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## Introduction

## 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

### Detailed programme

#### PROGRAMME BY SUBJECT

○ Mandatory

△ Courses not taught during 2015-2016

⊕ Periodic courses taught during 2015-2016

⊗ Optional

⊖ Periodic courses not taught during 2015-2016

■ Activity with requisites

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

Year

2 3

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

Course Code	Course Title	Instructor(s)	Hours	Credits	2015-2016	2016-2017	2017-2018
○ LELEC1101	<a href="#">Project in Electricity 1 : Electrical circuits</a>	Christophe Craeye, Bruno Dehez, Claude Oestges	30h+30h	5 Credits	2q	x	
○ LELEC1370	<a href="#">Measurements and electrical circuits</a>	Christophe Craeye, Bruno Dehez, Claude Oestges (coord.)	30h+30h	5 Credits	2q	x	
○ LELEC1310	<a href="#">ELECTROMECHANICAL CONVERTERS</a> ■	Bruno Dehez	30h+30h	5 Credits	2q		x
○ LELEC1360	<a href="#">TELECOMMUNICATIONS</a>	Luc Vandendorpe	30h+30h	5 Credits	2q		x
○ LELEC1530	<a href="#">Basic analog and digital electronic circuits</a> ■	Denis Flandre, Jean-Didier Legat	30h+30h	5 Credits	1q		x
○ LELEC1755	<a href="#">ELECTRICITY : ADVANCED TOPICS</a>	Denis Flandre, Danielle Janvier, Claude Oestges	30h+30h	5 Credits	1q		x

### COURSE PREREQUISITES

A document entitled [en-prerequis-2015-min-lelec100i.pdf](#) specifies the activities (course units - CU) with one or more pre-requisite(s) within the study programme, that is the CU whose learning outcomes must have been certified and for which the credits must have been granted by the jury before the student is authorised to sign up for that activity.

These activities are identified in the study programme: their title is followed by a yellow square.

As the prerequisites are a requirement of enrolment, there are none within a year of a course.

The prerequisites are defined for the CUs for different years and therefore influence the order in which the student can enrol in the programme's CUs.

In addition, when the panel validates a student's individual programme at the beginning of the year, it ensures the consistency of the individual programme:

- It can change a prerequisite into a corequisite within a single year (to allow studies to be continued with an adequate annual load);
- It can require the student to combine enrolment in two separate CUs it considers necessary for educational purposes.

For more information, please consult [regulation of studies and exams](#).

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

For each UCL training programme, a [reference framework of learning outcomes](#) specifies the competences expected of every graduate on completion of the programme. You can see the contribution of each teaching unit to the programme's reference framework of learning outcomes in the document "In which teaching units are the competences and learning outcomes in the programme's reference framework developed and mastered by the student?"

The document is available by clicking [this link](#) after being authenticated with UCL account.

## Information

### Liste des bacheliers proposant cette mineure

> [Bachelor in Engineering](#) [en-prog-2015-fsa1ba]

### Admission

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.

### 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 Managment

Entite de la structure ELEC

Acronyme	<b>ELEC</b>
Dénomination	Commission de programme - Ingénieur civil électricien
Adresse	Place du Levant 3 bte L5.03.02 1348 Louvain-la-Neuve Tél 010 47 25 86 - Fax 010 47 86 67
Secteur	Secteur des sciences et technologies (SST)
Faculté	Ecole Polytechnique de Louvain (EPL)
Commission de programme	Commission de programme - Ingénieur civil électricien (ELEC)

**Academic Supervisor :** [Denis FLANDRE](#)

**Jury:**

### Usefull Contacts

Secrétariat : [Isabelle DARGENT](#)

### Infos

