UCLouvain

SINC1BA

2020 - 2021

Bachelor in Computer Science

At Charleroi - 180 credits - 3 years - Day schedule - In French
Dissertation/Graduation Project : **NO** - Internship : **NO**
Activities in English: **NO** - Activities in other languages : **NO**
Activities on other sites : **NO**
Main study domain : **Sciences**
Organized by: **Louvain School of Engineering (EPL)**
Programme acronym: **SINC1BA** - Francophone Certification Framework: 6

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SINC1BA - Introduction

Introduction

SINC1BA - Teaching profile

Learning outcomes

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

SINC1BA Detailled programme

Programme by subject

Year 1 2 3

Content:

Formation en informatique

LSINC1101	Introduction to programming	Kim Mens Siegfried Nijssen	30h+30h	5 Credits	q1	x		
LSINC1102	Principes de fonctionnement des ordinateurs	Olivier Bonaventure	30h+30h	5 Credits	q1	x		
LSINC1103	Introduction à l'algorithmique		30h+30h	5 Credits	q2	x		
LSINC1001	Projet 1: Projets d'application et introduction à l'internet des objets	Olivier Bonaventure	30h+30h	5 Credits	q1	x		
LSINC1002	Projet 2: Conception d'un site web interactif	Olivier Bonaventure Renaud Detry	30h+30h	5 Credits	q2	x		
LSINC1402	Informatique 2		30h+30h	5 Credits	q1 △		x	
LSINC1201	Techniques d'interaction et de visualisation		30h+30h	5 Credits	q1 △		x	
LSINC1123	Calculabilité, logique et complexité		30h+30h	5 Credits	q2 △		x	
LSINC1104	Paradigmes de programmation et concurrence		30h+30h	5 Credits	q2 △		x	
LSINC1503	Projet 3: amélioration de l'efficacité d'algorithmes		30h+30h	5 Credits	q2 △		x	
LSINC1121	Algorithmique et structure de données		30h+30h	5 Credits	q1 △			x
LSINC1252	Systèmes informatiques		30h+30h	5 Credits	q1 △			x
LSINC1301	Bases de données et modélisation		30h+30h	5 Credits	q1 △			x
LSINC1361	Introduction à l'intelligence artificielle		30h+30h	5 Credits	q2 △			x
LSINC1341	Réseaux informatiques		30h+30h	5 Credits	q2 △			x
LSINC1313	Algorithmique numérique		30h+30h	5 Credits	q2 △			x
LSINC1509	Projet 4: application des bases de données		30h+30h	5 Credits	q2 △			x

Formation en mathématiques et science des données

LSINC1111	Analyse	Denis Dochain Vincent Wertz	30h+30h	5 Credits	q1	x		
LSINC1112	Algebra	Denis Dochain Vincent Wertz	30h+30h	5 Credits	q2	x		
LSINC1113	Compléments de mathématiques		30h+30h	5 Credits	q1 △		x	
LSINC1211	Probabilités et statistiques		30h+30h	5 Credits	q2 △		x	
LSINC1114	Analyse de données biologiques		30h+30h	5 Credits	q1 △			x

						Year 1	2	3
LSINC1109	Statistiques et sciences des données		30h+30h	5 Credits	q2 △			x

Formation en sciences du vivant

LSINC1131	Chimie générale et organique	Karine Glinel (coord.) Patricia Luis Alconero Valérie Norberg Jenny Pouyez	30h+30h	5 Credits	q1	x		
LSINC1132	Biologie générale		30h+30h	5 Credits	q1	x		
LSINC1133	Eléménts de physiologie humaine	Jean-François Rees	30h+30h	5 Credits	q2	x		
LSINC1231	Biochimie		30h+30h	5 Credits	q1 △		x	
LSINC1232	Eléments de pathologie humaine		30h+30h	5 Credits	q1 △		x	
LSINC1233	Biodiversité, évolution biologique et écologique		30h+30h	5 Credits	q2 △		x	
LSINC1331	Biologie moléculaire		30h+30h	5 Credits	q1 △			x
LSINC1332	Biotechnologies: omics		30h+30h	5 Credits	q2 △			x

Formation en langues et sciences humaines

LSST1002	Information and critical thinking	Myriam De Kesel Jim Plumat Jean-François Rees	30h+30h	5 Credits	q2	x		
LANGL1182	English for Computer Scientists	Lucille Meyers (coord.)	30h	5 Credits	q2	x		
LSINC1241	Droit, éthique et technologie		30h+30h	5 Credits	q2 △		x	
LANGL1183	English for Computer Scientists II		30h	5 Credits	q1 △		x	
LSINC1805	Gestion des personnes		15h+15h	3 Credits	q1 △			x
LANGL1184	English for Computer Scientists III		20h	3 Credits	q1 △			x

Course prerequisites

There are no prerequisites between course units (CUs) for this programme, i.e. the programme activity (course unit, CU) whose learning outcomes are to be certified and the corresponding credits awarded by the jury before registration in another CU.

