

SINF1BA

2013 - 2014

Bachelor in Computer Science

At Louvain-la-Neuve - 180 credits - 3 years - Day schedule - In frenchDissertation/Graduation Project : **NO** - Internship : **NO**Activities in English: **YES** - Activities in other languages : **NO**Activities on other sites : **NO**Main study domain : **Sciences**Organized by: **Ecole Polytechnique de Louvain (EPL)**Programme code: **sinf1ba** - European Qualifications Framework (EQF): 6**Table of contents**

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SINF1BA - Introduction

SINF1BA - Admission

Decree of March 31st 2004 defining higher education and favoring the integration of higher education and university refinancing in the European area)

The admission conditions must be fulfilled at the time of [enrolment at university](#).

[> General Condition](#)

[> Special Conditions](#)

[> Knowledge of the French language exam](#)

General Conditions

Except as otherwise provided by other special legal provisions and with a view to obtaining the academic degree that recognises them, admission to undergraduate courses is granted to students with either:

- A certificate of Further Secondary Education issued from the academic year 1993–1994 by a fully fledged secondary education establishment or a school of Continuing Education in the French Community and approved by the Board created for that purpose, and holders of the same certificate issued from the 1994 calendar year by the education board of the French Community;
- or a certificate of Further Secondary Education issued not later than the end of the school year 1992–1993 accompanied, for admission to degree-length undergraduate studies, by a proficiency diploma giving access to higher education;
- or a diploma issued by a higher education establishment of the French Community recognising an academic degree, or a diploma issued by a university institution or an establishment dispensing full-time higher education under previous legislation;
- or a higher education certificate issued by an improvement courses establishment;
- a pass certificate for one of the [entrance examinations](#) co-ordinated by the higher education establishments or by a French Community education board and whose curricula are approved by the Government after consultation, according to the sector, with the Interuniversity Council of the French Community (Conseil interuniversitaire de la Communauté française – CIUF) or the General Council of the Hautes Ecoles (Conseil général des Hautes Ecoles – CGHE); this certificate gives admission to studies in relevant sectors or fields;
- or a diploma, certificate or secondary school certificate similar to those mentioned above issued by the Flemish Community (this certificate does not give exemption from the [French Language Proficiency](#) exam), by the German-speaking Community or the Royal Military School;
- of a diploma, certificate or secondary school certificate outside Belgium and recognised as equivalent to those mentioned above.

Requests for equivalence must be submitted to the [Service des équivalences](#) of the Ministry of Higher Education and Scientific Research of the French Community of Belgium before 15 July 2013.

Notes: the two following certificates are automatically recognised as equivalent to the Certificate of Upper Secondary Education (Certificat d'enseignement secondaire supérieur – CESS): the European baccalaureat issued by the High Council of European Schools; the international baccalaureate issued by the International Baccalaureate Office, Geneva.

However, neither certificate automatically gives exemption from the [French Language Proficiency](#) exam;

- or a proficiency diploma giving access to higher education (diplôme d'aptitude à accéder à l'enseignement supérieur – DAES) conferred by the French Community examination board.

Exam of knowledge of the French language

Anyone not demonstrating sufficient [French language proficiency](#) will not be admitted to the first-year undergraduate examinations.

Special Conditions

- Admission to **undergraduate studies in engineering: civil engineering and architect**

Pass certificate for the [special entrance examination for undergraduate studies in engineering: civil engineering and architect](#).

Admission to these studies is always subject to passing the special entrance examination. The contents of the programme and the form of the examination may be obtained from the Secretariat of this faculty.

- Admission to **undergraduate studies in veterinary medicine**

[Admission to undergraduate studies in veterinary medicine is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses \(non-residents\)](#).

- Admission to **undergraduate studies in physiotherapy and rehabilitation**

[Admission to undergraduate studies in physiotherapy and rehabilitation is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses \(non-residents\)](#).

- Admission to **undergraduate studies in psychology and education: speech and language therapy**

[Admission to undergraduate studies in psychology and education: speech and language therapy is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses \(non-residents\)](#).

