

Field of study **Sciences and engineering**

Training available in

Initial training

Recognition of prior learning

How to apply :

<https://www.univ-gustave-eiffel.fr/en/formation/applications-and-enrolment/applications>

Course venue :

Campus Marne la Vallée - Champs sur Marne - Bâtiment Copernic 5 Boulevard Descartes 77420 Champs-sur-Marne

Calendar :

The second-year Master's is divided into two semesters. It is run jointly by the Université Gustave Eiffel and the UPEC, and all courses take place at the Université Gustave Eiffel. The work placement is carried out in the second semester.

Contacts :

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More information :

For further details :

<https://www.univ-gustave-eiffel.fr/international/etudiants-internationaux>

Service Information,
Orientation et Insertion Professionnelle (SIO-IP) :

sio@univ-eiffel.fr / Tel : +33 1 60 95 76 76



Master's degree Mathematics and applications Mathematics of Finance and Data



UFR de Mathématiques (MATHS)

Master's degree M2

TO GET THERE

M2 is for students who have successfully completed a first year of a Master's in Pure or Applied Mathematics or in Mathematics-Computer Science or who can prove they have an equivalent level, as well as Grande Ecole students.

Applications are examined by a committee.

ACQUIRED SKILLS

On completion of the Master's programme, graduates will be able to:

- Master mathematical tools, whether differential, probabilistic, statistical or numerical, and adapt to their development and increasing complexity.
- Design and apply theoretical knowledge to respond in the most appropriate way to real and concrete problems in their area of expertise.
- Model random events.
- Recommend balanced solutions.
- Search for and use documentary resources optimally in order to explore new subjects or be able to innovate in subjects arising from everyday problems.

YOUR FUTURE CAREER

The "Mathematics and Applications" Master's degree trains high-level mathematicians who wish to go into teaching or research in academia or industry, or for careers in market finance. Financial market modelling requires sophisticated mathematical tools.

BENEFITS OF THE PROGRAM

Affiliated with top-level research laboratories (LAMA, CERMICS, LIGM) and the Bézout Labex Attractiveness, clarity and career opportunities for the four programmes in partnership with ENPC. Regional coherence (Paris East) of the training. Work-study programme and sessions with professional partners.

More information



PROGRAM

SEMESTER 3

UE OBLIGATOIRES : TRONC COMMUN FINANCE

Calcul stochastique (ECTS:6)

Arbitrage, volatilité et gestion de portefeuille (ECTS:6)

Méthodes de Monte Carlo et algorithmes stochastiques (ECTS:6)

Semaine ouverture finance quantitative

Introduction au C++ (ECTS:3)

MATHEMATIQUES FINANCIERES APPROFONDIES 3 COURS A 6 ECTS A VALIDER PARMIS LES UE PROPOSEES AU S3 ET AU S4

Architecture big data (ECTS:6)

Risque de crédit risque de défaut (ECTS:6)

Mesure de risque en finance (ECTS:6)

Apprentissage statistique et applications (ECTS:6)

Méthodes de discrétisation de gradient pour des applications en modélisation stochastique et financière (ECTS:6)

SEMESTER 4

UE OBLIGATOIRES : TRONC COMMUN FINANCE

Modèles de taux d'intérêt (ECTS:6)

Stage (ECTS:15)

MATHEMATIQUES FINANCIERES APPROFONDIES 3 COURS A 6 ECTS A VALIDER PARMIS LES UE PROPOSEES AU S3 ET AU S4

Données hautes fréquences en finance (ECTS:6)

Modèles de volatilité (ECTS:6)

Méthodes numériques et produits structurés en actuariat (ECTS:6)

Introduction au calcul de Malliavin et applications numériques en finance (ECTS:6)