

Second Year in Computer Science at ENS Paris-Saclay

Sylvain Schmitz

Département Informatique
École Normale Supérieure Paris-Saclay

Sept. 5, 2017

- Year of diversification and broadening
 - courses from MPRI M1
 - external courses from other Masters (Paris 7, Paris 6, etc.)
- Curriculum consists of
 - *à la carte* choice of courses (mostly during the first semester)
 - internship (second semester)
- Lab visits; *at least one visit for each student*
This year: should be in Bordeaux, Marseille, and Barcelona

- Year of diversification and broadening
 - courses from MPRI M1
 - external courses from other Masters (Paris 7, Paris 6, etc.)
 - ... by contrast, M2 will be a time for specialisation towards your Ph.D.
- Curriculum consists of
 - *à la carte* choice of courses (mostly during the first semester)
 - internship (second semester)
- Lab visits; *at least one visit for each student*
This year: should be in Bordeaux, Marseille, and Barcelona

Two possibilities

Need to choose rapidly between two types of curricula:

Long internship

- first semester in Paris-Saclay (30 ECTS, min. 18 ETCS from MPRI M1 and 24 ETCS in Computer Science)
- approx. $4\frac{1}{2}$ months internship abroad

Short internship

- two semesters in Paris-Saclay (45 ECTS, min. 24 ETCS from MPRI M1 and 30 ETCS in Computer Science)
- approx. $2\frac{1}{4}$ months internship abroad
- aim: strengthen knowledge in fundamentals or in another discipline like mathematics

Courses *à la carte*

MPRI M1 courses start on Sept. 11, 2017

(min. 18 ECTS if long internship and 24 ECTS if short internship)

external courses

- request to meet me if you'd like to discuss your choices
- your choices have to be on the pedagogical server by Sep. 22, 2017
(https://admin.dptinfo.ens-cachan.fr/serveur_pedagogique/)

Courses à la carte

MPRI M1 courses start on Sept. 11, 2017

(min. 18 ECTS if long internship and 24 ECTS if short internship)

external courses

- request to meet me if you'd like to discuss your choices
- your choices have to be on the pedagogical server by Sep. 22, 2017
(https://admin.dptinfo.ens-cachan.fr/serveur_pedagogique/)

Courses à la carte

MPRI M1 courses start on Sept. 11, 2017

(min. 18 ECTS if long internship and 24 ECTS if short internship)

external courses

- must be **validated** by the department

- request to meet me if you'd like to discuss your choices
- your choices have to be on the pedagogical server by Sep. 22, 2017
(https://admin.dptinfo.ens-cachan.fr/serveur_pedagogique/)

Courses à la carte

MPRI M1 courses start on Sept. 11, 2017

(min. 18 ECTS if long internship and 24 ECTS if short internship)

external courses

- must be validated by the department
- under **your** responsibility: e.g. finding out timetables, rooms, whether the course can be delivered in English, making sure the teacher or secretary sends me your grades, and managing second session exams in case of failure (before Sep. 1, 2018)
- request to meet me if you'd like to discuss your choices
- your choices have to be on the pedagogical server by Sep. 22, 2017 (https://admin.dptinfo.ens-cachan.fr/serveur_pedagogique/)

Courses à la carte

MPRI M1 courses start on Sept. 11, 2017

(min. 18 ECTS if long internship and 24 ECTS if short internship)

external courses

- must be validated by the department
- under your responsibility: e.g. finding out timetables, rooms, whether the course can be delivered in English, making sure the teacher or secretary sends me your grades, and managing second session exams in case of failure (before Sep. 1, 2018)
- request to meet me if you'd like to discuss your choices
- your choices have to be on the pedagogical server by Sep. 22, 2017 (https://admin.dptinfo.ens-cachan.fr/serveur_pedagogique/)

Courses à la carte

MPRI M1 courses start on Sept. 11, 2017

(min. 18 ECTS if long internship and 24 ECTS if short internship)

external courses

- must be validated by the department
- under your responsibility: e.g. finding out timetables, rooms, whether the course can be delivered in English, making sure the teacher or secretary sends me your grades, and managing second session exams in case of failure (before Sep. 1, 2018)
- request to meet me if you'd like to discuss your choices
- your choices have to be on the pedagogical server by **Sep. 22, 2017**
(https://admin.dptinfo.ens-cachan.fr/serveur_pedagogique/)

MPRI M1 courses

Description: <https://wikimpri.dptinfo.ens-cachan.fr/doku.php?id=cours:cours1>

Timetable: <http://www.dptinfo.ens-cachan.fr/M1/edts1-1718>

- Initiation to research (Paris-Saclay, **mandatory**, 3 ECTS)
- **Lambda-calculi and categories** (Ulm, 6 ECTS)
- **Advanced complexity** (Paris-Saclay, 6 ECTS)
- **Rewriting techniques** (Paris-Saclay, 3 ECTS)
- **Tree automata and applications** (Paris-Saclay, 3 ECTS)
- **Basics of verification** (Paris-Saclay, 6 ECTS)
- **Algorithmics and bioinformatics** (Paris-Saclay, 3 ECTS)
- **Probabilistic aspects of computer science** (Paris-Saclay, 6 ECTS)
- **Statistical machine learning** (Ulm, 6 ECTS)
- **Convex optimization** (Ulm, 6 ETCS)
- **Robot motion planning** (Ulm, 6 ECTS)
- **Networks** (Paris-Saclay, 3 ECTS)
- **Software engineering** (Paris-Saclay, 6 ECTS)