- Admission to **undergraduate studies in medicine and dental science**

Admission to undergraduate studies in medicine and dental science is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses (non-residents).

In the event of the divergence between the different linguistic versions of the present conditions, the French version shall prevail

SINF1BA - Information

Learning outcomes

General objectives

This bachelor's programme offers a general approach to computer science in the context of basic university training. The bachelor's programme leads to the title of "Bachelor of Computer Science" and upon completion of this first cycle of studies, the student will be granted access to the master's programme in computer Science.

This university-level training in computer science trains future specialists capable of creating and elaborating complex and efficient computing systems that satisfy the numerous and ever-increasing needs in our society. It thus trains "software creators" rather than pure programmers. More specifically, the bachelor's programme in computer science aims at the acquisition of the following technical competences and skills :

- Gaining an in-depth understanding of the basic essentials needed to design and implement simple software systems;
- Mastering the underlying foundations of computer science;
- Developing the reasoning and abstraction abilities necessary for the creation of such systems;
- Mastering the mathematical skills needed to carry out such reasoning;
- Acquisition of the knowledge and skills necessary for the future " master's in computer science" which will be orientated towards the engineering of more complex software system;
- Acquisition of a lasting 'know-how', readily adaptable to the continuously evolving field of computer science; learning how to learn.

Computer science comprises the theoretical knowledge and practical skills needed to develop and understand complex software systems. In addition to this technical and more applied knowledge, to become a professional computer scientist, the student has to develop some extra skills such as a creative ability and critical mindset. These studies also train students to become responsible young professionals, capable of apprehending the complex socio-economic world into which computing science is embedded, and to take decisions which are both technically sound and humanly responsible. The bachelor's programme in computer science thus aims at the acquisition of other competences, such as :

- Understanding the mechanisms which govern the socio-economic and/or technical environment in which a given computer system has to be deployed;
- Integration of the acquired technical competences and skills in a multidisciplinary context;
- Developing an intellectual curiosity, an analytic mind, a capacity for critical reflection, sound communication skills and the ability to organise and manage one's studies.

Objectives of the foundation studies

The objective of the basic studies is to allow the student to acquire essential competences and skills in the areas of computer science, mathematics, science and technology, economics and management, human sciences and English.

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

de démontrer la maîtrise d'un solide corpus de connaissances en informatique, qui, en étant complétées par une formation solide dans d'autres domaines, lui permettent de résoudre les problèmes qui relèvent de sa discipline

Le bachelier vise aussi l'acquisition de **connaissances de base en informatique** :

- Structures discrètes;
- Fondements de la programmation;
- Algorithmique et complexité;
- Architecture des ordinateurs et systèmes d'exploitation;
- Méthode de conception de programmes;
- Gestion de l'information.

De plus, le bachelier est **ouvert vers d'autres disciplines**. Une formation de base solide est offerte dans les domaines suivants :

- Mathématiques pour modéliser une situation et prouver l'exactitude d'une affirmation;
- Statistiques pour pouvoir réaliser une analyse quantitative de données;
- Economie, gestion et sciences humaines pour comprendre le monde socio-économique dans lequel les outils informatiques s'insèrent.

d'organiser et de mener à son terme une démarche de développement d'un système informatique « classique » de complexité moyenne répondant aux besoins d'un client

- **Analyser** le problème à résoudre ou les besoins fonctionnels à rencontrer et formuler le cahier des charges correspondant.
- **Modéliser** le problème et **concevoir** une ou plusieurs solutions techniques répondant à ce cahier des charges.
- **Evaluer et classer les solutions** au regard de l'ensemble des critères figurant dans le cahier de charges : efficacité, faisabilité.
- **Implémenter et tester** la solution retenue.

de contribuer en équipe à la réalisation d'un projet en tenant compte des objectifs, des ressources allouées et des contraintes qui le caractérisent

