# LELEC2550

*2016-2017*

# Special electronic devices

| 5.0 credits | 30.0 h + 30.0 h | 1q |
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| Teacher(s) : | Raskin Jean-Pierre ; Bayot Vincent (coordinator) ; Flandre Denis ; Francis Laurent ; |
| Language : | Anglais |
| Place of the course | Louvain-la-Neuve |
| Inline resources: | > https://moodleucl.uclouvain.be/course/search.php?search=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.<br>Examples : exotic silicon or SOI devices, photovoltaïcs, SiGe, organic and molecular devices, optoelectronics, MEMs-NEMs, RF devices (HEMT, balistic), RTD, SET, sensors... |
| Aims : | 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:<br>--<br>AA1.1<br>--<br>AA2.1, AA2.3, AA2.5<br>--<br>AA3.1, AA3.3<br>--<br>AA4.1, AA4.2, AA4.3, AA4.4<br>--<br>AA5.3, AA5.4, AA5.5, AA5.6<br>--<br>AA6.1, AA6.2, AA6.3<br>At the end of this course, students will be able to :<br>--<br>Understand the physics underlying special electronic devices (R& mp;D in academic and indutry labs).<br>--<br>Make extended bibliographic searches, critically analyse available informations and synthetize them.<br>--<br>Present their work in written and oral forms.<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".* |
| Evaluation methods : | Report (66%) et oral presentation (33%) of team work |
| Teaching methods : | - 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).<br>- Close interactions (individuals or groups) with the coordinator to solve faced problems (topic definition, understanding, bibliography, writing,... (see below)).<br>- Interactions with researchers in UCL and outside UCL.<br>- Training to the writing of a scientific review article in english. A schedule is followed along the semester (informations, plan, centent, writing)<br>- Oral presentation<br>- 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) | | | | |
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| Intitulé du programme | Sigle | Credits | Prerequis | Acquis d'apprentissage |
| Master [120] in Chemical and Materials Engineering | KIMA2M | 5 | - | |
| Master [120] in Physical Engineering | FYAP2M | 5 | - | |
| Master [120] in Electrical Engineering | ELEC2M | 5 | - | |