Software and hardware architecture for computer systems

ECTS
6 crédits

Hourly volume
65h

Introducing

Objectives

At the end of this module, the student will have understood
and be able to explain (main concepts):
- Manipulation of with various type automata, language
theory, parsers, compilers;
- Development of a compiler, management and allocation
of a program memory;
- Introduction to quantic computing
- Specification of hardware components and architectures
in a high-level language;
- Taking Into account the specific material constraints for
embedded systems with limited resources.
-architectures and technologies for green computing, green software for sustainable development
The student will be able to:
- Create parsers and compilers while considering constraints from the environment (embedded or not).
- Understand and design processor architectures
- Select a processor architecture adapted to the software
application and the environment.
- Specify a hardware system in a concurrent language used widely in industry, VHDL and implement this system
on an FPGA.

Necessary prerequisites

C programming, computer architecture

Practical info

Location(s)

Toulouse