EPFL



 École polytechnique fédérale de Lausanne



School of Computer and Communication Sciences (IC)

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



School of Computer and Communication Sciences (IC)

27% of female PhD students

1'440
BACHELOR

920 MASTER 300 PhD

2,660 Students





School of Computer and Communication Sciences (IC)

9 JOINT PROFESSORS

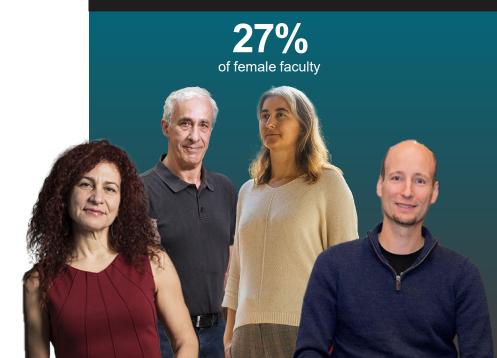
COLLABORATIVE MINDSET

RESEARCH EXCELLENCE

51
Professors

Three ERC Advanced Grants for cutting-edge research into data systems, systems security and neural networks.

One Advanced Grant from the Swiss National Science Foundation for research in computer assisted engineering.



IC Research Domains

ATCS
Algorithms
& CS Theory

ICT
Information &
Communication
Theory

theory, foundations, fundamental limits...

AIML
AI & Machine
Learning

CV Computer Vision DMIR

Databases & Information Retrieval SIP

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

CAIS
Architecture
& Circuits

OSNET Operating Sys.

Operating Sys. & Networking PLFM

Languages & Formal Methods S&P Security

& Privacy

DCDistributed
Computing

building real systems, all layers...

DE

Digital Education NLP

Natural Language Processing GR

Computer Graphics

HCI

Human Computer Interaction interfacing with humans ...



EPFL 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!

EPFL Tips to build your study plan ...

- Review 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!
- Ensure you have enough credits in the different groups / where you need to take them.
- Decide if you want to do a minor or a specialization (not mandatory).
- Master's cycle over 3, 4, or more semesters?
- Cyber Security students, when do you want to do your exchange semester at ETH Zürich?
- Create a study plan to distribute your courses, projects, and your mandatory internship over the semesters.
- Adapt your study plan as needed. Remain flexible and adjust your plan to accommodate new opportunities or challenges.





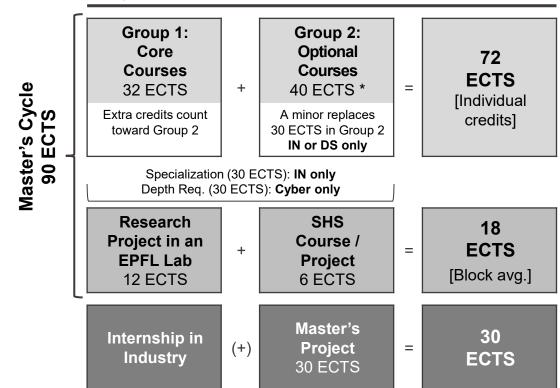
Structure of the MS programs in IC:

- Computer Science (IN)
- Data Science (DS)
- Cyber Security (Cyber)

EPFL Structure for Computer Science (IN), Data Science (DS), Cyber Security (Cyber) Master's programs

Program requirement:

120 ECTS



Optional for IN or DS:

- Computer Science → choose between a Specialization OR a Minor (not possible both).
- Data Science → can only choose a Minor (NO Specialization).

Mandatory:

 Cyber Security → Must fulfill Depth Requirement and an exchange semester at ETHZ (NO Minor or Specialization).

^{*} If no minor is chosen, up to 15 ECTS may be taken outside the IC MS study plans.

