



# Faculté des sciences appliquées

## FSA

### ELEC2102 PROJECT IN ELECTRICITY II : PHYSICS OF ELECTRICITY

[+60h exercises] 5 credits

This course is taught in the 2nd semester

**Teacher(s):** Christophe Craeye, Denis Flandre, Damien Grenier, Danielle Janvier (coord.)  
**Language:** french  
**Level:** 2nd cycle course

#### Aims

After this course the students will be able to :

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

#### 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

<b>ELEC21</b>	Première année du programme conduisant au grade d'ingénieur (5 credits) civil électricien	Mandatory
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