Examples of external courses

all the external courses must be approved by the department

- Master of applied mathematics, *Jacques Hadamard* track
(<http://www.fondation-hadamard.fr/fr/master-master-1/voie-jacques-hadamard>)
 - contact me and Frédéric Pascal **today!**
- Master of mathematics, U. Paris 7
(<http://www.math.univ-paris-diderot.fr/formations/masters/math/>)
- Introduction to Life Sciences, ENS Paris
(<http://www.enseignement.biologie.ens.fr/spip.php?article160&lang=fr>)
- Master of computer science, U. Paris 7 (<http://www.informatique.univ-paris-diderot.fr/wiki/doku.php?id=enseignement:master1>)
- Master of computer science, U. Paris 6
(<http://www-master.ufr-info-p6.jussieu.fr/lmd/>)
- Master of computer science, U. Paris 11
(<http://www.u-psud.fr/fr/formations/diplomes/masters/informatique.html>)

Examples of M2 courses

Some MPRI M2 courses can be followed (after validation with the department), e.g.

- Foundations of proof systems (3 ECTS)
- Web data management (2nd period, 3 ECTS)
- Computational structures and logics for natural language modelling (3 ECTS)
- Graph algorithms (both periods, 3 ECTS)
- Proofs of programs (2nd period, 3 ECTS)

Avoid taking your favourite courses already in M1; keep those for your M2 towards your Ph.D.

Internships

- **abroad** (except for international students)

- long internships (30 ETCS)
 - duration:** 4 to 5 months between Feb. and Aug. 2018
 - search:** Oct.–Dec. 2017 with your tutor

- short internships (15 ETCS)
 - duration:** 2 to $2\frac{1}{2}$ months between Jun. and Aug. 2018
 - search:** Dec.–Feb. 2018 with your tutor

Internships

- **abroad** (except for international students)
 - start searching **early**: visa & administrative issues are commonplace, esp. for USA, Japan, Canada, ...

- long internships (30 ETCS)
 - duration**: 4 to 5 months between Feb. and Aug. 2018
 - search**: Oct.–Dec. 2017 with your tutor

- short internships (15 ETCS)
 - duration**: 2 to $2\frac{1}{2}$ months between Jun. and Aug. 2018
 - search**: Dec.–Feb. 2018 with your tutor

Internships

- **abroad** (except for international students)
 - start searching **early**: visa & administrative issues are commonplace, esp. for USA, Japan, Canada, ...
 - seek the help of your **tutor**
- long internships (30 ETCS)
 - duration**: 4 to 5 months between Feb. and Aug. 2018
 - search**: Oct.–Dec. 2017 with your tutor
- short internships (15 ETCS)
 - duration**: 2 to $2\frac{1}{2}$ months between Jun. and Aug. 2018
 - search**: Dec.–Feb. 2018 with your tutor

Internships

- **abroad** (except for international students)
 - start searching early: visa & administrative issues are commonplace, esp. for USA, Japan, Canada, ...
 - seek the help of your tutor
- long internships (30 ETCS)
 - duration:** 4 to 5 months between Feb. and Aug. 2018
 - search:** Oct.–Dec. 2017 with your tutor
- short internships (15 ETCS)
 - duration:** 2 to $2\frac{1}{2}$ months between Jun. and Aug. 2018
 - search:** Dec.–Feb. 2018 with your tutor
- shorter duration internships have to be prepared in advance (bibliographic work etc.)

Plan ahead!

Oct. 15–31 Soul-searching with your tutor:

- 1 research topic
- 2 geographical preferences

Nov. 1–15 Identify potential supervisors

Nov. 15–30 Initial agreement from supervisors; contact international services (ri@ens-paris-saclay.fr)

Dec. 1–Jan. 15 Finalise research project, dates, funding, practical issues (accommodation, office space, etc.)

Jan. 15–30 Internship contract, travel booking, etc.

Internship defence and start of year

- internship defence in late Aug.–early Sep. 2018
- be back from your internship!

Then what?

Need to start thinking about next year: talk with your tutor and your teachers

ARPE research year abroad

- overseen by Thomas Chatain (chatain@lsv.fr)
- long internships: possibility to do part of the ARPE in France
- funding opportunities for unpaid students (contact ri@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 mathematics

(bachelor in another field like biology, physics, economy, etc. in *exceptional cases*)

School-specific diploma

An ENS Paris-Saclay diploma in addition to your Master diploma

- not relevant for foreign students
- *Scientific Writing Assessment Program (SWAP)* on Wednesdays

Not managed by the department

- all I know about it is at
<http://www.dptinfo.ens-cachan.fr/L3/presentation17deSa.pdf>
- Rule of thumb: don't ask me; check instead the contact emails in the slides linked above

If you face issues

with course work: contact me (sylvain.schmitz@lsv.fr) and the teachers

with school administration: contact Imane Mimouni
(imane.mimouni@lsv.fr)

with your internship search: contact your tutor

with computer accounts: contact the system administrators
(si@dptinfo.ens-cachan.fr)

with visas or international scholarships: contact international services
(ri@ens-paris-saclay.fr)

on a personal level: seek social (caroline.lacharnay@ens-cachan.fr) or
psychological (rdv-psychologue@ens-cachan.fr) support

Questions?