EPFL Computer Science, Data Science & Cyber Security

Program structure: Two phases

- 1. Master's cycle 90 ECTS
- 2. Master's project 30 ECTS → Total: 120 ECTS

Master's Cycle (90 ECTS)

- Key differences between the 3 programs: Choice and focus of Group 1 Core Courses (32 ECTS) and the depth requirement + exchange semester at ETHZ for Cyber Security.
- Group 2 Optional Courses (40 ECTS) mostly shared across the 3 programs.
- Research project (12 ECTS) + SHS Course & Project (6 ECTS) → 18 ECTS
- Recommended pace: 30 ECTS per semester → typically completed in 3 semesters.
- Max duration: 6 semesters to complete the Master's cycle.
- Note: A six-month internship during a semester does not count towards 6semester limit → treated as a sabbatical, no courses may be taken in parallel.

Overview MSc in Computer Science

go.epfl.ch/master-IN

EPFL Master of Science in Computer Science

Reform of the MSc Computer Science Effective from the 2025-2026 Academic Year

- This reform applies only to NEW students starting their studies in the Fall 2025 semester. Students who started before Fall 2025 are subject to the study plan that was in force when they began their Master's studies.
- To meet the 32 ECTS Core course requirement (Group 1), students must pass at least four 8-credit courses from four different IC research domains, to ensure a broad foundation.

Group 1: Core courses (min. 32 credits)	IC Domains	Sem.	cr
Machine learning	AIML	fall	8
Optimization for machine learning	AIML	spring	8
Algorithms II	ATCS	fall	8
Advanced computer architecture	CAIS	spring	8
Advanced multiprocessor architecture	CAIS	fall	8
Decentralized systems engineering	DC	fall	8
Distributed algorithms	DC	fall	8
Applied data analysis	DMIR	fall	8
Systems for data mgmt. & data science	DMIR	spring	8
Advanced computer graphics	GR	spring	8
Geometric computing	GR	fall	8
Advanced probability and applications	ICT	fall	8
Foundations of data science	ICT	fall	8
Information theory and coding	ICT	fall	8
Modern natural language processing	NLP	spring	8
Advanced networks	OSNET	fall	8
Mobile networks	OSNET	fall	8
Modern digital communication	OSNET	fall	8
Principles of computer systems	OSNET	fall	8
Formal verification	PLFM	fall	8
Interactive theorem proving	PLFM	spring	8
Advanced topics on privacy enhancing tech.	SP	spring	8
Cryptography and security	SP	fall	8
Information security and privacy	SP	fall	8
Software security	SP	spring	8







Specializations for the Master's program in Computer Science

cialisation M : FOUNDATIONS OF COMPUTING ranced computer graphics	8		P			
anced cryptograph Spacialization I . COMPLITED	SYSTEMS	*	1	33		
anced probability a Advanced compiler construction				6		P
orithms II Advanced computer architecture				Q		P
nputers and music				0		P
Advanced computer graphics					Δ	- 1
Curr Spécialisation K : AI & DATA SCIENCE		124			^_	
AI product management		6	A		A	ļ
ribu Applied data analysis		8	A		Α	
Computer vision		6		P	A	
Data visualiza Spécialisation N : CYBER SEC	URITY		9	4		
Deep learning Advanced computer architecture				3		P
ndat Deep renforce Advanced cryptography ndat Digital educat Advanced topics on privacy enhan Experience de Cryptography and security				5		P
ndat Digital educat Advanced topics on privacy enha	ncing technologies			3		P
met Experience de Cryptography and security				3	A	
rma Experience de Decentralized systems engineering				8	A	
				3	A	
Interaction de Formal verification Foundations of probabilistic proof	fs		. (6	A	
ming Information security and privacy				3	A	
ning infroduction Information security and privacy				8		P
worl Learning in ne Introduction to quantum cryptogr	aphy			5	A	
ISTICO				5		P
ent Iviacilile icali Coffrage comeits	Software security			8		P
inea Machine leard Student seminar : security protoco	ols and application	S		3		P
ics i Modern natur Topics in software security	***************************************			3	A	
Optimization		-		- 1		

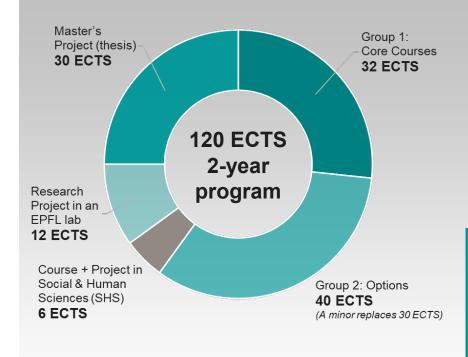
Four broad specializations (30 ECTS),

from a list of Group 1 and/or Group 2 courses, to deepen your knowledge in your chosen discipline.

