

Device modeling and digital circuits architectures (reconfigurable computing)



ECTS
5 crédits



Hourly volume
55h

Introducing

Description

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

- the electronic device and digital electronic systems modelling
- the issue of the integration of electronic circuits
- the design and performance optimisation of digital architectures especially in frequency and power consumption. Ultra low power architectures will be studied for sustainable development.
- the technologies for green computing
- reconfigurable computing using FPGAs
- digital architectures dedicated to embedded Artificial Intelligence (AI)

The student will be able to understand the models of main electronics active devices and digital complex architectures and their optimisation for sustainable development. The student will be prepared for the future technological breakout in their professional life.

Necessary prerequisites

Electrical circuits, electrostatics, analog and digital electronics, computer engineering

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