EPFL



 École polytechnique fédérale de Lausanne



Agenda

- Curriculum
 - Overview
 - Specializations and Minors
 - Courses outside study plan
 - Registration courses, exams, absences, links, ...
- Projects
- Mandatory internship
- Master's project (PDM)
- Contacts

IC Master programs

Computer Science (IN)

go.epfl.ch/master-IN

Communication Systems (SC)

go.epfl.ch/master-SC

Data Science (DS)

go.epfl.ch/master-DS

Cyber Security (Cyber)

go.epfl.ch/master-cyber

Welcome Day 2023-2024: Master Programs i



School of Computer and Communication Sciences - IC



Master students 930



51+6 joint

Professors



295

PhD students



Bachelor students

1430



EPFL



School of Computer and Communication Sciences - IC

- Internationally highly ranked
- 51 (+ 6 joint) professors
- From peer schools
- Internationally recognized
- Strong industrial liaison
- Core + interdisciplinary science: Collaboration with Life Sciences, Mathematics, Microengineering, Electrical Engineering, etc.
- Doctoral program (EDIC)



IC Research at a glance



IGT
Information &
Communication
Theory

theory, foundations, fundamental limits...

AIML

Artificial Intelligence & Machine Learning

DMIR'

Databases & Information Retrieval

SIP

Signal & Image Processing learning from data, extracting knowledge, transforming data ...

CAIS Architecture & Circuits

OSNET

Operating Systems & Networking

PLFM

Languages & Formal Methods

S&P

Security & Privacy

Distributed Computing

building real systems, all layers...

DE

Digital Education

NLP

Natural Language Processing

VC

Visual Computing

HCI

Human Computer Interaction

interfacing with humans ...



You are about to ...

- Join a fantastic peer group of students: take full advantage, make friends, form study groups, network, enjoy the diversity!
- Interact with renowned and the next generation of scientists: take full advantage, ask questions, challenge their thinking!
- Get a great chance to learn and prepare for life: explore new fields, learn new concepts, think outside the box!
- Explore your abilities and push your limits: in your classes, in your projects, in your extracurricular activities!
- Make a unique contribution: through your projects and personal interactions!

Velcome Day 2023,2024: Master Programs in

EPFL

Curriculum

Our four Master programs

- Our 4 Master's are designed to be flexible to allow students to tailor their courses to their ambitions.
- The main difference between the 4 Master's lies in the choice of Group 1 (core) courses.
- The choice of Group 2 courses (Options) is very similar across the 4 Master's.
- For Cyber Security, the depth requirement must be fulfilled.

Computer Science – Group 1 Core courses (min. 32 credits)		
Algorithms II	8	
Advanced computer architecture	8	
Cryptography and security	8	
Decentralized systems engineering	8	
Distributed algorithms	8	
Information security and privacy	8	
Machine learning	8	
Modern natural language processing	8	
Systems for data management and data science	8	
TCP/IP networking	8	

Cyber Security – Group 1 Course breadth / depth (min. 32 credits)	cr
Algorithms II	8
Advanced computer architecture	8
Advanced topics on privacy enhancing tech. (depth)	8
Cryptography and security (depth)	8
Decentralized systems engineering	8
Distributed algorithms	8
Information security and privacy (depth)	8
Machine learning	8
TCP/IP networking	8
Systems for data management and data science	8
ETHZ courses counting as breadth / depth	

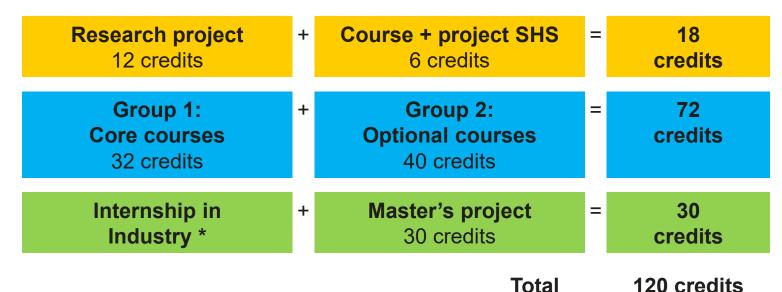
Data Science – Group 1 Core courses (min. 32 credits)	cr
Algorithms II	8
Applied data analysis	8
Information security and privacy	8
Foundations of data science	8
Machine learning	8
Modern natural language processing	8
Optimization for machine learning	8
Statistics for data science	8
Systems for data management and data science	8

