

**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 : **NO**Main study domain : **Sciences**Organized by: **Faculty of Science (SC)**Programme acronym: **STAT2M** - Francophone Certification Framework: 7**Table of contents**

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## STAT2M - Introduction

### Introduction

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#### Introduction

Organized by Louvain School of Statistics, Biostatistics and Actuarial Sciences (LSBA), this Master's program offers you

- A training in the fundamental concepts of statistics and to the main technical tools and software for the analysis of statistical data.
- The choice between a focus on research or oriented towards a field of applications.
- Several opportunities to put in practice statistical techniques based on exercises, individual projects, analyses of real data using statistical software and the preparation of a Master's thesis, possibly in collaboration with an external industry partner.

#### Your profile

You

- Hold an undergraduate diploma and you wish to become a specialist in data analysis methods;
- Hold an undergraduate diploma or Master's degree from a University or a University college and statistics is an additional competence to your actual training;
- Are working in the field of applied data analysis and you wish to provide an academic framework for your practice.

#### Your programme

The program of Master's degree in Statistics is composed of a core study program of 64 to 72 credits of courses (UE) and 30 credits (including the Master's thesis) of professional focus (*finalité spécialisée*). You will complete your programs with courses from the proposed options of the programs.

The "Fundamentals" option is an initiation to fundamental or applied research in statistics, but also gives access to the professional life.

The "Statistics in Action" option is oriented towards applied statistics and aims to provide you with the main tools for statistical data analysis.

## STAT2M - Teaching profile

### Learning outcomes

Acquérir de solides bases méthodologiques en probabilité et statistique et les appliquer, à maintes occasions, dans des domaines comme l'économétrie, la finance, le data mining, les sciences humaines, ... tels sont les défis que l'étudiant en master en statistique, se prépare à relever.

L'étudiant maîtrisera les concepts fondamentaux de la probabilité et de la statistique. Il développera des compétences en communication et sera capable d'analyser un problème complexe, de collaborer à un projet de recherche. Selon les objectifs visés par l'étudiant, deux options sont proposées. L'étudiant de l'option "Fundamentals" analysera des sujets de la recherche fondamentale ou appliquée sans choix a priori d'un domaine d'application, tandis que l'étudiant de l'option "Statistics in Action" maîtrisera les principaux outils de traitement de données, tout en se spécialisant dans un domaine d'application de la statistique.

Au terme de sa formation à la faculté des sciences, l'étudiant aura acquis les connaissances et compétences disciplinaires et transversales nécessaires pour exercer de nombreuses activités professionnelles. Ses capacités de modélisation et de compréhension en profondeur des phénomènes, son goût pour la recherche et sa rigueur scientifique seront recherchés non seulement dans les professions scientifiques (recherche, développement, enseignement) mais aussi plus généralement dans la société actuelle et future.

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

1. Maîtriser un socle fondamental de la probabilité et de la statistique.

1.1

Maîtriser les calculs mathématiques fondamentaux.

1.2

Résumer un texte de méthodologie statistique et situer les limites de ses connaissances face à un problème donné.

1.3

Utiliser les outils fondamentaux de calcul et de programmation dans des problèmes de probabilité et statistique.

1.4

Reconnaître les concepts fondamentaux et transversaux d'importantes théories de probabilité et statistique actuelles et établir les liens principaux entre ces théories.

1.5

Expliquer des théories de probabilité et statistique en motivant les énoncés et les définitions par des exemples et des contre-exemples et en mettant en évidence les idées principales.

1.6

Relier des concepts de probabilité et de statistique et des problématiques associées à leur contexte historique en ayant compris le rôle de ces outils en science.

2. S'exprimer de façon claire, précise et rigoureuse dans les activités de communication tant en français que en anglais (niveau B1 [CECRL](#)).

2.1

Saisir, résumer et interpréter l'essentiel de communications scientifiques orales en statistique et probabilité.

2.2

Résumer, par des tables et graphiques informatifs et pertinents, l'information disponible dans un ensemble de données.

