UCLouvain

SINF1BA

2025 - 2026

Bachelor in Computer Science

⚠️ *The version you're consulting is not definitive. This programme still may change. The final version will be published on 1th June.*

At Louvain-la-Neuve - 180 credits - 3 years - Day schedule - In French
Dissertation/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: **Louvain School of Engineering (EPL)**
Programme acronym: **SINF1BA** - Francophone Certification Framework: 6

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SINF1BA - Introduction

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Introduction

Introduction

Computer science, or more generally information and communications technology (ICT), is everywhere; everyone uses computers/ smartphones/… to communicate, work, study, play, travel, and manage. More and more activities are assisted by computers. SMEs, public services, education world, associations, leisure, in two words the world, has a growing need for computer scientists who are competent, creative and motivated. We cannot count the daily-used IT systems: Internet, mobile, social networks, robotics, home automation, e-commerce, search engines, business management, hospitals, road safety, exhibitions and management of theatres or museums, transport, energy supply and many other areas rely on IT. There will be more and more areas impacted by ICT tomorrow and more complex applications will be needed.

With the bachelor's degree in computer science, you will

• understand in depth the foundations for the design and implementation of simple computer applications;

• master the basic underlying computer technologies;

• have developed your ability for reasoning and abstraction, required to design future applications;

• master the mathematical techniques involved in such reasoning;

• get the luggage necessary for the future "master in computer science," oriented toward the development of complex software applications.

Your profile

You

• have a taste for problem solving;

• are pushed by a great curiosity;

• overflow of creativity and imagination;

• are a head for abstraction, analysis and synthesis;

• have a methodical mind and show rigor in your reasoning;

• are good for human contact, organization of teamwork, leadership, etc.

Following a strong mathematical option during high school and feeling an attraction to science or economics are assets.

Your future job

During his career, the computer scientist will flourish and evolve in one or more of the following profiles:

• The designer identifies the needs of the future user and determines the technical means useful to fulfil these needs. He is able to speak "the language" of the customer, it has a fairly broad culture to interact successfully with non-computer experts. He masters computer technology to identify the best solution. It builds a quality architecture for this solution.

• The achiever is able to translate the indications and guidelines produced by the designer in computer components. He analyses in detail some components of the architecture, he programs, tests, deploys these components into an integrated solution. His technical expertise is very sharp.

• The IT project manager takes care of the smooth running of the project; he is responsible for the completion of the tasks associated with these systems, their safety, planning their development. As the designer, it has qualities in terms of human contacts, a good general education and strong technical skills.

Your programme

The bachelor has a compulsory part covering different disciplines

• computer science ;

• mathematics ;

• economics, management and social sciences;

• English;

• sciences and technology.

You choose a minor to complete your training. This option allows to open your study program to domains you are interested outside the computer science or to deepen some fields closer to the mandatory part of the program (computer science or management).

Once bachelor, you will continue your training by the Master in Computer Science.

SINF1BA - Teaching profile

Learning outcomes

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

1. demonstrate a solid basic knowledge of computer science, which, being supplemented by a solid education in other areas, allows him to solve problems within his discipline

The bachelor's program aims the acquisition of knowledge in :

• Discrete structures;

• Programming Fundamentals;

• Algorithms and Complexity;

• Architecture of computers and operating systems;

• Program Design Method;

• Information management.

Moreover, the bachelor's program is open to other disciplines. A solid basic education is offered in the following areas:

• Mathematics to model a situation and prove the accuracy of a statement;

• Statistics to be able to make a quantitative analysis of data;

• Economics, management and humanities to understand the socio-economic world in which IT tools are inserted.

2. to organize and carry out successfully the development process of a "classic" computer system with medium complexity in order to meet the customer's needs

S2.1 Analyse the problem, identify the functional requirements and formulate the corresponding specifications;

S2.2 Model the problem and design one or more technical solutions to meet these specifications;

S2.3 Assess and classify these solutions in the light of all the criteria listed in the specifications: effectiveness, feasibility;

S2.4 Implement and test the selected solution.

3. contribute in team to a project taking into account the objectives, allocated resources and constraints on feature

• Crop and clarify the objectives of a project in collaboration with customers;

• Commit collectively on a work plan, schedule and roles to keep;

• Make decisions as a team when there is a choice to make: either on technical solutions or on the organization of work to make the project.

4. communicate effectively in French orally and in writing to carry out the projects, use cleverly technical documents in English and understand the information transmitted orally in English

• Identify the needs of the customer who has a basic computer science culture: questioning, listening and understanding the client, keeping in mind the existence of non-technical dimensions;

• Argue and convince while adapting his communication to the language of the interlocutors: colleagues, clients, superiors;

• Communicate in graphical and schematic form, interpret a diagram, present the results of a task, structuring information;

• Read, analyse and use technical documentation (diagrams, tutorials, ...);

• Prepare written documents taking into account contextual requirements and social conventions (manual, documentation, project report);

• Make a persuasive oral presentation using modern communication techniques.

