Microengineering movie
Welcome to the Microengineering section
Your contacts

Prof. Christophe Moser  
Section director

Dr. Sebastian Gautsch  
Section adjunct

Prof. Francesco Mondada  
Robotics master program director

Isabelle Schafer  
Administration

General info:  
https://www.epfl.ch/education/  
http://smt.epfl.ch/
Program

15h00 – 15h20: Passerelle, Semester projects, minors, industry internship, master thesis, COVID-19, harassment, student services, library, memo sticker, contacts and office hours
Sebastian Gautsch, Microengineering section adjunct

15h20 – 15h30: Microengineering Master
Christophe Moser, Microengineering section director

15h30 – 15h40: Robotics Master
Francesco Mondada, Robotics program director

15h40 – 15h50: Q&A
Everybody

16h00 – 16h30: Refreshments (together with 1st year students)
Outside in front of BM Building
Pour réussir la passerelle HES, un étudiant doit :
- avoir acquis au moins 30 crédits à la fin du deuxième semestre de la passerelle HES et
- avoir acquis tous les crédits requis à la fin du quatrième semestre de la passerelle HES.

https://www.epfl.ch/education/studies/reglement-et-procedure/conditions_reussite/reussite-passerelle/
Puis-je commencer le cycle Master sans avoir terminé la passerelle HES ?

Oui, mais seulement si :
• vous avez obtenu au moins 30 crédits ECTS de passerelle HES et
• vous n’êtes pas en échec définitif à la passerelle HES.

La période durant laquelle vous avez commencé votre cycle Master mais pas encore terminé la passerelle HES compte à la fois dans la durée maximale de la passerelle HES et dans celle du cycle Master. Certaines matières du cycle Master peuvent avoir des pré-requis, en quel cas vous ne pourrez pas vous inscrire à ces matières avant d’avoir présenté tous leurs pré-requis.

https://www.epfl.ch/education/studies/reglement-et-procedure/conditions_reussite/reussite-passerelle/
Master program structure

ELECTIVE COURSES
Orientations and specializations are possible | 90 ECTS

INTERNSHIP
In a company or a laboratory

INCLUDING AN OPTIONAL MINOR
30 ECTS

MASTER 120 ECTS

MASTER’S THESIS
At EPFL, in a company or at another university | 30 ECTS

https://www.epfl.ch/education/master/study-programs-structure/
Requirements for accessing the master’s degree

- **A block is passed** (and thus all the credits associated with the block are acquired) when all the subjects it contains have been examined at least once and the **weighted average of the block is 4,00 or above**.

- **A group is passed** when **enough subjects in the group are passed** (final grade 4,00 or above) **to reach the number of credits** associated with the group. Although an average is calculated, it has no bearing on the passing of the group.

Semester projects guidelines

- Find a project
- Registration
- Project description
- Dates
- Evaluation method

https://sti.epfl.ch/research/institutes/iem/semester-project-guidelines/
Finding a project

Lab websites with semester and master projects proposals

<table>
<thead>
<tr>
<th>LABORATOIRES</th>
<th>RESPONSABLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institut</td>
<td>Prénom</td>
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<td>ENAC-EIE</td>
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<td>Kamiar</td>
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<tr>
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</table>

IMPORTANT : If the Professor proposing the project is not affiliated with Microengineering section, the project has to submitted for validation to sebastian.gautsch@epfl.ch

https://sti.epfl.ch/research/institutes/iem/project-proposals-eng/
Project registration

Register on IS-A as soon as the portal is opened by the Academic Service.

• This registration is official and mandatory, please respect the deadline: **2 weeks after semester start**.

Generate a PDF of this registration, have it signed by the supervising Professor, and send a scanned PDF copy to the section administration @ smt@epfl.ch.
Important dates

Project starting date:
• Beginning of the semester

Report hand in
• Spring semester : at the latest on Friday of the first week after the end of the semester
• Fall semester : at the latest on Friday of the second week after the end of the semester

Your mark will be transferred to SAC 15 days after the report has been handed in.

