UNIVERSITÉ PARIS 1
PANTHÉON SORBONNE

DIPLÔME D'UNIVERSITÉ FIRST YEAR OF GRADUATE STUDIES IN MATHEMATICAL MODELS IN ECONOMICS AND FINANCE (MMEF)

Diplôme d'université

First Year of Graduate Studies

The first year of graduate studies, "Mathematical Methods in Economics and Finance" (MMEF), is a University Diploma ("Diplôme d'Université" - DU). MMEF is an international program entirely taught in English that lasts one academic year and awards between 60 and 70 educational credits, including either a research project or an internship.

The University Diploma MMEF corresponds to the first-year level of second cycle qualifications according to the European Credit Transfer and Accumulation System (ECTS) of the European Credit Transfer and Accumulation System (EHEA) - Bologna Process.

The MMEF is devoted to the training of students in the use of mathematical models in economics and finance: mathematical economics, econometrics, strategic analysis, decision theory, game theory, optimization, stochastic models, and finance. Moreover, the program offers intensive French as foreign language training to allow foreigners for integration and application to second-year French master in case they need it.

The MMEF welcomes around 25 students each year. Admission criteria are based on academic excellence. All applicants must be fluent in written and spoken English and have a recognized Bachelor's Degree or equivalent (180 ECTS credits in the Bologna system) preferably, but not necessarily, in Economics, Finance or Mathematics. Mathematical aptitude and work experience can be helpful.

ACADEMIC REQUIREMENTS TO APPLY:

Admission is based on academic excellence. Applicants must have a recognized Bachelor's Degree (B.A., B.S., etc...) or a degree at the level of a Bachelor's Degree (180 ECTS credits in the European

system). If the applicants have performed additional studies (second Bachelor's degree, Master's degree, or graduate studies), they should mention that in their applications.

Previous studies in quantitative economics are helpful, but students with other backgrounds, especially with good mathematical training, are also welcomed. In addition to the program, some courses may be offered within the first year for accepted students who do not meet prerequisites.

Applicants with professional experiences striving to enhance their initial background or interested in a career change can also apply to the MMEF program.

Language Requirements: Good knowledge of English is an essential requirement. Applicants whose first language is not English must submit an English test certificate (TOEFL, IELTS, etc.). The minimum English Language Test Requirement scores are 76 for TOEFL (IBT), 230 for TOEFL (Computer-based), 550 for TOEFL (Paper version), 6.0 for IELTS, C for Cambridge Examination, and B for Advanced Cambridge Test.

NB: The English test is not required for applicants from an English-speaking country or for applicants having a diploma (High School, Bachelor's, or Master's degree...) from a university where courses are taught in English.

APPLICATION PROCESS:

For the academic year 2023-2024, the application is open from November 10th, 2022, to June 30th, 2023. The procedure to apply, the information, and the documents requested are described below.

How to Apply:

Applications for the DU - MMEF: the first year of graduate studies, "Mathematical Methods in Economics and Finance" are made exclusively through the online platform, located here apply online here.

* *Stage 1 – Register on the Online Platform:* To apply you must first register on our electronic application through the online platform available on the link above. After completing the initial registration online form, you will receive an email containing the user ID and password, which you need to fulfill the application to the DU MMEF program.
* *Stage 2 – fill forms and upload the requested documents on the Online Platform:* The application process asks you to fill forms and upload documents from Step 1 to Step 5. We strongly suggest you read Step 0, "Useful information".

The subsequent following documents should be uploaded to your application page in Portable Document Format (PDF) (except for the photo, which should be uploaded in ".jpg"):

Photo [identity photo], Passport [the ID page of your Passport], **Curriculum Vitae** [containing your coordinates, undergraduate studies with the dates, names of the institutions, the field of study, and grades (elective), list of mathematics and quantitative methods courses taken at the undergraduate level with contents, the grade, the number of hours], **Personal declaration** (explaining the motivations of your application, your interest in the field(s), in the degree, and your intentions after this degree), Study results [academic transcripts], **University diplomas** [bachelor's degree or if not a document indicating the expected date of obtaining], **English test certificate** [for non-native English speakers], **GRE Mathematics Subject Test** *[optional,* but recommended].

NB:

1. Documents must either be in English or translated into English. Recognized diplomatic or administrative authorities should issue certificates of Authenticity in the applicant's residence country. The size of each document uploaded to the Application platform must be less than 1 Megabyte.
1. For any questions related to application or curriculum contents, don't hesitate to contact us via gradstu@univ-paris1.fr. Always mention your ID Number and your full name on the emails you may send us.

Who Can Apply:

We accept students who have followed mathematics, economics, or finance studies previously, but students with other backgrounds, especially with mathematical training, can also apply.