2.3

Rédiger des textes statistiques selon les conventions de la discipline.

2.4

Structurer un exposé oral, mettre en évidence les éléments clés, distinguer techniques et concepts et adapter l'exposé au niveau d'expertise des auditeurs.

2.5

Utiliser des outils médiatiques et informatiques variés pour communiquer (expliquer, rédiger, publier) des résultats d'analyses statistiques et leur interprétation dans le contexte de l'étude.

2.6

Dialoguer avec des collègues d'autres disciplines.

3. Analyser rigoureusement et dans différents contextes disciplinaires, un problème ou un système complexe pour en extraire les points essentiels et les mettre en relation avec les outils théoriques les mieux adaptés.

3.1

Utiliser des solides connaissances de la méthodologie statistique dans des contextes multidisciplinaires parfois éloignés de la statistique.

3.2

Analyser un problème statistique et proposer une méthode (en validant les hypothèses sous-jacentes) et des outils adéquats pour l'étudier et le résoudre de façon approfondie et originale.

3.3

Utiliser plusieurs outils informatiques d'aide à la résolution de problèmes statistiques, tout en connaissant les limitations de ces outils.

3.4

Développer une analyse rigoureuse et originale pour comprendre et résoudre des problèmes spécifiques dans tous les domaines d'application des statistiques qu'il rencontrera dans sa profession, en respectant les contraintes imposées par le contexte.

4. S'il choisit l'option "Fundamentals", maîtriser plusieurs domaines de la probabilité ou statistique actuelle et ses problématiques.

4.1

Développer de façon autonome son intuition statistique en anticipant les résultats attendus et en vérifiant la cohérence avec des résultats déjà existants.

4.2

Analyser un problème de recherche et proposer des outils adéquats pour l'étudier de façon approfondie et originale.

4.3

Démontrer des résultats classiques et plus avancés de probabilité et statistique mathématique.

4.4

Etudier les propriétés de méthodes statistiques à l'aide de simulation.

4.5

Collaborer à la rédaction d'une communication scientifique pour une publication avec comité de revue.

5. S'il choisit l'option "Statistics in Action", gérer un projet de consultation statistique.

5.1

Communiquer avec un client d'une autre discipline, lui apporter un regard proactif et objectif par rapport à son problème, faire preuve de curiosité et de connaissances minimales pour sa discipline.

5.2

Cerner et reformuler les questions du client et y apporter des réponses adéquates, originales, documentées en l'invitant à l'autonomie.

5.3

Gérer de grandes bases de données.

5.4

Planifier et gérer un projet de consultation statistique.

5.5

Ecrire un rapport clair, succinct et rigoureux d'un projet de consultation statistique.

5.6

Expliquer les résultats d'un projet de consultation statistique aux clients non-statisticiens.

6. Etre autonome dans ses apprentissages et faire preuve d'esprit critique.

6.1

Rechercher dans la littérature statistique des sources et évaluer leur pertinence.

6.2

Lire et comprendre un texte statistique avancé et le situer correctement par rapport aux connaissances acquises.

6.3

Modéliser et résoudre un problème donné et être capable de s'initier à un nouveau champ de connaissances.

6.4

Juger de façon autonome de la pertinence d'une démarche statistique et de l'intérêt d'une théorie statistique.

## STAT2M Programme

### Detailed programme by subject

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## CORE COURSES

- Mandatory
- ⊗ Optional
- △ Not offered in 2022-2023
- ⊙ Not offered in 2022-2023 but offered the following year
- ⊕ Offered in 2022-2023 but not the following year
- △ ⊕ Not offered in 2022-2023 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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### ○ Cours obligatoires de statistique (32 credits)