5. demonstrate both rigorous, open and critical mind in his work

• Apply the standards of its discipline (terminology, quality standards in terms of documentation and programming methods, ...);

• Demonstrate critical attitude with respect to a technical solution, checking robustness and relevance in its context of use;

• Develop autonomously learning to remain competent in his field.

Programme structure

The student who enrols in the bachelor's programme in Computer Science will follow a programme of 180 credits, usually spread over 3 years. This programme includes a major of 150 credits and a minor of 30 credits.

• The major consists of a set of polyvalent courses of 79 credits in total and a set of Computer Science courses of 71 credits. The general polyvalent formation comprises a solid training in Economics, Management and Human Sciences (28 credits) as well as in Mathematics (32 credits).

• The major will be supplemented by a minor or an additionnal module in computer sciences of 30 credits, intended for students who wish to deepen their training in the discipline.

- 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://uclouvain.be/fr/catalogue-formations/faculte-2024-epl.html. 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 - 71 credits
- Mathematics- 32 credits
- Economics, Management and Human sciences - 28 credits
- Science and Techniques - 10 credits
- Religious Studies - 2 credits
- English - 7 credits
- Minor - 30 credits

SINF1BA Programme

Detailed programme by subject

⭘ Mandatory
⊗ Optional
△ Not offered in 2025-2026
⊘ Not offered in 2025-2026 but offered the following year
⊕ Offered in 2025-2026 but not the following year
△ ⊕ Not offered in 2025-2026 or the following year
🟨 Activity with requisites
🌐 Open to incoming exchange students
🌐 Not open to incoming exchange students
[FR] Teaching language (FR, EN, ES, NL, DE, ...)

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

Year

					1	2	3

⭘ *Core study*

⭘ **General and training (79 credits)**

⭘ **Mathematics (32 credits)**

				1	2	3
⭘ LBIR1212	Probabilities and statistics (I) 🟨	Patrick Bogaert	[FR] [q1] [30h+15h] [4 Credits] 🌐	x		
⭘ LEPL1109	Statistics and data sciences		[FR] [q1] [30h+30h] [5 Credits] 🌐			x
⭘ LINFO1111	Analysis	Pierre-Antoine Absil François Glineur	[FR] [q1] [45h+37.5h] [7 Credits] 🌐	x		
⭘ LINFO1112	Algebra	Christophe Craeye Enrico Vitale	[FR] [q2] [30h+30h] [5 Credits] 🌐	x		
⭘ LINFO1114	Discrete Mathematics 🟨 [M]	Marco Saerens	[FR] [q1] [30h+15h] [5 Credits] 🌐	x		
⭘ LINFO1113	Numerical algorithmic 🟨		[FR] [q2] [30h+30h] [6 Credits] 🌐	x		

⭘ **Scientific and technical Courses (5 credits)**

				1	2	3
⭘ LINFO1140	Principles of computer operation [M]	Olivier Bonaventure	[FR] [q2] [30h+30h] [5 Credits] 🌐	x		

⭘ **Human Sciences, Economy, and Managment Courses (18 credits)**

				1	2	3
⭘ LEPL1805	People management [M]	Bauduin Auquier Philippe Henrotaux Renaud Ronsse	[FR] [q1] [30h+0h] [3 Credits] 🌐			x
⭘ LINFO1222	Enjeux sociétaux du numérique [C]		[FR] [q2] [30h+15h] [5 Credits] △ 🌐			x

				Year		
				1	2	3
O LEPL2214A	Law, Regulation and Legal Context - Law, regulation and legal context (partim A)		FR [q1] [30h+0h] [3 Credits] ⊕		x	
O LEPL2214B	Law, Regulation and Legal Context - Digital law (partim B)		FR [q1] [15h] [2 Credits] ⊕		x	
O LESPO1118	Economic Policy [C]		FR [q1] [30h+10h] [5 Credits] ,	x		

O Cours de langues

O English Courses (7 credits)

