

Combinatorial and sequential logic



Component

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



Semester

Printemps

In brief

> **Ametys Code:** N6AE03A

> **Open to exchange students:** No

Presentation

Objectives

- Know how to convert numbers in the binary system (signed and unsigned numbers)
- Know how to use the main functions of combinational logic (multiplexer, comparator, decoder, etc.) to design and implement combinational functions.
- Know how to define a synchronous sequential system.
- Know how to use state diagram and transition table tools to design and implement basic synchronous sequential functions (counters, shift registers, etc.).
- Know how to use state diagram and transition table tools to design and implement state machines (Moore machines).
- Know how to write the VHDL description of these combinatorial and sequential systems.

Description

Organization:

- Work in groups of 4 to 5 students during lectures and tutorials
- Work in pairs during practicals and projects