○ LSTAT2020	Statistical softwares and basic statistical programming	Céline Bugli (compensates) Bernadette Govaerts	FR [q1] [15h+15h] [4 Credits] 🌐	X	
○ LSTAT2190	Concepts and treatment of random vectors	Rainer von Sachs	FR [q1] [15h+7.5h] [4 Credits] 🌐	X	
○ LSTAT2100	Discrete data analysis.	Cécile Adam (compensates) Anouar El Ghouch	FR [q2] [30h+7.5h] [5 Credits] 🌐	X	
○ LSTAT2110	Data Analysis	Johan Segers	FR [q1] [30h+7.5h] [5 Credits] 🌐	X	
○ LSTAT2120	Linear models	Christian Hafner	FR [q1] [30h+7.5h] [5 Credits] 🌐 > French-friendly	X	
○ LSTAT2130	Introduction to Bayesian statistics	Philippe Lambert	FR [q2] [22.5h+7.5h] [5 Credits] 🌐	X	
○ LSTAT2140	Non parametric statistics	Eugen Pircalabelu	FR [q1] [15h+5h] [4 Credits] 🌐	X	X

### ⊗ Cours au choix

Le programme doit être complété par au minimum 8 cours au choix de cette liste, dont au moins 2 cours de statistique computationnelle et au moins 3 cours de modélisation statistique.

#### ○ Statistique computationnelle

Choisir minimum 2 cours parmi :

⊗ LDATS2030	Statistique et data sciences avec R: Programmation avancée	Alain Guillet (compensates) Anouar El Ghouch	FR [q2] [15h+15h] [4 Credits] 🌐	X	
⊗ LSTAT2185	Numerical Methods for Statistics: Optimization, Simulations and the Bootstrap	Eugen Pircalabelu	FR [q1] [30h+15h] [5 Credits] 🌐		X
⊗ LSTAT2340	Statistical Analyses of $\zeta$ omics Data	Céline Bugli (compensates) Bernadette Govaerts Bernadette Govaerts	FR [q2] [15h+5h] [4 Credits] 🌐	X	X
⊗ LDATS2350	Data Mining	Robin Van Oirbeek	FR [q2] [15h+15h] [4 Credits] 🌐		X



#### ○ Modélisation statistique

Choisir minimum 3 cours parmi :

⊗ LSTAT2170	Times series	Rainer von Sachs	FR [q2] [30h+7.5h] [5 Credits] 🌐	X	X
⊗ LSTAT2210	Mixed linear models	Catherine Legrand	FR [q1] [15h+7.5h] [4 Credits] 🌐		X
⊗ LSTAT2150	Nonparametric statistics: smoothings methods	Rainer von Sachs	FR [q1] [15h+5h] [4 Credits] 🌐	X	X
⊗ LSTAT2220	Analysis of survival and duration data	Ingrid Van Keilegom	FR [q1] [15h+5h] [4 Credits] 🌐 > English-friendly	X	X
⊗ LSTAT2230	Advanced survival models	Catherine Legrand	FR [q2] [15h+5h] [4 Credits] 🌐		X




#### ○ Collecte de données et design expérimental

⊗ LSTAT2200	Survey and Sampling	Marie-Paule Kestemont	FR [q2] [15h+5h] [4 Credits] 🌐	X	X
⊗ LSTAT2310	Statistical quality control.	Bernard Francq (compensates) Bernadette Govaerts	FR [q1] [15h+5h] [4 Credits] 🌐 > English-friendly	X	X

				Year	
				1	2
⊗ LSTAT2320	Design of experiment.	Patrick Bogaert Bernadette Govaerts	EN [q2] [22.5h+7.5h] [5 Credits] 	X	X
⊗ LSTAT2330	Statistics in clinical trials.	Catherine Legrand Annie Robert	EN [q2] [22.5h+7.5h] [5 Credits] 	X	X



### ⊗ Philosophie

Choisir maximum un cours parmi:

⊗ LFILO2003E	Ethics in the Sciences and technics (sem)	Hervé Jeanmart Charles Pence	EN [q2] [15h+15h] [2 Credits] 	X	X
⊗ LSC2001	Introduction to contemporary philosophy	Charles Pence Peter Verdée	EN [q2] [30h] [2 Credits] 	X	X
⊗ LSC2220	Philosophy of science	Alexandre Guay	EN [q2] [30h] [2 Credits] 	X	X

### ⊗ Optional courses :

These credits are not counted within the 120 required credits.