- Al & Data Science: Learn how to build models over large datasets.
- Computer Systems: Learn how to create complex systems, e.g., code complex software or design hardware.
- Foundations of Computing: Learn how to think deeply about theoretical problems.
- Cyber Security: Learn how to find vulnerabilities in systems & protect them.

Note:

- Students may choose either a Specialization OR a Minor not possible to select both.
- Students may only register for and claim one specialization on their Diploma Supplement.



Overview MSc in Data Science

go.epfl.ch/master-DS

EPFL

Master of Science in **Data Science**

- Core Courses (32 ECTS):
 - Students must pass at least four core courses, each worth 8 ECTS (Group 1).
- Optional Courses (40 ECTS):
 - Chosen from the MS DS study plan (Group 2).

Alternatives:

 Minor (30 ECTS) in another section or the Cyber Security Minor offered by the IN section.

or

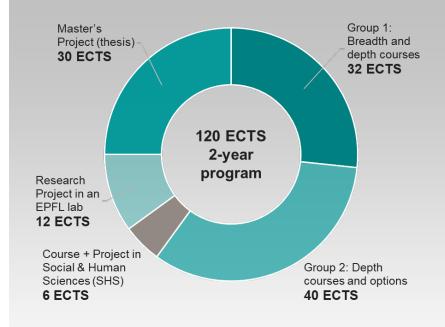
 Max 15 ECTS from courses outside the DS study plan.

This program is **focused on data science** and does **not** offer specialization tracks.

Group 1: Core courses (min. 32 credits)	Sem.	cr
Algorithms II Algorithms, Complexity, Graph Theory, Optimization, Computational Efficiency	fall	8
Applied data analysis Data Cleaning, Visualization, Interpretation, Feature Engineering, Exploratory Analysis	fall	8
Foundations of data science Probability, Statistics, Inference, Bayesian Methods, Data Models	fall	8
Information Security and Privacy Cryptography, Cybersecurity, Data Protection, Encryption, Privacy-Preserving Technique	fall	8
Machine learning Supervised & Unsupervised Learning, Neural Networks, Model Evaluation, Generalization	fall	8
Modern natural language processing Deep Learning, Text Processing, Transformers, Language Models, Sentiment Analysis	spring	8
Optimization for machine learning Gradient Descent, Convex Optimization, Regularization, Loss Functions, Convergence	spring	8
Systems for data mgmt. & data science Databases, Big Data, Distributed Systems, Data Warehousing, Scalable Processing	spring	8



At least 4 courses (8 ECTS each)



Overview MSc in Cyber Security

go.epfl.ch/master-cyber

Velcome Day – September 2025

EPFL Master of Science in Computer Science – Cyber Security

- The program follows the same structure as other IC Master's programs:
 - Group 1: Breadth & Depth Courses (32 ECTS)
 - Group 2: Depth & Optional Courses (40 ECTS)

Depth Requirement:

- To fulfill the depth requirement, at least 30 ECTS must come from security courses (marked as "depth"). These courses can be taken at EPFL or ETHZ and may count for Group 1 or Group 2.
- Research Project (12 ECTS) in Cyber Security:
 - Can be completed at an EPFL lab or ETHZ during the exchange semester.
- Master's Project in Cyber Security:
 - Can be completed in industry. If the mandatory internship is met beforehand can also be done at EPFL, ETHZ, or another university.
 - Must be supervised by an EPFL IC faculty member.