O LANGL1181	English for Computer Scientists I *A placement test is organized at the beginning of the annual unit 1 and 2. Depending on the obtained mark, the students follow an adapted course. The students with a mark gretaer or equal to 16/20 keep their mark and could take an additional language course (out of the 180 credits); this additional course will only affect their average mark if credited (mark greater or equal to 10/20)*	Jean-Luc Delghust (coord.)	EN [q1] [12h] [2 Credits] ⊕	x		
O LANGL1282	Anglais pour informaticiens II ▢ *A placement test is organized at the beginning of the annual unit 1 and 2. Depending on the obtained mark, the students follow an adapted course. The students with a mark gretaer or equal to 16/20 keep their mark and could take an additional language course (out of the 180 credits); this additional course will only affect their average mark if credited (mark greater or equal to 10/20)*	Jean-Luc Delghust Charlotte Peters (coord.) Marc Piwnik (coord.)	EN [q1] [30h] [3 Credits] ⊛		x	
O LANGL1383	English for Computer Scientists III	Ahmed Adrioueche (coord.) Nicholas Gibbs Ariane Halleux Philippe Neyt Charlotte Peters (coord.)	EN [q1] [30h] [2 Credits] ⊛			x

⊗ Dutch courses

⊗ LNEER1300	General and academic Dutch - intermediate level	Hilde Bufkens (coord.)	NL [q1 or q2] [30h] [2 Credits] ⊕	x		
⊗ LNEER1500	Interfaculty teaching unit - General and academic Dutch - upper-intermediate level	Valérie Dachy (coord.)	NL [q1 or q2] [30h] [3 Credits] ⊕		x	

⊗ German courses

⊗ LALLE1101	German beginner's level 1st part (0-A1)	Fanny Desterbecq (compensates Ann Rinder)	DE [q1 or q2] [45h] [2 Credits] ⊕	x		
⊗ LALLE1102	German beginner's level 2nd part (A1 - A2)	Caroline Klein (coord.)	DE [q2] [45h] [2 Credits] ⊕	x		
⊗ LALLE1300	General German – independent user – threshold	Virginie Godin (coord.)	DE [q1+q2] [90h] [3 Credits] ⊕		x	

⊗ Spanish Courses

⊗ LESPA1101	Spanish beginner's level 1st part (0-A1)	Begona Garcia Migura Alicia Maria Tirado Fernandez (coord.)	ES [q1 or q2] [45h] [2 Credits] ⊕	x		
⊗ LESPA1102	Spanish (beginner¿s level) 2nd part (A1 - A2)	Alicia Maria Tirado Fernandez (coord.)	ES [q1 or q2] [45h] [2 Credits] ⊕	x		
⊗ LESPA1301	Spanish intermediate level, 1st part (A2-B1.1)	Begona Garcia Migura (coord.)	ES [q1 or q2] [45h] [3 Credits] ⊕		x	
⊗ LESPA1302	Spanish intermediate level, 2nd part (B1.1-B1.2)	Alicia Maria Tirado Fernandez (coord.)	ES [q2] [45h] [3 Credits] ⊕		x	

O Religion courses for students in exact sciences (2 credits)
The students select one course between:

⊗ LTECO2100	Sociétés, cultures, religions : Biblical readings	Hans Ausloos	FR [q1] [15h] [2 Credits] ⊕		x	
⊗ LTECO2300	Societies, cultures, religions : Ethical questions		FR [q1] [15h] [2 Credits] ⊕		x	
⊗ LTHEO2840	Science and Christian faith	Benoît Bourgine	FR [q1] [15h] [2 Credits] ⊕		x	
⊗ LTECO2200	Societies-cultures-religions : Human Questions		FR [q1] [15h] [2 Credits] ⊕		x	

Year
1 2 3

⚬ Computer science training (71 credits)

En bloc annuel 3, l'étudiant doit choisir l'un des trois projets suivants dans son programme de 180 crédits en bachelier: LEPL1509, LEPL1511 ou LSST1001. Les projets LEPL1511 et LSST1001 sont ouverts sur candidature et après sélection uniquement.

Code	Course	Teachers	Details	1	2	3
⚬ LINFO1101	Introduction to programming	Kim Mens Siegfried Nijssen Charles Pecheur	FR [q1] [30h+30h] [5 Credits] ⊕	x		
⚬ LINFO1116	Logique [C]		FR [q1] [30h+30h] [5 Credits] ⊕	x		
⚬ LINFO1001	IT projects 1 [M]		FR [q1] [30h+30h] [6 Credits] ⊕	x		
⚬ LINFO1103	Introduction to algorithms	Pierre Dupont	FR [q2] [30h+30h] [5 Credits] ⊕	x		
⚬ LINFO1311	Human Machine Interface	Jean Vanderdonckt	FR [q2] [30h+15h] [5 Credits] ⊕	x		
⚬ LINFO1006	Base de données et représentation de l'information [C]		FR [q2] [30h+30h] [5 Credits] ⊕	x		
⚬ LINFO1002	IT projects 2	Tom Barbette	FR [q2] [30h+30h] [5 Credits] ⊕	x		
⚬ LEPL1402	Informatics 2 🔶		FR [q1] [30h+30h] [5 Credits] ⊕		x	
⚬ LINFO1104	Programming language concepts 🔶	Peter Van Roy	FR [q2] [30h+30h] [5 Credits] ⊕		x	
⚬ LINFO1341	Computer networks		FR [q2] [30h+30h] [5 Credits] ⊕		x	
⚬ LEPL1503	Project 3	Olivier Bonaventure	FR [q2] [30h+30h] [5 Credits] ⊕		x	
⚬ LINFO1121	Algorithms and data structures 🔶		FR [q1] [30h+30h] [5 Credits] ⊕			x
⚬ LINFO1252	Informatic Systems 🔶		FR [q1] [30h+30h] [5 Credits] ⊕			x
⚬ LINFO1123	Calculability and Complexity [M]		FR [q2] [30h+30h] [5 Credits] ⊕			x
⚬ LINFO1361	Artificial intelligence	Yves Deville	FR [q2] [30h+30h] [5 Credits] ⊕			x
⚬ LINFO2347	Computer system security	Ramin Sadre	FR [q2] [30h+15h] [5 Credits] ⊕ > *French-friendly*			x

