

At Louvain-la-Neuve - 120 credits - 2 years - Day schedule - In English

● LEPL2020	Professional integration work
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LIST OF FOCUSES

- > Professional Focus : Data Analytics [en-prog-2024-date2m-ldate210s]
- > Professional Focus : Cybersecurity [en-prog-2024-date2m-ldate230s]

PROFESSIONAL FOCUS : DATA ANALYTICS [30.0]

- Mandatory
- ⊗ Optional
- △ Not offered in 2024-2025
- ⊖ Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 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

Content:

				Year	
○ LDATA2010	Information visualisation	John Lee	EN [q1] [30h+30h] [5 Credits] 🌐 > French-friendly	X	X
○ LINMA2472	Algorithms in data science	Jean-Charles Delvenne (coord.) Benoît Legat (compensates Vincent Blondel)	EN [q1] [30h+22.5h] [5 Credits] 🌐 > French-friendly	X	X
○ LINFO2364	Mining Patterns in Data	Siegfried Nijssen	EN [q2] [30h+15h] [5 Credits] 🌐 > French-friendly	X	X
○ LSTAT2130	Introduction to Bayesian statistics	Philippe Lambert	EN [q2] [22.5h+7.5h] [5 Credits] 🌐	X	X
○ LINFO2275	Data mining & decision making	Marco Saerens	EN [q2] [30h+15h] [5 Credits] 🌐 > French-friendly	X	

				Year	
				1	2
○ LINFO2347	Computer system security	Ramin Sadre	EN [q2] [30h+15h] [5 Credits]  > French-friendly	x	x
○ LINFO2144	Secured systems engineering	Axel Legay	EN [q2] [30h+15h] [5 Credits]  > French-friendly	x	x
○ LMAT2450	Cryptography	Olivier Pereira	EN [q1] [30h+15h] [5 Credits]  > French-friendly	x	x
○ LELEC2348	Information theory and coding				

MAJOR IN NUMERICAL METHODS AND OPTIMISATION

- Mandatory
- ✂ Optional
- △ Not offered in 2024-2025
- ⊖ Not offered in 2024-2025 but offered the following year
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- 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 \(objectives, methods, evaluation...\)](#)

The student who wishes to validate this option chooses 15 credits among:

Year

ELECTIVE TECHNICAL COURSES

- Mandatory
- ✂ Optional
- △ Not offered in 2024-2025
- ⊖ Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 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 \(objectives, methods, evaluation...\)](#)

MAJOR IN INTERDISCIPLINARY PROGRAM IN ENTREPRENEURSHIP - INEO

Commune à la plupart des masters de l'EPL, cette option a pour objectif de familiariser l'étudiant-e avec les spécificités de l'entrepreneuriat et de la création d'entreprise afin de développer chez lui les aptitudes, connaissances et outils nécessaires à la création d'entreprise.

Cette option rassemble des étudiants de différentes facultés en équipes interdisciplinaires afin de créer un projet entrepreneurial. La formation interdisciplinaire en entrepreneuriat (INEO) est une option qui s'étend sur 2 ans et s'intègre dans plus de 30 Masters de 9 facultés/écoles de l'UCLouvain. Le choix de l'option INEO implique la réalisation d'un mémoire interfacultaire (en équipe) portant sur un projet de création d'entreprise. L'accès à cette option, ainsi qu'à chacun des cours, est limité aux étudiant-es sélectionnés sur dossier. Toutes les informations sur <https://uclouvain.be/fr/etudier/ineo>.

L'étudiant.e qui choisit de valider cette option doit sélectionner au minimum 20 crédits et au maximum 25 crédits. Cette option n'est pas accessible en anglais et ne peut être prise simultanément avec l'option « Enjeux de l'entreprise ».

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- ✘ Optional
- △ Not offered in 2024-2025
- Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 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

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o Content:

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COURS AU CHOIX EN CONNAISSANCES SOCIO-ÉCONOMIQUES

- Mandatory
- ⊗ Optional
- △ Not offered in 2024-2025
- ⊖ Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 or the following year
- Activity with requisites
- 🌐 Open to incoming exchange students
- 🌐 Not open to incoming exchange students
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Click on the course title to see detailed informations (objectives, methods, evaluation...)

Year

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o Content:

⊗ LFSA2995	Company Internship	Dimitri Lederer
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Supplementary classes

To access this Master, students must have a good command of certain subjects. If this is not the case, in the first annual block of their Masters programme, students must take supplementary classes chosen by the faculty to satisfy course prerequisites.