Group 1: Breadth & Depth Courses (min 32 credits)		Sem.	cr
Advanced computer architecture		spring	8
Advanced networks		fall	8
Adv. topics in privacy enhancing tech.	depth	spring	8
Algorithms II		fall	8
Cryptography and security	depth	fall	8
Decentralized systems engineering	depth	fall	8
Distributed algorithms		fall	8
Information security and privacy	depth	fall	8
Interactive theorem proving	depth	spring	8
Machine learning		fall	8
Software security	depth	spring	8
Systems for data mgmt. & data science		spring	8

+ ETHZ courses counting as breadth

Group 2: Depth & Optional Courses (min 40 credits)		Sem.	cr
Advanced cryptography	depth	spring	6
Formal verification	depth	fall	8
Foundations of probabilistic proofs	depth	fall	6
Introduction to quantum cryptography	depth	fall	6
Number theory II.c - Cryptography	depth	spring	5
Secure hardware design	depth	spring	6
Seminar: security protocols & apps.	depth	spring	3
Topics in software security (not given	depth	spring	3

+ EPFL/ETHZ optional & ETHZ courses counting as depth

Notes:

- At least 30 ECTS of "depth" security courses must be taken at EPFL or ETHZ and may count for Group 1 or Group 2.
- 20-35 ECTS must be completed at ETHZ during the exchange semester (this may include the 12-ECTS research project.)

EPFL Master Cyber Security: exchange semester

- Students must pay rent for their housing during their exchange semester in Zürich.
- Students will receive a stipend of CHF 2,500.- to help cover housing costs for their semester in Zürich
- Students planning their exchange in Zürich during the **spring semester** can benefit from pre-booked accommodation.
- 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 Zürich20 ECTS min.35 ECTS max.

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



SHS, Minors & Open credits



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 module is worth 3 ECTS, for a total of 6 ECTS.
- 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 Minors

- A minor consist of core or optional courses from another section.
- Equivalent to 30 ECTS, replacing 30 ECTS in Group 2 (options).
- IC Master's students cannot enroll in IC minors (IN, DS, Cyber).
- Only exception: Data Science students who may take the Cyber Security minor.
- Cyber Security students cannot enroll in any minors.
- Registration deadline: Beginning of 2nd semester of the Master's cycle.
- Choose carefully dropping a minor may affect credit recuperation.

Some examples:

- Computational Biology
- Computational Science & Eng.
- Cyber Security (DS only)
- Digital Humanities, Media and Society
- Engineering for Sustainability
- Financial Engineering
- Imaging
- Management, Technology & Entrepreneurship
- Mathematics
- Neuro-X
- Quantum Science & Eng.
- and many more ...

More information:

go.epfl.ch/IC-master-minors



Courses outside the IC Master's study plan (IN, DS, Cyber)

go.epfl.ch/IC-open-credits

- Max credits authorized: 15 ECTS → partially satisfies Group 2 Options.
- Includes:
 - EPFL Master's courses from other sections
 - EPFL Doctoral courses
 - UNIL-HEC (Faculty of Business and Economics) courses
- Students enrolled in a minor cannot take courses outside their MS study plan, except for CS- and COM- codified courses given by IC.
- CS- and COM- codified courses listed in the IC Master's study plans (IN, DS, Cyber) do not count towards the 15 ECTS limit and may be taken without authorization.
- In general, Bachelor's level courses cannot be taken during the Master's program.



Projects



Mandatory research project (12 ECTS)

- The research project (12 ECTS) 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 ECTS)

- You can do an optional project (8 ECTS 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.



