UNIVERSIDADE LUSÍADA
LISBOA

Course Unit Program
Technical Infrastructures

Academic Year 2026/2027

1. Organic Unit

Faculty of Architecture and Arts

2. Course

Architecture

3. Cycle

2nd

4. Course Unit

Technical Infrastructures (01336)

5. Scientific Area

6. Curricular Year

4th

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	60,00
Tutorial Guidance:	

9. ECTS Credits

3,50

10. Scientific Area Coordinator

Profª Doutora Arqtª MARIA DE FATIMA SILVA

11. Regent

12. Assistants

13. Teaching Language

Portuguese

14. General Objectives

- To understand the relationship between the execution project and the building.
- To understand the Architect's role as coordinator of all projects and the need to reconcile all Engineering specialties, providing the necessary spaces, conduits, ducts, and reserves.
-To understand the relationship between constructive aspects and environmental comfort with project options.
-Introduce new devices and facilities that promote sustainability and response to climate change

15. Specific Objectives

-Learning to interpret and design building execution projects and the coordination of specialties with the consequent study and application of the necessary technical installations.
-To know the applicable regulations that condition this type of projects and installations.
-Learning to evaluate the problems of environmental comfort, with the development of specific solutions in the project.

16. Skills to be acquired

-Learning to interpret and apply the main projects of networks and installations present in a building and relate them to architecture, namely: Structures; Ventilation, water and sewage networks; Electricity networks and Accessibilities
-Learning to use the technical drawing rules and the representation codes of each of the installations/specialties.

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17. Teaching Methodology

This curricular unit comprises theoretical and practical classes. Theoretical classes are given by the coordinator of the curricular unit through audiovisual means. Practical classes are taught by framing practical works and relating them to the project curricular unit.

18. Course Unit Program

1-Theoretical classes
The following topics will be covered in theoretical classes:
-Accessibility Projects and Legislation associated with reduced mobility
- Structural Projects
- Water supply, ventilation, and smoke removal networks.
- Sewer networks
- Gas networks and technical spaces in IS and Kitchens.
- Drainage of rainwater
- Thermal insulation/thermal regulation.
- Basement parking.
- The architectural execution project
2- Practical classes:
In practical classes, the program focuses on the execution project of a small building with the consequent study and application in wetlands of the following installations and networks:
- water supply, ventilation, and smoke extraction networks
- sewage network
- the network of electrical installations
The execution project for this building will also include the rainwater drainage network and a definition of the materials applied

19. Assessment Methods

The curricular unit of Technical Installations is a semester unit, with two components, one practical and the other theoretical. The evaluation of the curricular unit is carried out on a continuous basis, that is, the student is evaluated by the interest he demonstrates in the subjects taught, his participation in classes, and respective attendance, and through all the work and evaluation instruments carried out throughout the year: sketches, theoretical tests, and practical projects

20. Didactic Resources

Slides and Powerpoint
videos
Moodle
UL Material Archive
Construction site trips

21. Sustainability Objectives

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The curricular unit aims to contribute to sustainability in the following general areas:
- Promoting the gradual dematerialization of the teaching/learning process.
- Promote and facilitate access to research and clean technologies.
- Recycle, reduce and recover, whenever possible, materials and other consumables
- Promote the recycling of model materials

22. Keywords

Project
Execution
installations
Specialties
Coordination
Tectonics

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23. Main Bibliography

Author(s): SILVA, Paulo Brito,,
Title: Desenho técnico em arquitetura e design
Edition: Year: 2015
Local: lisboa
Publisher: Universidade Lusíada
ISBN Code:

Author(s): Allen, Edward
Title: Como funciona un edificio principios elementales
Edition: Year: 1987
Local: Barcelona
Publisher: Gustavo Gili
ISBN Code:

Author(s): Lopes, Carlos Nuno Lacerda
Title: Construção 2
Edition: Year: 2015
Local: Porto
Publisher: Centro de Inovação em Arquitectura e Modos de Habitar FAUP
ISBN Code:

24. Complementary Bibliography

Author(s): Autor(es): PINTO, Alberto Reaes, e outros
Title: Contribuições para a construção sustentável
Edition: Year:
Local: Lisboa
Publisher: Universidade Lusíada Editora,
ISBN Code:

Author(s): Veiga, Ângela Maria Pereira.
Title: Projetos de Instalações em Edifícios
Edition: teses Year: 10
Local: Coimbra
Publisher: ISEC - Instituto Superior de Engenharia de Coimbra
ISBN Code:

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Ficha técnica MIP / MIP Datasheet	
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