

## Faculty of Applied Sciences



LINF2

Licence en informatique (Diploma of the Second Cycle (Licence) in Computer Studies)



### Programme management

CPLI Commission du programme de licence en informatique

Responsable académique : Pierre Dupont

### Study objectives

This second university study cycle programme ("licence") comprises two years of studies.

Two orientations are offered here : general computer studies and management computer studies. The "licence" programme is based on a limited project (first year), then on a wider one, simulating "professional" conditions (second year). These projects integrate the multiple facets involved in the development of computing projects (analysis of the existing situation, the creation of a solution to the problem posed, the elaboration, test and validation of the resulting computing system).

The programme includes the writing of a thesis in the form of a "project" or "piece of research", partly based on an apprenticeship in an organisation or research unit.

### Admission conditions and special entrance conditions ("passerelles")

The "licence" programme in Computer Studies is accessible :

1. to holders of the 1st university cycle of studies in Computer Studies, delivered by a university of the French-speaking Community (C.F) ;
2. to holders of the 1st university cycle of studies in Computer Studies, delivered by a university outside of the "C.F " and recognised as being equivalent to a degree obtained in the "C.F." by the academic authorities. Candidates will also need to pass an exam in the French language.
3. to holders of the 1st university cycle of studies ("candidat") in Industrial Engineering (with any of the possible options), delivered by an institution of higher education in the "C.F.", or for non-university higher education diploma holders ("graduats") in Computing Technology or Industrial Computing. This passage is accessible to students subject to passing an admission exam. The course programme for those students comprises a maximum of additional 150 hours to the regular "licence" programme. The admission exam includes a test on the student's capacities to follow university studies as well as a test in mathematics ;
4. to holders of a non-university higher education diploma in Computer Studies, obtained in an institution of further education outside the "C.F" and recognised as being equivalent by the competent ministerial authorities for the "graduat" in computer studies obtained in the C.F. Students will also have to pass a French language exam. This passage is accessible to students subject to passing an admission exam which comprises a test on the student's capacities to follow university studies as well as a test in mathematics ;
5. to holders of a 2nd university study cycle diploma delivered by a university of the "C.F.". As the admission in the 1st year is based on the 1st study cycle diploma, the latter must have been delivered by a university of the "C.F".. If those students have no training in computer studies, they will have to acquire this by doing a preparatory year (single year of "candidature") ;
6. to holders of a 2nd university study cycle diploma delivered by a university outside the "C.F".. As the admission in the 1st year is based on the 1st study cycle diploma, the latter must be a diploma in computer studies or related to computing and recognised by the academic authorities as being equivalent to a diploma obtained within the "C.F".. Students will also have to pass a French language exam.
7. to holders of an industrial engineering diploma in electricity with the option in electronics, delivered by a Further education institution of the C.F.;
8. to holders of a "gradu " diploma in Applied Electronics, delivered by a Further Education Institution of the "C.F.", subject to the successful completion of a preparatory year.

**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>

**Programme content****LINF21 First year****Core syllabus****Management**

<u>QANT2100</u>	Elements of operational research[45h+15h] (6 credits) (in French)	Michel Herman
<u>LINF2180</u>	Analyse du fonctionnement organisationnel et gestion des ressources humaines[30h+15h] (5 credits) (in French)	Evelyne Léonard
<u>ANGL1532</u>	Advanced Business English[60h] (5 credits)	Dominique François, Philippe Neyt, Henri November, Colleen Starrs, Françoise Stas, Albert Verhaegen

**Computer Studies**

<u>INGI2101</u>	Discrete mathematics: logical foundations of computing science[30h+15h] (4 credits) (in French)	Philippe Delsarte, Axel Van Lamsweerde (coord.)
<u>LINF2121</u>	Algorithmics and data structures[30h+30h] (5 credits) (in French)	Pierre Dupont (coord.), Baudouin Le Charlier, Kim Mens
<u>INGI2271</u>	Database management systems[30h+30h] (5 credits) (in French)	Alain Pirotte (coord.), Marco Saerens
<u>INGI2141</u>	Computer networks: information transfer[30h+30h] (5 credits) (in French)	Olivier Bonaventure (coord.), Marc Lobelle, Peter Van Roy

