EPFL Welcome Day

Prof. Mark Pauly
Associate Dean for Education - IC

Friday, September 17, 2021
Welcome to our Master programs in

Computer Science (IN)
Communication Systems (SC)
Data Science (DS)
Cyber Security (Cyber)
Agenda

- Curriculum
  - Overview
  - Specializations and Minors
  - Courses outside study plan
  - Registration for courses and exams

- Projects
  - PDM / Master project
  - Mandatory internship
  - Contacts
School of Computer and Communication Sciences - IC

- Internationally highly ranked
- 55 professors
- From peer schools
- Internationally recognized
- Strong industrial liaison
- Core + interdisciplinary science: Collaboration with Life Sciences, Mathematics, Microengineering, Electrical Engineering, etc.
IC at a glance

theory, foundations, fundamental limits…

learning from data, extracting knowledge, transforming data …

building real systems, all layers…

interfacing with humans …
Curriculum
Bachelor / Master / PhD

- **Bachelor**
  - 3 years / 180 credits

- **Master**
  - 2 years / 120 credits

- **PhD**
  - ~4 years

EDIC Doctoral program

Applications of students from foreign universities
Courses, projects and internship for IN, SC, DS

- Semester project 12 credits + SHS project 6 credits = 18 credits
- Core courses 30 credits + Optional courses 42 credits = 72 credits
- Internship in industry * + Master project (PDM) 30 credits = 30 credits

TOTAL 120 credits

* can be part of a Master project in the industry.

- **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.
Courses, projects and internship for Cyber

Semester project 12 credits + SHS project 6 credits = 18 credits

Breadth courses 30 credits + Depth** & Options 42 credits = 72 credits

Internship in industry * + Master project (PDM) 30 credits = 30 credits

TOTAL 120 credits

* can be part of a Master project in the industry.

** 30 credits of courses must be taken from the category “depth requirement”.

➢ Semester and master projects must be in the field of cyber security.
➢ No specialization possible.
### Courses, projects and internship for Cyber

<table>
<thead>
<tr>
<th>EPFL</th>
<th>1st semester mandatory in Lausanne</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHZ</td>
<td>one semester in Zürich</td>
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<tr>
<td></td>
<td>20 credits minimum</td>
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<td>35 credits maximum</td>
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- Students cannot take equivalent courses in EPFL and ETH Zürich.
- Students will receive an allowance of CHF 2’500.- for their semester in Zürich (subject to approval by the IC Deanship).

Both study plans (EPFL-ETH Zürich) are accessible on: [go.epfl.ch/master-cyber](go.epfl.ch/master-cyber)
Enrollment in the Master program

- You have been admitted to a specific Master program, in which you have enrolled. Change for another program (i.e., IN => DS or SC => Cyber) is allowed only after the 1st semester for the following September and is subject to online application (deadlines = 15th December or 15th April) and acceptance by the admissions committee. The Deputy Head should be contacted before students start their 2nd semester.

Maximum length of the Master program (120 credits)

- For the Master cycle (before the Master project): 6 semesters for 90 credits
- For the Master program (including the Master project): 8 semesters

The internship is not counted in the studies duration

- A semester “off” is not allowed, unless special cases (e.g., medical reasons). If exceptionally authorized for other personal reasons the semester will be counted in the studies duration.
Specializations

- **Computer Engineering**, Prof. Paolo Ienne
- **Data Analytics**, Prof. Patrick Thiran, Prof. Matthias Grossglauser
- **Foundations of Software**, Prof. Martin Odersky
- **Cyber Security**, Prof. Carmela Troncoso
- **Networking and Mobility**, Prof. Jean-Yves Le Boudec
- **Signals, Images and Interfaces**, Prof. Mark Pauly
- **Software Systems**, Prof. George Canda
- **Wireless Communications**, Prof. Emre Telatar
- **Computer Science Theory**, Prof. Ola Svensson
- **Internet Information Systems**, Prof. Boi Faltings, Prof. Karl Aberer
Some examples:

- **Biocomputing** (offered by the Computer Science program)
- **Neurocomputing** (offered by the Life Sciences program)
- **Biomedical Technologies** (offered by the Microengineering program)
- **Spatial Technologies** (offered by the Electrical Engineering program)
- **Technology Management and Entrepreneurship** (offered by the Management of Technology program)
- **Financial Engineering** (offered by the Financial Engineering program)
- **Mathematics** (offered by the Mathematics program)
For the full list of minors, refer to the minor study plans (under the link for “Minors” with specific courses”).

