Faculty of Applied Sciences

ELEC2	Ingénieur civil électricien (Diploma of the Second Cycle (Ingénieur civil) in Electrical Engineering)

Programme management

ELEC Département d'électricité
Responsable académique : Francis Labrique
Contact : Francis Labrique

Tél. 010472255
labrique@lei.ucl.ac.be

Study objectives

As the aim of the studies is to be able to respond to future technological challenges in a European and world context in perpetual evolution, it sets out to provide a general and specialised training programme which will lead the students to become fully responsible for their own study choices. The Electricity Department prioritises the following specific objectives :

- to ensure that the students receive in-depth training on the level of the foundation subjects in Electricity
- to lead the student to personally choose his own profile from between the "generalist" and "specialist" orientations
- to develop a critical scientific spirit, capable of modelling, all the while putting emphasis on experimental verifications in laboratories.

Admission conditions

The programme leading to a degree in Civil Electrical Engineering is accessible to all students holding the first university study cycle diploma ("candidature") in Civil Engineering. Industrial engineers and certain university degree holders in subjects relating to the Exact Sciences may also be entitled access, as may students with a foreign degree judged as being equivalent.

Admission procedure

The University admission and enrolment procedures are detailed in the section : "Access to studies" on the web page : http://www.ucl.ac.be/etudes/libres/acces.html

General structure of the programme

This three year technical programme includes :

- non-technical general courses
- polyvalent technical courses
- specialised technical courses, grouping together : mathematical and physical electricity methods, electronics, telecommunications and electrodynamics. The student will complete his programme with optional courses.
- an end of course project, the volume of which will correspond to around half a year's work.

Programme content

General and polyvalent courses

Besides the compulsory courses listed below, an optional course on Human Sciences for a minimum of 3 credits must be chosen from ELEC22 or ELEC23. This course may be one of the Human Science courses organised by the FSA, or a course from another faculty. The living language courses are not considered as Human Science courses. A maximum of 5 credits of optional Human Science courses accumulated in ELEC22 and ELEC23 may be included in the calculation of 60 credits, minimum.

General and polyvalent courses

INMA2701	A préciser (in French)	
INMA2731	A préciser (in French)	
MECA2901	A préciser (in French)	
FSA2323	none[30h+15h] (4 credits) (in French)	Jean-Pierre Hansen, Yves Smeers
INGI2716	Computer science 3[30h+30h] (5 credits) (in French)	Marc Lobelle
ELEC2510	A préciser (in French)	

| FSA2300 | Religious Science Questions[15h] (2 credits) (in French) | Bernard Van Meenen |
| FSA2140 | Eléments de droit industriel[22.5h] (2 credits) (in French) | Gilbert Demez |

Specialised courses

The student will follow the complete modules on mathematical and physical electricity methods, electronics and telecommunications, as well as the first complete module of electrodynamics.

The students may request a modification in their compulsory course programme (general and polyvalent courses and/or speciality courses) to extend their training in domains such as electrotechniques, automatics, computer studies ... They must, nevertheless, be mindful to keep an identical volume of ECTS for the general and polyvalent courses and the ELEC courses. These programmes will have to be approved by the ELEC degree programme Management Committee who will check their coherence.

Options

The ELEC22 and ELEC23 programmes will be completed by optional course to attain a minimum of 60 credits per year. The optional courses may be chosen from among the ELEC courses or from the other FSA course specialities.

The programme of options must be approved by the study advisor and by the ELEC degree programme Management Committee, at the beginning of each quadrimester.

Tutoring

The pedagogical activities (tutoring in "candidatures", supervision of practical exercise sessions, laboratory or project work) may count for a maximum of 3 credits within the 60 credit ELEC22 or ELEC23 programmes. In order to obtain recognition thereof, the student must assure a minimum of 30 hours attendance of pedagogical activities. The preparation activites cannot be counted during these 30 hours. In addition, the student will have to follow the course activities required of him.

