

## Faculty of Applied Sciences



### ELEC2101 Project in Electricity 1 : Electrical circuits

[+60h exercises] 5 credits

This course is taught in the 1st semester

**Teacher(s):** Christian Eugène, Francis Labrique, Charles Trullemans  
**Language:** French  
**Level:** Second cycle

#### Aims

At the end of this project, the students will be able

- to conceive a small electrical circuit implementing resistors, capacitors, inductors, operational amplifiers, sources and answering to given specifications
- so simulate this circuit
- to realize this circuit and to test it by using standard measuring equipments.

#### Main themes

Identical to the contents of the course

#### Content and teaching methods

- To conceive a circuit answering to specified requirements
- To modelize the circuit. Study of its DC, AC and transient response
- To simulate and optimize the circuit
- To realize and test the circuit
- To explain the differences between the simulated and tested results
- To study the limits of the model

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

This project is scheduled in parallel with the following courses :

ELEC2350 : Electromagnetism

ELEC2370 : Electrical circuits and measurements

ELEC2755 : Electricity : advanced topics

A close interaction with these courses will be kept in order to ensure the coherence of the whole

Prerequisite : none

Assessment :

Continuous evaluation based on the work performed during the semester, the reports issued and the oral presentation of the work

Support :

Definition of the project and informations on the i-campus website of the course

#### Other credits in programs

**ELME21/E** Première année du programme conduisant au grade d'ingénieur (5 credits)  
civil électro-mécanicien (énergie)

**MAP21** Première année du programme conduisant au grade d'ingénieur (5 credits)  
civil en mathématiques appliquées