⚬ Projet au choix

En attendant la sélection, l'étudiant s'inscrit d'office à LEPL1509
From 5 to 5credit(s)

Code	Course	Teachers	Details	1	2	3
⚠ LEPL1509	Project 4 (in informatics) 🔶		FR [q2] [30h+22.5h] [5 Credits] ⊕			x
⚠ LSST1001	IngénieuxSud *Ouvert sur candidature et après sélection uniquement*	Stéphanie Merle Jean-Pierre Raskin	FR [q1+q2] [15h+45h] [5 Credits] ⊕			x
⚠ LEPL1511	Project 4 (in business projects creation) *Ouvert sur candidature et après sélection uniquement*		FR [q2] [30h+22.5h] [5 Credits] ⊕			x

⚬ *Minor or additional module (30 credits)*

The student completes his formation with the additional module in computer sciences or a minor.
Maximum 1 element(s)

List of available minors

Besides the core study, students will choose:

• the Additionnal module in Computer Science

• or one of the minors in the list below.

> Additional module in computer science   *[en-prog-2025-appsinf]*
> Minor in Law (access)   *[en-prog-2025-minadroi]*
> Minor in Urban Architecture   *[en-prog-2025-minarch]*
> Minor in Information and Communication   *[en-prog-2025-mincomu]*
> Minor in Culture and Creation   *[en-prog-2025-mincucrea]*
> Minor in Scientific Culture   *[en-prog-2025-mincults]*
> Minor in Development and Environment   *[en-prog-2025-mindenv]*
> Minor : Issues of Transition and Sustainable Development (*)   *[en-prog-2025-mindd]*
> Minor in Economics   *[en-prog-2025-minecon]*
> Minor in European Studies   *[en-prog-2025-mineuro]*
> Minor in Gender Studies   *[en-prog-2025-mingenre]*
> Minor in Geography   *[en-prog-2025-mingeog]*
> Minor in Management (ESPO students)   *[en-prog-2025-minagest]*
> Minor in Human and Social Sciences   *[en-prog-2025-minhuso]*
> Minor in Philosophy   *[en-prog-2025-minfilo]*
> Minor in entrepreneurship (*)   *[en-prog-2025-minmpme]*
> Minor in Musicology   *[en-prog-2025-minmusi]*
> Minor in Law (openness)   *[en-prog-2025-minodroi]*
> Minor in Statistics, Actuarial Sciences and Data Sciences   *[en-prog-2025-minstat]*
> Minor in Dutch language and culture (*)   *[en-prog-2025-minneerl]*
> Minor in Literary Studies   *[en-prog-2025-minlitter]*
> Minor in Linguistics   *[en-prog-2025-minlingui]*

(*) This programme is the subject of access criteria

Course prerequisites

The **table** below lists the activities (course units, or CUs) for which there are one or more prerequisites within the programme, i.e. the programme CU for which the learning outcomes must be certified and the corresponding credits awarded by the jury before registering for that CU.

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

Prerequisites and student's annual programme

As the prerequisite is for CU registration puposes only, there are no prerequisites within a programme year. Prerequisites are defined between CUs of different years and therefore influence the order in which the student will be able to register for the programme's CUs.

In addition, when the jury validates a student's individual programme at the beginning of the year, it ensures its coherence, meaning that it may:

- require the student to combine registration in two separate CUs which it considers necessary from a pedagogical point of view.
- transform a prerequisite into a corequisite if the student is in the final year of a degree course.

For more information, please consult the Academic Regulations and Procedures.