Mandatory internship & Master's project (PDM)

Mandatory industry internships

go.epfl.ch/IC-internships

Internship models:

- Short (8 weeks) → Summer
- **Long (6 months)** → Semester; does not count towards 6-semester limit; no courses in parallel (sabbatical)
- Integrated internship with the Master's project (26 weeks) → only at the end of the Master's cycle



MAKE CONTACTS IN THE INDUSTRY CONVERT ACADEMIC KNOWLEDGE INTO INDUSTRY SKILLS UNFORGETTABLE LIFE EXPERIENCE POSSIBLY LAND A FULL-TIME JOB

> INTERNSHIP OFFICE ASSISTANCE APPROXIMATELY 1'000 INTERNSHIP PROPOSALS PER

MASTER'S PROJECT IN A COMPANY



Every year, more than 300 students do an internship or a master's project in a

INTERNSHIPS

GOOGLE, SWITZERLAND & USA **FACEBOOK. USA & UK** SWISSCOM DIGITAL LAB, SWITZERLAND IBM RESEARCH LAB, SWITZERLAND LOGITECH. SWITZERLAND NEC LABS, GERMANY, USA & JAPAN SONY, GERMANY & JAPAN ORACLE, SWITZERLAND **UBISOFT, FRANCE** CREDIT SUISSE. SWITZERLAND AMAZON, IRELAND, SPAIN MICROSOFT, USA & EUROPE

Welcome Day

EPFL Master's project (30 ECTS)

Your last step before graduation



26 weeks

Possible even if an internship has already been carried out. If not, it counts as the mandatory internship



INDUSTRY



26 weeks

Only possible if a short (8 weeks, summer) or long (6 months, semester) internship has been carried out beforehand



AT ANOTHER UNIVERSITY



18 weeks

Only possible if a short (8 weeks, summer) or long (6 months, semester) internship has been carried out beforehand



AT EPFL

Recommendation:

- Plan ahead if you wish to pursue a PhD.
- Validate the mandatory industry internship requirement.
- Then complete your Master's project in a lab at EPFL or another university.

Welcome Day - September 2025

Goals of a Master's project

Whether in industry or at EPFL/other university

Expectation

- More than just learning and implementation; it must include a research and innovative development component.
- It should present a significant technical challenge.

Content

- A well-defined component that addresses a new problem.
- The problem does not yet have a recognized solution, but you will attempt to develop and assess a solution as part of your Master's project.

Supervision

 Academic task (30 ECTS) → must be supervised by an EPFL faculty member.

EPFL Information sessions at the beginning of every semester ...

- EPFL provides an internship portal to help students find internships.
- Access is given through IS-Academia.
- The application process includes company selection and interviews. Plan ahead: Think about when you want to fulfill the mandatory internship requirement. You must apply 4-5 months prior to start date.
- Note: International students must complete one full year before undertaking an internship (short or long). Earliest possible start date: Summer/Autumn 2026.

Next Session Thursday, Sept. 11, 2025, at 18h15 in CE 12.

Internship Office



Patricia Genet Internship Program Coordinator patricia.genet@epfl.ch



Administrive Info & Contacts



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.

Welcome Day - September 2025

Registration for courses and exams

Course registration deadline

➤ Two weeks after the start of the semester in IS-Academia: Friday, Sept. 19, 2025.

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): Friday, Nov. 21, 2025.



EPFL Absence from assessments: Rules

Justification Required: Absences from any assessment (midterms, quizzes, homework, final exams, etc.) whether during the semester or during the exam session must be justified with a medical certificate, birth or death certificate, or training certificate (for elite athletes).

For continuous assessments during the semester

- Notify the teacher ASAP and submit justification within 3 days of the missed assessment.
- A substitute test may be offered at the teacher's discretion, but it is not guaranteed.

For exams during the exam session

- Report the absence to the teacher ASAP and submit justification to <u>Student Services</u> within **3 days** of the exam date (copy the teacher).
- There are no deferred exams for justified absences.

In both cases

- You will be graded "M" and you may re-register for the subject and retake the missed test or exam. the following academic year. The grading distribution cannot be modified, nor can the missed test or exam be disregarded from the final grade.
- **Note:** If the course evaluation changes, you must **complete all assessments**, not just the one you missed.

For more details, 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
- Special arrangements for courses and/or exams (disabilities, chronic illness, accidents) go.epfl.ch/arrangements-courses-exams
- Medical certificates go.epfl.ch/medical certificate

EPFL Do not forget ...

