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# Introduction to Digital Systems

## Course Presentation

2023/2024

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# Introduction to Digital Systems

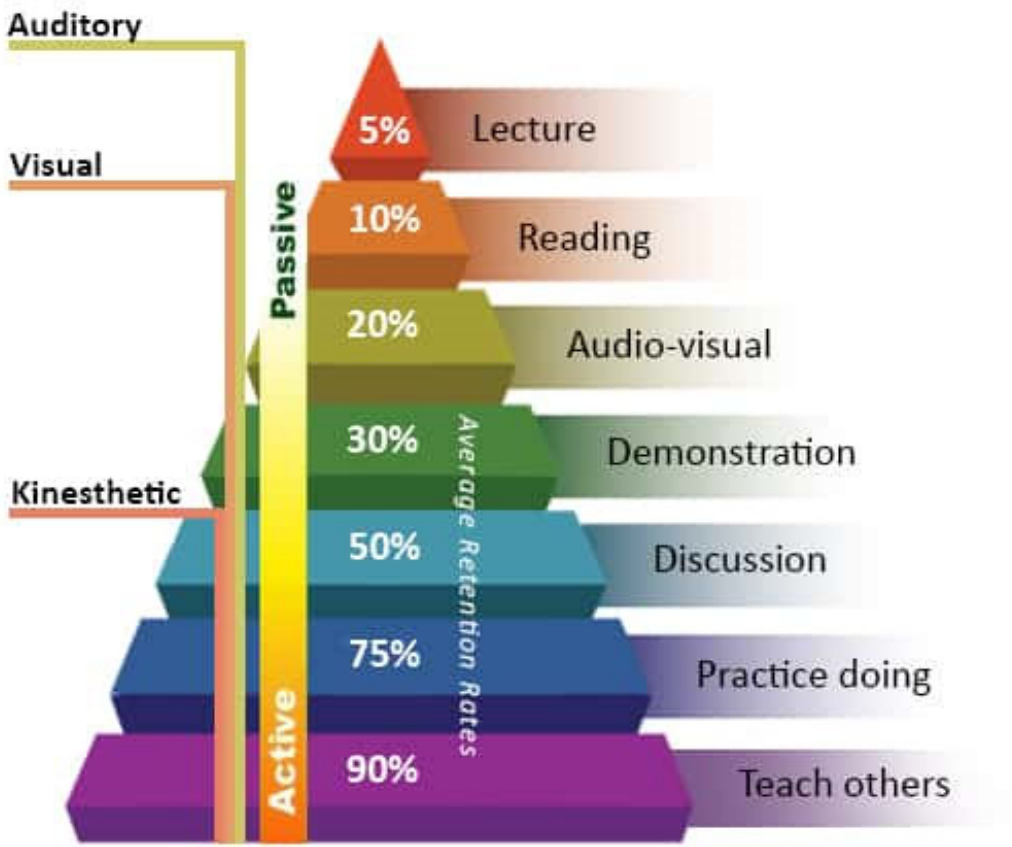
- Scientific area
  - Architecture of computing systems
- Courses
  - Computer and Informatics Engineering, Electrical and Computer Engineering, Industrial Automation Engineering
- Contact hours
  - 2h lectures + 2h labs
- ECTS credits
  - 6
- Code
  - 40332

The number of ECTS credits assigned to a course **does not indicate how many hours of classes you will have**. Instead, it **indicates the expected number of hours to study**.

**1 ECTS = 25-30 hours of study. 6 ECTS = 150-180 hours of study.**
The semester has ~ 15 weeks => you must study at least **10 hours per week**.

These hours include: lectures, labs, book reading, exercise solving, exam study, etc.

# Learning Pyramid




Adapted from the NTL Institute of Applied Behavioral Science Learning Pyramid

Image source: https://www.educationcorner.com/the-learning-pyramid.html

# Assessment

- Final classification is obtained from two mutually exclusive alternatives:
  - **Continuous assessment** (default) during the TP and lab classes (a personal laptop computer with simulation software is required):
    - 3 TP tests (20%, 20%, 20%) + 2 simulation problems (15%, 15%) + active participation in TP classes (10%)
  - **Final exam**: TP test + simulation problems
- The assessment method is **continuous** by default but might be altered to **final** during the first two weeks of the semester
- For approval, the total weighted average must be ≥ 9.5
- No minimal grades on assessment components

# Repeaters

- Positive grades obtained in the various assessment components in the academic year 2022/2023 are not maintained.