IMPORTANT: The supervising Professor should confirm the exact dates to hand in the report and the oral presentation at the beginning of the project.
Project evaluation

An oral presentations of the work progress at mid-semester is strongly recommended. A final presentation at the end of the project is mandatory. The dates have to be defined with the Professor

- Recommandations for intermediate and final presentations
- Template for intermediate presentation
- Template for final presentation

A written report is mandatory at the end of the project

- Example of a typical semester project report

The written report will be followed by an oral defense, organized by the Professor. The section also recommends to complete the following form (which is a supplement to the evaluation) and to send the PDF to the Section for the student’s file.

- Project evaluation sheet (template)

https://sti.epfl.ch/research/institutes/iem/semester-project-guidelines/
MAKE projects

IMPORTANT: If the Professor proposing the project is not affiliated with Microengineering section, the project has to submitted for validation to sebastien.gautsch@epfl.ch

https://www.epfl.ch/education/educational-initiatives/discovery-learning-program-2/interdisciplinary-projects/
Robotics

- Master project (30 ECTS)
- Industry practical
- Options (30 ECTS) (167)
  - Project II (10 ECTS)
  - Elective block, orientation-dependent (19 ECTS) (40 ECTS each orientation)
  - Robotic practicals (4 ECTS)
  - SHS (6 ECTS)
  - Project I (10 ECTS)
  - Compulsory courses (11 ECTS)

Microengineering

- Master project (30 ECTS)
- Industry practical
- Options (39 ECTS) (166)
  - Minor without project (30 ECTS)
  - Minor with project (30 ECTS)
  - Project II (10 ECTS)
  - Elective block (15 ECTS) (53)
  - SHS (6 ECTS)
  - Project I (10 ECTS)
  - Products design & systems engineering (10 ECTS)
Minors

A minor is a group of compulsory and optional courses from one or more Master’s programs. EPFL offers a wide choice of **disciplinary** and **interdisciplinary** minors.

**Interdisciplinary minors**

Interdisciplinary minors often group together courses from several Master’s programs. Some consist of a multidisciplinary topic (I.E. photonics minor), others offer complementary education to the classical engineering curriculum (Management, Technology and Entrepreneurship).

**Rules and procedures:**

## Recommended Minors

### Interdisciplinary Minor

<table>
<thead>
<tr>
<th>Interdisciplinary Minor</th>
<th>Section</th>
<th>Director</th>
<th>Microengineering</th>
<th>Robotics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data and Internet of Things</td>
<td>EL</td>
<td>Atienza D.</td>
<td>R</td>
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<td>Ingénierie pour la durabilité</td>
<td>SIE</td>
<td>Gilliéron P.-Y./Leterrier Y.</td>
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<td>GM</td>
<td>Maréchal F.</td>
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<tr>
<td>Management de la technologie et entrepreneuriat</td>
<td>MTE</td>
<td>de Rassenfosse G.</td>
<td>R</td>
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<tr>
<td>Neuroprosthtiques</td>
<td>SV</td>
<td>Blanke O.</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Science et ingénierie computationnelles</td>
<td>MA</td>
<td>Pouchon O.</td>
<td>R</td>
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<tr>
<td>Photonique</td>
<td>MT</td>
<td>Martin O.</td>
<td>R</td>
<td>R</td>
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<td>Technologies biomédicales</td>
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<td>Renaud Ph.</td>
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<tr>
<td>Technologies spatiales</td>
<td>EL</td>
<td>Kneib J.-P.</td>
<td>R</td>
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</table>

### Disciplinary Minor

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<th>Robotics</th>
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<tr>
<td>Computer science</td>
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<td>Dal Mas S.</td>
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</tbody>
</table>

R: Recommended in study plan

Any other choice of minor has to be validated by the section

Robotics

- Master project (30 ECTS)
- Industry practical
  - Options (30 ECTS) (167)
  - Interdisc. Project (10 ECTS)
  - Project II (10 ECTS)
- Elective block, orientation-dependent (19 ECTS) (40 ECTS each orientation)
  - Robotic practicals (4 ECTS)
  - SHS (6 ECTS)
  - Project I (10 ECTS)
  - Compulsory courses (11 ECTS)

Microengineering

- Master project (30 ECTS)
- Industry practical
  - Options (39 ECTS) (166)
  - Interdisc. Project (10 ECTS)
  - Project II (10 ECTS)
- Elective block (15 ECTS) (53)
  - SHS (6 ECTS)
  - Project I (10 ECTS)
  - Products design & systems engineering (10 ECTS)
## Industry Internship obligation

- The Internship in industry is a mandatory step of the Master degree
- Possible formats to validate this obligation

### Models:

<table>
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<tr>
<th>Models</th>
<th>Duration</th>
<th>Periods</th>
<th>Contact information</th>
</tr>
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<tbody>
<tr>
<td><strong>Electrical and electronics engineering</strong></td>
<td><strong>STAP</strong></td>
<td>Min. 8 weeks</td>
<td>After bachelor, after MA2 or MA3</td>
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<td></td>
<td><strong>SCS (30 credits)</strong></td>
<td>4-6 months</td>
<td>After MA2</td>
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<td><strong>PDME</strong></td>
<td>25 weeks</td>
<td>During the master project</td>
</tr>
<tr>
<td><strong>Energy Science and Technology</strong></td>
<td><strong>STAP</strong></td>
<td>Min. 8 weeks</td>
<td>After bachelor, after MA2 or MA3</td>
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<tr>
<td></td>
<td><strong>PDME</strong></td>
<td>25 weeks</td>
<td>During the master project</td>
</tr>
<tr>
<td><strong>Materials science and engineering</strong></td>
<td><strong>STAP</strong></td>
<td>Min. 8 weeks</td>
<td>After bachelor, after MA2 or MA3</td>
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<td></td>
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<td>25 weeks</td>
<td>During the master project</td>
</tr>
<tr>
<td><strong>Microengineering and robotics</strong></td>
<td><strong>STAP</strong></td>
<td>Min. 8 weeks</td>
<td>After bachelor, after MA2 or MA3</td>
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<tr>
<td></td>
<td><strong>PDME</strong></td>
<td>25 weeks</td>
<td>During the Master project</td>
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</table>
Mandatory Internship or Master Project in Industry

- **Internship**
  - Minimum duration of 2 month, up to 6 months
  - Immersion into industry
  - Familiarize with company processes
  - Acquire specific competences
  - Apply transversal skills
  - Evaluation report by student and industry supervisor

- **Master project in industry**
  - A research project in the company
  - Student applies the competences acquired during his master
  - Supervised by a Professor from his section
  - Written report and oral defense
  - Monthly feedback to Professor
  - 25 week duration (+1 week vacation)
When to place your internship / Master thesis?

- **Summer**
  - Internship: 8 weeks
  - Master cycle: 60 credits

- **Fall**
  - Minor/spec: 30 credits

- **Spring**
  - Internship: 8 weeks
  - Master cycle: 60 credits

- **Summer**
  - Minor/spec: 30 credits

- **Fall**
  - PDM in academia: 17 weeks, 30 credits

- **Spring**
  - PDM in academia: 17 weeks, 30 credits
  - Internship: 8 weeks
  - PDM in academia: 17 weeks, 30 credits

- **Summer**
  - Master project in Industry: 25 weeks, 30 credits

- **Fall**

**EPFL**

PDM in academia in foreign Universities: 25 weeks
When to place your internship / Master thesis?

- **Summer**
  - Master cycle
    - 60 credits

- **Fall**
  - Internship
    - 6 months

- **Spring**
  - Minor/spec
    - 30 credits

- **Summer**
  - PDM in academia
    - 17 weeks
    - 30 credits

- **Fall**
  - PDM in academia in foreign Universities: 25 weeks
When to place your internship / Master thesis?

- Summer: Master cycle 60 credits
- Fall: Minor/spec 30 credits
- Spring: Internship 6 months
- Summer: PDM in academia 17 weeks
- Fall: 30 credits

PDM in academia in foreign Universities: 25 weeks
Detailed info session:
Thursday October 21st 8:00 – 9:15

STI Industry Internship coordinator: Hind Klinke

Master cycle
60 credits

Minor/spec
30 credits

Internship
6 months

Master project in Industry
25 weeks
30 credits
Robotics

- Master project (30 ECTS)
  - Industry practical
    - Options (30 ECTS) (167)
    - Options (20 ECTS)
    - Minor without project (30 ECTS)
    - Minor with project (30 ECTS)

  - Project II (10 ECTS)
    - Interdisc. Proj (10 ECTS)
    - Project II (10 ECTS)
    - Options (10 ECTS)

  - Elective block, orientation-dependent (19 ECTS)
    - (40 ECTS each orientation)
    - Robotic practicals (4 ECTS)
    - SHS (6 ECTS)
    - Project I (10 ECTS)
    - Compulsory courses (11 ECTS)

Microengineering

- Master project (30 ECTS)
  - Industry practical
    - Options (39 ECTS) (166)
    - Minor without project (30 ECTS)
    - Minor with project (30 ECTS)

  - Project II (10 ECTS)
    - Options (9 ECTS)
    - Project II (10 ECTS)
    - Options (19 ECTS)

  - Elective block (15 ECTS) (53)
    - SHS (6 ECTS)
    - Project I (10 ECTS)
    - Products design & systems engineering (10 ECTS)
SMT Master Thesis location

In Industry
Other Universities

@ EPFL
Master projects guidelines

- Calendar
- Choosing a master project in a laboratory
- Master project in another university
- Project’s objectives
- Master projects in Industry (PDM)
- Registration
- Hand-in procedure
- Evaluation method
- Student prizes

https://sti.epfl.ch/research/institutes/iem/master-project-guidelines/
Teaching & COVID-19

COVID-19 passport required to come on campus (including for lab work, project work and practicals)

Until 31 October, masks will be required at all times when moving around inside buildings and during all study-related activities (classes, exercise sessions, studying and practicals).

Checks will be carried out in accordance with legal requirements.

EPFL’s position about harassment

Zero tolerance!

- For all types of harassment (sexual, psychological, mobbing, etc.)
- In all situations:
  - student - student
  - student assistant (SA) - student
  - member of the academic staff - student
  - member of the administrative and technical staff - student
  - ... and vice versa

Possible consequences

- Disciplinary investigation (students) and/or administrative investigation (EPFL staff)
- Sanctions if misconduct is proven
What to do in those situations?

- If you witness inappropriate behavior, show your disapproval! Inform your class delegate or section.
- If you are a victim, if possible, clarify the situation and tell the person concerned what behavior is making you feel harassed.
- Speak quickly to someone you trust or to our counselors: go.epfl.ch/individual-support.
- Find out about the support network: go.epfl.ch/respect.
EPFL student services

The EPFL “Student Services” desk is the main contact point for all academic queries

For EPFL students or doctoral students, whether recently arrives or recently graduated, whether you have a doubt, a question or a problem. The “Student Services” Hotline is the focal point to process all your requests.

A question?
Please contact the Student Services Hotline preferably in the following order:

- Look up our information pages on the website [EPFL studies](http://www.epfl.ch/).
- Send an [e-mail](mailto:).
- [Go to the Student Services desk](http://www.epfl.ch/) during office hours (see below)
- [Call 021 693 43 45](tel:0216934345) (you will get voice mail outside office hours or if the office is busy)
Individual support

Social and psychotherapeutic consultations are available to students and doctoral students.

- Do you feel demotivated, isolated, depressed, anxious?
- Do you have problems related to your studies or finances or other kinds of personal problems?
- Are you in need of accommodations for your studies?
- Are you facing difficulties and need someone neutral to talk to?
- If you do not know which consultation to contact, do not hesitate to ask for an initial interview with the Social consultation or to refer to the list of difficulties, advice and contacts.
NEW STUDENTS WELCOME

EPFL Library

At the Rolex Learning Center
Open 7/7 – 7am to midnight

Services at the desk
8am to 8pm – Monday to Friday

Many training sessions
to acquire new skills

Citation, plagiarism, information
retrieval, bibliographies, etc.

Hundreds of millions of
documents available
on site and online

Register online
go.epfl.ch/siwsscovery-network

Study spaces

Quiet and silent areas,
Meeting rooms, equipments, etc.
Get in touch with your study advisors

- Microengineering Master: Sebastian Gautsch
  - Advanced Manufacturing: Prof. Yves Bellouard
  - Biomedical Technologies: Prof. Philippe Renaud
  - Micro/nanosystems: Prof. Herbert Shea
  - Photonics: Prof. Olivier Martin
- Robotics master: Prof. Francesco Mondada
- Minor in Biomedical Technologies: Prof. Philippe Renaud
- Minor in Photonics: Prof. Olivier Martin
- Passerelle HES: Sebastian Gautsch
- Industry internships: Hind Klinke

Administration: Isabelle Schafer
MT Section office

The section office (BM1136) is open everyday for administrative questions from 8 AM to 2 PM

- Isabelle Schafer (administrative assitant)

For detailed questions regarding your curriculum or study plan, please request an appointment:

- Sebastian Gautsch (section adunct)
- Prof. Christophe Moser (section director)
Where to find us
Bienvenue !

La présente document utilise le terme microtechnique, étant précisé cependant qu’il doit être bien sûr le terme utilisé par vos partenaires. Nous avons regroupé ici quelques éléments partagés par vos prédecesseurs.

- Guide de préparation pour les nouveaux étudiants Bachelor
- Règlements et procédures : bien entendu, tous ces éléments sont disponibles sur l'Academia, l'outil de gestion de vos études à l'EPFL. Notez qu'Il existe un cours, mais faites attention aux nombres de pièces disponibles : peut-être vous serez automatiquement inscrits à certains cours ! Prochainement venant.
- Coursera, Stem notera.
- BEAST : le point d'accès à toutes les ressources de la bibliothèque, demandées par les enseignants, sans qu'ils ne soient forcément nécessaires.
- Poséidon : le service de l'EPFL, dédié au conseil d'achat et au sous-traitant : les plus performants du marché, tels que la tâche la plus éligible.
- Drive des microtechniciens : vérifiez que vous êtes bien connectés à l'EPFL. Les instructions sur l'utilisation du drive sont disponibles ici.
- Discord des microtechniciens : pour communiquer et poser des questions sur le channel « Ressources » de ce serveur.
- A noter encore que les premières années ont un groupe Telegram.
- Et bien entendu, toujours à votre écoute pour vous soutenir et vos bienentendu, toujours à votre écoute pour vous soutenir et vos bienentendus.

Pour terminer, nous vous rappelons qu'il est très important de vérifier les informations de votre compte courant.

Bienvenue en Microtechnique
Vous avez, en toute objectivité, choisi la meilleure section !

- Guide de préparation pour les nouveaux étudiants Master
- Lignes directrices des projets de semestre
- Lignes directrices des projets de master
- Stage en entreprise
- Procédure pour les étudiants
- Lire la présentation des stages SMT (PDF)
Microengineering master
# Microengineering master

**Official study plan:**

**Rulebook (in French):**

## 2021-2022 MICROTECHNIQUE

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<tr>
<th>Code</th>
<th>Matiere</th>
<th>Sections</th>
<th>Supervised learning credits</th>
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## Cycle Master

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## Group 3: Options

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<td>Divers</td>
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**Total des credits du cycle master:**
80
Microengineering master

- Master's thesis: 30 ECTS
- Project in social and human sciences: 6 ECTS
- Semester projects: 20 ECTS
- Compulsory course: 10 ECTS
- Options I: 15 ECTS
- Options II: 39 ECTS
• Foundation course to create a product, from concept to prototype, and a tentative marketing plan
• With useful inputs from academia and industry
Options I courses

Options I
15 ECTS
15 ECTS from proposed 53 ECTS

- Advanced MEMS & microsystems (3)
- Scaling laws and simulation methods in micro-nanosystems (4)
- Nanotechnology (3)
- Materials and technology of microfabrication (3)
- Low-power radio design for the internet of Things (3)
- Smart sensors for the internet of Things (4)
- Applied machine learning (4)
- Apprentissage et intelligence artificielle (4)
- Imaging optics (3)
- Optical detectors (3)
- Selected topics in advanced optics (3)
- Laser fundamentals and applications for engineers (3)
- Introduction to additive manufacturing (3)
- Manufacturing systems and supply chain dynamics (3)
- Material processing with intelligent systems (3)
- Robotique industrielle et appliquée (2)
- Metrology (3)
Options II courses

Options II
39 ECTS From proposed 185 ECTS
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Advanced additive manufacturing technologies</td>
<td>3</td>
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<tr>
<td>Advanced control systems</td>
<td>3</td>
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<tr>
<td>Advanced machine learning</td>
<td>4</td>
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<tr>
<td>Advanced satellite positionning</td>
<td>4</td>
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<tr>
<td>Aerial robotics</td>
<td>4</td>
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<tr>
<td>Analyse de produits et systèmes</td>
<td>2</td>
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<tr>
<td>Audio</td>
<td>3</td>
</tr>
<tr>
<td>Basics of mobile robotics</td>
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<tr>
<td>Biomedical optics</td>
<td>3</td>
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<tr>
<td>BioMEMS</td>
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<tr>
<td>Biomicroscopy I, II</td>
<td>7</td>
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<tr>
<td>Bio-nanochip design</td>
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<tr>
<td>Commande embarquée de moteurs</td>
<td>3</td>
</tr>
<tr>
<td>Commande non linéaire</td>
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<tr>
<td>Computational motor control</td>
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<tr>
<td>Continuous improvement of manufacturing systems</td>
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<tr>
<td>Deep learning for optical imaging</td>
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<tr>
<td>Distributed intelligent systems</td>
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<td>Embedded systems</td>
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<td>Evolutionary robotics</td>
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<tr>
<td>Flexible bioelectronics</td>
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<tr>
<td>Fundamentals and processes for photovoltaic devices</td>
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<tr>
<td>Fundamentals of biophotonics</td>
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<td>Fundamentals of computer aided manufacturing</td>
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<td>Haptic human robot interfaces</td>
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<tr>
<td>IC design I</td>
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<td>Image processing I, II</td>
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<tr>
<td>Industrial automation</td>
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<td>Lab on app development for tablets and smartphones</td>
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<tr>
<td>Large-area electronics: devices and materials</td>
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<tr>
<td>Laser microprocessing</td>
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<td>Lasers: theory and modern applications</td>
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<tr>
<td>Legged robots</td>
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<td>Low-power analog IC design</td>
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<td>Machine learning programming</td>
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<td>Management de projet et analyse du risque</td>
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<td>MEMS practicals I, II</td>
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<td>Metrology practicals</td>
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<td>Micro- and nanomechanical devices</td>
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<td>Nanobiotechnology and biophysics</td>
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<td>Nonlinear optics</td>
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<td>Optical communications</td>
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<td>Optics laboratories I, II</td>
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<td>Organic and printed electronics</td>
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<td>Photonic micro- and nanosystems</td>
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<tr>
<td>Photonic systems and technology</td>
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<tr>
<td>Physics of photonic semiconductor devices</td>
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<tr>
<td>Quantum and nanocomputing</td>
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<tr>
<td>Sensors in medical instrumentation</td>
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<tr>
<td>Signal processing for functional brain imaging</td>
<td>3</td>
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<tr>
<td>Space mission design and operations</td>
<td>2</td>
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<tr>
<td>System identification</td>
<td>3</td>
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<tr>
<td>Techniques d’assemblage</td>
<td>3</td>
</tr>
</tbody>
</table>
2 semester projects

Semester projects
20 ECTS
# Robotics master

**Official study plan:**

**Rulebook (in French):**

## 2021-2022 ROBOTICS

<table>
<thead>
<tr>
<th>Code</th>
<th>Matières</th>
<th>Enseignants sous réserve de modification</th>
<th>Semestres</th>
<th>Crédits</th>
<th>Nbre places</th>
<th>Période des épreuves</th>
<th>Type examen</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>MA1 / MA3</td>
<td></td>
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<td>c e p</td>
<td>c e p</td>
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</tbody>
</table>

### Bloc 1 "Basic compulsory courses":

- **MICRO-455** Applied machine learning  
  Enseignants: Billard  
  Crédits: 4  
  Nbre places: 300  
  Période des épreuves: II  
  Type examen: écrit sans retrait