Communication Systems – Group 1 Core courses (min. 32 credits)	cr
Algorithms II	8
Advanced probability and applications	8
Cryptography and security	8
Distributed algorithms	8
Information security and privacy	8
Information theory and coding	8
Mobile networks	8
Modern digital communications	8
Machine learning	8
Statistical signal and data processingg	8
TCP/IP networking	8

- This is to help you organize your studies, no one will check.
- Look at the course offerings (this takes time, but you must do it). Go see the courses in Week 1 and then decide (don't wait until Week 10 to make your choice). Choose courses that interest you!
- Make sure you have enough credits in the different groups / where you need to take them.
- Do you want to do a minor or a specialization (not mandatory)?
- Master's cycle over 3 or 4 semesters (or more)? Cyber Security students, when do you want to do your exchange semester at ETH Zurich?
- Create a study plan to distribute your courses, projects, etc. over the semesters. Think about when you want to do your mandatory internship.
- Your study plan will evolve, don't stay fixed on what you decided at the beginning of the Master.

Welcome Day 2023-2024: Master Brograms i

Structure Master IN, SC, DS

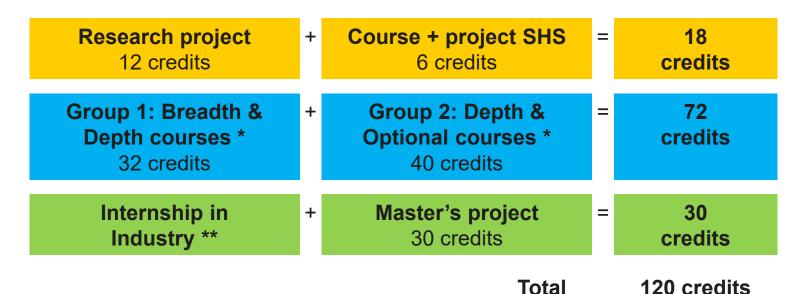


120 credits

- * The internship can also be combined with the Master's project.
- **IN-SC:** Specialization or minor possible (30 credits included in the 72 credits of courses).
- **DS:** Minor possible no specialization (30 credits included in the 72 credits of courses).



Structure Master Cyber



- * To satisfy the "depth requirement" at least 30 of the 72 credits must be tagged "depth" (security courses), which may be part of Group 1 or 2 and may be taken at EPFL or ETHZ.
- ** The internship can also be combined with the Master's project.
- The research project and the master thesis must be in the field of cyber security.
- No specialization or minor possible.

EPFL Master Cyber Security: exchange semester

- Students must pay rent for their housing during their exchange semester in Zurich.
- Students will receive a stipend of CHF 2,500.- to help cover housing costs for their semester in Zurich.
- Students planning their exchange in Zurich during the spring semester can benefit from pre-booked accomodation. For the autumn semester, there is no pre-booked accommodation and students must search for housing on their own.

EPFL	 1st semester mandatory in Lausanne
ETHZ	One semester in Zurich20 credits min.35 credits max.

Course listings for EPFL – ETHZ accessible at: go.epfl.ch/master-cyber

EPFL Choice and duration of the Master's program

- Change to another IC Master program (IN, SC, DS, Cyber)
 - You have been admitted to a specific Master program, in which you have enrolled. Switching to another program is (e.g., IN => DS; SC => Cyber) is only possible after the 1st semester for the following September, subject to an online application (deadlines: December 15 or April 15).
- Maximum duration of the Master's program
 - > For the Master's cycle (before the Master's project): 6 semesters (90 credits)
 - For the Master's program (including the Master's project): 8 semesters (120 credits)
- A six-month internship during a semester does not count towards the maximum duration of 6 semesters.
- A semester "off" is not allowed, except in special cases (e.g., medical reasons). If exceptionally approved for other personal reasons, the semester will count towards the duration of study.