⊗ LSST1001	IngénieuxSud	Stéphanie Merle Jean-Pierre Raskin (coord.)	EN [q1+q2] [15h+45h] [5 Credits] 	X	X
⊗ LSST1002M	Information and critical thinking - MOOC	Myriam De Kesel Jean-François Rees	EN [q2] [30h+15h] [3 Credits] 	X	X

**PROFESSIONAL FOCUS [30.0]**

- Mandatory
- ⊗ Optional
- △ Not offered in 2022-2023
- ⊙ Not offered in 2022-2023 but offered the following year
- ⊕ Offered in 2022-2023 but not the following year
- △ ⊕ Not offered in 2022-2023 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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**Content:**

○ LSTAT2820	Mémoire en statistique		FR [q1 or q2] [] [20 Credits] 🌐		X
○ LSTAT2380	Statistical consulting	Christian Ritter	EN [q1+q2] [30h] [5 Credits] 🌐 > French-friendly		X
○ LSTAT2040	Statistical analysis	Benjamin Colling (compensates Anouar El Ghouch)	FR [q2] [30h+15h] [5 Credits] 🌐	X	

**OPTIONS**

- > Fundamentals [ en-prog-2022-stat2m-lstat207o ]
- > Statistics in Action [ en-prog-2022-stat2m-lstat208o ]

**FUNDAMENTALS**

- Mandatory
- ⊗ Optional
- △ Not offered in 2022-2023
- ⊙ Not offered in 2022-2023 but offered the following year
- ⊕ Offered in 2022-2023 but not the following year
- △ ⊕ Not offered in 2022-2023 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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**Content:**

○ LSTAT2440	Inference and Data Reduction	Rainer von Sachs	EN [q1] [15h+7.5h] [4 Credits] 🌐		X
○ LSTAT2450	Statistical learning. Estimation, selection and inference	Eugen Pircalabelu	EN [q1] [30h+7.5h] [5 Credits] 🌐		X
○ LSTAT2460	Asymptotic Statistics	Johan Segers	EN [q1] [15h+5h] [4 Credits] 🌐		X
⊗ LDATS2470	Statistical Machine Learning and High Dimensional Data Analysis	Christian Hafner	EN [q2] [15h] [3 Credits] 🌐	X	X
⊗ LMAT1371	Probability Theory	Johan Segers	FR [q2] [30h+22.5h] [5 Credits] 🌐	X	X
⊗ LMAT2470	Processus stochastiques (statistique)	Donatien Hainaut	FR [q2] [30h] [5 Credits] 🌐 > English-friendly		X

STATISTICS IN ACTION

- Mandatory
- ⊗ Optional
- △ Not offered in 2022-2023
- ⊖ Not offered in 2022-2023 but offered the following year
- ⊕ Offered in 2022-2023 but not the following year
- △ ⊕ Not offered in 2022-2023 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

o Content:

● LSTAT2390	Applied statistics workshops	Catherine Legrand Christian Ritter	EN [q1+q2] [15h] [3 Credits] 🌐 > French-friendly		X
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⊗ Stage ou travail d'application

⊗ LSTAT2920	Stage ou travail d'application ■		FR [q1 or q2] [] [5 Credits] 🌐		X
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⊗ Cours à thème "Data Sciences - Machine Learning"

⊗ LDATS2360	Seminar in data management: basic	Céline Bugli	FR [q1] [15h+10h] [4 Credits] 🌐	X	X
⊗ LDATS2370	Data Management II : SAS ADVANCED PROGRAMMING	Christophe Kabacinski	FR [q2] [15h+10h] [4 Credits] 🌐		X
⊗ LDATS2310	Data science for insurance and finance	Donatien Hainaut	EN [q1] [15h] [3 Credits] 🌐	X	X
⊗ LELEC2870	Machine learning : regression, deep networks and dimensionality reduction	John Lee Michel Verleysen	EN [q1] [30h+30h] [5 Credits] 🌐 > French-friendly		X
⊗ LINFO2262	Machine Learning :classification and evaluation	Thibault Helleputte (compensates Pierre Dupont)	FR [q2] [30h+30h] [6 Credits] 🌐 > French-friendly		X

