

FPGA technology



Component

École Nationale
Supérieure
d'Électrotechnique
d'Électronique
d'Informatique
d'Hydraulique
et des
Télécommunications

In brief

- > **Ametys Code:** N8EE03C
- > **Open to exchange students:** Yes

Presentation

Objectives

Understand the differences between an ASIC and an FPGA.

Describe and use the specialised computing resources available on an FPGA.

Perform the synthesis and implementation process for simple arithmetic operations on the computing structures available on an FPGA.

Description

This course provides a detailed definition of the FPGA (Field Programmable Gate Array) family of components. First, the advantages of these components over ASICs are described. Then, the various resources (basic and advanced) available in an FPGA are detailed. Finally, the operation of synthesis tools is explained through a few simple examples.

Pre-requisites

Logic system design (UE N5EE03)

Digital electronics (UE N7EE08)

Synchronous design of digital systems (N8EE03A)