

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,

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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) Teaching language (FR, EN, ES, NL, DE, ...)

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

Year

1 2 3

o Majeure (150 credits)

o Methodology (5 credits)

○ LMAT1191	Introduction to the mathematical approach	Pierre-Emmanuel Caprace Jean Van Schaftingen	(FR) [q1+q2] [30h+30h] [5 Credits] 🌐	X		
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o Analyse (30 credits)

○ LMAT1121	Differential and integral calculus	Cécile Coyette Compensates Tom Claeys	(FR) [q1] [30h+30h] [5 Credits] 🌐	X		
○ LMAT1122	Mathematical analysis : differentiation	Augusto Ponce	(FR) [q2] [45h+45h] [8 Credits] 🌐	X		
○ LMAT1221	Mathematical analysis : integration					



o Analyse (30 credits)





Year

1 2 3

o Probabilités et statistiques (16 credits)

○ LMAFY1101	Data exploration and introduction to statistical inference	Anouar El Ghouch	PS [q2] [30h+30h] [5 Credits] 	x		
○ LMAT1271	Calculation of probability and statistical analysis	Rainer von Sachs	PS [q2] [30h+30h] [6 Credits]  > English-friendly		x	
○ LMAT1371						

				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-mincucreea]
- > [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]
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o Analyse

o LMAT1121	Differential and integral calculus	Cécile Coyette (compensates Tom Claeys)	PR [q1] [30h +30h] [5 Credits]
o LMAT1122	Mathematical analysis : differentiation	Augusto Ponce	PR [q2] [45h +45h] [8 Credits]

o Algèbre et géométrie

o LMAT1131	Linear Algebra	Marino Gran	PR [q1] [45h +45h] [8 Credits]
o LMAT1141	Geometry I	Pascal Lambrechts	PR [q2] [45h +30h] [7 Credits]

o Physique et physique mathématique

o LPHYS1111	Mechanics 1	Giacomo Bruno Jan Govaerts	PR [q1] [45h +45h] [8 Credits]
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o Analyse numérique et Informatique

o LINFO1101	Introduction to programming	Kim Mens Siegfried Nijssen Charles Pecheur	PR [q1] [30h +30h] [6 Credits]
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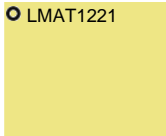
MATH1BA - 2ND ANNUAL UNIT

- Mandatory
- ✘ Optional
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[Click on the course title to see detailed informations \(objectives, methods, evaluation...\)](#)

o Majeure

o Analyse

- LMAT1221
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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

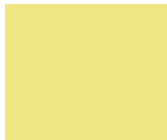
- Mandatory
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o Majeure

o Analyse

● LMAT1321	Functional analysis and partial differential equations	Jean Van Schaftingen	(FR) [q1] [45h +45h] [7 Credits] 🌐 > English- friendly
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o Analyse numérique et Informatique



MATH1BA - Information

- For any secondary school diploma **from a European Union country**, the admission request must contain the equivalence of your diploma or, at the very least, proof of the filing of the equivalence request with the Wallonia-Brussels Federation (French Community of Belgium). For any information relating to obtaining an equivalence, please refer to [the following site](#).
- For any secondary school diploma **from a country outside the European Union**, the admission application must contain the [equivalence of your diploma](#) issued by the Wallonia-Brussels Federation (French Community of Belgium). If you have a restrictive equivalence for the programme of your choice, in addition of it, you **must** have either the [DAES](#) or a certificate of successful completion of the [examination giving access to 1st cycle studies](#) when you submit your application

Access based on validation of professional experience

Admission to undergraduate studies on the basis of accreditation of knowledge and skills obtained through professional or personal experience (Accreditation of Prior Experience)

Subject to the general requirements laid down by the authorities of the higher education institution, with the aim of admission to the undergraduate programme, the examination boards accredit the knowledge and skills that students have obtained through their professional or personal experience.

This experience must correspond to at least five years of documented activity, with years spent in higher education being partially taken into account: 60 credits are deemed equivalent to one year of experience, with a maximum of two years being counted. At the end of an assessment procedure organized by the authorities of the higher education institution, the Examination Board will decide whether a student has sufficient skills and knowledge to successfully pursue undergraduate studies.

After this assessment, the Examination Board will determine the additional courses and possible exemptions constituting the supplementary requirements for the student's admission.

Special requirements to access some programmes

- Admission to **undergraduate studies in engineering: civil engineering and architect**

Pass certificate for the [special entrance examination for undergraduate studies in engineering: civil engineering and architect](#).

Admission to these courses is always subject to students passing the special entrance examination. Contact the faculty office for the programme content and the examination arrangements.

- Admission to **undergraduate studies in veterinary medicine**

[Admission to undergraduate studies in veterinary medicine is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses \(non-residents\)](#).

- Admission to **undergraduate studies in physiotherapy and rehabilitation**

[Admission to undergraduate studies in physiotherapy and rehabilitation is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses \(non-residents\)](#).

- Admission to **undergraduate studies in psychology and education: speech and language therapy**

[Admission to undergraduate studies in psychology and education: speech and language therapy is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses \(non-residents\)](#).

- Admission to **undergraduate studies in medicine and dental science**

[Admission to undergraduate studies in medicine and dental science is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses \(non-residents\)](#).

Note: students wishing to enrol for a **Bachelor's degree in Medicine** or a **Bachelor's degree in dental science** must first sit an [aptitude test \(fr\)](#).

- Access to **Bachelor of Science in Business Engineering**

The Bachelor of Science in Business Engineering is a joint program organised by KU Leuven and UCLouvain Saint-Louis Bruxelles. In order to register, all candidate must first submit an application via the [KU Leuven admission platform](#). The [conditions of access](#) to this programme are specific.

Faculty	Faculty of Science (SC)
Sector	Sciences and Technology (SST)
Acronym	MATH
Postal address	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	
	<ul style="list-style-type: none">• President: Tim Van der Linden• Secretary and Study advisor: Pierre Bieliavsky
Useful Contact(s)	
	<ul style="list-style-type: none">• Administrative manager for the student's annual program: Nathalie Micha