- Cadrer et **expliciter les objectifs d'un projet** en collaboration avec les clients.
- **S'engager collectivement** sur un plan de travail, un échéancier et des rôles à tenir.
- **Prendre des décisions en équipe** lorsqu'il y a des choix à faire : que ce soit sur les solutions techniques ou sur l'organisation du travail pour faire aboutir le projet

de communiquer efficacement oralement et par écrit en français en vue de mener à bien les projets qui lui sont confiés, d'exploiter des documents techniques en anglais et de comprendre des informations transmises oralement en anglais

- Identifier les besoins du « **client** », **utilisateur avisé dans le domaine de l'informatique** : **questionner, écouter et comprendre le client**, en étant conscient de l'existence de dimensions non techniques.
- (2) **Argumenter** et convaincre en s'adaptant au langage de ses interlocuteurs : collègues, clients, supérieurs hiérarchiques.
- (3) Communiquer sous **forme graphique et schématique** : interpréter un schéma, présenter les résultats d'un travail, structurer des informations.
- (4) Lire, analyser et **exploiter** des **documents techniques** (diagrammes, manuels, cahiers de charge...).
- (5) **Rédiger** des documents écrits en tenant compte des **exigences contextuelles** et des conventions sociales en la matière (manuel d'utilisation, documentation, rapport de projet).
- (6) **Faire un exposé oral convaincant** en utilisant les techniques modernes de communication.

faire preuve à la fois de rigueur, d'ouverture et d'esprit critique dans son travail

- Appliquer les **normes** en vigueur dans sa discipline (terminologie, normes de qualité en terme de documentation et de méthodes de programmation, ...).
- Faire preuve d'**esprit critique** vis-à-vis d'une solution technique pour en vérifier la robustesse et la pertinence dans son contexte d'utilisation.
- **Développer de manière autonome les connaissances** nécessaires pour rester compétent dans son domaine.

Teaching method

A significant part of the courses in Computer Science will focus on learning techniques through problem solving. Amongst others, two integrated computer science projects will enable the students to integrate the various course topics and expose them to the problem of realizing small-scale projects (via laboratory sessions in the first year), or medium-scale projects (via a project during the second quadrimester of the third year).

Evaluation

The course content and activities are evaluated in accordance with the prevailing rules of the University (see the exam regulations). Most of the courses include at least one evaluation during the course of the quadrimester (ongoing evaluation), in addition to a final examination during the exam sessions (in January, June or September). Evaluations are either in written or in oral form. The specific evaluation details and procedures for each course are presented at the start of each study period.

Mobility and/or Internationalisation outlook

The computer-science related components of the programme adhere to the standard curricula proposed by international standard organisations such as ACM and IEEE. This fosters student mobility to or from the numerous universities offering similar programmes that conform to these norms.

The programme respects the harmonisation rules established by universities of the CFB; the degree obtained upon completion of the programme therefore entitles direct access, without the need for any complementary prerequisites, to the master's programme in Computer Science at any one of those universities.

In the context of the master studies in Computer Science at UCL, the student also has the right to participate in the Erasmus/Socrates exchange programmes which UCL has subscribed to, together with universities from numerous European and extra-European countries, as well as with the Catholic University of Leuven (Katholieke Universiteit Leuven) in Flanders.

Possible trainings at the end of the programme

Access to the master's in Computer Science

The bachelor's programme in Computer Science grants direct access to the master's programme in Computer Science.

Access to the master's of Business Science

The master's programme in Business Science is accessible to students having followed a minor in Business Studies, under certain conditions which are described on the web page dedicated to this minor <https://www.uclouvain.be/prog-lmingest3.html>

SINF1BA - Contacts

Curriculum Managment

Entite de la structure INFO

Acronyme	INFO
Dénomination	Commission de programme - Sciences informatiques et ingénieur civil en informatique
Adresse	Place Sainte Barbe, 2 bte L5.02.01 1348 Louvain-la-Neuve Tél 010 47 31 50 - Fax 010 45 03 45
Secteur	Secteur des sciences et technologies (SST)
Faculté	Ecole Polytechnique de Louvain (EPL)
Commission de programme	Commission de programme - Sciences informatiques et ingénieur civil en informatique (INFO)

Academic Supervisor : [Kim MENS](#)

Jury

Président du Jury : **Piotr SOBIESKI**

Secrétaire du Jury : **Marc LOBELLE**

Usefull Contacts

Conseillère aux études : **Chantal PONCIN**

SINF1BA - Detailed programme

Programme structure

The student who enrolls in the bachelor's programme in Computer Science will follow a programme of 180 credits, usually spread over 3 years. This programme entitles access to the corresponding master's programme in Computer Science, which is a programme of 120 credits, usually spread over 2 years.

