

## Table of contents

Introduction .....	2
Teaching profile .....	3
- Learning outcomes .....	3
- Detailed programme .....	3
- Programme by subject .....	3
- Course prerequisites .....	5
- The programme's courses and learning outcomes .....	5
Information .....	6
- Access Requirements .....	6
- Evaluation .....	6
- Possible trainings at the end of the programme .....	6
- Contacts .....	6

## MINSTAT - Introduction

### Introduction

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## MINSTAT - Teaching profile

### Learning outcomes

Aims of the course in terms of skills: the minor aims to allow the student to acquire basic skills in applied statistics which are of use in his/her specialist subject or help him/her prepare for a Master's in Statistics.

### Detailed programme

#### PROGRAMME BY SUBJECT

○ Mandatory

△ Courses not taught during 2020-2021

⊕ Periodic courses taught during 2020-2021

⊗ Optional

⊖ Periodic courses not taught during 2020-2021

■ Activity with requisites

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

Year

2 3

#### ○ Content:

##### ○ Module 1 (cours de base en mathématique)

###### ⊗ Bloc 1

○ LMAT1101	Mathematics 1	Pedro Dos Santos Santana Forte Vaz	30h+20h	4 Credits	q1	x	x
○ LMAT1102	Mathematics 2	Augusto Ponce	30h+30h	4 Credits	q2	x	x

###### ⊗ Bloc 2

○ LECGE1112	Mathematics in economy and management	Pascal Lambrechts Mathieu Van Vyve	45h+30h	6 Credits	q1	x	x
○ LECGE1230	Mathematics in Economics and Management II	Pieter Klaessens	45h+30h	6 Credits	q1	x	x

###### ⊗ Bloc 3

○ LINGE1114	Mathematics I: analysis	Heiner Olbermann	30h+30h	5 Credits	q1	x	x
○ LINGE1121	Mathematics II: algebra and matrix calculus	Tom Claeys	30h+30h	5 Credits	q2	x	x

##### ○ Module 2 (cours de base en statistique/probabilité)

Au sein de chaque bloc, les cours doivent être suivis dans l'ordre indiqué.

###### ⊗ Choix 2

○ LSTAT2011	Éléments de mathématiques pour la statistique	Catherine Legrand	15h+15h	3 Credits	q1	x	x
○ LSTAT2012	Probabilités: Concepts de base pour l'analyse statistique	Eugen Pircalabelu	15h+15h	3 Credits	q1	x	x
○ LSTAT2013	Concepts de base en statistique inférentielle	Eugen Pircalabelu	15h+15h	3 Credits	q1	x	x

###### ⊗ Bloc 2

○ LBIR1212	Probabilities and statistics (I)	Patrick Bogaert	30h+15h	4 Credits	q1	x	x
○ LBIR1315	Probability and statistics II	Patrick Bogaert	22.5h +22.5h	3 Credits	q1	x	x

###### ⊗ Bloc 3

○ LINGE1113	Probability	Aurélie Bertrand (compensates Johan Segers)	30h+15h	4 Credits	q2	x	x
○ LINGE1214	Further Statistics	Christian Hafner	30h+15h	4 Credits	q1	x	x

### ⌘ Module 3 (cours de base en informatique)

Parmi les cours qu'il choisit, l'étudiant sélectionne maximum un cours parmi LINFO1101 et LINGE1225. L'étudiant qui suit plusieurs cours dans ce module suit obligatoirement les cours selon la séquence suivante : (LINFO1101 ou LINGE1225) puis LEPL1402 puis finalement LEPL1509.

