LELEC2590

2012-2013

Seminars in electronics and communications

3.0 credits	30.0 h	2q

Teacher(s) :	Huynen Isabelle ; Louveaux Jérôme ; Flandre Denis (coordinator) ;
Language :	Anglais
Place of the course	Louvain-la-Neuve
Main themes :	Identical to description
Aims :	The aim of this course is to offer to students the opportunity to open their mind towards domains not given during their engineering studies through the courses in microelectronics, microwaves, and telecommunications. The proposed seminar titles will be related to themost recent research subjects and industrial activities in the field of the electrical engineering. At the end of the seminars series, debates and personal work, the students will have a global view on the most recent develoments in their domain of expertise, i.e., electrical engineering. They will be able to analyze the evolution of these technologies and products, and complete their view with the most recent published scientific articles. *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 :	Content The main topic of the proposed seminars will be defined each year and then it could change depending on the progresses of the related fields in electrical engineering. The discussions will be strongly focused on the present industrial problems and research thematics in order to bring solutions to the industrial needs. This year the topic is "Wireless micro sensors and actuators" - micro and nanofabrication of micro sensors and actuators (MEMS) in CMOS technology - packaging and interconnection sensors-electronics - integration of antennas on semiconductor substrates - energy sources, sensors power supply - system aspects : sensors/actuators - electronic circuits - communication - network of wireless sensors : communication protocoles Methods Series of seminars followed by debates between specialists and students. Work in group on a subject chosen by the students and in agreement with the teachers and with the specific topic of the course (bibliography, experiments, simulations, etc...). Frequent interactions with teachers (individual or collective -course) to solve the faced problems. Interactions with researchers of the laboratories (and collaborations outside UCL). Oral presentations and writing of a report (publication on the WEB).
Other infos :	Prerequisits Basic formation in electronics, microwaves and telecommunications Evaluation Evaluation based on a personal work, on a subject approved by the teachers, oral presentation and writing of a report (about 15 to 20 pages written as a journal article).
Cycle and year of study :	> Master [120] in Electrical Engineering > Master [120] in Electro-mechanical Engineering
Faculty or entity in charge:	ELEC