



UNIVERSIDADE LUSÍADA
LISBOA

Course Unit Program
Computation Theory

Academic Year 2023/2024

1. Organic Unit

Faculty of Business and Economic Sciences

2. Course

Computer Engineering

3. Cycle

1st

4. Course Unit

Computation Theory (L9030)

5. Scientific Area

6. Curricular Year

3rd

7. Type of Curricular Unit / Semester

1st Semester



UNIVERSIDADE LUSÍADA
LISBOA

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. Doutora MARIA INÊS VASCONCELLOS FURTADO

12. Assistants

13. Teaching Language

Portuguese

14. General Objectives

Develop students' knowledge in the area of Theory of Computation. Explain the various models and ideas that provide a foundation for the theoretical foundations of computational constraints

15. Specific Objectives

Present the limitations imposed on computation in terms of decidability and complexity, and their foundations through appropriate models.

16. Skills to be acquired

Know the hierarchy between the various models presented. Understand the operation of finite state machines, context-free languages and Turing machines. Understand the concepts of decidability and complexity. Have the ability to continue the study of these subjects in a more specific way. Apply the concepts.

17. Teaching Methodology

Introduction to the theoretical material followed by the analysis and commentary of significant examples. Submission of work to be done autonomously by students to complement the lectures.

18. Course Unit Program



UNIVERSIDADE LUSÍADA
LISBOA

19. Assessment Methods

Assiduity and level of student participation. Completion of worksheets, two assessment tests and a project.

20. Didactic Resources

21. Sustainability Objectives

22. Keywords

Theory of computation
Automata
Decidability
Complexity



UNIVERSIDADE LUSÍADA
LISBOA

23. Main Bibliography

Author(s): Michael Sipser
Title: Introduction to the Theory of Computation
Edition: 2 Year: 2005
Local:
Publisher: Course Technology

Author(s): Wayne Goddard
Title: Introducing the Theory of Computation
Edition: 1 Year: 2008
Local:
Publisher: Jones & Bartlett Publishers

Author(s): Hopcroft, John E.
Title: Introdução à teoria de autômatos, linguagens e computação
Edition: Year: 2003
Local:
Publisher: Ed Campus

24. Complementary Bibliography

Author(s): C. H. Papadimitriou, H. R. Lewis.
Title: Elements of the Theory of Computation
Edition: Year:
Local:
Publisher: Prentice Hall

Author(s):
Title:
Edition: Year:
Local:
Publisher:



UNIVERSIDADE LUSÍADA
LISBOA

Ficha técnica MIP / MIP Datasheet	
Título / Title	Course Unit Program 'TEORIA DA COMPUTAÇÃO': Academic Year 2023/2024
Autor / Author	Prof. Doutora MARIA INÊS VASCONCELLOS FURTADO
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, 2024	