⌘ LINFO1101	Introduction à la programmation	Kim Mens Siegfried Nijssen Charles Pecheur	30h+30h	5 Credits	q1	x	x
⌘ LEPL1402	Informatique 2	Ramin Sadre Pierre Schaus	30h+30h	5 Credits	q1	x	x
⌘ LINGE1225	Programming in Economics and Management	Marco Saerens	22.5h +22.5h	4 Credits	q1	x	x
⌘ LEPL1509	Projet 4 (en informatique) LEPL1402 doit être suivi au plus tard la même année que LEPL1509.	Marc Lainez (compensates Yves Deville)	30h +22.5h	5 Credits	q2	x	x

### ⌘ Module 4 (Statistique)

#### ⌘ au choix

maximum un cours parmi

⌘ LSTAT2120	Linear models	Christian Hafner	30h+7.5h	5 Credits	q1	x	x
⌘ LBIRA2110B	Applied Econometrics	Xavier Draye Frédéric Gaspard Bernadette Govaerts	27.5h +7.5h	3 Credits	q1	x	x

#### ⌘ au choix

maximum un cours parmi

⌘ LSTAT2110	Data Analysis	Johan Segers	30h+7.5h	5 Credits	q1	x	x
⌘ LINGE1222	Multivariate Statistical Analysis	Nathan Uyttendaele (compensates Johan Segers)	30h+15h	4 Credits	q2	x	x

#### ⌘ au choix

maximum un cours parmi

⌘ LMAFY1101	Data exploration and introduction to statistical inference L'étudiant qui choisit le cours LMAFY1101 le suit impérativement en début de mineure.	Anouar El Ghouch	30h+30h	5 Credits	q2	x	
⌘ LSTAT2020	Statistical softwares and basic statistical programming	Céline Bugli	15h+15h	4 Credits	q1	x	x

#### ⌘ au choix

⌘ LSTAT2030	Statistique et data sciences avec R: Programmation avancée	Anouar El Ghouch	15h+15h	4 Credits	q2	x	x
⌘ LSTAT2200	Survey and Sampling	Marie-Paule Kestemont	15h+5h	4 Credits	q2	x	x
⌘ LSTAT2310	Statistical quality control.	Bernard Francq	15h+5h	4 Credits	q1	x	x
⌘ LSTAT2320	Design of experiment.	Patrick Bogaert Bernadette Govaerts	22.5h +7.5h	5 Credits	q2	x	x
⌘ LSTAT2330	Statistics in clinical trials.	Catherine Legrand Annie Robert	22.5h +7.5h	5 Credits	q2	x	x

### ⌘ Module 5 (Cours de biologie)

L'étudiant choisit maximum un cours parmi

⌘ LBIO1110	Life : diversity and evolution	Patrick Dumont Thierry Hance Caroline Nieberding (coord.)	30h+10h	4 Credits	q1	x	x
⌘ LBIO1111	Cell and molecular biology	André Lejeune	30h+20h	5 Credits	q1	x	x
⌘ LIEPR1004A	Biologie cellulaire et éléments d'histologie (partim A FSA)		45h	4 Credits	q2	x	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?"*

## MINSTAT - Information

### Access Requirements

#### Specific access requirements

The minor in statistics is open to all students from all UCL baccalaureate courses for whom statistics appears to be an attractive additional tool. The real content of his/her program will depend on his/her goals and basic skills in statistics, mathematics and IT.

We divide the students into three groups based on the role mathematics and statistics play in their university course:

- Group 1 : students whose baccalaureate program does not feature any mathematics training and who are not taking a sufficiently methodological statistics course.
- Group 2 : students with sound mathematics training but who have not covered much statistics in their baccalaureate program.
- Group 3 : students who already have a solid basic training in mathematics and statistics in their baccalaureate.

An adviser from the Institut de statistique will be available to help the student decide in which group s/he belongs and to help him/her choose his/her electives to match his/her aims.

### 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".*

### Possible trainings at the end of the programme

#### Majors-minors giving direct access to a master's course(s) :

Students who pass the minor in statistics have fulfilled the necessary conditions to enroll on a specialized master's in statistics.

#### Majors-minors giving access to the master's subject to the student meeting an additional requirement(s):

### Contacts

#### Curriculum Management

Entity

Structure entity

Denomination

Faculty

Sector

Acronym

Postal address

SST/SC/LSBA

(LSBA)

Faculty of Science (SC)

Sciences and Technology (SST)

LSBA

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<https://uclouvain.be/fr/facultes/sc/lsba>

Website

Academic supervisor: Bernadette Govaerts

Useful Contact(s)

- Sophie Malali