The admission process involves a holistic review of each applicant's entire file. No particular factor is assigned a fixed weight; instead, the process involves a highly individualized assessment of the applicant's talents, achievements, and potential to contribute to learning in the DU MMEF program.

Infos pratiques

Composante : UFR de mathématiques et informatique (UFR27)

Durée : 1 an

Présentation

Et après

Poursuite d'études

Continuation of studies:

Continuation in the Erasmus Mundus Joint Master QEM - Models and Methods of Quantitative Economics (EMJMD QEM):

During their studies in the DU MMEF program, students may apply to the accelerated track of the Erasmus Mundus Joint Master QEM - Models and Methods of Quantitative Economics (EMJMD QEM) by choosing the Economics track of the DU MMEF and passing the QEM entry exams in December. Admission to the EMJMD QEM program is based on academic excellence. Selected students will enroll in the EMJMD QEM program and spend their second semester in partner universities. See the EMJMD QEM website for more information.
Students may also apply to the first year of the QEM Erasmus Mundus Master after receiving the MMEF Degree. It appears that the MMEF degree is excellent preparation for the very selective Erasmus Mundus Joint Master QEM - Models and Methods of Quantitative Economics (EMJMD QEM) program.

Continuation in a French taught Master Degree:

Programme

Diplôme d'université First Year of Graduate Studies In Mathematical Models in Economics and Finance (MMEF)

Semestre 1

UE1 Mathematics	**10 crédits**	
FLE	3 crédits	
FLE 1a		24h
FLE 1b	3 crédits	24h
Probability and statistics	7 crédits	84h
UE2 Spécialisation	**20 crédits**	
Choix 4 matières à 5 ECTS		
Corporate Finance (Finance d'entreprise)		42h
External course	5 crédits	
Introductory Finance	5 crédits	42h
Linear Algebra	5 crédits	42h
Logic and sets	5 crédits	42h
Macroeconomics 1a		42h
Microeconomics 1a : individual decision making		42h
Multivariable calculus		24h
Optimization a : Optimization in finite dimensional spaces		42h
Optimization b : Dynamical optimization		42h
Choix 4 matières (1 bloc à 10 ECTS + 2 matières à 5 ECTS)		
Choix 1 bloc à 10 ECTS		
Macroeconomics 1		
Macroeconomics 1a		42h
Macroeconomics 1b		42h
Microeconomics 1		
Microeconomics 1a : individual decision making		42h
Microeconomics 1b : Equilibria & optimality		42h
Choix 2 matières à 5 ECTS		
Corporate Finance (Finance d'entreprise)		42h
External course	5 crédits	
Introductory Finance	5 crédits	42h
Linear Algebra	5 crédits	42h
Logic and sets	5 crédits	42h
Macroeconomics 1a		42h
Microeconomics 1a : individual decision making		42h
Multivariable calculus		24h
Optimization a : Optimization in finite dimensional spaces		42h
Optimization b : Dynamical optimization		42h
Choix 4 matières (2 blocs à 10 ECTS)		
Macroeconomics 1		
Macroeconomics 1a		42h
Macroeconomics 1b		42h
Microeconomics 1		
Microeconomics 1a : individual decision making		42h
Microeconomics 1b : Equilibria & optimality		42h

Semestre 2

UE1 Common courses	**20 crédits**	
Econometrics	7 crédits	54h
FLE 2	3 crédits	
FLE 2a	2 crédits	48h
FLE 2b	3 crédits	24h
UE2 Spécialisation	**20 crédits**	
Choix 4 matières à 5 ECTS		
Applied Econometrics		42h
External course	5 crédits	
Macroeconomics 2a		27h
Microeconomics 2 (Mathematical game theory)		54h
Microeconomics 3 (information economics)		42h
Object oriented programming		42h
Portfolio Choice and Asset Pricing		42h
Probabilistics methods in finance		42h
Probability 2		42h
Research project or intership		2h
Statistics A: euclidean algebra		42h
Statistics B		42h
Choix 4 matières (1 bloc à 10 ECTS + 2 matières à 5 ECTS)		
Choix 1 bloc à 10 ECTS		
Macroeconomics 2		
Macroeconomics 2a		27h

Macroeconomics 2b	3,5 crédits	27h
Choix 2 matières à 5 ECTS		
Applied Econometrics		42h
External course	5 crédits	
Macroeconomics 2a		27h
Microeconomics 2 (Mathematical game theory)		54h
Microeconomics 3 (information economics)		42h
Object oriented programming		42h
Portfolio Choice and Asset Pricing		42h
Probabilistics methods in finance		42h
Probability 2		42h
Research project or intership		2h
Statistics A: euclidean algebra		42h
Statistics B		42h