# LELEC2570

*2010-2011*

# Implementation of digital electronic systems

| 5.0 credits | 30.0 h + 30.0 h | 1q |
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| Teacher(s) : | Legat Jean-Didier ; |
| Language : | Français |
| Place of the course | Louvain-la-Neuve |
| Main themes : | Identical to the contents of the course |
| Aims : | The aim of the course is to study in-depth advanced digital integrated circuits and digital electronics systems. This course will also introduce reconfigurable architectures and parallel processor architectures.<br>*The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".* |
| Content : | 1) Advanced digital integrated circuits<br>- precharged circuits (Domino Logic, No-Race, TSPC)<br>- differentials circuits<br>- arithmetic circuits (adders, multipliers, PLA)<br>- test of digital circuits<br>2) Reconfigurable architectures<br>- PLD, CPLD, FPGA<br>- hardware-software codesign<br>- simulation and synthesis : VHDL and SystemC<br>3) Processor architectures<br>- risk and pipelined architectures<br>- parallel architectures (VLIW, SIMD, superscalar)<br>-DSP architectures |
| Other infos : | Prerequisite :<br>ELEC2531 : Electronics III<br><br>Assessment method :<br>Works performed during the semester<br>Based on small projects done by the students (VHDL, SystemC, Eldo simulations) on on a written examination<br><br>Support :<br>Copy of the slides and a dedicated website |
| Cycle and year of study : | > Master [120] in Electrical Engineering<br>> Master [120] in Electro-mechanical Engineering |
| Faculty or entity in charge: | ELEC |