Jelcome Day 2023, 2024: Master Brograms in IC

EPFL Minors

- Minor group of obligatory or optional courses offered by another section.
- Equivalent to 30 ECTS substituting 30 ECTS in Group 2 (options).
- IC Master students cannot enroll in the IC minors (IN, SC, DS, Cyber).
- Only exception DS students who can enroll in the Cyber Security minor.
- Cyber Security students cannot enroll in a minor.
- Deadline to register is the end of 1st semester of Master's cycle.
- Think carefully about your choice of a minor, as there may be implications with recuperating credits if you decide to drop the minor later.

Some examples:

- Computational Biology
- Computational Neurosciences
- Computational Science & Eng.
- Cyber Security (DS only)
- Financial Engineering
- Imaging
- Management, Technology & Entrepreneurship
- Mathematics
- Quantum Science & Eng.
- Neuro-X
- and many more ...

More information:

go.epfl.ch/IC-master-minors

Alocano Day 2023 2024: Macter Brograms in I

EPFL Specializations

- A specialization is a combination of courses that allows a student to pursue a particular aspect of interest in their field of study.
- Equivalent to 30 ECTS acquired from Group 1 (Core) and/or Group 2 (Options) courses in the chosen specialization.
- IN and SC can choose either a specialization or a minor. DS and Cyber and students cannot enroll in a specialization.
- Students can enroll in only one specialization.
- Deadline to register is the end of the 1st semester of the Master's cycle.

List of specializations:

- Computer Engineering
- Computer Science Theory
- Cyber Security
- Data Analytics
- Foundations of Software
- Internet Information Systems
- Networking and Mobility
- Signals, Images and Interfaces
- Software Systems
- Wireless Communications

More information:

go.epfl.ch/IC-master-specializations



EPFL Entrepreneurship

go.epfl.ch/entrepreneurship-training

During your Master:

- IC Courses
 - Al Product Development [CS-500]
 - Intro to IT Consulting [CS-491]
- Minor in Management, **Technology and Entrepreneurship**
- Master's project in your startup

Students can also take advantage of some of the offerings by the **Vice-Presidency for Innovation** and the Innovation Park:

- Startup Launchpad
- EPFL Changemakers
- Blaze EPFL Startup Accelerator
- Innosuisse Business Concept Training

Courses outside the study plan

go.epfl.ch/IC-courses-outside-study-plan

- Number of authorized credits: 15 ECTS
- CS- and COM- codified courses listed in the study plans of the IC Master's programs are not considered outside the study plan and may be taken without prior approval.
- Students enrolled in a minor cannot take courses outside the study plan, except for CS- and COM- codified courses given by IC.
- Refer to the procedure on the webpage.
 - A list of authorized courses is available.
 - For all other courses not on the list, submit a request through the form.
- Please note that you cannot register for courses with limited attendance, as they are not available to students who don't have these courses in their study plan (e.g., many MTE* courses).

2000

^{*} MTE: Master in Management, Technology and Entrepreneurship.



Bachelor courses as admission conditions

- If you need to make up for bachelor's courses as an admission requirement, priority must be given to these courses. Be careful not to overload yourself.
- They must be completed in the 1st year because your admission to the Master's program is conditional upon the acquisition of these Bachelor's courses.
- These credits will not count toward your Master's degree.



Registration for courses and exams

Course registration deadline

➤ Two weeks after the start of the semester in IS-Academia: September 29, 2023.

Exam registration

Automatic based on your course registrations. **Be careful** if you forget to withdraw and have submitted work during the semester, you will be graded and the grade will appear on your transcripts.

Course and exam withdrawal deadline

- For courses with a limited number of participants, no withdrawal is possible after the registration deadline.
- Last withdrawal from exams (for all forms of examinations oral, written and continuous assessment): **November 24, 2023**.