Our websites with a lot of useful information

- Computer Science go.epfl.ch/master-IN
- Data Science go.epfl.ch/master-DS
- Cyber Security go.epfl.ch/master-cyber
- FAQs qo.epfl.ch/IC-master-FAQ

Be careful ...

- It is your responsibility to read and understand the rules and regulations governing your studies at EPFL.
- It is also your responsibility to read your emails. This is the 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.

EPFL

Your contacts in the sections



Prof. Katerina Argyraki
Associate Dean
for Education



Prof. Haitham Al Hassanieh Director SC-DS



Prof. Mathias PayerDirector IN-Cyber



Eileen Hazboun
Deputy, all programs
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Antonella Veltro

Master IN

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Carole Dauphin

Master SC-DS

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Jasmine Locatelli

Master Cyber

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Patricia Genet
Internships & PDM IC
patricia.genet@epfl.ch



Any Questions?

IC Student Association













September 16th

November 13th

Every month



Our commissions











Follow us on our networks!





Welcome to EPFL!

Vendredi 5 septembre 2025

AGEPoly



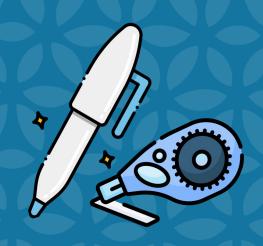
Association Générale des Étudiantes de l'EPFL



What links you to AGEPoly

Our shop

You can get free items like pens, Tipp-Ex, condoms and more!



What links you to AGEPoly

Our shop

You can get free items like pens, Tipp-Ex, condoms and more!

Your Camipro

You are now an AGEPoly member - welcome!



What links you to AGEPoly

Our shop

You can get free items like pens, Tipp-Ex, condoms and more!

Your Camipro

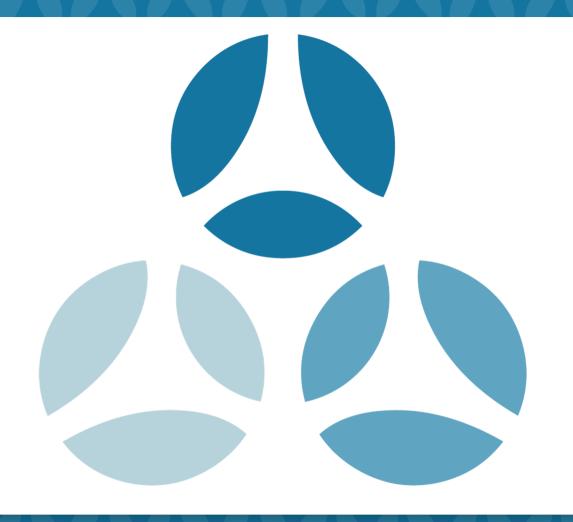
You are now an AGEPoly member - welcome!

Wonderful people

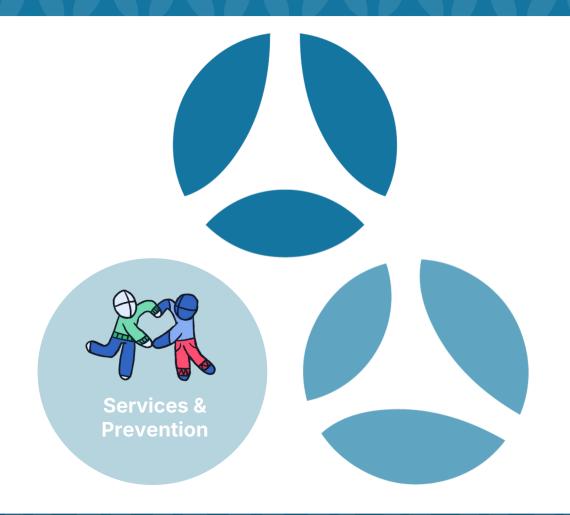
Your coaches & 2 class representatives are here for you



