

Second Year in Computer Science at ENS Paris-Saclay

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École Normale Supérieure Paris-Saclay

Sept. 13, 2021
revised Sept. 23

Outline

école _____
normale _____
supérieure _____
paris-saclay _____

Master of Computer Science

M1 MPRI @ ENS Paris-Saclay

<https://lmf.cnrs.fr/deptinfo-ens/M1/> (new!)

- Year of **diversification and broadening**
 - courses from MPRI M1
 - external courses from other masters (Paris 7, 6, 11, etc.)
- Curriculum consists of
 - à la carte courses (first semester mostly)
 - internship (second semester)
- Lab visits; *at least one visit for each student*

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 - external courses from other masters (Paris 7, 6, 11, etc.)
 - ... by contrast, M2 will be a time for specialisation
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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. 13, 2021
- min. **18 ECTS** if long internship and **24** if short

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- must be validated by the department
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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, 2021**
(https://admin.dptinfo.ens-cachan.fr/serveur_pedagogique/)

MPRI M1 courses

<https://lmf.cnrs.fr/deptinfo-ens/M1/Edts1-2021-22>

- Initiation to research (Paris-Saclay, **mandatory**, 4 ECTS)
- **Lambda-calculi and categories** (Ulm, 7 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 ECTS)
- **Probabilistic aspects of computer science** (Paris-Saclay, 7 ECTS)
- **Logical aspects of AI** (Paris-Saclay, 4 ECTS)
- **Convex and combinatorial optimization** (Ulm, 7 ECTS)
- **Introduction to computer vision** (Ulm, 7 ECTS)
- **Robot motion planning** (Ulm, 7 ECTS)
- **Software engineering** (Paris-Saclay, 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. (U. Paris 7)

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

- Master of computer science (U. Paris 6 or 7)

<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, U. 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. . .

Course choices: important advice

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- Some courses are quite difficult / time consuming.
- 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. Soul-searching **with your tutor**:

Nov. 15–30 Initial agreement from supervisors
Investigate **visa** and **financial** issues
Contact international services
(ri-outgoing@ens-paris-saclay.fr)

Dec. –Jan. Finalise research project, dates, funding, 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: ARPE may be partly in France
- 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

aggregation of computer science (new!)

bachelor in another field like biology, physics, economy, etc.

Contacts

Common issues:

- chatain@lsv.fr and teachers for course work
- tiphanie.stephan@ens-paris-saclay.fr (until Christmas) for administrative issues
- sys. admins (si@dptinfo.ens-cachan.fr) for computer accounts
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Social, medical and psychological difficulties

Nurse, doctor, psychologue are available

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

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

Email

Read your email and reply.

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

Questions?