EPFL Absence from an assessment: Rules

Any absence from an assessment (midterm, quiz, homework, final exam, etc.), whether during the semester or during the exam session, must be justified: by a medical certificate, a death certificate, or for elite athletes, a training certificate.

- For continuous assessments during the semester:
 - > The teacher must be notified of the absence ASAP and justification must be submitted within 3 days. If possible, the teacher may offer a substitute test at a later date before the end of the semester, but is **not obligated to do so**. If this is not possible, you may re-register for the subject and take the corresponding test the following academic year. The teacher cannot modify the grading distribution for the course or disregard the missed test from the final grade.
- For exams during the exam session:
 - > The absence must be reported to the teacher ASAP and justification must be submitted to the Student Services within 3 days (with a copy to the teacher). There are **no deferred exams for** justified absences from a written exam during the exam session. In such cases, the student will be graded "M" and may retake the corresponding exam the following academic year.
- Note:
 - > In either case, if the evaluation of the course has changed, you will be required to take all the assessments, not just the one you missed.

For more information, please refer to the SAC page: Subject Exam Withdrawal

EPFL Exam sessions, academic calendar, special arrangements, pass conditions ...

- Exam sessions
 - >January/February
 - >June/July
- There are no deferred or make-up exam sessions at EPFL.
- Should you fail a course (grade less than 4.0), you can take the course again the **following year only** or replace it with another course: go.epfl.ch/master-pass-conditions
- Important deadlines and information can be found at: go.epfl.ch/academic-calendar
- Arrangements for courses and/or exams for students with disabilities: go.epfl.ch/arrangements-courses-exams
- Medical certificates go.epfl.ch/medical certificate

EPFL

Projects



Research project (12 credits)

- The research project (12 credits) can be carried out in any semester of your Master's cycle, but before the Master's project (PDM).
- We recommend that you find a project at the end of the previous semester. Book your project as early as possible.
 Meet with the professor or the supervisor in charge and define the goals and work to be done.
- If the proposed project is not on the list of authorized labs, an abstract must be submitted to the section for approval.
- Details can be found on the following webpage: go.epfl.ch/IC-master-semester-projects



Optional research project (8 credits)

- You can do an optional project (8 credits under Group 2).
- This optional project cannot be carried out in the same semester as the mandatory research project.
- If you decide to carry out an optional research project, we recommend to do it after completing the mandatory research project.
- If the proposed project is not on the list of authorized labs, an abstract must be submitted to the section for approval.



Course and Project SHS (Humanities)

- The SHS program (course + project) takes place over two consecutive semesters. The autumn semester is a preparatory course for the project that takes place in the spring semester. Each semester is worth 3 ECTS, for a total of 6 credits.
- We strongly recommend that you enroll this September!
- If some students have difficulties finding a SHS course/project, especially in English, they can contact the SHS administrative team for assistance: scienceshumaines@epfl.ch

EPFL

Mandatory internship



EPFL Mandatory internship

go.epfl.ch/IC-internships

You can do your mandatory internship in one of the following forms:

	Short	Long	Master's project in industry
Duration	8 weeks	6 months (100%) *	6 months (25 weeks + 1 week vacation)
When	summer only 15.07-15.09	spring: from 15.02 autumn: from 15.07	spring: starting Monday between 15.02 and 01.03 autumn: starting Monday between 15.08 and 01.10 **
Where	industry	industry	industry
Supervision	validation by the Section	validation by the Section	supervised by an accredited IC faculty member

^{*} Be careful no courses may be taken in parallel during a long internship. Students are on a sabbatical leave (status in IS-Academia will be "internship". The tuition fee for this semester is CHF 50.-

^{**} Cyber Security students: starting between 01.09 and 01.10.



Mandatory internship

- International students must complete a full year before undertaking an internship. Earliest start date: summer/autumn 2024.
- You must apply 4-5 months prior to start date. An Information Session is held at the beginning of each semester. Next date: September 19 at 17h15 in BC 420.
- If you intend to pursue a PhD after your Master's, we recommend that you first do an internship in industry followed by the Master's project in a lab at EPFL or at another university.