The programme includes a major of 150 credits and a minor of 30 credits.

- The major consists of a set of polyvalent courses of 82 credits in total and a set of Computer Science courses of 68 credits. The general polyvalent formation comprises a solid training in Economics, Management and Human Sciences (34 credits) as well as in Mathematics (32 credits).
- Regarding the minor, UCL university proposes a large variety of minors in sciences (statistics, scientific culture,...) as well as in human sciences (philosophy, economy,...). For more details, please consult the following web-page : <https://www.uclouvain.be/programme-mineures.html>. As an alternative to a minor, subject to the approval of the Committee for the Bachelor in Computer Science, the student can choose a coherent set of optional courses offered at UCL. Whereas, some minors are freely accessible by any student, some others are subject to certain accessibility conditions. When a student would like to access a minor but encounters certain problems, he or she is advised to contact his or her student counsellor.

The principal subjects addressed in this programme are :

- Computer Science - 68 credits
- Mathematics- 32 credits
- Economics and Management - 25 credits
- Science and Techniques - 10 credits
- Human Sciences - 9 credits
- English - 6 credits
- Minor - 30 credits

The computer-science courses adhere to those of the standard curricula proposed by international standard organisations in the domain (ACM and IEEE).

Programme by subject

Year

1 2 3

o Tronc commun

o General and general-purpose formation (82 credits)

o Courses of Mathematics (32 credits)

o LMAT1111F	General Mathematics	Pedro Dos Santos Santana Forte Vaz, Emmanuel Hanert, Augusto Ponce	45h +37.5h	7 Credits	1q	x		
o LMAT1111E	General Mathematics	Marino Gran, Jean Van Schaftingen	30h +22.5h	5 Credits	2q	x		
o LBIR1200	General mathematics II	Pierre Bieliavsky	52.5h +37.5h	6 Credits	1q		x	
o LBIR1203	Probabilities and statistics (I)	Patrick Bogaert	30h+15h	4 Credits	1q		x	
o LSINF1250	Mathematics for computer science	Gildas Avoine, Marco Saerens (compensates Gildas Avoine)	30h+15h	7 Credits	2q		x	
o LBIR1304	Probability and statistics (II)	Patrick Bogaert	22.5h +22.5h	3 Credits	1q			x

o Scientific and technical Courses (10 credits)

						Year		
						1	2	3
○ LSINF1140	Electronic bases of computer science	Marc Lobelle	30h+30h	6 Credits	2q	x		
○ LELEC1930	Intoduction to telecommunication	Jérôme Louveaux	30h+15h	4 Credits	2q			x

○ Human Sciences, Economy, and Managment Courses (34 credits)

○ LECGE1317	Organisational Theory	Matthieu de Nanteuil	30h	4 Credits	1q			x
○ LCOPS1124	Philosophy	Nathalie Frogneux, Danielle Lories, Nicolas Monseu, Délia Popa (compensates Nathalie Frogneux)	30h	5 Credits		x		
○ LESPO1113D	Sociology and Anthropology of the Contemporary Worlds - H. DRAELANTS	Hugues Draelants	40h	5 Credits	1q	x		
○ LECGE1115	Political Economics	Paul Belleflamme, Pierre Dehez (coord.), Nathalie Gilson, Jean Hindriks	45h+15h	5 Credits	1q	x		
○ LECGE1212	Macroeconomics	Fabio Mariani	45h+15h	5 Credits	1q		x	
○ LECGE1222	Microeconomics	Pierre Dehez, François Maniquet	45h+15h	5 Credits	1q		x	
○ LESPO1122	Foundations of Law	Nicolas Bonbled, Christine Bruls, Céline Romainville, Thibaut Slingeneyer	40h	5 Credits		x		

