





COMPUTER_S5 Fall Semester Undergraduate/Junior	Digital systems & Computer	5 credits Lab: 30% Computer exam (2h): 30% Final exam (2h): 40%
This course aims at explaining the theoretical and practical concepts in the area of digital processing architectures. Theoretical notions are related to logics, digital representations, algorithmics and hardware architecture synthesis that allow their implementation. Practical notions are dedicated to the learning of programming language such as C language (algorithms) and VHDL (hardware description).		
Prerequisite: None		

DITN_1501	C Language	Language  
Lecture: 6	Tutorials: 28 (BYOD)	
This course deals with procedural programming concepts, addressing basic algorithmic notions and implementing them in C language. Hypothesis on hardware architecture linked to C language are also discussed. Basic development notions on microcontroller are given.		
<ul style="list-style-type: none"> - Understanding software and hardware roles inside a computer - Basic algorithms (test, loop) - C language, library conception - Memory management - Programming a microcontroller 		

DITN_1502	Digital electronics I	Language  
Lecture: 10	Tutorials: 10	Lab work: 16
This course deals with the basic concepts of digital systems. Combinatory logic, counters and logic circuit conception using VHDL are presented. Basic notions in reconfigurable circuits are also discussed. Systemic conception is developed.		
<ul style="list-style-type: none"> - Combinatory systems - Reconfigurable architectures and development process associated - Average-complexity functions synthesis using combinatory structures - Latches, counters - Sequential logic time notions 		