based on the theoretical subject taught, with follow-up of the professor, concerning to the sedimentation of knowledge and knowledge acquired.
There will be use of didactic multimedia support available to the teacher.

18. Course Unit Program

1. Perspective:
1.1 - Point alphabet;
1.2 - Alphabet of the line;
1.3 - Alphabet of the plan;
1.4 - Vanishing points and vanishing lines of the plane;
2. Representation of solids:
2.1 - Use of cubic meshes with a vanishing point;
2.2 - Use of cubic meshes with two vanishing points;
2.3 - Use of cubic meshes with three vanishing points;
2.4 - Subdivision of segments into proportional parts: Thales' theorem;
3. Theory of shadows applied to perspective; axonometry and orthogonal projection:
3.1 - Shadow, depth reading index, depth;
3.2 - Light, nature of the light source;
3.3 - Direction of sunlight, azimuth and height of the sun;
3.4 - Own shadow;
3.5 - Projected shadow;
3.6 - Self-projected shadow;
4. Applications and exercises.

19. Assessment Methods

In the theoretical/practical scope, the assessment will focus on two tests to assess knowledge and evaluate the material conveyed, several practical exercises carried out in class (individual or in groups), the presence and participation of students in classes, as well as all additional data obtained and considered valid during the continuous evaluation.

20. Didactic Resources

a) Supplementary bibliography available;
b) Practical exercises from previous exams and frequencies in preparation for the written tests;
c) Manuals available on the Internet;
d) Lectures and conferences.

21. Sustainability Objectives

1. Ensure equal access to quality technical, professional and cultural education.
2. Substantially increase the number of young people and adults with relevant qualifications, including technical and professional skills, for employment, decent work and entrepreneurship.
3. Guarantee equal opportunities in university education, including for people in vulnerable situations.
4. Promoting the gradual dematerialization of the teaching/learning process.

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22. Keywords

Point
Straight
Plan
Representation
Perspective
Rebatement
Axle
Geometry
Shadows

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23. Main Bibliography

Author(s):	IZQUIERDO ASENSI, F.		
Title:	Geometría Descriptiva I e II		
Edition:	27.ª ed.	Year:	2013
Local:	Madrid		
Publisher:	IZQUIERDO EDITORES		

Author(s):	CHING, Francis		
Title:	Design Drawing		
Edition:	4.ª	Year:	2010
Local:	New Jersey		
Publisher:	John Willey & Sons		

Author(s):	WHITE, Gwen		
Title:	Perspectiva: para artistas, arquitectos e desenhadores		
Edition:	2.ª ed.	Year:	1994
Local:	s.l.		
Publisher:	Editorial Presença		

24. Complementary Bibliography

Author(s):	GILL, Robert W.		
Title:	Perspectiva Criativa		
Edition:	1.ª ed.	Year:	2008
Local:	Lisboa		
Publisher:	Editorial Presença		

Author(s):	NANNONI, Dante		
Title:	Geometria, Prospectiva, Progetto		
Edition:	2.ª ed.	Year:	1994
Local:	Bolonha		
Publisher:	Cappelli Editore		

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Título / Title	Course Unit Program 'GEOMETRIA PROJECTIVA': Academic Year 2023/2024
Autor / Author	Profª Doutora Arqtª MARIA LUISA ALVES DE PAIVA MENESES DE SEQUEIRA
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