○ Language Courses (6 credits)

○ LANGL1370	English: reading comprehension	Dominique François, Céline Gouverneur	30h	3 Credits	2q	x		
○ LANGL1372	English for Computer Scientists	Albert Verhaegen	30h	3 Credits	2q		x	

○ Formation in Computing (68 credits)

○ LSINF1101	Introduction to programming	Olivier Bonaventure, Charles Pecheur	30h+30h	6 Credits	1q	x		
○ LSINF1102	Problem solving using computers	Gildas Avoine, Pierre Schaus (compensates Gildas Avoine)	0h+60h	7 Credits	1q	x		
○ LSINF1103	Algorithmics	Pierre Dupont	30h+30h	6 Credits	2q	x		
○ LSINF1121	Algorithmics and data structures	Pierre Dupont	30h+30h	5 Credits	1q			x
○ LSINF1225	Object-oriented design and data management	Kim Mens	30h+30h	5 Credits	2q		x	
○ LSINF1252	Computer Systems 1	Olivier Bonaventure	30h+30h	5 Credits	2q		x	
○ LINGI1101	Discrete mathematics: logical foundations of computing science	Peter Van Roy	30h+30h	5 Credits	1q			x
○ LINGI1113	Computer systems 2	Marc Lobelle	30h+30h	5 Credits	1q			x
○ LINGI1122	Program conception methods	José Vander Meulen	30h+30h	5 Credits	2q			x
○ LINGI1123	Computability and complexity	Yves Deville	30h+30h	5 Credits	2q			x
○ LINGI1131	Computer language concepts	Peter Van Roy	30h+30h	5 Credits	2q			x
○ LFSAB1402	Informatics 2	Peter Van Roy	30h+30h	5 Credits	1q		x	
○ LFSAB1509	Project 4 (in Computer Science)	Yves Deville	22.5h +22.5h	4 Credits	2q			x

○ Minors and choice courses (30 credits)

The student completes his formation with the additional module in computer sciences, a minor of opening or by proposing a program of choice courses, in the approval of the committee of program in computing sciences.

⌘	Option in 2nd year	N.		15 Credits			x	
⌘	Option in 3rd year	N.		15 Credits				x

Programme year by year

SINF1BA - FIRST YEAR

○ Mandatory

△ Courses not taught during 2013-2014

⊕ Periodic courses taught during 2013-2014

⊗ Optional

⊖ Periodic courses not taught during 2013-2014

‡ Two years course

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

○ Tronc commun

○ General and general-purpose formation

○ Courses of Mathematics

○ LMAT1111F	General Mathematics	Pedro Dos Santos Santana Forte Vaz , Emmanuel Hanert , Augusto Ponce	45h +37.5h	7 Credits	1q
○ LMAT1111E	General Mathematics	Marino Gran , Jean Van Schaffingen	30h +22.5h	5 Credits	2q

○ Scientific and technical Courses

○ LSINF1140	Electronic bases of computer science	Marc Lobelle	30h+30h	6 Credits	2q
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○ Human Sciences, Economy, and Management Courses

○ LCOPS1124	Philosophy	Nathalie Frogneux , Danielle Lories , Nicolas Monseu , Délia Popa (compensates Nathalie Frogneux)	30h	5 Credits	
○ LESPO1113D	Sociology and Anthropology of the Contemporary Worlds - H. DRAELANTS	Hugues Draelants	40h	5 Credits	1q
○ LECGE1115	Political Economics	Paul Belleflamme , Pierre Dehez (coord.), Nathalie Gilson , Jean Hindriks	45h+15h	5 Credits	1q
○ LESPO1122	Foundations of Law	Nicolas Bonbled , Christine Bruls , Céline Romainville , Thibaut Slingeneyer	40h	5 Credits	

○ Language Courses

○ LANGL1370	English: reading comprehension	Dominique François , Céline Gouverneur	30h	3 Credits	2q
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○ Formation in Computing

