



UNIVERSIDADE LUSÍADA
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Course Unit Program
Systems Analysis

Academic Year 2024/2025

1. Organic Unit

Faculty of Business and Economic Sciences

2. Course

Computer Engineering

3. Cycle

1st

4. Course Unit

Systems Analysis (L9003)

5. Scientific Area

6. Curricular Year

1st

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 JOÃO JOSÉ AMARO AMADOR LEITÃO

12. Assistants

13. Teaching Language

Portuguese

14. General Objectives

O1 - Know the fundamental concepts of UML and Modeling.

O2 - Understand the use of Open Standard, Graphical Notation for: specification, visualization, construction and documentation of software.

O3 - Develop a language to design the software in detail throughout its life cycle.

O4 - Know object modelling.

O5 - Learn dynamic modelling.

15. Specific Objectives

O1 - Know in detail the fundamental concepts of UML and Modeling and their practical application.

O2 - Understand in detail the use of Open Standard, Graphical Notation.

O3 - Develop a language to design the software in detail in its life cycle based on practical examples.

O4 - Know object modeling and its implementation.

O5 - Learn dynamic modeling through concrete examples.

16. Skills to be acquired

Know how to model with the UML language.



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17. Teaching Methodology

Practical theoretical classes.

The development will be through exposure, exercises, discussion and student participation.

The formative assessment methodologies, translated into the analysis of questions and the resolution of practical exercises, guarantee that the defined objectives, in terms of theoretical understanding and practical abilities, will be achieved by the students who participate in these activities.

18. Course Unit Program

1. Definition of UML.
2. Following UML best practices.
3. Objects and Classes.
4. Relationship of objects that work together.
5. Use of super classes: generalization and inheritance.
6. Organization of classes of diagrams.
7. Use and construction of diagrams.
8. Relationship between cases.
9. Functional modeling.
10. Capture scenarios from sequential diagrams.
11. Workflows with diagram activities.
12. Collaboration between objects.
13. Patterns of behavior.
14. Implementation of system components.
15. Common Modeling Mistakes.
16. Useful Sites for UML.
17. Tools for UML.
18. Ways to use UML diagrams.

19. Assessment Methods

Tests
practical works

20. Didactic Resources

Powerpoint presentations
Computers
Modelio (modeling software)

21. Sustainability Objectives

4. Quality Education
5. Gender Equality
9. Industry, Innovation and Infrastructure

22. Keywords

UML
Modeling



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23. Main Bibliography

Author(s): Fowler Martin
Title: UML Distilled: A Brief Guide to the Standard Object Modeling Language
Edition: First Year: 2003
Local: NY
Publisher: Addison Wesley

Author(s): Russ Miles
Title: Learning UML 2.0: A Pragmatic Introduction to UML
Edition: First Year: 2006
Local: London
Publisher: O'Reilly Media

Author(s): Dan Pilone
Title: UML 2.0 in a Nutshell: A Desktop Quick Reference
Edition: Second Year: 2005
Local: NY
Publisher: O'Reilly Media

24. Complementary Bibliography

Author(s): Dan Pilone
Title: UML 2.0 Pocket Reference: UML Syntax and Usage
Edition: First Year: 2006
Local: London
Publisher: O'Reilly Media

Author(s): Van Der Heyde
Title: UML 2.5 - Iniciación, ejemplos y ejercicios corregidos
Edition: Primeira Year: 2020
Local: Madrid
Publisher: Ediciones ENI



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Ficha técnica MIP / MIP Datasheet	
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Autor / Author	Prof. Doutor JOÃO JOSÉ AMARO AMADOR LEITÃO
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