⊗ Cours à thème "Economie et Actuariat"

⊗ LINMA2725	Financial mathematics	Pierre Devolder	FR [q1] [30h+22.5h] [5 Credits] 🌐	X	X
⊗ LECON2601	Advanced Econometrics II - Time Series Econometrics	Sébastien Van Bellegem	EN [q2] [30h] [5 Credits] 🌐	X	X
⊗ LECON2602	Advanced Econometrics II - Microeconometrics	William Parienté	EN [q2] [30h] [5 Credits] 🌐	X	X
⊗ LACTU2210	Quantitative Risk Management	Christian Hafner	EN [q2] [30h] [5 Credits] 🌐 > French-friendly	X	X
⊗ LACTU2010	NON LIFE INSURANCE	Michel Denuit	FR [q1] [45h] [7 Credits] 🌐	X	X

⊗ Cours à thème "Sciences Humaines"

Les cours LDEMO2402 et LSOC2095 sont toujours à suivre conjointement.

⊗ LGEO2211	Advanced statistical methods in geography	Christian Hafner	FR [q1] [30h+30h] [5 Credits] 🌐	X	X
⊗ LPSYS2144	Data analysis: measure patterns	Gaëtare Caesens Massimo Penta	FR [q1] [45h+15h] [6 Credits] 🌐	X	X
⊗ LDEMO2402	Méthodologie de collecte de données par enquêtes quantitatives (dont sondage) Ce cours est à prendre obligatoirement avec LSOC2095	Bruno Schoumaker	FR [q2] [30h] [4 Credits] 🌐	X	X
⊗ LSOC2095	Techniques approfondies d'enquête extensive et de sondage en sociologie : atelier d'exercices Ce cours est à prendre obligatoirement avec LDEMO2402		FR [q2] [15h] [2 Credits] 🌐	X	X



## Supplementary classes

**To access this Master, students must have a good command of certain subjects. If this is not the case, students must take supplementary classes chosen by the faculty to satisfy course prerequisites.**

- Mandatory
- ⊗ Optional
- △ Not offered in 2022-2023
- ⊙ Not offered in 2022-2023 but offered the following year
- ⊕ Offered in 2022-2023 but not the following year
- △ ⊕ Not offered in 2022-2023 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...)

From 0 to 60credit(s)

### ⊗ Bloc intégré de probabilité, statistique et mathématique

○ LSTAT2011	<a href="#">Éléments de mathématiques pour la statistique</a>	Catherine Legrand	FR [q1] [15h+15h] [3 Credits] 🌐
○ LSTAT2014	<a href="#">Elements of probability and mathematical statistics</a>	Eugen Pircalabelu	FR [q1] [22.5h+22.5h] [5 Credits] 🌐

### ⊗ Cours de mathématique

⊗ LINGE1114	<a href="#">Mathematics I: analysis</a>	Heiner Olbermann	FR [q1] [30h+30h] [5 Credits] 🌐
⊗ LINGE1121	<a href="#">Mathematics II: algebra and matrix calculus</a>	Tom Claeys	FR [q2] [30h+30h] [5 Credits] 🌐


### ⊗ Cours d'informatique

⊗ LECGE1215	<a href="#">Information Technology in Economics and Management</a>	Manuel Kolp Marco Saerens	FR [q2] [30h+20h] [4 Credits] 🌐
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### ⊗ Cours de Probabilité et Statistique