Apprenticeship

The students may have an apprenticeship in a firm linked to electricity, carried out during the holidays, recognised to the value of 3 credits . The apprenticeship period will have to have a minimal duration of 3 weeks, at the end of which a report will be submitted to the President of the programme Mangement Committee.

Language course

An optional living language course for maximum 3 credits may be chosen from the 60 credit ELEC22 or ELEC23 programmes.

End of course project

This project, carried out in the third year, represents an individual volume of work equivalent to 30 credits.

Mobility

The ELEC Department encourages those students who so wish, to leave either in ELEC22 for a full year, or in ELEC23 for a quadrimester in the context of the FSA mobility programmes (Erasmus/Socrates, IMCC, KULeuven, ...). The programme of these students will be established in close concertation with the President of the Department Programme Management Committee.

"Company Creation" course

The students who follow the interfaculty "Company Creation" (CPME) course, are dispensed from doing the compulsory courses in Human Sciences (FSA2323 and FSA2140) and from the optional courses in Human Sciences, for 3 credits. The CPME courses count for 60 credits on the ELEC22 and ELEC23 programmes.

Programme per year of studies

Prior to the first technical year or the beginning of the second year, the student must choose a study advisor in line with the rules established by the ELEC Department. With the aid of the advisor, he will choose his options in line with the reglementation of the ELEC 2 programme. This programme will be submitted to the ELEC programme management committee for approval at the beginning of each quadrimester.

ELEC 21   First year

The first year programme comprises 62 credits worth of compulsory courses. There are no optional course here.

First quadrimester

INMA2701	A préciser (in French)
MECA2901	A préciser (in French)
ELEC2101	A préciser (in French)
ELEC2370	A préciser (in French)
ELEC2330	A préciser (in French)
ELEC2350	A préciser (in French)

Second quadrimester

INMA2731	A préciser (in French)
ELEC2510	A préciser (in French)
ELEC2102	A préciser (in French)
ELEC2530	A préciser (in French)
ELEC2360	A préciser (in French)
ELEC2310	A préciser (in French)

ELEC 22   Second year

The second year programme comprises 37 credits worth of compulsory courses. The student will complete it with optional courses to attain a minimum of 60 credits.
First quadrimester

FSA2300	Religious Science Questions[15h] (2 credits) (in French)	Bernard Van Meenen
ELEC2103	Project in Electricity 3 : Electronic systems[90h] (6 credits) (in French)	Jean-Didier Legat, Luc Vandendorpe
ELEC2531	Electronics II : Digital electronic circuits[30h+30h] (5 credits) (in French)	Jean-Didier Legat, Charles Trullemans
ELEC2795	Telecommunications 2 : Digital transmission and radiocommunications[30h+30h] (5 credits) (in French)	Christophe Craeye, Luc Vandendorpe

Second quadrimester

FSA2323	none[30h+15h] (4 credits) (in French)	Jean-Pierre Hansen, Yves Smeers
ELEC2532	Electronics III : Analog electronic circuits[30h+30h] (5 credits) (in French)	Jean-Didier Legat, Charles Trullemans, Charles Trullemans (supplée Jean-Didier Legat)
ELEC2103	Project in Electricity 3 : Electronic systems[90h] (6 credits) (in French)	Jean-Didier Legat, Luc Vandendorpe
INGI2716	Computer science 3[30h+30h] (5 credits) (in French)	Marc Lobelle
ELEC2900	Signal processing[30h+30h] (5 credits) (in French)	Benoît Macq, Luc Vandendorpe

ELEC 23   Third year

The third year programme only comprises compulsory courses and the end of course project. The student will complete it with optional courses to attain a minimum of 60 credits.
Compulsory courses
First quadrimester

FSA2140	Eléments de droit industriel[22.5h] (2 credits) (in French)	Gilbert Demez

Evaluation

The end of course project represents a volume of work equivalent to one quadrimester and is evaluated on the basis of 30 credits.