Master of Science in MICROENGINEERING

2-year program - 120 ECTS

Including an 8-week internship in industry

Possibility to follow a 30 ECTS Minor within the optional courses:
- Biomedical Technologies
- Computational Science & Engineering
- Energy
- Internet of Things
- Management, Technology and Entrepreneurship
- Photonics
- Science, Technology and Area Studies
- Space Technologies

School of Engineering
go.epfl.ch/master-microengineering
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Compulsory courses

- Compulsory course
  10 ECTS
  Products design & systems engineering
  10

Specific courses

- Advanced MEMS and Microsystems
  3
- Applied machine learning
  4
- Imaging optics
  3
- Introduction to additive manufacturing
  3
- Introduction to machine learning
  4
- Laser fundamentals and applications for engineers
  3
- Low-power radio design for IoT
  3
- Manufacturing systems and supply chain dynamics
  3
- Materials and technology of microfabrication
  3
- Metrology
  3
- Nanotechnology
  3
- Optical Detectors
  3
- Robotique industrielle et appliquée
  2
- Scaling laws & simulations in micro & nanosystems
  4
- Selected topics in advanced optics
  3
- Smart sensors for IoT
  4

Optional courses

- Advanced control systems
  3
- Advanced additive manufacturing technologies
  3
- Advanced machine learning
  4
- Advanced satellite positioning
  4
- Analyse de produits et systèmes
  2
- A network tour of data science
  4
- Audio
  3
- Basics of mobile robotics
  4
- Biomedical optics
  3
- BioMEMS
  2
- Biomicroscopy I, II
  7
- Circuits intégrés
  3
- Commande embarquée de moteurs
  2
- Commande non linéaire
  3
- Computational motor control
  4
- Computer-aided engineering
  5
- Distributed intelligent systems
  5
- Embedded systems
  4
- Flexible bioelectronics
  3
- Fundamentals and processes for photovoltaic devices
  3
- Fundamentals of biophotonics
  3
- Fundamentals of computer aided manufacturing
  5
- Haptic human robot interfaces
  3
- Image processing I, II
  6
- Lab on app development for tablets and smartphones
  4
- Large-area electronics: devices and materials
  3
- Laser microprocessing
  2
- Lasers: theory and modern applications
  4
- Legged robots
  4
- Machine learning programming
  2
- Management de projet et analyse du risque
  4
- MEMS practicals I, II
  4
- Micro/Nanomechanical devices
  4
- Model predictive control
  3
- Nanobiotechnology and biophysics
  3
- Nonlinear optics
  3
- Optical communications
  3
- Optics laboratories I, II
  6
- Organic and printed electronics
  2
- Photonic micro- and nanosystems
  2
- Photonic systems and technology
  4
- Physics of photonic semiconductor devices
  4
- Sensors in medical instrumentation
  3
- Signal processing for functional brain imaging
  3
- Space mission design and operations
  2
- System identification
  3
- Techniques d’assemblage
  3
- Transducteurs et entraînements intégrés
  3

Projects

- Project microtechnique I, II
  20
- Project in human and social sciences
  6