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 # Prerequisities list

LANGL1282 "Anglais pour informaticiens II" has prerequisite(s) LANGL1181

- LANGL1181 - English for Computer Scientists I

LBIR1212 "Probabilités et statistiques (I)" has prerequisite(s) LINFO1111 ET LINFO1112

- LINFO1111 - Analysis
- LINFO1112 - Algebra

LECGE1222 "Microéconomie" has prerequisite(s) LCOPS1115

- LCOPS1115 - Economic Policy

LELEC1930 "Introduction aux télécommunications" has prerequisite(s) LINFO1140

- LINFO1140 - Principles of computer operation

LEPL1402 "Informatique 2" has prerequisite(s) LINFO1101

- LINFO1101 - Introduction to programming

LEPL1509 "Projet 4 (en informatique)" has prerequisite(s) LEPL1402

- LEPL1402 - Informatics 2

LINFO1104 "Concepts des langages de programmation" has prerequisite(s) LINFO1101

- LINFO1101 - Introduction to programming

LINFO1113 "Algorithmique numérique" has prerequisite(s) LINFO1101 ET LINFO1111 ET LINFO1112

- LINFO1101 - Introduction to programming
- LINFO1111 - Analysis
- LINFO1112 - Algebra

LINFO1114 "Structures discrètes" has prerequisite(s) LINFO1112

- LINFO1112 - Algebra

LINFO1121 "Algorithmique et structures de données" has prerequisite(s) LEPL1402

- LEPL1402 - Informatics 2

LINFO1252 "Systèmes informatiques" has prerequisite(s) LEPL1402 ET LEPL1503

- LEPL1402 - Informatics 2
- LEPL1503 - Project 3

The programme's courses and learning outcomes

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.

Detailed programme per annual block

SINF1BA - 1ST ANNUAL UNIT

○ Mandatory
⊗ Optional
△ Not offered in 2025-2026
⊘ Not offered in 2025-2026 but offered the following year
⊕ Offered in 2025-2026 but not the following year
△ ⊕ Not offered in 2025-2026 or the following year
🟨 Activity with requisites
🌐 Open to incoming exchange students
🌐 Not open to incoming exchange students
[FR] Teaching language (FR, EN, ES, NL, DE, ...)

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

○ *Core study*

○ **General and training**

○ **Mathematics**

○ LINFO1111	Analysis	Pierre-Antoine Absil François Glineur	[FR] [q1] [45h +37.5h] [7 Credits] 🌐
○ LINFO1112	Algebra	Christophe Craeye Enrico Vitale	[FR] [q2] [30h +30h] [5 Credits] 🌐

○ **Scientific and technical Courses**

○ LINFO1140	Principles of computer operation [M]	Olivier Bonaventure	[FR] [q2] [30h +30h] [5 Credits] 🌐

○ **Human Sciences, Economy, and Managment Courses**

○ LESPO1118	Economic Policy [C]		[FR] [q1] [30h +10h] [5 Credits] 🌐

○ **Cours de langues**

○ **English Courses**

○ LANGL1181	English for Computer Scientists I *A placement test is organized at the beginning of the annual unit 1 and 2. Depending on the obtained mark, the students follow an adapted course. The students with a mark gretaer or equal to 16/20 keep their mark and could take an additional language course (out of the 180 credits); this additional course will only affect their average mark if credited (mark greater or equal to 10/20)*	Jean-Luc Delghust (coord.)	[EN] [q1] [12h] [2 Credits] 🌐

⊗ **Dutch courses**

⊗ LNEER1300	General and academic Dutch - intermediate level	Hilde Bufkens (coord.)	[NL] [q1 or q2] [30h] [2 Credits] 🌐

⊗ **German courses**

⊗ LALLE1101	German beginner's level 1st part (0-A1)	Fanny Desterbecq (compensates Ann Rinder)	[DE] [q1 or q2] [45h] [2 Credits] 🌐
⊗ LALLE1102	German beginner's level 2nd part (A1 - A2)	Caroline Klein (coord.)	[DE] [q2] [45h] [2 Credits] 🌐

⊗ **Spanish Courses**

⊗ LESPA1101	Spanish beginner's level 1st part (0-A1)	Begona Garcia Migura Alicia Maria Tirado Fernandez (coord.)	[ES] [q1 or q2] [45h] [2 Credits] 🌐

⚙ LESPA1102	Spanish (beginner¿s level) 2nd part (A1 - A2)	Alicia Maria Tirado Fernandez (coord.)	FR [q1 or q2] [45h] [2 Credits] ⊕

○ Computer science training

En bloc annuel 3, l'étudiant doit choisir l'un des trois projets suivants dans son programme de 180 crédits en bachelier: LEPL1509, LEPL1511 ou LSST1001. Les projets LEPL1511 et LSST1001 sont ouverts sur candidature et après sélection uniquement.

