



Université  
Sorbonne  
Paris Nord

# CURRICULUM

## THE MATH & COMPUTER SCIENCES GRADUATE SCHOOL



{M & CS}

*Studying*  
*at* **USPN**

#USPN <https://eur.univ-paris13.fr>

UNIVERSITÉ SORBONNE PARIS NORD MEMBRE :

CAMPUS  
CONDORCET  
PARIS - AUBERVILLIERS

A-S-PC  
Alliance Sorbonne  
Paris Cité

Institut  
Galilée

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## THE MATH & COMPUTER SCIENCES GRADUATE SCHOOL

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**The M&CS Graduate School is an international, 5-year, high-level curriculum.** It is endorsed by the [Galileo Doctoral School](#) and three local masters: Mathematics, Computer Science, Engineering and Innovation in Images and Networks. **Three laboratories at Sorbonne Paris Nord University actively participate in this graduate school:** LAGA – the laboratory of Mathematics, LIPN – the laboratory of Computer Science, L2TI – the laboratory for Visual Information and Network Analysis and Processing. The interactions between Mathematics and Computer Science are highlighted in the graduate school to promote interdisciplinarity in teaching and research.

### Why choose this graduate school?

**The last decade has seen a considerable increase in the need for skills in domains combining both Mathematics and Computer Science:** Big Data, Quantum Computation, Machine Learning, Continuous and Discrete Optimization, Complexity Theory and Visual Computing. Students enrolled in this graduate school will have the opportunity to attend classes from different masters. Students of the EUR school program will be in close contact with current research through internships within the partner laboratories, and participation in seminars and conferences organised locally, doing short internships in the laboratories, and working on open problems. Finally, industrial partners will also be associated with the program through conferences, internships, CIFRE PhD contracts.

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## « GRADUATE SCHOOL » (EUR) : WHAT IS IT?

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**The « Écoles Universitaires de recherche » (EUR) gathers the master and the PhD training as well as one or several high level research units.**

This project brings together research organizations with a strong international dimension and maintain close links with economic players.

### This project aims to:

- enhance learning through research at the highest level ;
- attract the best students by offering a supportive learning environment.
- valorize the strongest research areas of each laboratory ;

**The EUR M&CS is co-financed by the French government's Programme d'Investissement d'Avenir (PIA), under the partnership of the USPN and the CNRS.**

## APPLYING TO THE GRADUATE SCHOOL

**1) Application for a Master's degree (M1 or M2):** open to all students who have obtained a Bachelor's degree or a first year of a Master's degree in the EUR disciplines. There are two calls per year for a start in September of the same year:

- Call 1, from October to the end of February, for students registered outside France. Students from outside Europe must also apply through Campus France.
- Call 2, from March to the beginning of May, for students registered in France.

### **2) Application for the PhD program : from December to May.**

This call is open to students holding a master's degree without any restriction on nationality. The application should be supported by at least one of the EUR's laboratories. Candidates currently enrolled in a PhD program or already holding a doctoral degree are not eligible.

**Female students are particularly encouraged to apply.**

**More information and application form:** <https://eur.univ-paris13.fr>

## BEING AN M&CS STUDENT

### Benefits

- **Excellence scholarship in master (600€/month)** - selection on criteria
- **One travel grant for international mission** (in M2)
- **Mentoring program:** one personal mentor during all the curriculum
- **Customized training**
- **Exchanges with industrial and international academic partnerships** via events and meetings



#### **For foreign students:**

- **One round-trip from Paris to the city of residence** each year
- **Housing facility (CROUS) or financial support for housing (400€),** when eligible.

### Requirements

- **Choosing both a major and a minor** thematics between math, computer science, visual computing and network.
- **Choosing master courses (including internships): 60% of classes in the major, and 40% in the minor.**
- **Being involved and participate in M&CS events**
- **Doing at least one mission abroad (M2)**

*Each year the application of each student is reevaluated to pursue into the graduate school.*

## MORE INFORMATION

[eur@univ-paris13.fr](mailto:eur@univ-paris13.fr)  
<https://eur.univ-paris13.fr>

### Partners :



Laboratoire d'Informatique de Paris Nord (CNRS – UMR 7030)



Laboratoire Analyse, Géométrie et Applications (CNRS – UMR 7539)



Laboratoire de Traitement et Transport de l'Information (EA3043)



Centre national de la recherche scientifique (CNRS)



Programme d'investissements d'avenir (PIA)

**Institut Galilée**

**UNIVERSITÉ SORBONNE PARIS NORD  
CAMPUS DE VILLETANEUSE**

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