



Faculty of Applied Sciences

ELEC2102 Project in Electricity 2 : Physics of electricity

[+60h exercises] 5 credits

This course is taught in the 2nd semester

Teacher(s): Christophe Craeye, Christophe Craeye (supplée N.), Denis Flandre, Denis Flandre (supplée N.), Danielle Janvier, Danielle Janvier (coord.), Danielle Janvier (supplée N.)

Language: French

Level: Second cycle

Aims

After this course the students will be able to :

- understand and model an electrical phenomenon
- simulate this phenomenon using a numerical software

Main themes

Identical to the contents of the course

Content and teaching methods

This project consists of a detailed electrical analysis of a physical phenomenon, such as an electromagnetic transmission problem, an electric or magnetic field distribution or a p-n junction, and the development of a model for this phenomenon. The second phase of the project consists in using an of the shelf software to simulate the phenomenon and validate the model.

Teaching method :

- a bibliographical study based on the description of the problem
- an in depth understanding of the physical phenomenon
- a modelisation of the problem
- the implementation of the model in the chosen software
- test and validation of the model, using the software

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

Prerequisite :

Physical electronics (ELEC2330),

Electromagnetics (ELEC2350),

Electricity : advanced topics (ELEC2755),

or equivalent

Observation :

This project is carried out by groups of 3 to 4 students

Assessment :

The evaluation of the students will be based on various elements : the work during the semester, the final demonstration, the interim reports and the final report, the final presentation.

Other credits in programs

ELEC21 Première année du programme conduisant au grade d'ingénieur (5 credits)
civil électricien

Mandatory