○ LINFO1101	Introduction to programming	Kim Mens Siegfried Nijssen Charles Pecheur	FR [q1] [30h +30h] [5 Credits] ⊕
○ LINFO1116	Logique [C]		FR [q1] [30h +30h] [5 Credits] ⊕
○ LINFO1001	IT projects 1 [M]		FR [q1] [30h +30h] [6 Credits] ⊕
○ LINFO1103	Introduction to algorithms	Pierre Dupont	FR [q2] [30h +30h] [5 Credits] ⊕
○ LINFO1311	Human Machine Interface	Jean Vanderdonckt	FR [q2] [30h +15h] [5 Credits] ⊕
○ LINFO1006	Base de données et représentation de l'information [C]		FR [q2] [30h +30h] [5 Credits] ⊕
○ LINFO1002	IT projects 2	Tom Barbette	FR [q2] [30h +30h] [5 Credits] ⊕

SINF1BA - 2ND ANNUAL UNIT

- O Mandatory
- ⚙ Optional
- △ Not offered in 2025-2026
- ⊘ Not offered in 2025-2026 but offered the following year
- ⊕ Offered in 2025-2026 but not the following year
- △ ⊕ Not offered in 2025-2026 or the following year
- 🟨 Activity with requisites
- ⊕ Open to incoming exchange students
- ⊛ Not open to incoming exchange students
- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

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

o *Core study*

o **General and training**

O **Mathematics**

O LBIR1212	Probabilities and statistics (I) 🟨	Patrick Bogaert	[FR] [q1] [30h +15h] [4 Credits] ⊕
O LINFO1114	Discrete Mathematics 🟨 [M]	Marco Saerens	[FR] [q1] [30h +15h] [5 Credits] ⊕
O LINFO1113	Numerical algorithmic 🟨		[FR] [q2] [30h +30h] [6 Credits] ⊕

O **Human Sciences, Economy, and Managment Courses**

O LEPL2214A	Law, Regulation and Legal Context - Law, regulation and legal context (partim A)		[FR] [q1] [30h +0h] [3 Credits] ⊕
O LEPL2214B	Law, Regulation and Legal Context - Digital law (partim B)		[FR] [q1] [15h] [2 Credits] ⊕

O **Cours de langues**

O **English Courses**

O LANGL1282	Anglais pour informaticiens II 🟨 *A placement test is organized at the beginning of the annual unit 1 and 2. Depending on the obtained mark, the students follow an adapted course. The students with a mark gretaer or equal to 16/20 keep their mark and could take an additional language course (out of the 180 credits); this additional course will only affect their average mark if credited (mark greater or equal to 10/20)*	Jean-Luc Delghust Charlotte Peters (coord.) Marc Piwnik (coord.)	[EN] [q1] [30h] [3 Credits] ⊛

⚙ **Dutch courses**

⚙ LNEER1500	Interfaculty teaching unit - General and academic Dutch - upper-intermediate level	Valérie Dachy (coord.)	[NL] [q1 or q2] [30h] [3 Credits] ⊕

⚙ **German courses**

⚙ LALLE1300	General German – independent user – threshold	Virginie Godin (coord.)	[DE] [q1+q2] [90h] [3 Credits] ⊕

⚙ **Spanish Courses**

⚙ LESPA1301	Spanish intermediate level, 1st part (A2-B1.1)	Begona Garcia Migura (coord.)	[ES] [q1 or q2] [45h] [3 Credits] ⊕

✗ LESPA1302	Spanish intermediate level, 2nd part (B1.1-B1.2)	Alicia Maria Tirado Fernandez (coord.)	FR [q2] [45h] [3 Credits] ⊕

○ **Religion courses for students in exact sciences**
The students select one course between:

✗ LTECO2100	Sociétés, cultures, religions : Biblical readings	Hans Ausloos	FR [q1] [15h] [2 Credits] ⊕
✗ LTECO2300	Societies, cultures, religions : Ethical questions		FR [q1] [15h] [2 Credits] ⊕
✗ LTHEO2840	Science and Christian faith	Benoît Bourgine	FR [q1] [15h] [2 Credits] ⊕
✗ LTECO2200	Societies-cultures-religions : Human Questions		FR [q1] [15h] [2 Credits] ⊕

○ **Computer science training**

En bloc annuel 3, l'étudiant doit choisir l'un des trois projets suivants dans son programme de 180 crédits en bachelier: LEPL1509, LEPL1511 ou LSST1001. Les projets LEPL1511 et LSST1001 sont ouverts sur candidature et après sélection uniquement.

