

MATH1BA - Introduction

Introduction

Introduction

You love mathematics.

You want to learn to reason rigorously and critically.

You want to develop your creativity to solve problems, model and visualize complex situations, drawing on modern digital tools and a rich, solid mathematical tradition.

You have a good sense of argumentation and want to communicate your ideas in a faithful, accessible and attractive way.

UCLouvain offers you a training program that will enable you to acquire the skills needed to :

- develop and apply cutting-edge mathematics,
- transmit mathematical knowledge to a variety of audiences,
- support decision-making through rational data analysis.

MATH1BA Programme

Detailed programme by subject



- 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]



o Probabilités et statistiques (16 credits)

| | | | |
|-------------|--|------------------|--|
| o LMAFY1101 | Data exploration and introduction to statistical inference | Anouar El Ghouch | |
|-------------|--|------------------|--|

| | | | | Year | | |
|-------------|--|-------------------------------------|---|------|---|---|
| | | | | 1 | 2 | 3 |
| ⌘ LTECO2200 | Societies-cultures-religions : Human Questions | Pedro Dusabamahoro Valinho Gomes | PK [q1] [15h] [2 Credits]  | | | x |
| ⌘ LTECO2300 | Societies, cultures, religions : Ethical questions | Marcela Lobo Bustamante | PK [q1] [15h] [2 Credits]  | | | x |

o Bloc au choix

List of available minors

Students can choose to study certain aspects of their bachelor's degree in greater depth:

- Additional module in mathematics
- Additional module in statistics and data science.

They can also choose to develop their skills in related disciplines:

- Minor in physics
- Minor in applied mathematics
- Minor in computer science
- Access minor to master's degree in economics
- Minor in management ("Initiation")
- Minor in Philosophy

Students choose from the list below of the most commonly programmed minors for mathematicians, or apply for access to one of the UCLouvain minors in the full list (<https://uclouvain.be/fr/etudier/mineures.html>), taking into account any admission requirements.

- > [Additional module in Mathematics](#) [en-prog-2024-appmath]
- > [Approfondissement en statistique et sciences des données](#) [en-prog-2024-appstat]
- > [Minor in Culture and Creation](#) [en-prog-2024-mincucrea]
- > [Minor in Scientific Culture](#) [en-prog-2024-minculsts]
- > [Minor in Development and Environment](#) [en-prog-2024-mindenv]
- > [Minor : Issues of Transition and Sustainable Development \(*\)](#) [en-prog-2024-mindd]
- > [Minor in Economics](#) [en-prog-2024-minecon]
- > [Minor in Gender Studies](#) [en-prog-2024-mingenre]
- > [Minor in Geography](#) [en-prog-2024-mingeog]
- > [Minor in Management \(basic knowledge\)](#) [en-prog-2024-minogest]
- > [Minor in Computer Sciences](#) [en-prog-2024-minsinf]
- > [Minor in Philosophy](#) [en-prog-2024-minfilo]
- > [Minor in entrepreneurship \(*\)](#) [en-prog-2024-minmpme]
- > [Minor in Economics \(open\)](#) [en-prog-2024-minoeco]
- > [Minor in Physics](#) [en-prog-2024-minphys]
- > [Minor in numerical technologies and society](#) [en-prog-2024-minstic]
- > [Minor in Applied Mathematics](#) [en-prog-2024-lminomap]
- > [Minor in Mechanics](#) [en-prog-2024-lminomeca]
- > [Mineure Polytechnique](#) [en-prog-2024-minpoly]

(*) *This programme is the subject of access criteria*

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:

- 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](#).

Prerequisites list

- LANG1862** "English: reading and listening comprehension of scientific texts" has prerequisite(s) LANG1861
- LANG1861 - English: reading and listening comprehension of scientific texts
- LEPL1402** "Informatics 2" has prerequisite(s) LINFO1101
- LINFO1101 - Introduction to programming
- LINFO1121** "Algorithms and data structures" has prerequisite(s) LEPL1402
- LEPL1402 - Informatics 2
- LINGE1222** "Multivariate Statistical Analysis" has prerequisite(s) LMAT1271
- LMAT1271

o Analyse

o LMAT1121

Differential and integral calculus

o

MATH1BA - 2ND ANNUAL UNIT

- 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]

o Sciences humaines

o Philosophie

L'étudiant choisit

From 2 to 4 credit(s)

| | | | |
|--------------|----------------|---------------|---|
| ⌘ LSC1120A | Philosophy | Charles Pence | FR [q1] [45h] [2 Credits] 🌐 |
| ⌘ LFILO1250A | Logic (partim) | Peter Verdée | FR [q2] [45h] [4 Credits] 🌐 > English- friendly |

o Bloc au choix

L'étudiant complète son programme en choisissant des cours des 2 blocs suivants (il est conseillé à l'étudiant de s'inscrire à au moins 10 crédits par bloc annuel). Cependant, avoir suivi tous les cours du bloc Statistique et Informatique est recommandé si vous souhaitez vous inscrire au master en science des données, orientation statistique.

