

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

Dissertation/Graduation Project : **YES** - Internship : **optional**

Activities in English: **YES** - Activities in other languages : **NO**

Activities on other sites : **YES**

Main study domain : **Sciences**

Organized by: **Faculty of Science (SC)**

Programme acronym: **ACTU2M** - Francophone Certification Framework: 7

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ACTU2M - Introduction

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Learning outcomes

o Data science (10 credits)

o LACTU2110



PROFESSIONAL FOCUS [30.0]

- Mandatory
- ⊗ Optional
- △ Not offered in 2023-2024
- ⊖ Not offered in 2023-2024 but offered the following year
- ⊕ Offered in 2023-2024 but not the following year
- △ ⊕ Not offered in 2023-2024 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:

				1	2
● LACTU2210	Quantitative Risk Management	Christian Hafner	EN [q2] [30h] [5 Credits] 🌐 > French-friendly	X	
● LACTU2220	Asset and Liability Management	Jérôme Barbarin	EN [q2] [30h] [5 Credits] 🌐 > French-friendly		X
● LACTU2230	Health Insurance	Michel Denuit	FR [q2] [45h] [7 Credits] 🌐	X	
● LACTU2240	Stochastic Finance in Insurance	Pierre Ars Pierre Devolder	EN [q2] [30h] [5 Credits] 🌐 > French-friendly		X
● LACTU2260	Actuarial Enterprise Risk Management	Philippe De Longueville	EN [q2] [15h] [3 Credits] 🌐		X
● LACTU2270	Aspects actuariels des normes de solvabilité et comptables	Cindy Courtois	FR [q1] [30h] [5 Credits] 🌐		X

OPTIONS

- > [Cours au choix](#) [en-prog-2023-actu2m-lactu200o]
 > [Optional courses](#) [en-prog-2023-actu2m-lsc100o]

COURS AU CHOIX [21.0]

- Mandatory
- ⊗ Optional
- △ Not offered in 2023-2024
- ⊖ Not offered in 2023-2024 but offered the following year
- ⊕ Offered in 2023-2024 but not the following year
- △ ⊕ Not offered in 2023-2024 or the following year
- Activity with requisites
- 🌐 Open to incoming exchange students
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- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

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

Students choose 21 credits of courses of which 10 credits KU Leuven or ULB courses.

Year

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Content:**⊗ Data science**




⊗ LDATS2030	Statistique et data sciences avec R: Programmation avancée	Anouar El Ghouch	FR [q2] [15h+15h] [4 Credits] 🌐		X
⊗ LDATS2350	Data Mining	Robin Van Oirbeek	FR [q2] [15h+15h] [4 Credits] 🌐		X
⊗ LDATS2360	Seminar in data management: basic	Céline Bugli	FR [q1] [15h+10h] [4 Credits] 🌐	X	X

Year





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❗ LINFO2275	Data mining & decision making	Marco Saerens	EN [q2] [30h+15h] [5 Credits]  > French-friendly		X
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❗ Mathématiques de l'assurance

❗ EACTU2410	Solvency of financial institutions (KUL-DOR58B)		EN [q2] [39h] [6 Credits] 		X
❗ EACTU2420	Foundations of Quantitative Risk Measurement (KUL-DOR57B)		EN [q1] [39h] [6 Credits] 		X
❗ EACTU2440	Actuarial and Financial Valuation Principles (KUL-DON57A)		EN [q1] [39h] [6 Credits] 		X

❗ Mathématiques de la finance

❗ EACTU2450	Financial Engineering (KUL-GOQ22A)		EN [q2] [26h+13h] [6 Credits] 		X
❗ EACTU2470	Statistical Tools for Quantitative Risk Management (KUL-GOQ24A)		EN [q1] [39h] [6 Credits] 		X
❗ LMAT2470	Processus stochastiques (statistique)	Donatien Hainaut	FR [q2] [30h] [5 Credits]  > English-friendly		X
❗ LSTAT2170	Times series	Rainer von Sachs	EN [q2] [30h+7.5h] [5 Credits] 		X

❗ Finance

❗ LLSMS2138	Big data in finance	Nathan Lassance	EN [q2] [30h] [5 Credits] 		X
❗ LLSMS2226	Credit and interest rate risk	Frédéric Vrins	EN [q2] [30h] [5 Credits] 		X

OPTIONAL COURSES

- Mandatory
- ✂ Optional
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- ⊕ Offered in 2023-2024 but not the following year
- △ ⊕ Not offered in 2023-2024 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...)


