

5.0 credits	75.0 h	1+2q
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Teacher(s) :	Legat Jean-Didier ; Sobieski Piotr ; Vandendorpe Luc ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	The project consists in designing, implementing on an appropriate hardware, simulating and testing a telecommunication system
Aims :	<p>After this course the students will be able to :</p> <ul style="list-style-type: none"> <li>- design, simulate and test a telecommunication system</li> <li>- design, simulate and test an electronic system based on FPGA, a microcontroller and an analog part used for implementing the telecommunication system</li> </ul> <p><i>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".</i></p>
Content :	<p>Teaching methods :</p> <ul style="list-style-type: none"> <li>Design a telecommunication system on the basis of given specifications</li> <li>Modelling and simulation of the system</li> <li>Design, synthesis and simulation of a digital electronic system including FSM, counters, registers, interface</li> <li>Implementation of the system in a FPGA</li> <li>Use and programming of a microcontroller</li> <li>Design and spice simulation of the analog part of the telecommunication system</li> <li>Realization and test of the whole system</li> </ul>
Other infos :	<p>Prerequisites :</p> <p>Students take simultaneously the course ELEC2531 "Electronique II : circuits électroniques digitaux", and :</p> <ul style="list-style-type: none"> <li>- the course ELEC2795 "Rayonnement et systèmes de télécommunication" if they are in the Master in electrical engineering,</li> <li>- the course ELEC2660 "Electronique de puissance", if they are in the Master in electromechanical engineering, option mechatronics.</li> </ul> <p>These courses are taught in parallel with the project and in close cooperation with it.</p> <p>Assessment :</p> <p>The evaluation will be based on various elements : the work during the year, the final demonstration at the end of the project, the final report, the final presentation. No other presentation during the examination periods.</p> <p>Observation :</p> <p>This project is carried out by groups of 3 to 4 students</p>
Cycle and year of study :	<p><a href="#">&gt; Master [120] in Electrical Engineering</a></p> <p><a href="#">&gt; Master [120] in Electro-mechanical Engineering</a></p> <p><a href="#">&gt; Master [120] in Biomedical Engineering</a></p>
Faculty or entity in charge:	ELEC