

Second Year in Computer Science at ENS Paris-Saclay

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Département Informatique
École Normale Supérieure Paris-Saclay

Sept. 2024

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

Courses *à la carte*

MPRI M1 (and local L3) courses:

- start on Sept. 9, 2024
- min. **18 ECTS** if long internship and **24** if short

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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, 2024**
(https://admin.dptinfo.ens-cachan.fr/serveur_pedagogique/)

MPRI M1 courses at Paris-Saclay

<https://lmf.cnrs.fr/deptinfo-ens/M1/Edts1-2024-25>

- Initiation to research (**mandatory**, 3 ECTS)
- Advanced complexity (7 ECTS)
- Rewriting techniques (4 ECTS)
- Tree automata and applications (4 ECTS)
- Basics of verification (7 ECTS)
- Algorithmics and bioinformatics (4 ECTS)
- Probabilistic aspects of computer science (4 ECTS)
- Logical aspects of AI (4 ECTS)
- Software engineering (4(?) ECTS)
- Introduction to categories (4 ECTS)
- Networks (4 ECTS)

MPRI M1 courses at Ulm

https://diplome.di.ens.fr/calendar_fr.html

- Combinatorial optimization (4 ECTS)
- Introduction to computer vision (7 ECTS)
- Robot motion planning (7 ECTS)
- Models and languages for programming reactive systems (7 ECTS)
- Random structures and algorithms (7 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.
(for 2023-2024, TBD for 2024-2025)

- 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. . .

Course choices: important advice

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- Plan ahead for a potential failure.

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- Keep some courses for next year.
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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 Laëtita Rouches
secretariat.info@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@ens-paris-saclay.fr)
 - long internships
 - funding opportunities for unpaid students
contact 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. (Luc Lapointe).

Contacts

Common issues:

- scerri@lmf.cnrs.fr and teachers for course work
- Laëtita Rouches secretariat.info@ens-paris-saclay.fr for administrative issues
- sys. admins (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?