

# Second Year in Computer Science at ENS Paris-Saclay

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# Outline

école —  
normale —  
supérieure —  
paris-saclay —

Master of Computer Science

M1 MPRI @ ENS Paris-Saclay

<https://lmf.cnrs.fr/deptinfo-ens/M1/>

- Year of **diversification and broadening**
  - courses from MPRI M1
  - external courses from other masters (Université Paris Cité, Sorbonne Université...)
  - ... by contrast, M2 will be a time for specialisation
- Curriculum consists of
  - à la carte courses (first semester mostly)
  - internship (second semester)
- Lab visits; *at least one visit for each student*

# Two possibilities

Need to choose rapidly between two types of curricula:

## Long internship

- first semester in Paris-Saclay  
(30 ECTS, min. 18 from MPRI M1 and 24 in CS)
- 5+ months internship abroad

## Short internship

- two semesters in Paris-Saclay  
(45 ECTS, min. 24 from MPRI M1 and 30 in CS)
- 2.5+ months internship abroad
- **aim**: strengthen knowledge in fundamentals or in another discipline like mathematics

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### TODO

- request to meet me if you'd like to discuss your choices
- your choices have to be on the pedagogical server by Sep. 27, 2023  
([https://admin.dptinfo.ens-cachan.fr/serveur\\_pedagogique/](https://admin.dptinfo.ens-cachan.fr/serveur_pedagogique/))

# MPRI M1 courses

<https://lmf.cnrs.fr/deptinfo-ens/M1/Edts1-2023-24>

- Initiation to research (Paris-Saclay, **mandatory**, 3 ECTS)
- Advanced complexity (Paris-Saclay, 7 ECTS)
- Rewriting techniques (Paris-Saclay, 4 ECTS)
- Tree automata and applications (Paris-Saclay, 4 ECTS)
- Basics of verification (Paris-Saclay, 7 ECTS)
- Algorithmics and bioinformatics (Paris-Saclay, 4+4 ECTS)
- Probabilistic aspects of computer science (Paris-Saclay, 7 ECTS)
- Logical aspects of AI (Paris-Saclay, 4 ECTS)
- Software engineering (Paris-Saclay, 7 ECTS)
- Lambda-calculi and categories (Ulm, 7 ECTS)
- Combinatorial optimization (Ulm, 4 ECTS)
- Introduction to computer vision (Ulm, 7 ECTS)
- Robot motion planning (Ulm, 7 ECTS)
- Networks (Paris-Saclay, 4 ECTS)

# Examples of external courses (to be approved by dept.)

- Other CS masters at Paris-Saclay, including MPRI @ UFR

<https://sites.google.com/view/mastersagenda/>

- Math. Logic and Foundations of Comp. Sci. (Université Paris Cité)

<http://www.math.univ-paris-diderot.fr/m2lmfi/>

- Master of computer science (Université Paris Cité, Sorbonne Université)

<http://www.informatique.univ-paris-diderot.fr/wiki/doku.php?id=enseignement:master1>

<http://www-master.ufr-info-p6.jussieu.fr/lmd/>

- Pure and applied mathematics, Université Paris-Saclay

<https://www.universite-paris-saclay.fr/fr/formation/master/mathematiques-et-applications#index-m1>

- Introduction to Life Sciences (ENS Paris)

<http://www.enseignement.biologie.ens.fr/spip.php?article160&lang=fr>

- Cogmaster, ENS Paris <https://cogmaster.ens.psl.eu/>



## Other options (requires dept. approval)

Some MPRI M2 courses can be followed, e.g.

- Foundations of proof systems (3 ECTS)
- Web data management (2nd period, 3 ECTS)
- Comp. structures and logics for natural language modelling (3 ECTS)
- Graph algorithms (first period, 3 ECTS)
- Proof of programs (2nd period, 3 ECTS)

Some L3 courses may also be taken (MPRI credits):

- Computability, Logic, Formal Languages, Algorithmics. . .

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attempt to do *well* at a limited number of courses.

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## Stay in touch with me

Let me know if you drop one course, or if you worry about failure.

# Internships

- **abroad** (except for international students)
- long internships (30 ETCS)
  - duration: 5 months between February and August
  - search: October–December with your tutor
- short internships (15 ETCS)
  - duration:  $2\frac{1}{2}$  months between June and August
  - search: December–February with your tutor

# Plan ahead!

Oct. – Nov. Soul-searching **with your tutor**

before X-mas Agreement with supervisors

Then, **immediately**, contact international services  
(ri-outgoing@ens-paris-saclay.fr)  
and follow administrative procedure

Dec. – Jan. Finalise research project, funding, visa, practical

# Then what?

Start thinking about next year (talk with me, your tutor and teachers):

- *ARPE* research year abroad
  - overseen by Stéphane Le Roux (leroux@lsv.fr)
  - long internships
  - funding opportunities for unpaid students  
contact [ri-outgoing@ens-paris-saclay.fr](mailto:ri-outgoing@ens-paris-saclay.fr) and look at  
<https://www.universite-paris-saclay.fr/fr/bourse-de-stage-a-letranger>
- M2 MPRI or another research-oriented Master
- *agrégation* of computer science (new!)
- *bachelor* in another field like biology, physics, economy, etc.

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## Social, medical and psychological difficulties

Nurse, doctor, psychologist are available

<http://ens-paris-saclay.fr/campus/sante>

**Talk** about psychological difficulties with other students, and with referent at dept. (Serge Haddad).

# Contacts

Common issues:

- [chatain@ens-paris-saclay.fr](mailto:chatain@ens-paris-saclay.fr) and teachers for course work
- Laëtita Rouches [secretariat.info@ens-paris-saclay.fr](mailto:secretariat.info@ens-paris-saclay.fr) for administrative issues
- sys. admins ([si@dptinfo.ens-cachan.fr](mailto:si@dptinfo.ens-cachan.fr)) for computer accounts
- [your tutor](#)

## Email

Read your email and reply.

I take it very seriously if you do not reply within 2-3 working days.

# Questions?