○ LSINF1101	Introduction to programming	Olivier Bonaventure , Charles Pecheur	30h+30h	6 Credits	1q
○ LSINF1102	Problem solving using computers	Gildas Avoine , Pierre Schaus (compensates Gildas Avoine)	0h+60h	7 Credits	1q
○ LSINF1103	Algorithmics	Pierre Dupont	30h+30h	6 Credits	2q

SINF1BA - SECOND YEAR

● Mandatory

△ Courses not taught during 2013-2014

⊕ Periodic courses taught during 2013-2014

⊗ Optional

⊖ Periodic courses not taught during 2013-2014

‡ Two years course

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

o Tronc commun**o General and general-purpose formation****o Courses of Mathematics**

● LBIR1200	General mathematics II	Pierre Bieliavsky	52.5h +37.5h	6 Credits	1q
● LBIR1203	Probabilities and statistics (I)	Patrick Bogaert	30h+15h	4 Credits	1q
● LSINF1250	Mathematics for computer science	Gildas Avoine, Marco Saerens (compensates Gildas Avoine)	30h+15h	7 Credits	2q

o Human Sciences, Economy, and Management Courses

● LECGE1212	Macroeconomics	Fabio Mariani	45h+15h	5 Credits	1q
● LECGE1222	Microeconomics	Pierre Dehez, François Maniquet	45h+15h	5 Credits	1q

o Language Courses

● LANGL1372	English for Computer Scientists	Albert Verhaegen	30h	3 Credits	2q
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o Formation in Computing

● LSINF1225	Object-oriented design and data management	Kim Mens	30h+30h	5 Credits	2q
● LSINF1252	Computer Systems 1	Olivier Bonaventure	30h+30h	5 Credits	2q
● LFSAB1402	Informatics 2	Peter Van Roy	30h+30h	5 Credits	1q

o Minors and choice courses

The student completes his formation with the additional module in computer sciences, a minor of opening or by proposing a program of choice courses, in the approval of the committee of program in computing sciences.

⊗	Option in 2nd year	N.		15 Credits	
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SINF1BA - THIRD YEAR

● Mandatory

△ Courses not taught during 2013-2014

⊕ Periodic courses taught during 2013-2014

⊗ Optional

⊖ Periodic courses not taught during 2013-2014

‡ Two years course

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

o Tronc commun**o General and general-purpose formation****o Courses of Mathematics**

● LBIR1304	Probability and statistics (II)	Patrick Bogaert	22.5h +22.5h	3 Credits	1q
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o Scientific and technical Courses

● LELEC1930	Intoduction to telecommunication	Jérôme Louveaux	30h+15h	4 Credits	2q
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o Human Sciences, Economy, and Managment Courses

● LECGE1317	Organisational Theory	Matthieu de Nanteuil	30h	4 Credits	1q
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o Formation in Computing

● LSINF1121	Algorithmics and data structures	Pierre Dupont	30h+30h	5 Credits	1q
● LINGI1101	Discrete mathematics: logical foundations of computing science	Peter Van Roy	30h+30h	5 Credits	1q
● LINGI1113	Computer systems 2	Marc Lobelle	30h+30h	5 Credits	1q
● LINGI1122	Program conception methods	José Vander Meulen	30h+30h	5 Credits	2q
● LINGI1123	Computability and complexity	Yves Deville	30h+30h	5 Credits	2q
● LINGI1131	Computer language concepts	Peter Van Roy	30h+30h	5 Credits	2q
● LFSAB1509	Project 4 (in Computer Science)	Yves Deville	22.5h +22.5h	4 Credits	2q

o Minors and choice courses

The student completes his formation with the additional module in computer sciences, a minor of opening or by proposing a program of choice courses, in the approval of the committee of program in computing sciences.