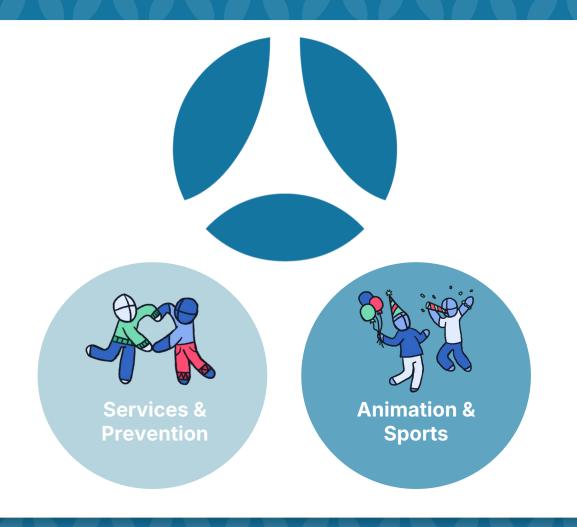




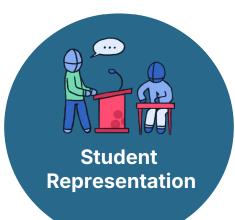












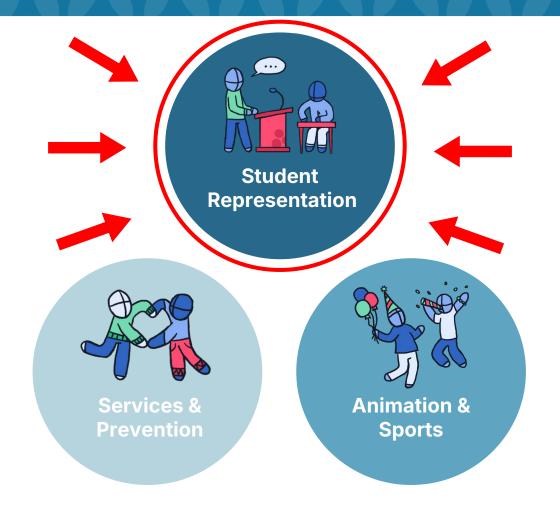


Services & Prevention



Animation & Sports

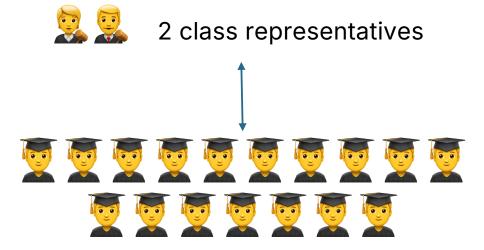




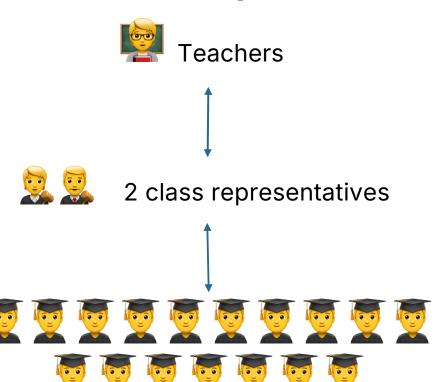




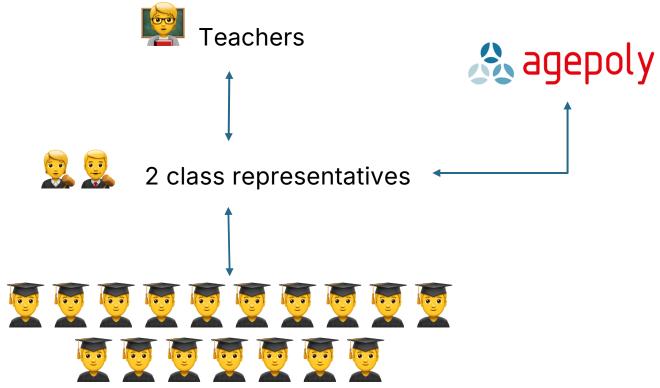




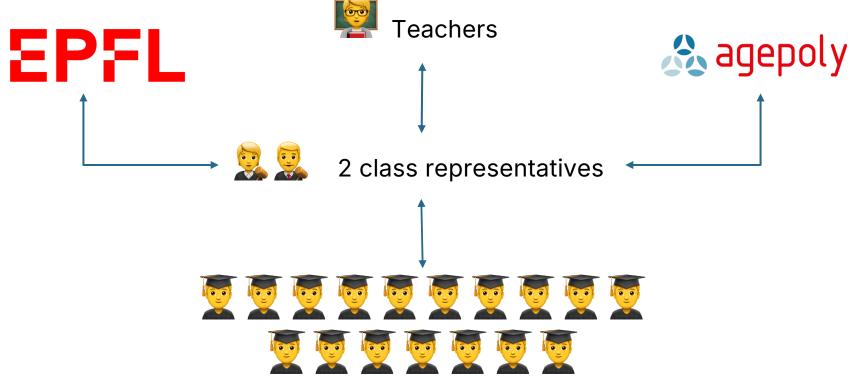














The teachers want your opinion on their lectures

The teachers want your opinion on their lectures

Little problems with courses

The teachers want your opinion on their lectures

Little problems with courses

Represent and defend the students' rights and interests

With EPFL's administration





With the Section

With the AGEPoly



DISCUSS



LISTEN

ALLOW YOUR CLASS' VOICE
TO BE HEARD



DISCUSS



LISTEN

ALLOW YOUR CLASS' VOICE
TO BE HEARD



DISCUSS





RELAY INFORMATION

LISTEN

ALLOW YOUR CLASS' VOICE
TO BE HEARD



DISCUSS





RELAY INFORMATION



PROMOTING EPFL'S VALUES OF RESPECT















Representation training













Representation training







Meetings with EPFL board and your section
To defend the students' interests







Representation training



Running polls
To gather your class'





Meetings with EPFL board and your section

To defend the students' interests







Representation training



Running polls

To gather your class' opinion