# Student Absences

- Attendance at lectures is strongly encouraged, but is not considered compulsory. There will be **no record of absences in TP classes**. Student presence might be registered informally.
- In ordinary regime, the **practical classes are of compulsory attendance**.
- In accordance with the current study regulations, all students who, not having a working student status, inexcusably miss **more than 20% of practical classes**, will be **reproved** automatically and will not be allowed to participate in subsequent evaluations during the current academic year.
- The proper documentation of the illness, injury, or other reason must be submitted to DETI secretariat within the stated deadlines. In parallel, and as early as possible, the student should send a copy of the justification to the respective teacher.

# Working Students

- Working students who have not been able to attend regular classes during the semester, will have their final exam(s) during the exam season, in January.

# Teachers

- Leader:
  - Iouliia Skliarova
- Lectures:
  - Augusto Silva, Iouliia Skliarova
- Labs:
  - Adão Silva, António Navarro, Augusto Silva, José Luis Cura, Manuel Violas

# Student Consultation

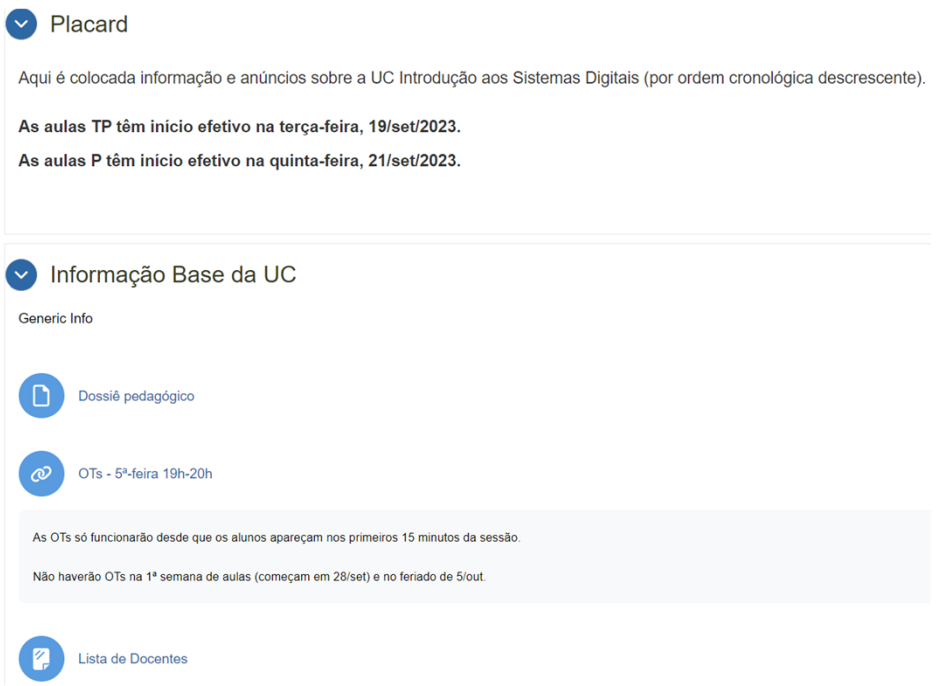
- Mode: distance learning (*zoom*)
- Students are strongly invited to contact their practical class teachers for explanations or other support for self study.

# Bibliography


- J.F. Wakerly, *Digital design: Principles and Practices*, 4th ed, Prentice-Hall, 2006 / 5th edition, Pearson, 2018
- J. Deschamps, E. Valderrama, L. Téres, *Digital Systems, from Logic Gates to Processors*, Springer, 2017
- M. Mano, M. Ciletti, *Digital Design*, 4th ed, Prentice-Hall, 2006
- T. Floyd, *Sistemas Digitais: fundamentos e aplicações*, 9ª edição, Bookman, 2007
- A. Amaral, *Eletrónica Digital, Fundamentos e Projeto*, Edições Sílabo, 2019
- M. Dias, *Sistemas Digitais, Princípios e Prática*, 3ª ed, FCA, 2013

# Course website: elearning.ua.pt

- Objectives
- Support materials for theoretical classes
- Lab guides
- Teachers' contacts
- Course software
- Assessment
- Bibliography
- Etc.




