



5 credits

30.0 h + 30.0 h

Q1

Teacher(s)	Bayot Vincent coordinator ;Flandre Denis ;Francis Laurent ;Raskin Jean-Pierre ;
Language :	English
Place of the course	Louvain-la-Neuve
Main themes	<p>Training on special electronic devices. At the R&D level, topics will change every year to track last developments, in phase with students interests for specific devices.</p> <p>Examples : exotic silicon or SOI devices, photovoltaïcs, SiGe, organic and molecular devices, optoelectronics, MEMs-NEMs, RF devices (HEMT, ballistic), RTD, SET, sensors...</p>
Aims	<p>In consideration of the reference table AA of the program "master in electrical engineering ", this course contributes to the development, to the acquisition and to the evaluation of the following experiences of learning:</p> <ul style="list-style-type: none"> • 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 <p>At the end of this course, students will be able to :</p> <ul style="list-style-type: none"> • Understand the physics underlying special electronic devices (R&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. <p>-----</p> <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>
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.
Inline resources	https://moodleucl.uclouvain.be/course/search.php?search=lelec2550
Bibliography	Recherches bibliographiques sur le web et dans des revues scientifiques, livres
Other infos	Background in physics of electronic devices (e.g. LELEC1330)
Faculty or entity in charge	ELEC

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Electrical Engineering	ELEC2M	5		
Master [120] in Chemical and Materials Engineering	KIMA2M	5		
Master [120] in Physical Engineering	FYAP2M	5		