Class representatives from other classes and sections, teachers with passion for teaching and reaserch



Meetings with EPFL board and your section
To defend the students' interests







Representation training



Running polls

To gather your class' opinion





Class representatives from other classes and sections, teachers with passion for teaching and reaserch



Meetings with EPFL board and your section
To defend the students' interests





So...

- → A question ?
- → An issue in a class?



So...

- → A question?
- → An issue in a class?





How to become a student representative?



APPLY

Masters: sign in using IS-Academia

until 12th September



VOTE

13 - 18 September



RESULTS

19 September



Apply now!

https://go.agepoly.ch/candidaturedeleg-ba1-cms



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.agepoly.ch/telegram_ageprepres



Ask us all of your questions!

contact@agepoly.ch representation@agepoly.ch

Alonso Coaguila

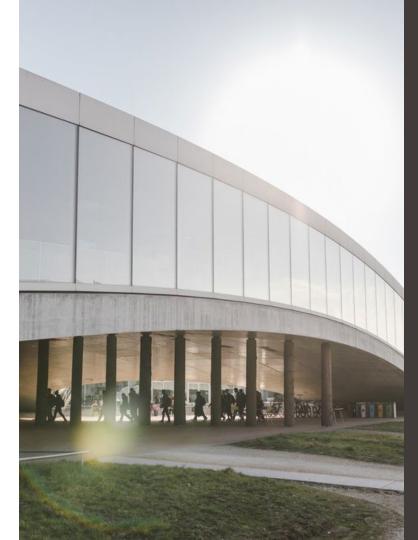


Veronika Permamedova





AGEPoly wishes you an excellent academic year!



Welcome Party! From 5pm to 10pm Under the arches of the Rolex Learning Center

- The Coaching Team is delighted to invite all new arrivals at EPFL to the Welcome Party at the Rolex Learning Center!
- You are all welcome to join them for activities, a musical stage, a meal, and, above all, sharing!