**"General Computer Studies" orientation (GEN)**

<u>INGI2123</u>	Calculability and complexity[30h+15h] (4 credits) (in French)	Yves Deville (coord.), Pierre Dupont, Baudouin Le Charlier
<u>INGI2131</u>	Computer language concepts[30h+30h] (5 credits) (in French)	Baudouin Le Charlier, Peter Van Roy (coord.)
<u>INGI2132</u>	Languages and translators[30h+30h] (5 credits) (in French)	Baudouin Le Charlier (coord.), Peter Van Roy
<u>LINF2124</u>	Projet de programmation: application technologique (in French)	
<u>INGI2122</u>	Program conception methods[30h+30h] (5 credits) (in French)	Yves Deville, Baudouin Le Charlier (coord.)

**"Management Computer Studies" orientation (GES)**

<u>LINF2181</u>	Finance et contrôle de gestion[30h+30h] (5 credits) (in French)	Philippe Grégoire
<u>LINF2182</u>	Production et logistique[30h+15h] (4 credits) (in French)	Bernard Fortz
<u>LINF2125</u>	Projet de programmation : application de gestion[0h+60h] (~) (in French)	Marco Saerens
<u>LINF2275</u>	Analyse de données et systèmes d'aide à la décision[30h+30h] (5 credits) (in French)	Marco Saerens

**LINF22 Second year****Core syllabus**

<u>FSA2300</u>	Religious Science Questions[15h] (2 credits) (in French)	Bernard Van Meenen
<u>LINF2202</u>	Ethique et informatique[30h] (3 credits) (in French)	Speranta Dumitru (supplée Axel Gosseries), Axel Gosseries, Alain Pirotte
<u>INGI2114</u>	Computer system design[30h+30h] (5 credits) (in French)	Olivier Bonaventure, Marc Lobelle (coord.), Peter Van Roy
<u>INGI2251</u>	Software engineering: development methods[30h+30h] (5 credits) (in French)	Axel Van Lamsweerde (coord.)
<u>LINF2255</u>	Software engineering project[0h+60h] (5 credits) (in French)	Axel Van Lamsweerde (coord.)
<u>LINF2172</u>	Database design[30h+30h] (5 credits) (in French)	Manuel Kolp, Alain Pirotte (coord.), Marco Saerens

**Thesis and apprenticeship (LINF2290)****"General Computer Studies" orientation (GEN)**

LINF2261 Artificial intelligence: representation and reasoning[30h+30h] (5 credits) (in French) Yves Deville (coord.), Pierre Dupont, Axel Van Lamsweerde

*one course to be chosen from among :*

LINF2252 Software Engineering: Maintenance[30h+30h] (5 credits) (in English) Kim Mens (coord.), Axel Van Lamsweerde

LINF2262 artificial intelligence: learning and recognition[30h+30h] (5 credits) (in English) Yves Deville, Pierre Dupont (coord.), Marco Saerens

LINF2142 Computer networks: configuration and management[30h+30h] (5 credits) (in French) Olivier Bonaventure (coord.), Marc Lobelle, Peter Van Roy

**Options**

LINF2335 Computer languages: advanced topics[30h+15h] (4 credits) N.  
A (in French)

LINF2345 Distributed applications: advanced topics[30h+15h] (4 credits) (in French) Marc Lobelle, Peter Van Roy (coord.)

**"Management Computer Studies "orientation (GES)**

LINF2275 Analyse de données et systèmes d'aide à la décision[30h+30h] (5 credits) (in French) Marco Saerens

LINF2281 Gestion stratégique des systèmes d'information[30h] (3 credits) (in French) Paul Belleflamme, Philippe Wilmes

LINF2282 Gestion de projets informatiques[30h+15h] (4 credits) (in French) Manuel Kolp, Pierre Lavency

**Options**

LINF2381 Informatique de gestion : questions actuelles[30h] (3 credits) (in French) Manuel Kolp

LINF2382 Travail collaboratif assisté par ordinateur[45h] (4 credits) (in French) Jean Vanderdonckt

LINF2356 Interfaces homme-machine[45h] (5 credits) (in French) Jean Vanderdonckt