You cannot enroll for the IC minors in Computer Science, Data Science, Cyber Security and Communication Systems

- **Exception**: Data science students are allowed to register for the Cyber Security minor

Some minors, such as Technology Management and Entrepreneurship (MTE), have courses with limited attendance reserved for their Master students. Please take this into account when deciding to register:

- Once enrolled, you will be authorized to register for the course only 2 weeks before the beginning of the semester (subject to the number of places available)
Rules and registration procedure for Specializations and Minors

- Rules and registration
  - Minors: go.epfl.ch/IC-master-minors
  - Specializations: go.epfl.ch/IC-master-specializations

- Please do not register for a specialization or a minor now!

- Registration deadlines
  - For Minors: end of 1st semester of Master studies
  - For Specializations: beginning of 3rd semester of Master studies (details about the procedure will be communicated by email by the Section)
Courses outside the study plan

- If you are enrolled a minor, it is not possible to take courses outside the study plan.

- 15 credits maximum are allowed for the whole master program. Out of these 15 credits, 12 credits maximum of “non-technical courses” (HEC, MTE) are allowed.

- Authorization must be requested to take courses outside the study plan before registering in IS-Academia. Requests should be sent to:
  - Antonella Veltro (IN and Cyber students)
  - Carole Dauphin (SC and DS students)

- Please note that you cannot register for course with limited attendance, as they are not available for students who don’t have these courses in their study plan (e.g., many MTE courses).
Bachelor courses as admission conditions

- If you have bachelor courses to catch up as an admission condition, please take into account that these are **prerequisites** for the successful completion of the master courses.

- Therefore, **priority must be given for these bachelor courses**: they need to be **completed during the 1st year**, as admission to the master program is conditional on the acquisition of these bachelor courses.

- These credits will not count for your master degree.
Bachelor courses

- Bachelor courses **cannot** be taken during the master program.

**Exceptions**

- Can be taken if students are missing a prerequisite for a master course. However, the credits might not count towards the master.
- Can be taken if they could not be followed during the bachelor studies for a valid reason.
Registration for courses and exams

- Deadlines for registration for course and exams in IS-Academia: **Friday, October 1, 2021**
- Registration for courses and projects is **mandatory** to be able to take the exams.
- No withdrawal authorized after the registration deadline for courses with limited-seat attendance.
Registration for courses and exams

- Last withdrawal from exams (for all forms of examinations – oral, written and continuous control): **Friday, November 26, 2021** except for:
  - EE-559   Deep learning (for IN-Cyber-SC-DS students)
  - EE-593   Social Media (for IN-Cyber-SC students)
  - BIO-410  Bioimage informatics (for IN-SC students)
  - COM-490  Large-scale data science for real-world data (for DS)

which have “unauthorized withdrawal” after Friday, Oct. 1, 2021.
Exams and academic calendar

- Exam sessions *
  - January/February
  - June/July

- Should you fail an exam, 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 are available on: go.epfl.ch/academic-calendar

*Period subject to change depending on the situation with Covid-19
The semester project (12 credits) can be done during the autumn or the spring semester, whenever you want during the master, but before the master project (PDM).

IC co-supervisor is required in case the project is not found in the list of authorized laboratories => form to be submitted to the Section.

Cyber Security students need to submit a form, as the project must be done in the field of Cyber security.

Details can be found on the following webpage: go.epfl.ch/IC-master-semester-projects
Optional project

- You have the opportunity to do an optional project (8 credits).
- The optional project and the semester project cannot be done during the same semester.
- If you decide to carry out the optional project, we recommend to do it once you have completed the semester project (mandatory project).
- IC co-supervisor is required in case the project is not found in the list of authorized laboratories => form to be submitted to the Section.
The SHS project (humanities) must be done:
- Over two consecutive semesters, starting **only in the autumn**
- Individually or in groups

**You are strongly encouraged to start now!**

If some students have difficulty in finding a project, especially ones in English, they can contact the SHS administrative team for assistance: scienceshumaines@epfl.ch

If a student is planning to do an internship during the spring semester, the section will find an arrangement with the Registrar’s office and SHS.
PDM / Master Project
**PDM – Master project**

<table>
<thead>
<tr>
<th><em><em>IN, Cyber</em>, SC, and DS</em>*</th>
<th><strong>Four possibilities:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EPFL</strong></td>
<td>At EPFL, proposals from labs</td>
</tr>
<tr>
<td>4 months</td>
<td>At EPFL, your own proposal to a Professor</td>
</tr>
<tr>
<td><strong>Industry / Other University</strong></td>
<td>In industry</td>
</tr>
<tr>
<td>6 months</td>
<td>In other universities</td>
</tr>
</tbody>
</table>