These credits are not counted within the 120 required credits.

Year

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⌘ Cours de langue

En outre, le Jury appréciera la maîtrise de l'anglais par l'étudiant. Le cas échéant, le cours ci-dessous sera rajouté à son programme.

⌘ LANGL1330	English intermediate level - 1st part	Stéphanie Brabant Estelle Dagneaux Jean-Luc Delghust Aurélié Deneumoustier Fanny Desterbecq Marie Duelz Claudine Grommersch Adrien Kefer (compensates Sandrine Mulkers) Marc Piwnik (coord.) Françoise Stas Anne-Julie Toubeau Marine Volpe	⌘ [q1 or q2] [20h] [3 Credits] 
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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 purposes 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:

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ACTU2M - 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 table or on this page are to be understood as those issued by an institution of the French, Flemish or German-speaking Community, or by the Royal Military Academy.

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

SUMMARY

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- > [Specific access requirements](#)
- > [University Bachelors](#)
- > [Non university Bachelors](#)
- > [Holders of a 2nd cycle University degree](#)
- > [Holders of a non-University 2nd cycle degree](#)
- > [Access based on validation of professional experience](#)
- > [Access based on application](#)
- > [Admission and Enrolment Procedures for general registration](#)

Specific access requirements

In addition to fulfilling the access conditions described below, candidates must provide proof of a sufficient command of the French language (level B1 of the Common European Framework of Reference).

Students who wish to be admitted on the basis of a dossier (see tables below) are invited to consult the [criteria for the evaluation of application](#).

University Bachelors

Diploma	Special Requirements	Access	Remarks
UCLouvain Bachelors			
Bachelor : Business Engineering		Direct access	
Bachelor in Engineering		Direct access	
Bachelor in Mathematics		Direct access	
Bachelor in Physics		Direct access	
Bachelor in Economics and Management Bachelor in Computer Science	Direct access if they have succeeded the Minor in Statistics, Actuarial Sciences and Data Sciences .	-	In some cases, the UCLouvain Enrolment Office, after reviewing their online enrolment or re-enrolment application, will ask the students concerned to provide an enrolment authorisation from the faculty/school.
Others Bachelors of the French speaking Community of Belgium			
Bachelor in Business Engineering Bachelor in Engineering Bachelor in Mathematics Bachelor in Physics		Direct access	
Bachelors of the Dutch speaking Community of Belgium			
Bachelor in ingenieurswetenschappen, oriëntatie civieltechniek Bachelor in de wiskundige wetenschappen Bachelor in de fysische wetenschappen		Access based on application	

Foreign Bachelors

Bachelor in Business Engineering Bachelor in Engineering Bachelor in Mathematics Bachelor in Physics	Access based on application
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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"			
"Licenciés" in Engineering, Mathematics, Physics, Statistics		Direct access	
Masters			
Master in Business engineering Master in Biomedical Engineering Master in Chemical and Materials Engineering Master in Civil Engineering Master in Computer Science and Engineering Master in Electrical Engineering Master in Electro-mechanical Engineering Master in Mathematical Engineering Master in Mechanical Engineering Master in Physical Engineering Master in Mathematics Master in Physics Master in Statistics		Direct access	
Master in Management Master in Economics Master in Computer Science	Direct access if they have completed the Minor in Statistics, Actuarial Sciences and Data Sciences .	-	In some cases, the UCLouvain Enrolment Office, after reviewing your online enrolment or re-enrolment application, will ask you to provide an enrolment

Students must draw up their individual programmes and submit it to the Jury who is responsible for accrediting prior learning and experience.