○ LEPL1402	Informatics 2 🔸		FR [q1] [30h +30h] [5 Credits] ⊕
○ LINFO1104	Programming language concepts 🔸	Peter Van Roy	FR [q2] [30h +30h] [5 Credits] ⊕
○ LINFO1341	Computer networks		FR [q2] [30h +30h] [5 Credits] ⊕
○ LEPL1503	Project 3	Olivier Bonaventure	FR [q2] [30h +30h] [5 Credits] ⊕

○ *Minor or additional module*

The student completes his formation with the additional module in computer sciences or a minor.
Maximum 1 element(s)

SINF1BA - 3RD ANNUAL UNIT

⭘ Mandatory
⌗ Optional
△ Not offered in 2025-2026
⊘ Not offered in 2025-2026 but offered the following year
⊕ Offered in 2025-2026 but not the following year
△ ⊕ Not offered in 2025-2026 or the following year
🟨 Activity with requisites
⊕ Open to incoming exchange students
⊛ Not open to incoming exchange students
[FR] Teaching language (FR, EN, ES, NL, DE, ...)

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

⭘ *Core study*

⭘ General and training

⭘ Mathematics

⭘ LEPL1109	Statistics and data sciences		[FR] [q1] [30h +30h] [5 Credits] ⊕

⭘ Human Sciences, Economy, and Managment Courses

⭘ LEPL1805	People management [M]	Bauduin Auquier Philippe Henrotaux Renaud Ronsse	[FR] [q1] [30h +0h] [3 Credits] ⊕
⭘ LINFO1222	Enjeux sociétaux du numérique [C]		[FR] [q2] [30h+15h] [5 Credits] △ ⊕

⭘ Cours de langues

⭘ English Courses

⭘ LANGL1383	English for Computer Scientists III	Ahmed Adrioueche (coord.) Nicholas Gibbs Ariane Halleux Philippe Neyt Charlotte Peters (coord.)	[FR] [q1] [30h] [2 Credits] ⊕

⭘ Computer science training

En bloc annuel 3, l'étudiant doit choisir l'un des trois projets suivants dans son programme de 180 crédits en bachelier: LEPL1509, LEPL1511 ou LSST1001. Les projets LEPL1511 et LSST1001 sont ouverts sur candidature et après sélection uniquement.

⭘ LINFO1121	Algorithms and data structures 🟨		[FR] [q1] [30h +30h] [5 Credits] ⊕
⭘ LINFO1252	Informatic Systems 🟨		[FR] [q1] [30h +30h] [5 Credits] ⊕
⭘ LINFO1123	Calculability and Complexity [M]		[FR] [q2] [30h +30h] [5 Credits] ⊕
⭘ LINFO1361	Artificial intelligence	Yves Deville	[FR] [q2] [30h +30h] [5 Credits] ⊕
⭘ LINFO2347	Computer system security	Ramin Sadre	[EN] [q2] [30h +15h] [5 Credits] ⊕ > *French-friendly*

◯ **Projet au choix**
En attendant la sélection, l'étudiant s'inscrit d'office à LEPL1509
From 5 to 5credit(s)

✗ LEPL1509	Project 4 (in informatics) 📒		FR [q2] [30h +22.5h] [5 Credits] ⊕
✗ LSST1001	IngénieuxSud *Ouvert sur candidature et après sélection uniquement*	Stéphanie Merle Jean-Pierre Raskin	FR [q1+q2] [15h +45h] [5 Credits] ⊕
✗ LEPL1511	Project 4 (in business projects creation) *Ouvert sur candidature et après sélection uniquement*		FR [q2] [30h +22.5h] [5 Credits] ⊕

○ *Minor or additional module*

The student completes his formation with the additional module in computer sciences or a minor.
Maximum 1 element(s)

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SINF1BA - Information

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Access Requirements

Decree of 7 November 2013 defining the landscape of higher education and the academic organization of studies.

The admission requirements must be met prior to enrolment in the University.

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

SUMMARY

- General access requirements
- Specific access requirements
- Access based on validation of professional experience
- Special requirements to access some programmes

General access requirements

Except as otherwise provided by other specific legal provisions, admission to undergraduate courses leading to the award of a Bachelor's degree will be granted to students with one of the following qualifications :

1. A Certificate of Upper Secondary Education issued during or after the 1993-1994 academic year by an establishment offering full-time secondary education or an adult education centre in the French Community of Belgium and, as the case may be, approved if it was issued by an educational institution before 1 January 2008 or affixed with the seal of the French Community if it was issued after this date, or an equivalent certificate awarded by the Examination Board of the French Community during or after 1994;

2. A Certificate of Upper Secondary Education issued no later than the end of the 1992-1993 academic year, along with official documentation attesting to the student's ability to pursue higher education for students applying for a full-length undergraduate degree programme;

3. A diploma awarded by a higher education institution within the French Community that confers an academic degree issued under the above-mentioned Decree, or a diploma awarded by a university or institution dispensing full-time higher education in accordance with earlier legislation;

4. A higher education certificate or diploma awarded by an adult education centre;

5. A pass certificate for one of the entrance examinations organized by higher education institutions or by an examination board of the French Community; this document gives admission to studies in the sectors, fields or programmes indicated therein;

6. A diploma, certificate of studies or other qualification similar to those mentioned above, issued by the Flemish Community of Belgium, the German Community of Belgium or the Royal Military Academy;

7. A diploma, certificate of studies or other qualification obtained abroad and deemed equivalent to the first four mentioned above by virtue of a law, decree, European directive or international convention;

Note:

Requests for equivalence must be submitted to the Equivalence department (Service des équivalences) of the Ministry of Higher Education and Scientific Research of the French Community of Belgium in compliance with the official deadline.