* For Cyber, the Master project must be in the field of cyber security.
According to the rules, you may be authorized to do your Master project and acquire up to 8 missing credits of courses in parallel. However, this is only possible if you fulfill the following conditions:

- You should not be at the end of the maximal duration of your studies (max. 6 semester of courses).
- The Master project is done at EPFL or in the Lausanne vicinity.
- Not possible if you have not completed the semester project.
Mandatory internship
Mandatory internship

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

<table>
<thead>
<tr>
<th></th>
<th>Short</th>
<th>Long</th>
<th>Integrated PDM</th>
</tr>
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<tbody>
<tr>
<td><strong>Duration</strong></td>
<td>8 weeks</td>
<td>6 months (100%) *</td>
<td>6 months (26 weeks including 1 week vacation)</td>
</tr>
<tr>
<td><strong>When</strong></td>
<td>summer: July 15-Sept. 15</td>
<td>spring: starting Feb. 15</td>
<td>spring: Feb 15- March 1 **</td>
</tr>
<tr>
<td></td>
<td></td>
<td>autumn: starting July 15</td>
<td>autumn: Aug 1-Oct 1 **</td>
</tr>
<tr>
<td><strong>Where</strong></td>
<td>industry</td>
<td>industry</td>
<td>industry</td>
</tr>
<tr>
<td><strong>Supervision</strong></td>
<td>validation by the Deputy Head</td>
<td>validation by the Deputy Head</td>
<td>supervised by an IC professor</td>
</tr>
</tbody>
</table>

* Be careful **no courses can be attended in parallel during a long internship.** Students are on a sabbatical leave.

** Cyber students: September 1 to October 1.
Some companies, in the United States exclusively, offer 12-16 week’s internships during the summer: Facebook, Google, LinkedIn, Yahoo, Twitter only.

You are exceptionally allowed to be absent during the autumn semester, so that you can complete this 12-16 week internship.

You will need to start the internship after July 15.
Mandatory internship

- International students are required to complete one full year before being able to undertake an internship. Earliest starting date: summer/autumn 2022.
- You will need to apply 4-5 months before start.
- Should you do two internships (short + long), only the first internship will be mentioned on the Diploma supplement.
- It is not possible to do two internships of six months.
- If you intend to pursue a PhD after your master, we recommend that you first do the internship in industry followed by the Master project in a lab at EPFL.
Papers and attendance at conferences

- A project done in a lab may give you the opportunity to write a paper related to it.

- If you have the opportunity to attend a scientific conference to present your work, the costs (registration, travel and accommodation) can 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
To ensure your transition between your Bachelor and Master studies, curriculum counselling is available

To discuss your choice of courses, you should have received an email from Eileen Hazboun to inform you about your initial study advisor

Discussion by Zoom, or by email (individual or small groups of 2-3 students)

For the meetings, please prepare:

- Your preliminary plans for the 1\textsuperscript{st} semester
- A list of questions

Do not hesitate to reach out to your assigned Study Advisor!
Study Advisors – International students

Andrea Caforio
Gilbert Maystre
Simone Colombo
Lucas Ramirez
Manuel Ribeiro
Simon Guilloud

Computer Science & Cybersecurity
Communication Systems & Data Science
Administrative Contacts
IN & Cyber

- Head of Programs: Prof. Anne-Marie Kermarrec
- Master Program Assistant: Mrs Antonella Veltro

SC & DS

- Head of Programs: Prof. Serge Vaudenay
- Master Program Assistant: Mrs Carole Dauphin

For all programs

- Deputy Head, BS/MS Programs: Mrs Eileen Hazboun
- Internship Program Assistant: Mrs Patricia Genet
Registrar’s Office – SAC

- Please read carefully the emails sent by the Registrar’s office (SAC) and Student Services.
- They will send you relevant information about your studies at EPFL including the important deadlines.
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

Please read …

Updates regarding Covid-19 on campus go.epfl.ch/Covid-19

Q&A: Covid-19, classes & exams go.epfl.ch/covid-19-students-QA

Be careful …

- It is your responsibility to read and understand the rules and regulations pertaining to your studies at EPFL
- It is also your responsibility to read your emails. This is only way we can contact you!
EPFL’s position

- A culture of respect and inclusion
- Harassment of any kind is not accepted
- If you need any support:
  - Speak to our counselors go.epfl.ch/individual-support
  - Find out about the support network: go.epfl.ch/respect

More information available on our website and the Welcome Package sent to you by email.
Any Questions?
And last but not least ...

Presentation CLIC Student Association
Telegram Group for IC Master students
Have fun at the Welcome Drink @15:30, BC Terrace