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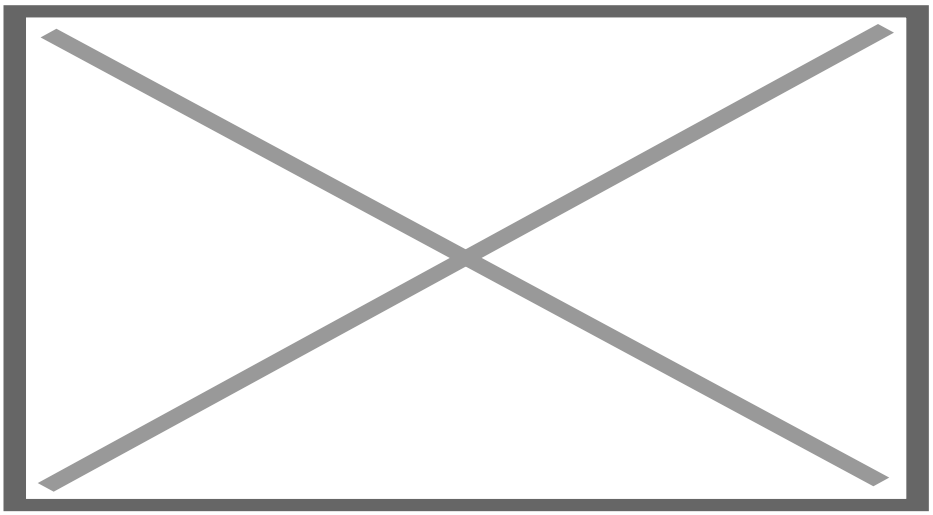
M2 Analysis, Arithmetic, and Geometry

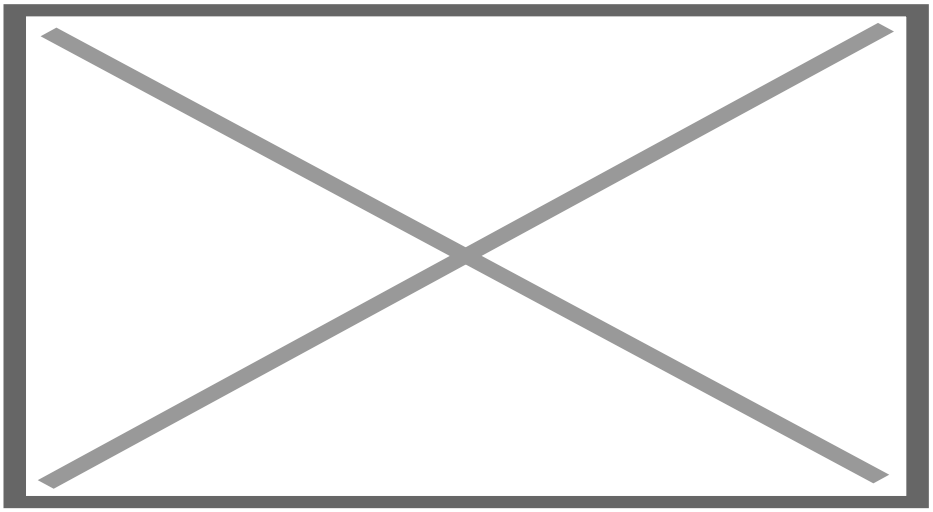
Master's degree
Specialisation Mathematics and applications
Enrolment type
Formation initiale
Formation continue
Language(s) of instruction
English
French

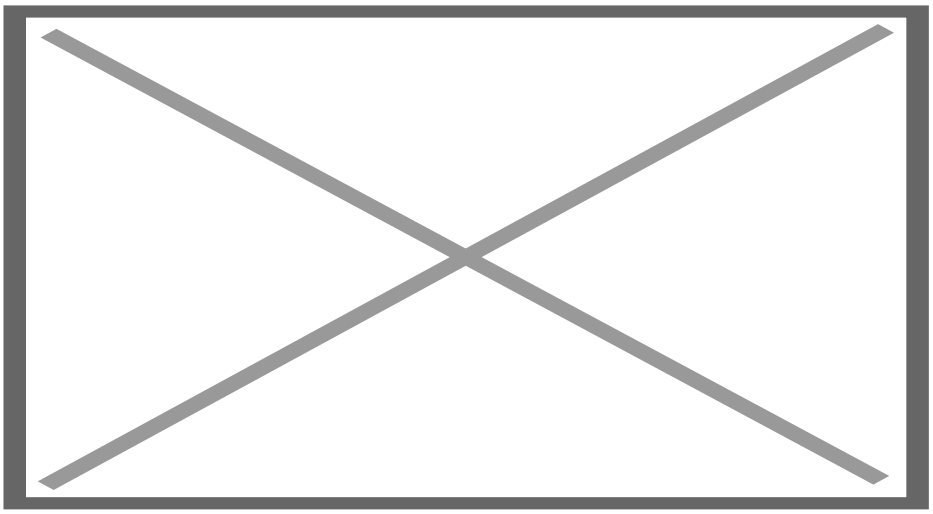
The Analysis, Arithmetic, Geometry course is one of the 2nd year Master of the Master's track Mathematics and Applications at [Université Paris-Saclay] (https://www.universite-paris-saclay.fr/en). The main aim of the course is to prepare students for a thesis in fundamental mathematics.