⊗	Option in 3rd year	N.		15 Credits	
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List of available minors

Outre la majeure en sciences informatiques, les étudiants choisiront :

- soit la [mineure d'approfondissement en sciences informatiques](#)
- soit une des autres mineures de la liste ci-dessous
- soit, sur base d'un projet à élaborer avec la conseillère aux études, un ensemble cohérent de cours offerts par l'UCL à raison de 30 crédits

- > [Additional module in Computer Sciences](https://www.uclouvain.be/en-prog-2013-app-lsinf110p) [<https://www.uclouvain.be/en-prog-2013-app-lsinf110p>]
- > [Minor in Culture and Creation](https://www.uclouvain.be/en-prog-2013-min-lcucr100i) [<https://www.uclouvain.be/en-prog-2013-min-lcucr100i>]
- > [Minor in Development and Environment](https://www.uclouvain.be/en-prog-2013-min-ldenv100i) [<https://www.uclouvain.be/en-prog-2013-min-ldenv100i>]
- > [Minor in Economics](https://www.uclouvain.be/en-prog-2013-min-lecon100i) [<https://www.uclouvain.be/en-prog-2013-min-lecon100i>]
- > [Minor in Engineering Sciences : biomedical](https://www.uclouvain.be/en-prog-2013-min-lgbio100i) [<https://www.uclouvain.be/en-prog-2013-min-lgbio100i>]
- > [Minor in European Studies](https://www.uclouvain.be/en-prog-2013-min-leuro100i) [<https://www.uclouvain.be/en-prog-2013-min-leuro100i>]
- > [Minor in Gender Studies](https://www.uclouvain.be/en-prog-2013-min-lgenr100i) [<https://www.uclouvain.be/en-prog-2013-min-lgenr100i>]
- > [Minor in Geography](https://www.uclouvain.be/en-prog-2013-min-lgeog100i) [<https://www.uclouvain.be/en-prog-2013-min-lgeog100i>]
- > [Minor in Human and Social Sciences](https://www.uclouvain.be/en-prog-2013-min-lhuso100i) [<https://www.uclouvain.be/en-prog-2013-min-lhuso100i>]
- > [Minor in Information and Communication \(*\)](https://www.uclouvain.be/en-prog-2013-min-lcomu100i) [<https://www.uclouvain.be/en-prog-2013-min-lcomu100i>]
- > [Minor in Law \(access\)](https://www.uclouvain.be/en-prog-2013-min-ladrt100i) [<https://www.uclouvain.be/en-prog-2013-min-ladrt100i>]
- > [Minor in Law \(open\)](https://www.uclouvain.be/en-prog-2013-min-lodrt100i) [<https://www.uclouvain.be/en-prog-2013-min-lodrt100i>]
- > [Minor in Linguistics](https://www.uclouvain.be/en-prog-2013-min-lling100i) [<https://www.uclouvain.be/en-prog-2013-min-lling100i>]
- > [Minor in Literary Studies](https://www.uclouvain.be/en-prog-2013-min-llitt100i) [<https://www.uclouvain.be/en-prog-2013-min-llitt100i>]
- > [Minor in Management \(Computer sciences students\)](https://www.uclouvain.be/en-prog-2013-min-lgesc100i) [<https://www.uclouvain.be/en-prog-2013-min-lgesc100i>]
- > [Minor in Musicology](https://www.uclouvain.be/en-prog-2013-min-lmusi100i) [<https://www.uclouvain.be/en-prog-2013-min-lmusi100i>]
- > [Minor in Philosophy](https://www.uclouvain.be/en-prog-2013-min-lisp100i) [<https://www.uclouvain.be/en-prog-2013-min-lisp100i>]
- > [Minor in Statistics](https://www.uclouvain.be/en-prog-2013-min-lstat100i) [<https://www.uclouvain.be/en-prog-2013-min-lstat100i>]
- > [Minor in Urban Architecture](https://www.uclouvain.be/en-prog-2013-min-larch100i) [<https://www.uclouvain.be/en-prog-2013-min-larch100i>]
- > [Minor in entrepreneurship](https://www.uclouvain.be/en-prog-2013-min-lmpme100i) [<https://www.uclouvain.be/en-prog-2013-min-lmpme100i>]

(*) *This program is the subject of access criteria*