⌘ Bloc Mathématique

MATH1BA - 3RD ANNUAL UNIT

- 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...)

o Majeure**o Analyse**

| | | | |
|------------|--|----------------------|---|
| ○ LMAT1321 | Functional analysis and partial differential equations | Jean Van Schaftingen | EN [q1] [45h +45h] [7 Credits] 🌐 > English-friendly |
|------------|--|----------------------|---|

o Analyse numérique et Informatique

| | | | |
|------------|--|------------|--|
| ○ LMAT1351 | Approximation: methods et theory | Tom Claeys | EN [q1] [30h +30h] [5 Credits] 🌐 > French-friendly |
|------------|--|------------|--|

o Probabilités et statistiques

| | | | |
|------------|------------------------------------|---------------|---|
| ○ LMAT1371 | Probability Theory | Karim Barigou | EN [q2] [30h +22.5h] [5 Credits] 🌐 |
|------------|------------------------------------|---------------|---|

o Séminaires et travaux de synthèse

| | | | |
|------------|---|------------------------------|---|
| ○ LMAT1381 | Personal project and seminary | Marino Gran Augusto Ponce | EN [q2] [30h] [6 Credits] 🌐 > English-friendly |
|------------|---|------------------------------|---|

o Anglais

| | | | |
|------------|---|---|--|
| ○ LANG1863 | English for Students in Sciences (Upper-Intermediate level) | Ahmed Adriouche (coord.) Catherine Avery (coord.) Amandine Dumont (coord.) Sandrine Jacob (coord.) Adrien Kefer (compensates Amandine Dumont) Nevin Serbest Florence Simon (coord.) Françoise Stas Marine Volpe | EN [q1 or q2] [30h] [3 Credits] 🌐 |
|------------|---|---|--|

o Sciences humaines**o Sciences religieuses**

Students choose 2 credits from the following courses

| | | | |
|-------------|---|-------------------------------------|-----------------------------------|
| ⊗ LTECO2100 | Sociétés, cultures, religions : Biblical readings | Hans Ausloos | EN [q1] [15h] [2 Credits] 🌐 |
| ⊗ LTECO2200 | Societies-cultures-religions : Human Questions | Pedro Dusabamahoro Valinho Gomes | EN [q1] [15h] [2 Credits] 🌐 |

⌘ LTECO2300

o Minor or additional module

*L'étudiant complète sa formation en choisissant un approfondissement ou une mineure dans la liste proposée pour le bachelier en sciences mathématiques. Il répartit les unités d'enseignement dans le 2e et le 3e bloc annuel, de manière à ce que son programme annuel totalise 60 crédits.
Maximum 1 élément(s)*

MATH1BA - Information

Access Requirements

Decree of 7 November 2013 defining the landscape of higher education and the academic organization of studies.

The admission requirements must be met prior to enrolment in the University.

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](#)
- [Access based on validation of professional experience](#)
- [Special requirements to access some programmes](#)

General access requirements

Except as otherwise provided by other specific legal provisions, admission to undergraduate courses leading to the award of a Bachelor's degree will be granted to students with one of the following qualifications :

1. A Certificate of Upper Secondary Education issued during or after the 1993-1994 academic year by an establishment offering full-time secondary education or an adult education centre in the French Community of Belgium and, as the case may be, approved if it was issued by an educational institution before 1 January 2008 or affix tSwith oapprfe3itutio7f g /F3 12.8 Tf 1 0fd. -1case mahoi if it was1. A Cerg to Tm [(iprf

Faculty
Sector
Acronym
Postal address

Faculty of Science (SC)
Sciences and Technology (SST)
MATH
Chemin du Cyclotron 2 - bte L7.01.02
1348 Louvain-la-Neuve
Tel: +32 (0) 10 47 31 52 - Fax: +32 (0) 10 47 25 30
<https://uclouvain.be/fr/facultes/sc/math>

Website

Academic supervisor: [Jean Van Schaftingen](#)

Jury

- President: [Tim Van der Linden](#)
- Secretary and Study advisor: [Pierre Bieliavsky](#)

Useful Contact(s)

- Administrative manager for the student's annual program: [Nathalie Micha](#)