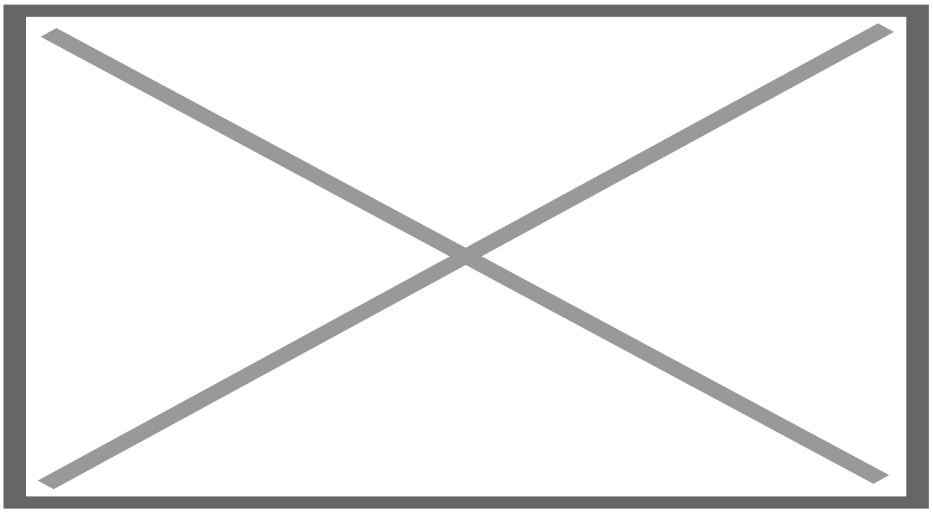
Our master's program M2 offers three crash courses (in differential geometry, algebra and complex analysis) in September, several fundamental advanced courses in the first term (such as algebraic geometry, number theory, ergodic theory and dynamical systems, groups and geometry; the subjects may vary slightly from year to year) and a number of more specialized courses in the second term (the subjects change regularly and completely, we try to be sufficiently diverse in our offer). Of course you are also expected to write and defend a master thesis under the guidance of a senior researcher. This can be done at Orsay mathematical department but also at another research unit if necessary.

Télécharger la fiche détaillée
Apply Now









Information

- Overview
- Application requirements
- Schedule

Présentation

Skills

Master and apply cutting edge mathematical tools and methods.

Objectives

The main aim of the "Analysis, Arithmetic, Geometry" (AAG) course is to prepare students for a thesis in fundamental mathematics.

Débouchés

Career prospects

After a Master's or Master's + PhD: researcher or lecturer

Further Study Opportunities

PhD
Students with a 2nd year Master's degree have the possibility to pursue doctoral research.

Admission

Admission Route

Mathematics

Capacity

Available Places

40

Target Audience and Entry Requirements

M1 in fundamental mathematics or an equivalent level of qualification. Admission upon competitive exam.

Période(s) de candidature

Inception Platform

From 01/03/2026 to 30/06/2026

Supporting documents

Compulsory supporting documents

Motivation letter.

All transcripts of the years / semesters validated since the high school diploma at the date of application.

Curriculum Vitae.

Additional supporting documents

Document at your convenience.

Detailed description and hourly volume of courses taken since the beginning of the university program.

VAP file (obligatory for all persons requesting a valuation of the assets to enter the diploma).

Recommendation letters.

Document indicating the list of local M2 choices available here : https://urlz.fr/i3Lo.

Supporting documents :
- Residence permit stating the country of residence of the first country
- Or receipt of request stating the country of first asylum
- Or document from the UNHCR granting refugee status
- Or receipt of refugee status request delivered in France
- Or residence permit stating the refugee status delivered in France
- Or document stating subsidiary protection in France or abroad
- Or document stating temporary protection in France or abroad.

Details of the UEs taken for candidates outside the M1 Paris Saclay.

