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## MINELEC - Introduction

### Introduction

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## MINELEC - Teaching profile

### Learning outcomes

The main objective of the "polytechnic" minors organized by the Faculté des Sciences Appliquées is for a student taking the engineering science baccalaureate, should s/he so wish, to acquire, via a major/minor polytechnic combination, basic training in two specialist areas of engineering science, and thus to broaden his/her range of technical skills, or to prepare for a master's in engineering science which spans the basic courses offered at baccalaureate level.

The disciplinary objectives of the minor in electricity are to help the student acquire the majority of the discipline's basic concepts and provide him/her with fundamental knowledge in its main areas of application, more precisely:

- Designing, analyzing, simulating and testing electrical circuits, putting standard components in place
- Understanding the foundations of electromagnetic theory and physical phenomena which are at the origin of how electronic devices work
- Mastering the basic concepts of electronics, telecommunications and electrodynamic converters

On successful completion of this programme, each student is able to :

- Concevoir, analyser, simuler et tester des circuits électriques mettant en œuvre des composants standard
- Appréhender les fondements de la théorie de l'électromagnétisme et des phénomènes physiques à la base du fonctionnement des dispositifs électroniques
- Maîtriser les concepts de base de l'électronique, des télécommunications et des convertisseurs électrodynamiques

### Programme

#### DETAILED PROGRAMME BY SUBJECT

- Mandatory
- ⊗ Optional
- △ Not offered in 2021-2022
- ⊙ Not offered in 2021-2022 but offered the following year
- ⊕ Offered in 2021-2022 but not the following year
- △ ⊕ Not offered in 2021-2022 or the following year
- Activity with requisites
- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

Click on the course title to see detailed informations (objectives, methods, evaluation...)

30 crédits

Year

2 3

#### ○ Content:

##### ○ Contenu de la mineure (30 crédits)

○ LELEC1101	Project in Electricity 1 : Electrical circuits	Christophe Craeye Bruno Dehez Claude Oestges (coord.)	[FR] [q2] [30h+30h] [5 Credits]	X	
○ LELEC1370	Measurements and electrical circuits	Christophe Craeye Bruno Dehez Claude Oestges (coord.)	[FR] [q2] [30h+30h] [5 Credits]	X	
○ LELEC1310	ELECTROMECHANICAL CONVERTERS	Bruno Dehez	[FR] [q2] [30h+30h] [5 Credits]		X
○ LELEC1360	TELECOMMUNICATIONS	Luc Vandendorpe	[FR] [q2] [30h+30h] [5 Credits]		X
○ LELEC1530	Basic analog and digital electronic circuits	Denis Flandre Jean-Didier Legat	[FR] [q1] [30h+30h] [5 Credits]		X
○ LELEC1755	Physics of electronic devices and transmission lines	Denis Flandre (coord.) Claude Oestges	[FR] [q1] [30h+30h] [5 Credits]		X

## ***THE PROGRAMME'S COURSES AND LEARNING OUTCOMES***

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For each UCLouvain training programme, a [reference framework of learning outcomes](#) specifies the the skills expected of every graduate on completion of the programme. Course unit descriptions specify targeted learning outcomes, as well as the unit's contribution to reference framework of learning outcomes.

## MINELEC - Information

### Access Requirements

This polytechnic minor is organized chiefly for students enrolled on a baccalaureate in engineering science (civil engineer and architectural civil engineer).

The minor is also accessible to students enrolled on baccalaureate programs in mathematical or physical science.

Minor activities must be taken in an order that respects the following requirements:

- The ELEC1370 and ELEC 1101 courses must be taken before any other minor courses.

### Evaluation

**The evaluation methods comply with the regulations concerning studies and exams (<https://uclouvain.be/fr/decouvrir/rgee.html>). More detailed explanation of the modalities specific to each learning unit are available on their description sheets under the heading "Learning outcomes evaluation method".**

### Possible trainings at the end of the programme

Majors-minors giving direct access to master's program(s)

Polytechnic minors provide students who have performed well and acquired a bachelor's qualification in engineering science-civil engineering, as part of a program which includes one of these minors, with unconditional access without further training to the master's in civil engineering which corresponds to this minor.

- For the minor in applied chemistry and physics: the master's in civil engineering in chemistry and material science and the master's in physicist-civil engineering.
- For the minor in construction: the master's in civil engineering in construction
- For the minor in electricity: the master's in electrician civil engineer
- For the minor in IT: the master's in IT civil engineer
- For the minor in mechanics: the master's in mechanic-civil engineer
- For the minor in applied mathematics: the master's in civil engineer in applied mathematics
- For a program which combines a major in electricity/minor in mechanics or major in mechanics/minor in electricity: the master's in electromechanic/civil engineer.

### Contacts

#### Curriculum Management

Entity

Structure entity

Denomination

Faculty

Sector

Acronym

Postal address

SST/EPL/ELEC

(ELEC)

Louvain School of Engineering (EPL)

Sciences and Technology (SST)

ELEC

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Academic supervisor: Denis Flandre (<https://uclouvain.be/repertoires/denis.flandre>)

Useful Contact(s)

- Secrétariat: Isabelle Dargent (<https://uclouvain.be/repertoires/isabelle.dargent>)

