

Digital electronics

Introducing

Description

Numerical representation of information (base 2, binary coding, signed numbers, hexadecimal)
Basic digital components: diodes, Zener, LED, trigger, level adaptation circuits
Combinational logic: TTL logic gates, Fan-In, Fan-Out
Synchronous counters, reset circuits
Oscillators (ICM7555), LED blinking
Sampling and analog-to-digital conversion
Prototyping and component selection (BOM, datasheets)

Objectives

Learning Objectives
Acquire fundamentals of digital electronics.
Understand data representation and analog-to-digital conversion.
Design and size logical circuits and digital interfaces.
Explore the operation of digital integrated circuits.
Learning Outcomes
Represent and manipulate digital signals.
Design digital circuit architectures.
Interpret component datasheets.
Analyze and size circuits based on specifications.

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en

continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse