Welcome Day 15.09.2017 – Information session to the new Master students

WELCOME
to the
Master programs
in
Computer Science,
Data Science
and
Communication Systems
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TODAY’S SPEAKERS

• Prof. Pascal Fua: Director of the Computer science program

• William Trouleau (SC), Georg Schmid (IN) & Olivier Blanvillain (IN): Initial study advisors
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AGENDA

• CURRICULUM
  ▪ Overview
  ▪ Specializations and Minors
  ▪ Courses outside the study plan
  ▪ Registration to courses and exams

• PROJECTS

• PDM - MASTER THESIS PROJECT

• MANDATORY INTERNSHIP

• CONTACTS
WHO WE ARE

• 45+ Faculty

• International composition

• Core + interdisciplinary science
  ➢ Collaborations with Life Sciences, Mathematics, Microengineering, Electrical Engineering, etc.
IC RESEARCH AREAS

- Algorithms & Theoretical Computer Science
- Artificial Intelligence & Machine Learning
- Computational Biology
- Computer Architecture & Integrated Systems
- Data Management & Information Retrieval
- Graphics & Vision
- Human-Computer Interaction
- Information & Communication Theory
- Networking
- Programming Languages & Formal Methods
- Security & Cryptography
- Signal & Image Processing
- Systems
CURRICULUM
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**BACHELOR / MASTER / PHD**

**PhD**
3/4 years

**MASTER**
IN: 1.5 years /90 ECTS
DS: 2 years /120 ECTS
SC: 2 years /120 ECTS

**BACHELOR**
3 years/180 ECTS

Doctoral School

Applications of students from foreign universities

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School of Computer and Communication Sciences
Computer Science and Communication Systems Programs
## Welcome Day 15.09.2017 – Information session to the new Master students

### MASTER IN COMPUTER SCIENCE (IN)

<table>
<thead>
<tr>
<th>Component</th>
<th>Credits</th>
<th>Total Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester project</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Core courses</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Internship in the industry *</td>
<td></td>
<td></td>
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<tr>
<td>SHS project</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>Optional courses</td>
<td>27</td>
<td>42</td>
</tr>
<tr>
<td>Master thesis project</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Core courses + SHS project + Optional courses</td>
<td></td>
<td>42</td>
</tr>
<tr>
<td>Core courses + SHS project + Optional courses + Internship in the industry</td>
<td></td>
<td>75</td>
</tr>
<tr>
<td>Core courses + SHS project + Optional courses + Master thesis project</td>
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<td>105</td>
</tr>
<tr>
<td>Core courses + SHS project + Optional courses + Internship in the industry + Master thesis project</td>
<td></td>
<td>115</td>
</tr>
</tbody>
</table>

TOTAL = 90 credits

*Can be part of a Master thesis project in the industry*

Specialization or minor: 30 additional credits (one additional semester)
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**MASTER IN DATA SCIENCE (DS)**

- **Semester project**
  - 12 credits

- **Core courses**
  - 30 credits

- **Internship in the industry** *

- **SHS project**
  - 6 credits

- **Optional courses**
  - 42 credits

- **Master thesis project**
  - 30 credits

**TOTAL** = 120 credits

* Can be part of a Master thesis project in the industry

Minor (no specialization available):
30 credits included in the 72 credits of core and optional courses
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MASTER IN COMMUNICATION SYSTEMS (SC)

- Semester project 12 credits
- Core courses 30 credits
- Internship in the industry *

+ SHS project 6 credits
+ Optional courses 42 credits
+ Master thesis project 30 credits

TOTAL = 120 credits

* Can be part of a Master thesis project in the industry

Specialization or minor:
30 credits included in the 72 credits of core and optional courses
MAXIMUM LENGTH OF THE MASTER PROGRAM

• **120 credits** (IN with specialization/minor, DS & SC)
  
  ➢ Maximum duration for the MSc cycle (before the Master Thesis project): 6 semesters to get 90 credits
  
  ➢ Maximum duration for the MSc program (including the Master Thesis project): 8 semesters

• **90 credits** (IN without specialization/minor)
  
  ➢ Maximum duration for the MSc cycle (before the Master Thesis project): 4 semesters to get 60 credits
  
  ➢ Maximum duration for the MSc program (including the Master Thesis project): 6 semesters
IN & SC SPECIALIZATIONS

A. COMPUTER ENGINEERING - Prof. P. Ienne
B. DATA ANALYTICS – Prof. M. Grossglauser
C. FOUNDATIONS OF SOFTWARE - Prof. M. Odersky
D. INFORMATION SECURITY - Prof. A. Lenstra
E. NETWORKING AND MOBILITY - Prof. J.-Y. Le Boudec
F. SIGNALS, IMAGES, AND INTERFACES - Prof. M. Vetterli
G. SOFTWARE SYSTEMS - Prof. G. Candea
H. WIRELESS COMMUNICATIONS – Prof. E. Telatar
I. COMPUTER SCIENCE THEORY – Prof. N. Vishnoi
J. INTERNET INFORMATION SYSTEMS – Prof. B. Faltings & K. Aberer
MINORS FOR IN, DS & SC STUDENTS

Recommended minors:

• **Biocomputing** (offered by the Computer Science Program)
• **Biomedical Technologies** (offered by the Microengineering Program)
• **Computational Science & Engineering** (offered by the Mathematics Program)
• **Spacial Technologies** (offered by the Electrical Engineering Program)
• **Technology Management and Entrepreneurship** (offered by the Management of Technology Program)
MINORS

• It is possible to prepare other minor degrees, see: http://sac.epfl.ch/study_plans (under «Minors with specific courses»).

• For a minor not listed, the student must contact the IN, DS or SC Deputy Head and ask for the approval of the Minor program Director.

• Some minors (for example Financial Engineering) accept only a limited number of students.

• For IN rules and procedure, see: http://ic.epfl.ch/page-97562-en.html
• For DS rules and procedure, see: https://ic.epfl.ch/data-science-minors
• For SC rules and procedure, see: https://ic.epfl.ch/communication-systems-minors
REGISTRATION TO SPECIALIZATIONS AND MINORS

Please do not register to a specialization or a minor now!

Registration deadline:
Minors IN, DS & SC: End of the 1\textsuperscript{st} semester of studies
Specialization IN: Beginning of the 2\textsuperscript{nd} semester of studies
Specialization SC: Beginning of the 3\textsuperscript{rd} semester of studies
COURSES OUTSIDE THE STUDY PLAN

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

• Authorization must be requested to take these courses BEFORE registering for the courses in IS-Academia. Request to be sent by e-mail to:

IN students => Antonella Veltro
DS & SC students => Augusta Ecuyer
BACHELOR COURSES

• Bachelor courses **cannot** be taken during the MSc program.

Exceptions

• Can be taken if they are a missing prerequisite for a MSc course. Yet, no credits towards the MSc will be counted!

• For IN students, the course **Signal Processing for Communications** can also be taken, but the credits will be counted for the MSc only if the student registers for the Signals, Images and Interfaces specialization.
DOCTORAL SCHOOL COURSES

• Courses from the IC Doctoral School (EDIC) can be taken during the MSc program (max. 15 credits).

• The list of the Doctoral School courses and their prerequisites can be found on http://phd.epfl.ch/edic/courseoffering for IN, DS & SC.

• Make sure that you have the prerequisites for the courses you intend to attend.

• Doctoral school courses can be taken in advance for a PhD. Please note: only credits above the MSc mandatory credits will be credited toward the PhD requirements.
INTERNATIONAL BACHELOR STUDENTS

STUDY PLAN

Before registering for courses in IS-Academia, please submit your choice of courses by e-mail to Ms Sylviane Dal Mas: sylviane.dalmas@epfl.ch

Don’t forget to mention your Section:

Computer science, Data science or Communication systems !!!

Deadline: 25th September 2017
REGISTRATION TO COURSES AND EXAMS

• Deadline for registration for courses and exams: 29th September 2017

• Registration for courses and projects is MANDATORY in order to be able to take the exams.

• Latest withdrawal from exams (for all forms of examination – oral, written and continuous control): 24th November 2017

More important deadlines and information are available on the Registrar’s office website: http://memento.epfl.ch/academic-calendar/
EXAMS

• Exams sessions: January/February and June/July.

• In case of failure of an exam, you have to take again the course the following year or replace it by another course the following semester.
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PROJECTS
SEMESTER PROJECT

• The semester project (12 credits) can be done during the Autumn or Spring semester, whenever you want during the Master, but before the Master thesis project.

• If you want to do it during the Autumn 2017 semester, please contact a laboratory immediately and register to the project in IS-Academia NOW!

• Details can be found on the following websites:
  IN: http://ic.epfl.ch/semester_project
  DS: https://ic.epfl.ch/data-science-semester-project
OPTIONAL PROJECT

- You have the opportunity to do an optional project (8 credits).

- The optional project and the semester project cannot be undertaken during the same semester.

- If you decide to carry out the optional project, we recommend you to do it once you have completed the semester project (mandatory project).
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SHS PROJECT

The SHS project ("humanities") must be done:

• Over two semesters, starting only in Autumn
• Individually or in groups

You are strongly recommended to start it now!

If the student plans to do an internship during the spring semester, the section will find an agreement with the Registrar’s Office and the SHS.
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PDM
MASTER THESIS PROJECT
**PDM – MASTER THESIS PROJECT**

<table>
<thead>
<tr>
<th>SIN &amp; SSC</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EPFL</td>
<td>4 months</td>
</tr>
<tr>
<td>Industry / Other University</td>
<td>6 months</td>
</tr>
</tbody>
</table>
PDM – MASTER THESIS PROJECT

- 4 possibilities:
  - At EPFL, proposals from labs
  - At EPFL, your own proposal to a Professor
  - In the industry
  - Other Universities
MANDATORY INTERNSHIP
MANDATORY INTERNSHIP

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

• Short internship (min. 8 weeks during summer)
• Long internship (6 months) – “sabbatical leave”
• Integrated in the Master thesis project in the industry (6 months)
MANDATORY INTERNSHIP

• Some companies in the USA only offer 12-16 weeks internships during the summer: Facebook, Google, LinkedIn, Yahoo, Twitter

• You will be exceptionally allowed to be absent during the autumn semester, so that you can complete this 12-16 weeks internship

• You will have to start the internship by 15th July
MANDATORY INTERNSHIP

International Bachelor students are required to complete a full year before being allowed to do an internship. Therefore, internship is possible in Summer / Autumn 2018 at earliest for them.
PAPERS AND ATTENDANCE TO CONFERENCES

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

• In case you have the opportunity to attend a scientific conference in order to present your work, the registration, travel and accommodation expenses can be paid by the section and the lab (50%-50%).

• Your paper will then be mentioned on the Students achievements webpage [https://ic.epfl.ch/students-successes](https://ic.epfl.ch/students-successes).
CONTACTS
INITIAL STUDY ADVISORS FOR INTERNATIONAL BACHELOR STUDENTS
INTERNATIONAL BACHELOR STUDENTS:

• To ensure coherence between your BSc and MSc studies, curriculum counselling is available during the transition period.

• In order to have a personal discussion about your choice of courses, you have received an invitation by email from your initial study advisors: William Trouleau (DS & SC), Georg Schmid (IN) or Olivier Blanvillain (IN)
INITIAL STUDY ADVISORS

- for DS & SC:
  William Trouleau PhD student

- for IN:
  Georg Schmid PhD student

Olivier Blanvillain PhD student
INTERNATIONAL BACHELOR STUDENTS:

• Please bring for the discussion:
  ➢ your preliminary plan for the first semester
  ➢ a list of questions

• You will discuss course content rather than rules
PERMANENT STUDY ADVISORS
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ADVISORY PROFESSORS, CLASS 17/18

• for IN:
  Prof. Christoph Koch
  DATA: Data Analysis Theory and Applications Laboratory

• for DS:
  Prof. Bixio Rimoldi
  LCM: Mobile Communications Laboratory
ADVISORY PROFESSORS, CLASS 17/18

- for SC:
  Prof. Jean-Pierre Hubaux
  LCA1: Computer Communications and Applications Laboratory 1

Prof. Michael Gastpar
LINX: Laboratory for Information in Networked Systems
ADMINISTRATIVE CONTACTS
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**IN**

- *Head of the Program*: Prof. Pascal Fua
- *Study Advisor 1st and 2nd years*: Prof. Christoph Koch
- *Master Program assistant*: Ms Antonella Veltro

**DS & SC**

- *Head of the Programs*: Prof. Michael Gastpar
- *Study Advisors*: DS: Prof. Bixio Rimoldi
  1st year SC: Prof. Jean-Pierre Hubaux
  2nd year SC: Prof. Michael Gastpar
- *Master Program assistant*: Ms Augusta Ecuyer

- *Deputy Head, BS/MS Programs*: Ms Sylviane Dal Mas
- *Internship Program assistant*: Ms Patricia Galhardo
- *Initial study advisors*: William Trouleau, Georg Schmid & Olivier Blanvillain
REGISTRAR’S OFFICE – SAC

Please read carefully the e-mails sent by the Registrar’s office - SAC, especially from: Mr L. Ramelet and Mr A. Bianchi.

They will be sending you relevant information regarding your studies at EPFL as well as important deadlines.
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DO NOT FORGET...

• Our websites
  ➢ for IN: http://ic.epfl.ch/computer-science/master
  ➢ for DS: https://ic.epfl.ch/data-science
  ➢ for SC: http://ic.epfl.ch/communication-systems/master

You will find plenty of relevant information regarding our programs and rules.

• Your e-mail. This is the only way we can contact you!
BE CAREFUL…

• It’s your responsibility to read and understand the rules and regulations pertaining to your studies at EPFL.

• It’s also your responsibility to read your emails and to attend the information meetings that will be held for you.
AND LAST BUT NOT LEAST...

=> Presentation of the EPFL Library

* * * * *

=> TEA TIME at 15:30 at the BC’s Cafeteria

IC School offers you an afternoon snack
ANY QUESTION?
Thank you for your attention

Author:
School of Computer and Communication Sciences IC
Computer Science and Communication Systems programs