EPFL

Master's Project (PDM)

EPFL Your Master's project

go.epfl.ch/masterproject

IN, Cyber*, SC, and DS			
EPFL, Your startup**	4 months		
Industry, other University, Your startup***	6 months		

Five possibilities:

- > At EPFL, proposals from labs
- ➤ At EPFL, your proposal to a Professor
- ➤ In industry
- > In other universities
- ➤ In your startup
- * For Cyber, the Master's project must be in the field of cyber security.
- ** For student who have validated their industry internship, the Master's project in your startup can be completed in 4 months.
- *** For students who need to validate an industry internship, the duration of the Master's project is 6 months.

Master's project in your start-up

go.epfl.ch/start-upPDM

You can carry your Master's project in your startup, even if it is not yet incorporated.

- The project must have both a strong academic perspective and clear entrepreneurial objectives.
- You will receive academic support from an EPFL lab and business advice from a professional coach at EPFL Innovation Park. You will also have an alumni mentor as a buddy during the semester. You will be hosted by either an EPFL lab or EPFL Innovation Park, under the supervision of one or the other.
- You must start your application process at least 6 months before the start of your Project.
- Please contact <u>pdm-eip@epfl.ch</u> as soon as you are interested in the program. They will help you build your Project in line with the eligibility conditions.



Master's project (Conditionally)

- You may be authorized to do your Master's project and acquire up to 8 missing credits of courses in parallel. However, this is only possible if you meet the following conditions:
 - You should not be at the end of the maximum duration of your studies (i.e., 6 semesters of courses).
 - The Master's project is carried out at EPFL or in the vicinity of Lausanne.
 - Not possible if you have not completed the mandatory research project (12 credits).



Papers and attendance at conferences

- A research project or optional project done in a lab may give you the opportunity to write a paper related to it. Likewise for a Master's project done in a lab, in industry, or at another university.
- If you have the opportunity to attend a scientific conference to present your work, the costs (registration, travel, and accommodation) may be covered by the section **and** the lab (50%-50%).
- Your paper will be mentioned on the student achievement page: go.epfl.ch/IC-student-publications

Administrative Contacts



Your contacts in the section



Prof. A.-M. KermarrecAssociate Dean for Education



Prof. Karl AbererDirector IN-Cyber



Prof. Serge Vaudenay
Director SC-DS



Eileen Hazboun
Deputy, all programs
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Antonella Veltro

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Carole Dauphin

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Jasmine Locatelli

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Patricia Genet
Internships IC
patricia.genet@epfl.ch

EPFL Do not forget ...

Our websites with a lot of useful information

Computer Science:

go.epfl.ch/master-IN

Communication Systems: go.epfl.ch/master-SC

Data Science:

go.epfl.ch/master-DS

Cyber Security:

go.epfl.ch/master-cyber

Frequently Asked Questions: go.epfl.ch/IC-master-FAQ

Be careful ...

- It is your responsibility to read and understand the rules and regulations governing your studies at FPFI
- It is also your responsibility to read your emails. This is only way we can contact you!

Registrar's Office (SAC)

- Please read the emails from the Registrar's Office (SAC) and Student Services.
- They will send you relevant information about your studies at EPFL including the important deadlines.

Trust and Support Network (TSN) - Context

EPFL is a community of around 20,000 people

- Who enrich our community every day with their skills, identities, and differences
- By joining EPFL, we commit to upholding values based on respect and well-being
- To live up to these values EPFL has created the Trust and Support Network
- Easy access through Trust Point



Towards a culture of respect and well-being







Everyone has a role to play!

We are all concerned!

- Internal entity to file formal complaints
 Respect Compliance Office (RCO)







Let's all strive for a secure IT environment

- Protect your passwords
- Be mindful of phishing campaign
- Only use a privileged account when required
- Protect your devices and credentials
- Keep your software updated at all time
- Minimize your risks when browsing the internet
- → https://go.epfl.ch/ITSecure





Any Questions?