### Bloc 2 "Compulsory practice":

- **MICRO-453** Robotics practical  
  Enseignants: Divers enseignants  
  Crédits: 10  
  Nbre places: 10  
  Période des épreuves: sem A + P  
  Type examen: sans retrait

### Groupe 3 "Option":

- **MICRO-581** Robotics project II  
  Enseignants: Divers enseignants  
  Crédits: 10  
  Nbre places: 10  
  Période des épreuves: sem A + P  
  Type examen: sans retrait

## Cycle Master
Robotics master

Simplified version (not legally binding but easier to read):

A Robotics FAQ is also sent to you by email
Compulsory courses

Bloc 1 (passed if the weighted average is higher or equal to 4.0)

Q: Can I retake an exam when the grade is less than 4.00?

A: The rules say that "If, in a block or group, the required number of credits is not acquired, the courses with a grade of less than 4.00 may be retaken once, imperatively in the regular session of the following year. Be careful about this last part of the rule, as you will not be allowed to retake the course later on.

---

<table>
<thead>
<tr>
<th>Code</th>
<th>Matières</th>
<th>Enseignants sous réserve de modification</th>
<th>Semestres MA1 / MA3</th>
<th>MA2</th>
<th>Crédits</th>
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<tbody>
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<td>MICRO-455</td>
<td>Applied machine learning</td>
<td>Billard</td>
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<tr>
<td>MICRO-452</td>
<td>Basics of mobile robotics</td>
<td>Mondada</td>
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<td>MICRO-450</td>
<td>Basics of robotics for manipulation</td>
<td>Bouri</td>
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<td>ME-425</td>
<td>Model predictive control</td>
<td>Jones</td>
<td>2 2</td>
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</table>
Compulsory practice

Bloc 2 (passed if the weighted average is higher or equal to 4.0)

Not only one, but TWO semester projects are compulsory. They cannot be taken the same semester.

The second project is in the optional block because it can be taken in various forms (part of a minor etc)

A third project is optional but need to be a MAKE project.

<table>
<thead>
<tr>
<th>Bloc 2 &quot;Compulsory practice&quot;</th>
<th></th>
<th></th>
<th>18</th>
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</thead>
<tbody>
<tr>
<td>MICRO-453</td>
<td>Robotics practicals</td>
<td>Divers enseignants</td>
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<tr>
<td>MICRO-580</td>
<td>Robotics project I</td>
<td>Divers enseignants</td>
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<tr>
<td>HUM-nnn</td>
<td>SHS : introduction au projet</td>
<td>Divers enseignants</td>
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<tr>
<td>HUM-nnn</td>
<td>SHS : projet</td>
<td>Divers enseignants</td>
<td>2</td>
</tr>
</tbody>
</table>
Optional courses

Group 3 (passed if the number of credits is reached)

- The second semester project (10 ECTS)
- An optional minor (30 ECTS)
- The orientation courses (17 ECTS)
- Any other optional course
- The optional interdisciplinary project (10 ECTS)

| Groupe 3 "Options" : | | | | 57 |
|---------------------|----------------------------------|-------------------|-------------------|
| MICRO-581           | Robotics project II              | Divers enseignants| 10                |
|                     | -- see list                      | Divers enseignants| 47                |
Orientation courses

Group 3 (passed if the number of credits is reached)

Choose one of the orientations:
A: Industrial robotics
B: Medical robotics
C: Mobile robotics

Choose 17 ECTS among the courses of the orientation
Orientation courses

Group 3 (passed if the number of credits is reached)

Many options

- Minor without project (Management) + project II
- Minor with project + 10 ECTS free courses
- Project II + 30 free courses (from anywhere EPFL)
- Project II + MAKE proekt + 20 free courses

If the course is outside the proposed (ABC - robotics) list, you have to ask approval from the study advisor. In short, you have to convince him/her that the course fits in your personal curriculum. There is no limitation on how many courses you get approved by the study advisor.

Be aware that not all EPFL courses are freely accessible, some have a max number, some are reserved for some specific masters and minors.
We wish you a good start at EPFL and best of success for your studies !!!