⊗ LINGE1113	<a href="#">Probability</a>	Johan Segers	FR [q2] [30h+15h] [4 Credits] 🌐
⊗ LINGE1214	<a href="#">Further Statistics</a>	Christian Hafner	FR [q1] [30h+15h] [4 Credits] 🌐
⊗ LINGE1221	<a href="#">Econometrics</a>	Sébastien Van Bellegem	FR [q2] [30h+15h] [5 Credits] 🌐
⊗ LINGE1222	<a href="#">Multivariate Statistical Analysis</a>	Johan Segers	FR [q2] [30h+15h] [4 Credits] 🌐
⊗ LMAT1271	<a href="#">Calculation of probability and statistical analysis</a>	Rainer von Sachs	FR [q2] [30h+30h] [6 Credits] 🌐 > English-friendly
⊗ LPSP1209	<a href="#">Statistics, inference on one or two variables</a>	Eugen Pircalabelu	FR [q1] [22.5h+15h] [4 Credits] 🌐
⊗ LPSP1306	<a href="#">Statistics: descriptive analysis and GLM multivariate data modeling</a>	Aurélie Bertrand (compensates) Bernadette Govaerts Nathalie Lefèvre (compensates) Bernadette Govaerts Cédric Taverne (compensates) Bernadette Govaerts	FR [q2] [30h+15h] [4 Credits] 🌐
⊗ LMAFY1101	<a href="#">Data exploration and introduction to statistical inference</a>	Vincent Bremhorst (compensates) Anouar El Ghouch	FR [q2] [30h+30h] [5 Credits] 🌐

## ⌘ Cours d'anglais

⌘ LANGL1330	English intermediate level - 1st part	Stéphanie Brabant Julie Callens Julie Crombois Estelle Dagneaux Aurélie Deneumoustier Marie Duelz Claudine Grommersch Sandrine Mulkers (coord.) Emeline Pierre (compensates Sandrine Mulkers) Marc Piwnik (coord.) Florence Simon Françoise Stas Anne-Julie Toubeau Marine Volpe	EN [q1 or q2] [20h] [3 Credits] 
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## Course prerequisites

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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:

- 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](https://uclouvain.be/fr/decouvrir/rgee.html) (<https://uclouvain.be/fr/decouvrir/rgee.html>).

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### # Prerequisites list

**LSTAT2920** "Stage ou travail d'application" has prerequisite(s) LSTAT2020 ET LSTAT2110 ET LSTAT2120

- LSTAT2020 - [Statistical softwares and basic statistical programming](#)
- LSTAT2110 - [Data Analysis](#)
- LSTAT2120 - [Linear models](#)

## The programme's courses and learning outcomes

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For each UCLouvain training programme, a [reference framework of learning outcomes](#) specifies 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.

## STAT2M - 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

- > [General access requirements](#)
- > [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 the access conditions described below, candidates will have to provide proof of a sufficient command of the French language (level B1 of the CEFR, Common European Framework of Reference for Languages).

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](#).

Des précisions ont été apportées à ces critères en 2023-2024, vous pouvez y accéder [ici](#).

### University Bachelors

Diploma	Special Requirements	Access	Remarks
<b>UCLouvain Bachelors</b>			
<a href="#">Bachelor in Bioengineering</a> <a href="#">Bachelor in Engineering</a> <a href="#">Bachelor : Business Engineering</a> <a href="#">Bachelor in Economics and Management</a> <a href="#">Bachelor in Computer Science</a> <a href="#">Bachelor in Mathematics</a> <a href="#">Bachelor in Physics</a>		Direct access	
Tous les bacheliers	S'ils ont suivi la <a href="#">Minor in Statistics, Actuarial Sciences and Data Sciences</a>	Direct access	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.
Tous les autres bacheliers	if the student did not succeed <a href="#">Minor in Statistics, Actuarial Sciences and Data Sciences</a>  Supplementary classes: <a href="#">LSTAT2011</a> , <a href="#">LSTAT2012</a> , <a href="#">LSTAT2013</a> or <a href="#">LMAT1271</a>	Access based on application	

