

Master in Mathematics and applications

The programme offers the following course(s) :

- › Preparation for agregation (algebra, analysis, modeling)
- › Fundamentals mathematics
- › Operations Research, Combinatorics and Optimization (ORCO)
- › Cybersecurity
- › Statistics and data sciences (SSD)
- › Master in Science in Industrial and Applied Mathematics (MSIAM)

Presentation

Below is a diagram (in French) of the structure of the master : on the left column, the first year masters (core curriculum), on the center and right columns the second year masters.

Co-accredited training between the Grenoble Alpes University, the Polytechnic Institute of Grenoble, and the University of Savoie Mont-Blanc.

This master courses offers several programs :

- Master in Science Industrial Applied Mathematics (MSIAM) : first year + second year
- Preparation for agregation : second year
- Cybersecurity (CybSec) : second year
- Fondamental mathematics : second year
- Statistics and data science (1) : first year + second year
- Operation Recherche Combinatorics and Optimization (ORCO) : second year
- Mathematical Modeling, Applied Analysis (MMAA) (2) : first year + second year

(1) Co-delivered by the Humanities and social sciences teaching department of Grenoble Alpes University

(2) Delivered by the Université de Savoie Mont Blanc

The master proposes two core curricula :

- General mathematics core curriculum in French
- Applied mathematics core curriculum in French and English

Differentiation at first year level : The optional teaching units proposed in semester 7 and semester 8 aim at guiding the students towards the various courses of the second year of the master. The Statistics and data science program is independent of the core curricula. The Mathematical modelling, Applied analysis program is also independent of the core curricula, but one can enter it at the second year level.

Differentiation of the courses at the second year level (Statistics and data sciences and Mathematical modelling, Applied analysis excepted) :

- The Master in Science in Industrial and Applied Mathematics, based on the core curriculum Applied mathematics accessible via the core curriculum General mathematics

- Fundamental mathematics, based on the core curriculum General mathematics
- Preparation for agregation, based on the core curriculum General mathematics
- Cybersecurity, accessible via the core curricula Applied mathematics and General mathematics, as well as via the core curriculum Computer science of the Computer science master program
- ORCO, accessible via the core curricula Applied mathematics and General mathematics, as well as via the core curriculum Computer science of the master program Computer science

The objective of this master is to train highly skilled specialists in mathematics and computer science for engineering, teaching, and research in a wide range of fields (pure and applied maths) where the demand from the socio-economic world is strong : security and cryptology, scientific computing, operational research, big data analysis, image synthesis and processing, statistics etc.

Several courses (MSIAM, CySec, ORCO) provide highly sought-after math/computing skills.

Registration and scholarships

The first year master is open to students with a degree conferring the title of bachelor in a field compatible with the fields of the master, or with a validation of studies or of prior experience.

Admission to the second year's master is selective. It is open to candidates who completed a first year Master in the field.

Continuing education : You are in this situation if :

- you resume your studies after 2 years or more of interruption of studies
- or you followed a formation under the regime *Formation continue* during one of the 2 preceding years
- or you are an employee, job seeker, self-employed

If you do not have the diploma required to integrate the training program, you can undertake a [validation of personal and professional achievements \(VAPP\)](#). (in French)

Would you like to apply and register ? Then please be aware that the procedure differs depending on your diploma, on your degree, or on your place of residence for foreign students. For more details, please follow this link (in French) : <https://www.univ-grenoble-alpes.fr/candidater-et-s-inscrire/>

Practicals informations :

- > Component : Grenoble INP, Institut d'ingénierie et de management, UFR IM2AG (informatique, mathématiques et mathématiques appliquées)
- > level : Bacalaurate +5
- > Duration : 2 years
- > Course type : Initial and Continuing Education
- > Location(s) : Grenoble - University campus

Contacts

Program director

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Program administration

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