And last but not least



IC Student Association





September 28th





Next edition:

November 9th





Next edition:

spring semester

OUR COMMISSIONS





Orbital game jam



GME STAR

Follow us on our social media!!





Welcome on the EPFL Campus!







The Student's General Association

Association
Générale des
Étudiant·e·s de
l'EPFL







Recap on AGEPoly

What links you to AGEPoly







Recap on AGEPoly

What links you to AGEPoly









Recap on AGEPoly

What links you to AGEPoly







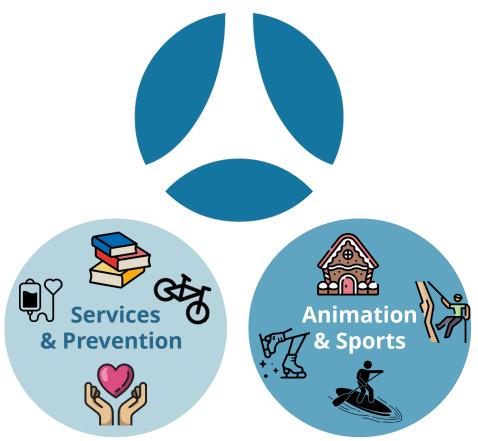




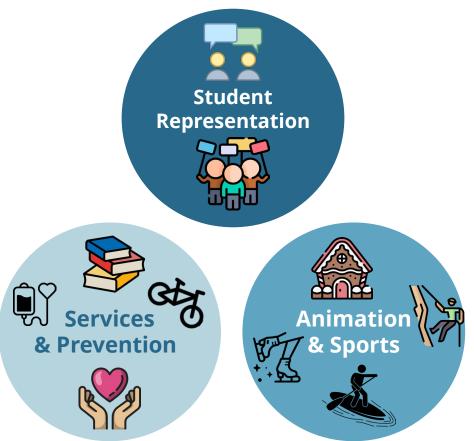




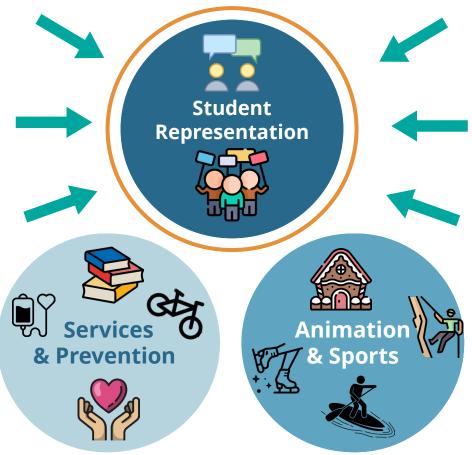










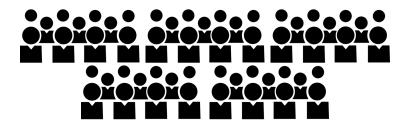






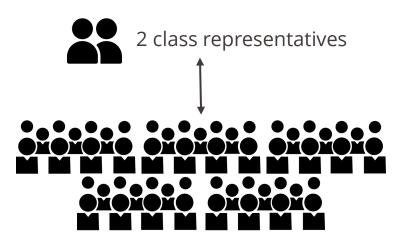






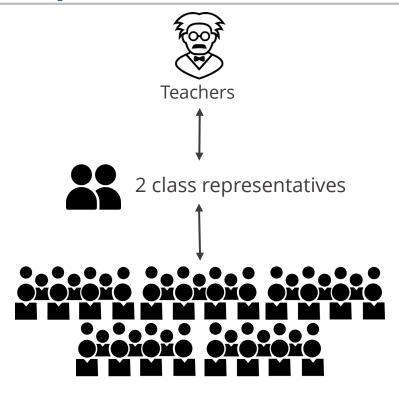






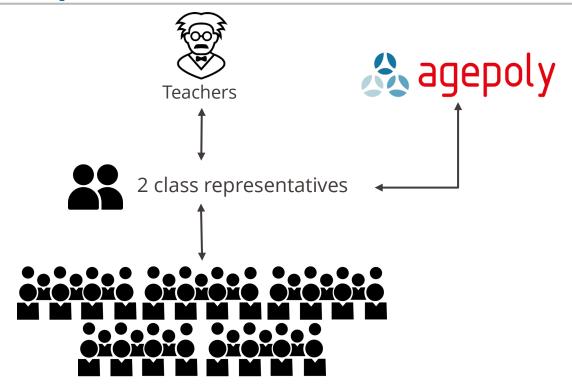






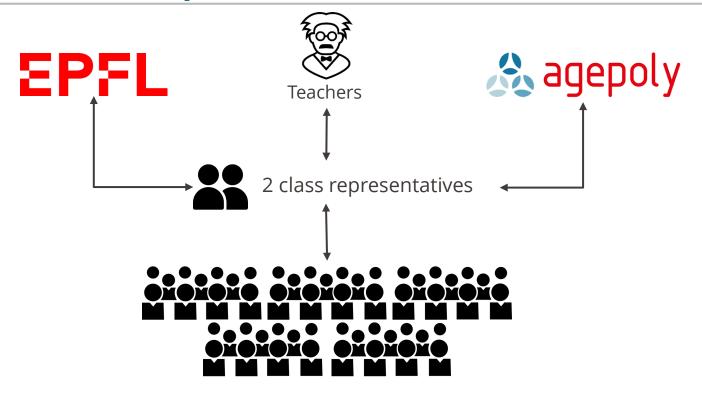






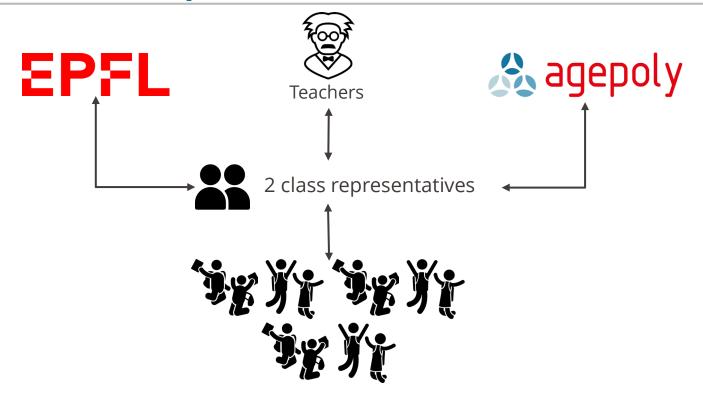












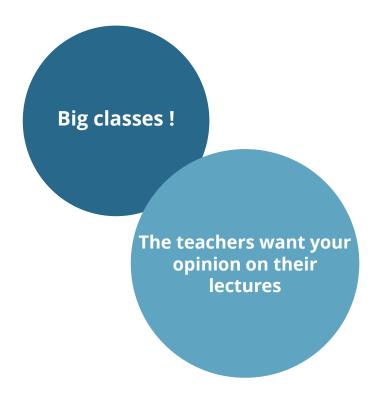






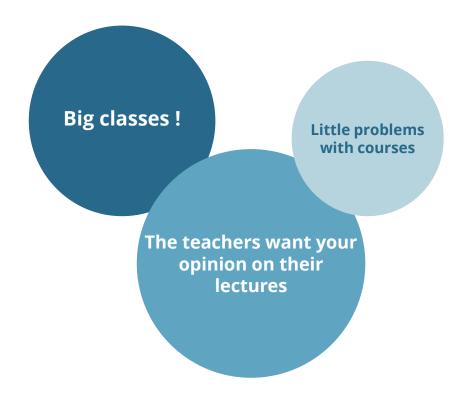






