


 Faculty of Applied Sciences

ELEC2550 SPECIAL ELECTRONIC DEVICES

[30h+30h exercises] 5 credits

This course is taught in the 1st semester

Teacher(s): Vincent Bayot (coord.), Denis Flandre, Jean-Pierre Raskin
Language: French
Level: Second cycle

Aims

At the end of the course, the students will be able to

- understand special electronic devices that are at the status of research or development in university and industrial labs,
- make a bibliographical search and synthetize it in a critical way inspired by review papers,
- present their results in a reports in a report and orally

Main themes

Identical to the contents of the course

Content and teaching methods

Situated at the rapidly changing level of R&D, the topics will change every year to keep up with recent findings and match students interests for specific devices. As an example, the following topics were addressed in the last years : molecular electronics, spin tronics, plastic electronics, advanced SOI devices, solar cells, single electron devices, optoelectronics devices.

Teaching method

Student work in small groups (2-3 persons), or alone, according to their affinities and interests. After choosing a topic by searching in the recent litterature, students make a wide review and write a "review style" article. Finally they present their results in a "conference like" situation facing researchers of the lab and their colleagues. In that process, they remain in very close interaction with the professor to whom they present the advancement of their work periodically, and whenever necessary.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Prerequisites :

Basic knowledge in electronic devices and solid-state physics

Assessment :

Oral presentation and writing of a report (about 15-20 pages written as a journal article) for the topic approved by the teachers.

Could be given in English

For more information:

<http://www.elec.ucl.ac.be/Cours/elec2550.html>**Other credits in programs**

ELEC23	Troisième année du programme conduisant au grade d'ingénieur civil électricien	(5 credits)
---------------	--------------------------------------------------------------------------------	-------------