**Full reading of the teaching dossier is mandatory!**

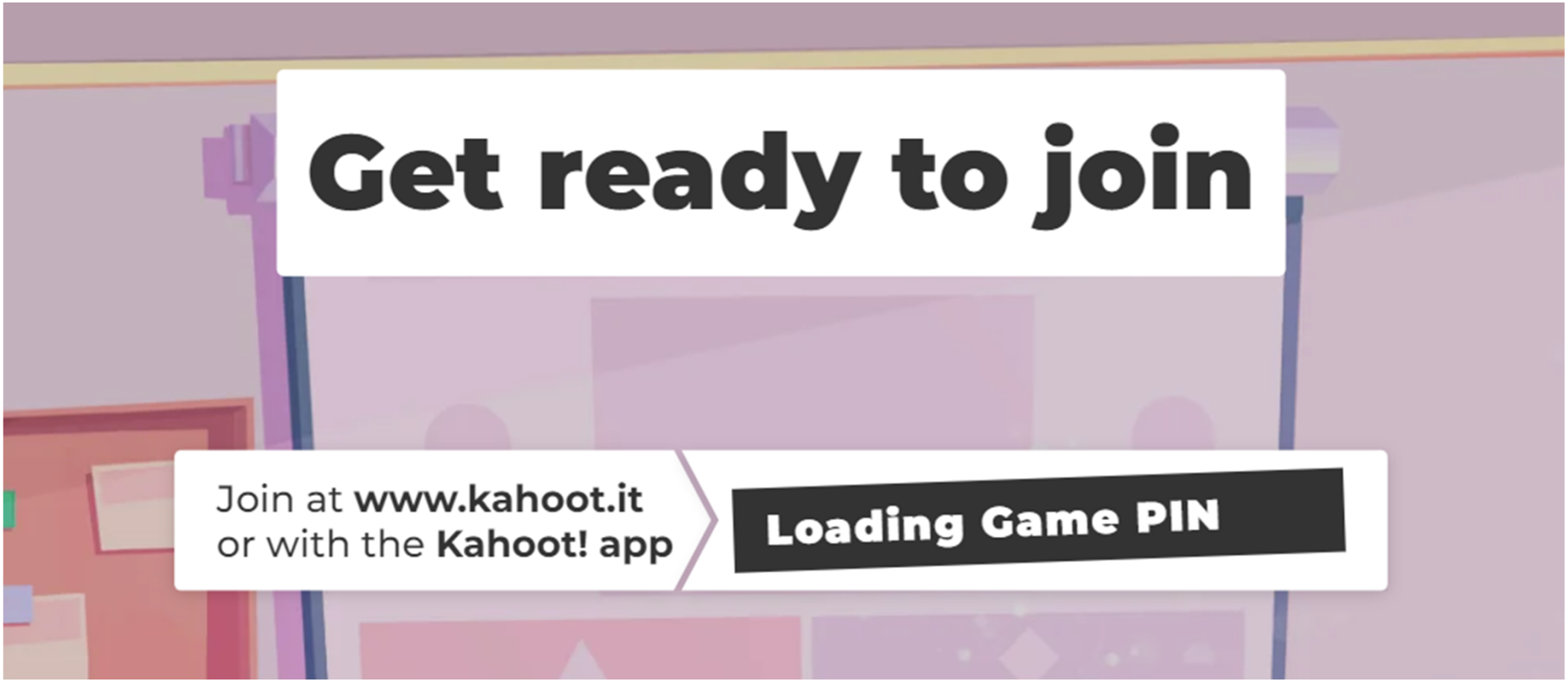
# Welcome to the world of digital design!

Have good time studying!

Remember:

6 ECTS = 4h of classes + 6h of homework

# Test 1


Get ready to join
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