### Others Bachelors of the French speaking Community of Belgium

Bachelier en sciences de l'ingénieur, orientation bioingénieur Bachelier en sciences de l'ingénieur, orientation ingénieur civil Bachelier en sciences économiques et de gestion Bachelier en sciences informatiques Bachelier en sciences informatiques Bachelier en sciences physiques		Direct access
Tout bachelier	Supplementary classes: <a href="#">LSTAT2011</a> , <a href="#">LSTAT2012</a> , <a href="#">LSTAT2013</a> or <a href="#">LMAT1271</a>	Access based on application

**Bachelors of the Dutch speaking Community of Belgium**

Bachelier en sciences de l'ingénieur, orientation bioingénieur Bachelier en sciences de l'ingénieur, orientation ingénieur civil Bachelier en sciences économiques et de gestion Bachelier en sciences informatiques Bachelier en sciences informatiques Bachelier en sciences physiques		Direct access
Tous les autres bacheliers	Supplementary classes: <a href="#">LSTAT2011</a> , <a href="#">LSTAT2012</a> , <a href="#">LSTAT2013</a> or <a href="#">LMAT1271</a>	Access based on application

**Foreign Bachelors**

Tous les bacheliers	Supplementary classes: <a href="#">LSTAT2011</a> , <a href="#">LSTAT2012</a> , <a href="#">LSTAT2013</a> or <a href="#">LMAT1271</a>	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
<b>"Licenciés"</b>			
Ingénieur civil (sauf ingénieur civil architecte) Sciences informatiques Sciences économiques Sciences de gestion Ingénieur de gestion Sciences actuarielles Sciences physiques Sciences mathématiques Bioingénieur		Direct access	Subject to the acceptance of the Jury, a student may be exempted from a maximum of 60 activity credits and possibly complete the master's degree in Statistics in a single year.
Toutes les autres licences		Access based on application	Subject to the acceptance of the Jury, a student may be exempted from a maximum of 60 activity credits and possibly complete the master's degree in Statistics in a single year.
<b>Masters</b>			
Ingénieur civil (sauf ingénieur civil architecte) Sciences informatiques Sciences économiques Sciences de gestion Ingénieur de gestion Sciences actuarielles Sciences physiques Sciences mathématiques Bioingénieur		Direct access	Subject to the acceptance of the Jury, a student may be exempted from a maximum of 60 activity credits and possibly complete the master's degree in Statistics in a single year.

Tous les autres masters

Access based on application

Subject to the acceptance of the Jury, a student may be exempted from a maximum of 60 activity credits and possibly complete the master's degree in Statistics in a single year.

## 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.

Foreign students who have succeeded an university education (minimum 3 years) with strong quantitative connotation and who have obtained at least 70% (or 14/20) of average for all successful university years in their home university, without fail in mathematics/statistics/probability, have the possibility to apply for admission to the master's program in Statistics (120 ECTS).

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

### Admission and Enrolment Procedures for general registration

The student contacts the LSBA secretariat if a faculty authorization has been requested by the registration service. The student then establishes his program with the study consultant of the purpose concerned (<https://uclouvain.be/fr/facultes/sc/infos-lsba.html>) .

## Evaluation

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**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".**

Each course in the programme involves an oral or written examination. There may also be a project leading to a report which will form part of the assessment. The work placement (or work involving statistical application) and the dissertation both involve the production of a document to be defended in an oral examination with an examination.

## Contacts

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### Curriculum Management

#### Entity

Structure entity	SST/SC/LSBA
Denomination	(LSBA)
Faculty	Faculty of Science (SC)
Sector	Sciences and Technology (SST)
Acronym	LSBA
Postal address	Voie du Roman Pays 20 - bte L1.04.01 1348 Louvain-la-Neuve Tel: +32 (0) 10 47 43 14 - Fax: +32 (0) 10 47 30 32 <a href="https://uclouvain.be/fr/facultes/sc/lsba">https://uclouvain.be/fr/facultes/sc/lsba</a>
Website	

Academic supervisor: Eugen Pircalabelu

#### Jury

- Christian Hafner
- Rainer von Sachs

#### Useful Contact(s)

- Eugen Pircalabelu
- Sophie Malali

