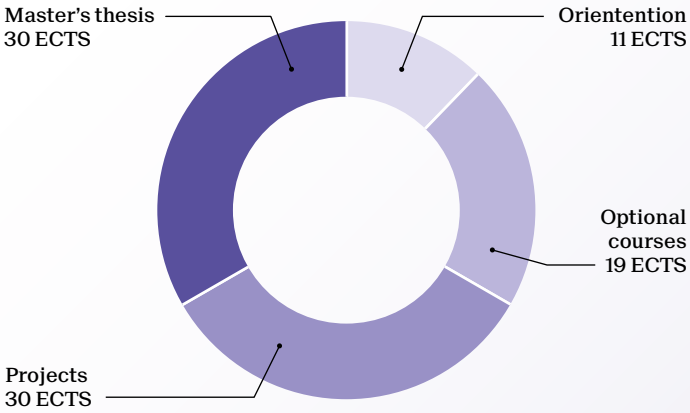
ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Master of Science in

MICROENGINEERING

1 1/2-year program - 90 ECTS



including an 8-week internship in industry

Possibility to follow an additional 30 ECTS Minor in:

- Biomedical Technologies
- Computational Science & Engineering
- Energy
- Space Technologies
- Management, Technology and Entrepreneurship
- Area and Cultural Studies

	Orientation				Credits
Compulsory Orientation					11
Applied Optics	A				11
Imaging optics					3
Lasers: theory and modern applications					3
Optics laboratories					2
Selected topics in advanced optics					3
Micro- and Nanosystems		B			11
Microelectronics					2
Microstructures Technology II					3
Microsystèmes et capteurs TP I, II					4
Scaling laws in micro- and nanosystems					2
Production Techniques			C		11
Assemblage et robotique TP					2
Bases de la robotique					3
Robotique industrielle et appliquée					2
Techniques d'assemblage I, II					4
Robotics and Autonomous Systems				D	11
Applied machine learning					3
Bases de la robotique					3
Mobile robots					3
Robotics practicals					2

Optional Courses					19
A guided tour for engineers in applied stochastic modelling			C	D	4
Advanced control systems			C	D	3
Advanced machine learning				D	4
Advanced MEMS and Microsystems	A	B		D	3
Advanced satellite positionning				D	4
Analog circuit design I, II		B			4
Analyse de produits et systèmes		B			2
Artificial Evolution	A	B		D	3
Audio	A				3
BioMEMS		B		D	2
Biomicroscopy I, II	A				7
Circuits intégrés I		B			3
Commande d'actionneurs à l'aide d'un microprocesseur + TP			C	D	2
Commande non linéaire				D	3
Computational motor control				D	4
Computer-aided engineering			C	D	5
Distributed intelligent systems			C	D	5
Fabrication assistée par ordinateur			C		5
Flexible bioelectronics	A	B	C	D	3
Fundamentals and processes for photovoltaïc devices	A	B	C	D	3
Haptic human robot interfaces			C	D	3
Image processing I, II	A	B	C	D	6
Integrated optics	A				3
L'ingénieur dans R&D industriels	A	B	C	D	2
Laser microprocessing	A	B	C	D	2
Model predictive control			C	D	3
Nanobiotechnology and biophysics		B			3
Nanotechnology	A	B			4
Optical detectors	A	B		D	3
Optical waves propagation	A				3
Opto- and macroelectronic materials	A	B	C	D	3
Reliability of MEMS		B	C		2
Sensors in medical instrumentation		B		D	3
Space mission design and operations	A	B		D	2
System identification			C	D	3
Transducteurs et entraînements intégrés			C	D	3

Projects					30
Projet microtechnique I, II					24
Project in human and social sciences					6

School of Engineering
master.epfl.ch/microengineering
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