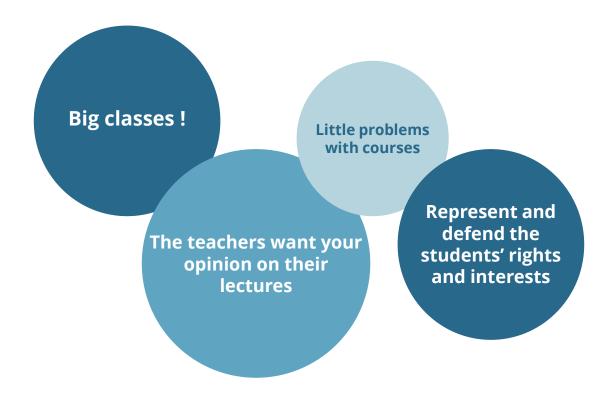






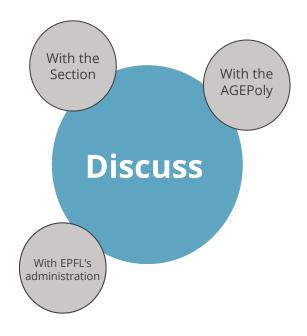


































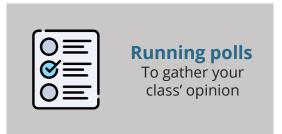






More precisely









More precisely

Representation training





Running polls

To gather your class' opinion

Meetings with EPFL board and your section

To defend the students' interests



Meetings with other students

To figure out solutions and find common problems





Accurately

Representation training



Meetings with EPFL board and your section

To defend the students' interests



Running polls

To gather your class' opinion

Meetings with other students

To figure out solutions and find common problems

Super cool projects!

Changes in the study plan Break Week Study trip

And much more!



Meet wonderful people!



Class representatives from other classes and sections Teachers with great passion, for teaching and research





S0000...



A question?



An issue in a class?





S0000...



A question?



An issue in a class?



Class representatives









