



Master of Applied Mathematics and Data Science (MASD)
Double degree with Sorbonne Paris Nord University
Academic year 2022-2023

Objectives of the training: The **Master in Applied Mathematics and Data Science (MASD)** aims to train future high-level executives or researchers in the field of Applied Mathematics and Data Science. Offer to students training to acquire the scientific skills allowing their integration into a research team or laboratory or into socio-economic sectors.

The MASD Master offers 2 courses:

• Course (1): Statistics and Data Science (STA&SD)

• Course (2): Partial Differential Equations and Numerical Analysis (PDE&AN)

The first course is offered as part of a double diploma with the Sorbonne Paris Nord University with the master's degree in Computer Science, EID2 course "Computer Exploration of Data and Decision Making".

Training opportunities: The MASD master's degree provides high-level specialized training directly preparing for professional life in business or research. The training allows students to acquire skills in several themes related to data science. The programs for both courses are designed to provide students with a solid scientific culture and a good knowledge of the issues linked to each course. During the second year of the master's degree, by choosing their options and their end-of-studies internship, the student will be able to choose a professional orientation or the research path. Students who intend to pursue research will complete their training with a research-oriented internship. Those who choose the so-called "professional" path will do a study and development type internship in a company.

Admission conditions:

- **Access conditions :** Hold a Bachelor's degree in Applied Mathematics or an equivalent diploma.
- **Selection procedure:** Study of the file + competition.

These procedures may be modified depending on the evolution of the health situation linked to Covid 19. Candidates are required to regularly consult the FSDM website (<http://www.fsdmfes.ac.ma/>) and ensure that their email addresses are activated and correctly written. Contact will be made by email in the case of a remote oral interview!

Organization of the training : The training lasts two years and is organized as follows :

S1 common	M1: Oracle databases	M2: English I & TEC I	M3: Operational research & Optimization	M4: Digital Methods for PDEs	M5: Numerical methods / Probabilities In-depth	M6: Analysis Functional and function space
S2 EDP&AN	M7: Java Distributed Programming	M8: Introduction to modeling and simulation	M9: PED Nonlinear Elliptics & Variational Methods I	M10: Variational approximation of PDEs	M11: Variational methods II	M12: EDP elliptical and parabolic data singular
S2 STA&SD			MSTA9: Time series	MSTA10: Statistics Mathematics	MSTA11: Process Stochastics	MSTA12: Analysis Data description
S3 STA&SD	MSD13: English II & TEC II	MSD14: Web Mining & Image Mining	MSD15: Data Mining (in partnership with the USPN)	MSD16: Data Warehouse (in partnership with USPN)	MSD17: Business Intelligence (in partnership with USPN)	MSD18: Machine Learning (in partnership with USPN)
S3 EDP&AN	MEDP13: Problems nonlinear parabolic and hyperbolic	MEDP14: Resolution PDEs by finite elements-pbs of diffusion convection	MEDP15: Volume Method Finishes for Hyperbolic, Parabolic and Elliptical EDPs (in partnership with USPN)	MEDP16: Mathematics Applied in Finance (in partnership with the USPN)	MEDP17: Calculation High performance, stochastic aspect and optimization (in partnership with the USPN)	MEDP18: Mathematics Applied in Biology (in partnership with the USPN)
S4	End of study internship					

Application form to be provided online :

1. Handwritten request addressed to Mr. the Dean
2. Cover letter
3. Copy of all diplomas obtained (Bac, DEUG, License or equivalent, etc.)
4. Certified copy of the National Identity Card.
5. Detailed CV with recent photo
6. Certified copies of transcripts

The application file must be submitted online (all documents must be scanned into a single PDF file, and posted online via the Online Application application).

The file, the procedure, the online application application and the deadline can be consulted on the FSDM website at:

<http://www.fsdmfes.ac.ma/Acces/Candidature2022-2023>

Contacts : Coordinator : **Pr. Jaouad BENNOUNA**

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