UCLouvain

ACTU2M

2024 - 2025

ACTU2M - Introduction

Introduction

2.3

Maîtriser un socle de savoirs en sciences actuarielles et en finance mathématique lui permettant d'appréhender et de résoudre les problèmes actuels tout en développant de manière autonome les nouvelles connaissances nécessaires pour rester compétent tout au long de sa vie professionnelle.

2.4

Articuler des savoirs des différentes disciplines connexes (calcul des probabilités, statistique, droit, économie, comptabilité, fiscalité, etc.) afin de concevoir, individuellement et en équipe, des procédés de gestion de l'impact financier des risques, de les réaliser et de les communiquer aux parties prenantes.

2.5

Comprendre les enjeux de l'intégration des marchés, de la mondialisation et du développement durable, ainsi que le rôle joué par les experts universitaires dans ce cadre.

3.

Contribuer, en équipe, à la réalisation d'un projet en tenant compte des objectifs poursuivis, des ressources allouées et des contraintes qui le caractérisent, et en communiquer les résultats de manière claire, précise et rigoureuse.

3.1

Fonctionner dans un cadre pluridisciplinaire, collaborant avec des collègues d'autres formations avec différents points de vue.

3.2

Exprimer un message de façon claire et structurée, tant à l'oral qu'à l'écrit, en s'adaptant au public visé et en respectant les standards de communication propres au domaine.

3.3

Interagir et dialoguer efficacement avec des interlocuteurs variés, notamment les associations de consommateurs et les pouvoirs publics.

Programme structure

The master's program is structured as follows:

A possible upgrade based on the learner's previous training.

A core curriculum covering the specific aspects of actuarial science, including the financial valuation of actuarial liabilities and the actuarial mathematics of life, property and liability insurance. These courses are organised into two blocks, one devoted to the mathematical elements of insurance and the other to data science techniques applied to insurance.

A professional focus covering insurance mathematics, financial analysis of insurance commitments, asset liability management (ALM), quantitative risk management (QRM) and enterprise risk management (ERM), as well as cross-disciplinary courses on the annual accounts of insurance companies and the solvency of financial institutions.

Detailed programme by subject

CORE COURSES [64.0]

- 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...)

Mémoire au choix (15 credits)

				Year 1	Year 2
Optional LACTU2900	Master thesis : research		FR [q1 or q2] [] [15 Credits]		x
Optional LACTU2910	Master Thesis : Project		FR [q1 or q2] [] [15 Credits]		x

Mathématiques de l'assurance (27 credits)

				Year 1	Year 2
Mandatory LACTU2010					

PROFESSIONAL FOCUS [30.0]

- Mandatory

Year
1 2

OPTIONAL 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...)

These credits are not counted within the 120 required credits.

Content:

				Year 1	Year 2
LSST1001	IngénieuxSud	Stéphanie Merle Jean-Pierre Raskin	FR [q1+q2] [15h+45h] [5 Credits]	x	x
LSST1002M	Information and critical thinking - MOOC	Anne Bauwens (compensates Jean-François Rees) Myriam De Kesel	FR [q2] [30h+15h] [3 Credits]	x	x

Supplementary classes

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

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

Others Bachelors of the French speaking Community of Belgium

Specific professional rules

Graduates of UCLouvain's ACTU2M program have direct access to the Belgian professional association (Institut des Actuaires en Belgique - IABE, www.iabe.be) and are authorized to use the title of actuary.

The ACTU2M program is certified as Global Center of Insurance Excellence (GCIE) by the International Insurance Society (IIS), recognizing universities and colleges with outstanding Risk Management and Insurance programs. It ranks in the top 5 worldwide, both in terms of education and fundamental research in actuarial science.

Teaching method

In addition to strong methodological contents, the cursus includes case studies, personal projects and an internship (optional) in an insurance or reinsurance company, consulting firm, pension fund.

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".

Depending on the course, the exam may be oral or written and may include a personal project. The master thesis is defended publicly.

Mobility and/or Internationalisation outlook

If they wish, students can include in their program specialized courses from the actuarial sciences programs at ULB and KU Leuven.

Students can carry out their internship in a company abroad (Luxembourg, London or Paris, for example). Given the high degree of specialization of the Master's program, with no equivalent abroad, international mobility within the framework of the Master's degree in actuarial sciences is limited to the internship.

Since its creation in 1939, the Institute of Actuarial Sciences, which has today joined the School of Statistics, Biostatistics and Actuarial Sciences (LSBA) within the Faculty of Sciences of UCLouvain, has awarded a significant number of degrees to students from French-speaking Africa and Latin America as well as a significant number of students from the European Union. UCLouvain thus trained the first actuaries from several emerging countries, who now actively contribute to local economic development. In addition, UCLouvain professors regularly participate in training programs abroad.

Finally, let us mention that, in recent years, foreign students (Canadians, in particular) are regularly welcomed into the actuarial sciences program for a semester as part of international exchanges.

Possible trainings at the end of the programme

Advanced Masters

The Master in Actuarial Science is not a requirement for any particular Advanced Masters.

Doctoral programme

Holders of a Master in Actuarial Science may enrol for the doctoral programme in Actuarial Science, subject to some conditions (e.g. higher level pass).

Certificates

In addition to the master in actuarial science, CPD activities are organized as University certificates, under the auspices of the University Institute for Continuing Education (Institut universitaire de formation continue - IUFC).

Contacts

Curriculum Management