Apply

Sign in now on IS Academia, until **Friday September, 22nd**

IS-ACADEMIA

OUTIL DE GESTION ACADEMIQUE





Apply

Sign in now on IS Academia, until **Friday September, 22nd**

IS-ACADEMIA

OUTIL DE GESTION ACADEMIQUE

Vote

From September 23rd to 28th on IS Academia

IS-ACADEMIA

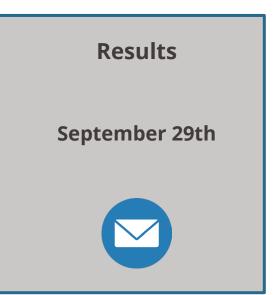
OUTIL DE GESTION ACADEMIQUE





Apply Sign in now using the Google Forms, until Friday September, 22nd









You can apply now on IS Academia!



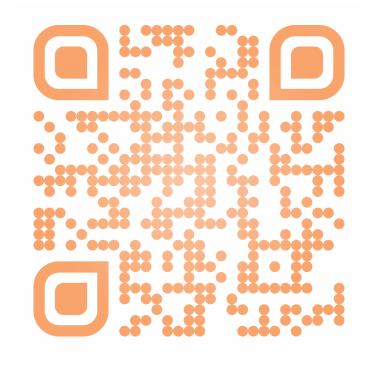


To know more about representation

Join our **Telegram Representation Channel** to:

- Stay informed about what happens in terms of representation at EPFL
- Give your opinion on important issues

https://go.epfl.ch/telegram_ageprepres







Ask us all of your questions

contact@agepoly.ch

representation@agepoly.ch



Salim Najib

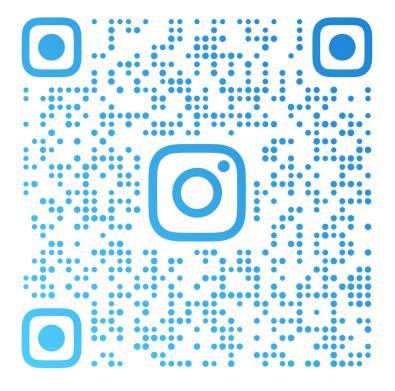


Alexia Giroud Nyer





AGEPoly wishes you an excellent academic year



AGEPOLY





■ École polytechnique fédérale de Lausanne