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⊗ Mathematics - Calculus and linear algebra

The student follows one of the following blocks:

⊗ Module 1

○ LINFO1111	Analysis	Pierre-Antoine Absil François Glineur	118 [q1] [45h+37.5h] [7 Credits] 🌐
○ LINFO1112	Algebra	Christophe Craeye Enrico Vitale	118 [q2] [30h+30h] [5 Credits] 🌐

DATE2M - Information

Access Requirements

Master course admission requirements are defined by the French Community of Belgium Decree of 7 November 2013 defining the higher education landscape and the academic organisation of courses.

General and specific admission requirements for this programme must be satisfied at the time of enrolling at the university.

Unless explicitly mentioned, the bachelor's, master's and licentiate degrees listed in this ta1manisation of courses.

Bachelor in Engineering	For others institutions	Access based on application	degree may have an adapted master programme. See "Personalized access"
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Non university Bachelors

> Find out more about [links](#) to the university

Holders of a 2nd cycle University degree

Diploma	Special Requirements	Access	Remarks
"Licenciés"			

Masters

Master ingénieur civil		Direct access	
Master [120] ingénieur civil en science des données, deuxième finalité		Direct access	Au terme du master 120, chaque finalité du Master [120] ingénieur civil en science des données peut être obtenue dans un nouveau programme de 30 crédits seulement.

Holders of a non-University 2nd cycle degree

Access based on validation of professional experience

> It is possible, under certain conditions, to use one's personal and professional experience to enter a university course without having the required qualifications. However, validation of prior experience does not automatically apply to all courses. Find out more about [Validation of priori experience](#).

Access based on application

Access based on application : access may be granted either directly or on the condition of completing additional courses of a maximum of 60 ECTS credits, or refused.

The first step of the admission procedure requires to submit an application online : <https://uclouvain.be/en/study/inscriptions/futurs-etudiants.html>.

[Selection criteria are summarized here](#) (contact : epl-admission@uclouvain.be).

Admission and Enrolment Procedures for general registration

Teaching method

Active learning and soft skills

You will play an active role in your training. The teaching approach is a balanced mix of lectures, exercises, projects to be carried out alone or in groups. The teaching methods are varied. At certain times, you will be led to discover concepts or techniques independently, and the teaching staff is then seen as a resource made available to you to support your learning.

At other times, the pedagogy is more transmissive and provides you with the necessary keys to carry out subsequent tasks. An important place is reserved for non-technical skills (autonomy, organisational skills, time management, communication in different modes, etc.). In particular, through a pedagogy that emphasises project activities (including a large-scale project that puts groups of students in a semi-professional situation), the course develops a critical mind capable of designing, modelling, implementing and validating complex computer systems.

Languages

The lingua franca of data science is mainly English. The use of English throughout the programme allows you to develop your command of this language, which will facilitate your professional integration. Course materials and supervision are in English. However, you can always ask questions or take the exam in French if you wish. In addition, the programme offers the possibility of attending extra language courses and participating in exchange programmes abroad.

Interdisciplinarity

Like many academics, the data scientist will be required to manage projects and a team in the course of his or her career, and will have to take an interest in the complex socio-economic context in which data science is embedded. You will therefore be invited to open up your training to other disciplines via elective courses or certain options such as the option "interdisciplinary program in entrepreneurship".

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".

Each unit of the programme includes an oral or written examination, often supplemented by a project leading to a report which is part of the assessment. The optional internship and the master thesis each involve the writing of a document which is defended orally before a jury.

To compute the final grade, the marks obtained for the teaching units are weighted by their respective credits.

Mobility and/or Internationalisation outlook

Over the years, EPL has developed over a hundred partnerships with partners in more than 36 countries (EU and non-EU) to offer exchange programmes to its students. We also offer the possibility of obtaining Double degrees, Joint Degrees or Dual Masters in several fields. The EPL is currently participating in two Erasmus Mundus programmes: [FAME](#) and [STRAINS](#).

In addition to exchange programmes under the Erasmus+ programme, numerous agreements have been established with a wide range of universities through various partner networks such as:

- [TIME](#) network (Top Industrial Managers in Europe).
- [CLUSTER](#) network
- [Magalhães](#) network
- [Circle U.](#) network through several networks and European University Alliance

So, there's no shortage of opportunities to gain an additional qualification and/or spend part of the year abroad during your two-year Master defended orally before a

Contacts

Curriculum Management

Entity

Structure entity