Programme

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d
Groups and Geometries 2025-2026	15	Semester 1	50	25					
Charger le détail									
Representation theory 2025-2026	7.5	Semester 1	25	12.5					
Charger le détail									
Introduction to complex manifolds and Riemann surfaces 2025-2026	15	Semester 1	50	25					
Charger le détail									
Homological Algebra 2025-2026	7.5	Semester 1	25						
Charger le détail									
Ergodic Theory 2025-2026	7.5	Semester 1	25	12.5					
Charger le détail									
Global Analysis and Diffusion 2025-2026	7.5	Semester 1	25	12.5					
Charger le détail									
Topological and Differentiable Dynamical Systems 2025-2026	7.5	Semester 1	25	12.5					
Charger le détail									
Number Theory 2025-2026	15	Semester 1	50	25					
Charger le détail									

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d
Algebraic geometry : Scheme Theory 2025-2026	15	Semester 1	50	25					

Charger le détail

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	di le c
Topics in Commutative Algebra, Homological Algebra and Sheaves Theory 2025-2026	3	Semester 2	22						

Charger le détail

Topics in Functional Analysis 2025-2026	3	Semester 2	21						

Charger le détail

Topics in Differential Geometry 2025-2026	3	Semester 2	21						

Charger le détail

Anglais/FLE	3	Semestre 2	24						

Charger le détail

A2 - Séminaire Etudiant	3	Semestre 2							

Charger le détail

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	distan learni cours
AAG - Mémoire	21	Semestre 2							

Charger le détail

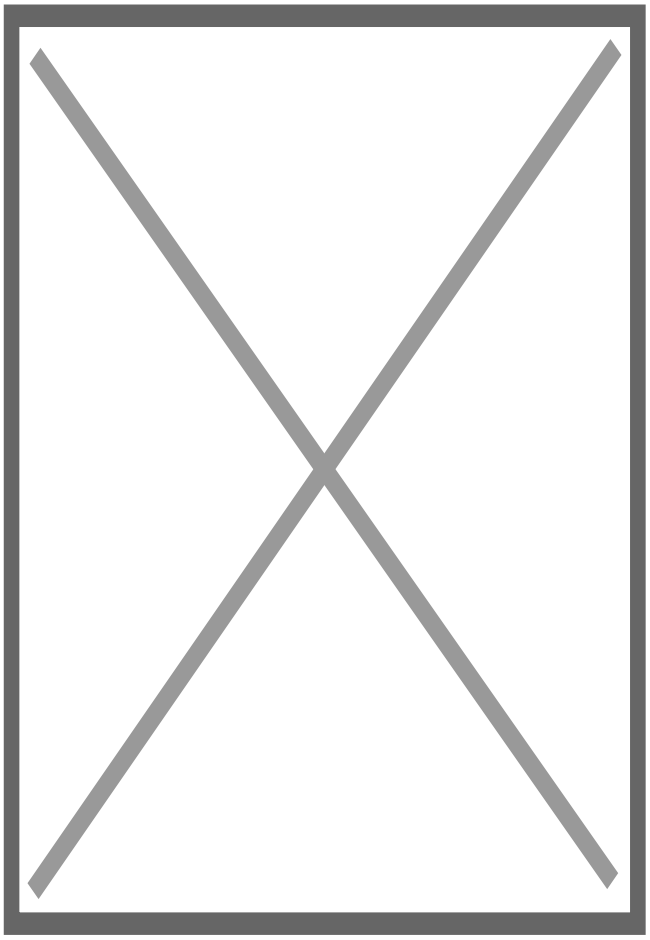
Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d l
Asymptotic problems in complex analysis 2025-2026	6	Semester 2	20						
Charger le détail									
Algorithms in number theory 2025-2026	6	Semester 2	20		10				
Charger le détail									
Topoi and condensed mathematics 2025-2026	6	Semester 2	20						
Charger le détail									
Cartan Connections and Homogeneous Complex Geometry 2025-2026	6	Semester 2	20						
Charger le détail									
Toric varieties 2025-2026	6	Semester 2	20						
Charger le détail									
Measured group theory 2025-2026	6	Semester 2	20						
Charger le détail									
Analytic methods in hyperbolic dynamical systems 2025-2026	6	Semester 2	20						
Charger le détail									

Teaching Location(s)

ORSAY

Training campus

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Orsay Bures

Orsay / Bures-sur-Yvette
Bus 4607, 4626
RER B Orsay ville ou Bures-sur-Yvette
Voir
Library
Community center

Contact

- **Emanuele Macri**
- **Thibault LEFEUVRE**

http://www.universite-paris-saclay.fr/formation/master/mathematiques-et-applications/m2-analyse-arithmetique-geometrie-aag