The programme's courses and learning outcomes

For each UCLouvain 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?"*

Programme type

SINC1BA - 1ST ANNUAL UNIT

O Mandatory	⊠ Optional
△ Courses not taught during 2020-2021	⊘ Periodic courses not taught during 2020-2021
⊕ Periodic courses taught during 2020-2021	Activity with requisites

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

O *Content:*

O Formation en informatique

O LSINC1101	Introduction to programming	Kim Mens Siegfried Nijssen	30h+30h	5 Credits	q1
O LSINC1102	Principes de fonctionnement des ordinateurs	Olivier Bonaventure	30h+30h	5 Credits	q1
O LSINC1103	Introduction à l'algorithmique		30h+30h	5 Credits	q2
O LSINC1001	Projet 1: Projets d'application et introduction à l'internet des objets	Olivier Bonaventure	30h+30h	5 Credits	q1
O LSINC1002	Projet 2: Conception d'un site web interactif	Olivier Bonaventure Renaud Detry	30h+30h	5 Credits	q2

O Formation en mathématiques et science des données

O LSINC1111	Analyse	Denis Dochain Vincent Wertz	30h+30h	5 Credits	q1
O LSINC1112	Algebra	Denis Dochain Vincent Wertz	30h+30h	5 Credits	q2

O Formation en sciences du vivant

O LSINC1131	Chimie générale et organique	Karine Glinel (coord.) Patricia Luis Alconero Valérie Norberg Jenny Pouyez	30h+30h	5 Credits	q1
O LSINC1132	Biologie générale		30h+30h	5 Credits	q1
O LSINC1133	Eléménts de physiologie humaine	Jean-François Rees	30h+30h	5 Credits	q2

O Formation en langues et sciences humaines

O LSST1002	Information and critical thinking	Myriam De Kesel Jim Plumat Jean-François Rees	30h+30h	5 Credits	q2
O LANGL1182	English for Computer Scientists	Lucille Meyers (coord.)	30h	5 Credits	q2

SINC1BA - 2ND ANNUAL UNIT

O Mandatory	⊠ Optional
△ Courses not taught during 2020-2021	⊘ Periodic courses not taught during 2020-2021
⊕ Periodic courses taught during 2020-2021	Activity with requisites

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

Content:

Formation en informatique

O LSINC1402	Informatique 2		30h+30h	5 Credits	q1 △
O LSINC1201	Techniques d'interaction et de visualisation		30h+30h	5 Credits	q1 △
O LSINC1123	Calculabilité, logique et complexité		30h+30h	5 Credits	q2 △
O LSINC1104	Paradigmes de programmation et concurrence		30h+30h	5 Credits	q2 △
O LSINC1503	Projet 3: amélioration de l'efficacité d'algorithmes		30h+30h	5 Credits	q2 △

Formation en mathématiques et science des données

O LSINC1113	Compléments de mathématiques		30h+30h	5 Credits	q1 △
O LSINC1211	Probabilités et statistiques		30h+30h	5 Credits	q2 △

Formation en sciences du vivant

O LSINC1231	Biochimie		30h+30h	5 Credits	q1 △
O LSINC1232	Eléments de pathologie humaine		30h+30h	5 Credits	q1 △
O LSINC1233	Biodiversité, évolution biologique et écologique		30h+30h	5 Credits	q2 △

Formation en langues et sciences humaines

O LSINC1241	Droit, éthique et technologie		30h+30h	5 Credits	q2 △
O LANGL1183	English for Computer Scientists II		30h	5 Credits	q1 △

SINC1BA - 3RD ANNUAL UNIT

O Mandatory	⊠ Optional
△ Courses not taught during 2020-2021	⊘ Periodic courses not taught during 2020-2021
⊕ Periodic courses taught during 2020-2021	Activity with requisites

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

Content:

Formation en informatique

O LSINC1121	Algorithmique et structure de données		30h+30h	5 Credits	q1 △
O LSINC1252	Systèmes informatiques		30h+30h	5 Credits	q1 △
O LSINC1301	Bases de données et modélisation		30h+30h	5 Credits	q1 △
O LSINC1361	Introduction à l'intelligence artificielle		30h+30h	5 Credits	q2 △
O LSINC1341	Réseaux informatiques		30h+30h	5 Credits	q2 △
O LSINC1313	Algorithmique numérique		30h+30h	5 Credits	q2 △
O LSINC1509	Projet 4: application des bases de données		30h+30h	5 Credits	q2 △

Formation en mathématiques et science des données

O LSINC1114	Analyse de données biologiques		30h+30h	5 Credits	q1 △
O LSINC1109	Statistiques et sciences des données		30h+30h	5 Credits	q2 △

Formation en sciences du vivant

O LSINC1331	Biologie moléculaire		30h+30h	5 Credits	q1 △
O LSINC1332	Biotechnologies: omics		30h+30h	5 Credits	q2 △

Formation en langues et sciences humaines

O LSINC1805	Gestion des personnes		15h+15h	3 Credits	q1 △
O LANGL1184	English for Computer Scientists III		20h	3 Credits	q1 △

SINC1BA - Information

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
- 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 (https://uclouvain.be/fr/etudier/inscriptions/examens-admission.html) 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 of 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.

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 (https://uclouvain.be/fr/facultes/epl/examenadmission.html).

  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) (https://uclouvain.be/en/study/inscriptions/etudes-contingentees.html).
- 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). (https://uclouvain.be/en/study/inscriptions/etudes-contingentees.html)
- 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) (https://uclouvain.be/en/study/inscriptions/etudes-contingentees.html).
- 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). (https://uclouvain.be/en/study/inscriptions/etudes-contingentees.html)

  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) (https://uclouvain.be/en/study/inscriptions/etudes-contingentees.html).

Evaluation

The evaluation methods comply with the regulations concerning studies and exams (https://uclouvain.be/fr/decouvrir/rgee.html). More detailed explanation of the modalities specific to each learning unit are available on their description sheets under the heading "Learning outcomes evaluation method".

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 1348 Louvain-la-Neuve Tel: +32 (0) 10 47 31 50 - Fax: +32 (0) 10 45 03 45

Academic supervisor: Olivier Bonaventure

Useful Contact(s)

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- Jean-Didier Legat
- Secrétaire du jury: vincent.wert@uclouvain.be