

5.0 credits	30.0 h + 30.0 h	1q
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Teacher(s) :	Francis Laurent ; Flandre Denis ; Bayot Vincent (coordinator) ; Raskin Jean-Pierre ;
Language :	Anglais
Place of the course	Louvain-la-Neuve
Inline resources:	http://icampus.uclouvain.be/claroline/course/index.php?cid=LELEC2550
Main themes :	Training on special electronic devices. At the R& mp;D level, topics will change every year to track last developments, in phase with students interests for specific devices. Examples : exotic silicon or SOI devices, photovoltaics, SiGe, organic and molecular devices, optoelectronics, MEMs-NEMs, RF devices (HEMT, ballistic), RTD, SET, sensors...
Aims :	With respect to the AA referring system defined for the Master in Electrical Engineering, the course contributes to the development, mastery and assessment of the following skills : -- AA1.1 -- AA2.1, AA2.3, AA2.5 -- AA3.1, AA3.3 -- AA4.1, AA4.2, AA4.3, AA4.4 -- AA5.3, AA5.4, AA5.5, AA5.6 -- AA6.1, AA6.2, AA6.3 At the end of this course, students will be able to : -- Understand the physics underlying special electronic devices (R& mp;D in academic and indutry labs). -- Make extended bibliographic searches, critically analyse available informations and synthetize them. -- Present their work in written and oral forms. <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>
Evaluation methods :	Report (66%) et oral presentation (33%) of team work
Teaching methods :	<ul style="list-style-type: none"> - Group or individual work on a topic chosen by the students, and accepted by the course coordinator, in the field of special electronic devices (bibliography, experiments, simulations, and any means useful for in depth understanding of the choosen devices). - Close interactions (individuals or groups) with the coordinator to solve faced problems (topic definition, understanding, bibliography, writing,... (see below)). - Interactions with researchers in UCL and outside UCL. - Training to the writing of a scientific review article in english. A schedule is followed along the semester (informations, plan, centent, writing) - Oral presentation - Publication on the Web (if wished by the students).
Content :	Devices are choosen by the students, in agreement with the coordinator.
Bibliography :	Web, scientific journals, books
Other infos :	Background in physics of electronic devices (e.g. LELEC1330)
Faculty or entity in charge:	ELEC

Programmes / formations proposant cette unité d'enseignement (UE)				
Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Master [120] in Electrical Engineering	ELEC2M	5	-	
Master [120] in Physical Engineering	FYAP2M	5	-	
Master [120] in Chemical and Materials Engineering	KIMA2M	5	-	