The following two qualifications are automatically deemed equivalent to the Certificate of Upper Secondary Education (Certificat d'enseignement secondaire supérieur – CESS):

- European Baccalaureate issued by the Board of Governors of a European School,
- International Baccalaureate issued by the International Baccalaureate Office in Geneva.

8. Official documentation attesting to a student's ability to pursue higher education (diplôme d'aptitude à accéder à l'enseignement supérieur - DAES), issued by the Examination Board of the French Community.

Specific access requirements

- Access to bachelor programmes for candidates of nationality outside the European Union who are not assimilated to Belgian nationals is subject to the following criteria:

  - not have obtained a secondary education diploma for more than 3 years maximum. Example: for an admission application for the academic year 2024-2025, you must have obtained your diploma during the academic years 2021-2022, 2022-2023 ou 2023-2024. In the French Community of Belgium, the academic year runs from September 14 to September 13
  - not already hold an undergraduate degree

- Candidates, whatever their nationality, with a secondary school diploma **from a country outside the European Union**, must have obtained an average of 13/20 minimum or, failing that, have obtained this average, have passed one year of study in Belgium (for example special Maths / sciences). A non-successful year will not be taken into consideration.

- For any secondary school diploma **from a European Union country**, the admission request must contain the equivalence of your diploma or, at the very least, proof of the filing of the equivalence request with the Wallonia-Brussels Federation (French Community of Belgium). For any information relating to obtaining an equivalence, please refer to the following site.
- For any secondary school diploma **from a country outside the European Union**, the admission application must contain the equivalence of your diploma issued by the Wallonia-Brussels Federation (French Community of Belgium). If you have a restrictive equivalence for the programme of your choice, in addition of it, you **must** have either the DAES or a certificate of successful completion of the examination giving access to 1st cycle studies when you submit your application

Access based on validation of professional experience

Admission to undergraduate studies on the basis of accreditation of knowledge and skills obtained through professional or personal experience (Accreditation of Prior Experience)

Subject to the general requirements laid down by the authorities of the higher education institution, with the aim of admission to the undergraduate programme, the examination boards accredit the knowledge and skills that students have obtained through their professional or personal experience.

This experience must correspond to at least five years of documented activity, with years spent in higher education being partially taken into account: 60 credits are deemed equivalent to one year of experience, with a maximum of two years being counted. At the end of an assessment procedure organized by the authorities of the higher education institution, the Examination Board will decide whether a student has sufficient skills and knowledge to successfully pursue undergraduate studies.

After this assessment, the Examination Board will determine the additional courses and possible exemptions constituting the supplementary requirements for the student's admission.

Special requirements to access some programmes

- 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 courses is always subject to students passing the special entrance examination. Contact the faculty office for the programme content and the examination arrangements.
- 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 medecine 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).

  Note: students wishing to enrol for a **Bachelor's degree in Medicine** or a **Bachelor's degree in dental science** must first sit an aptitude test (fr).
- Access to **Bachelor of Science in Business Engineering**

  The Bachelor of Science in Business Engineering is a joint program organised by KU Leuven and UCLouvain Saint-Louis Bruxelles. In order to register, all candidate must first submit an application via the KU Leuven admission platform. The conditions of access to this programme are specific.

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 evaluation methods comply with the*** regulations concerning studies and exams***. More detailed explanation of the modalities specific to each learning unit are available on their description sheets under the heading "Learning outcomes evaluation method".***

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 opportunity 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 in Management

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

Contacts

Curriculum Management

Entity

Structure entity	SST/EPL/INFO
Denomination	(INFO)
Faculty	Louvain School of Engineering (EPL)
Sector	Sciences and Technology (SST)
Acronym	INFO
Postal address	Place Sainte Barbe 2 - bte L5.02.01
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Academic supervisor: Ramin Sadre

Jury

- Secrétaire du Jury: Cristel Pelsser
- Président du Jury: Claude Oestges

Useful Contact(s)

- Secrétariat: Cindy De Saeger
- Conseillère aux études en sciences informatiques: Cécile Lombart

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