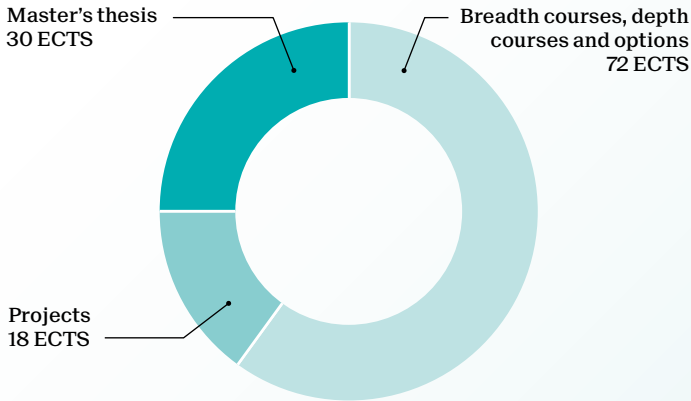


Master of Science in CYBER SECURITY

Joint master EPF Lausanne - ETH Zürich

2-year program - 120ECTS



	Credits
breadth requirement (min. 30 credits)	
Advanced algorithms	7
Advanced computer architecture	4
Cryptography and security	7
Database systems	7
Decentralized systems engineering	6
Distributed algorithms	6
Foundations of software	4
Information security and privacy	6
Machine learning	7
TCP/IP networking	6
ETHZ courses counting as breadth requirement	

This program includes an 8-week industrial internship.

Students are required spend at least one semester in ETH Zürich where they will take classes counting as breadth and depth courses. Upon graduating, they receive a joint Master of Science from both EPFL and ETHZ.

School of Computer and Communication Sciences
go.epfl.ch/master-cyber-security
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	Credits
depth requirement and options	
Advanced compiler construction	4
Advanced computer graphics	6
Advanced cryptography	4
Advanced multiprocessor architecture	6
Advanced probability and applications	6
Advanced topics in privacy enhancing technologies	7
Advanced VLSI design	4
Algebraic curves in cryptography	5
Applied biostatistics	5
Applied data analysis	6
Artificial neural networks	4
Audio and acoustic signal processing	5
Automatic speech processing	3
Biological modeling of neural networks	4
Biomedical signal processing	6
Business design for IT services	3
Cellular biology and biochemistry for engineers	4
Computational complexity	4
Computational photography	5
Computer vision	4
Concurrent algorithms	5
Convex optimization and applications	4
Data visualization	4
Deep learning	4
Design technologies for integrated systems	6
Digital 3D geometry processing	5
Digital education & learning analytics	4
Distributed information systems	4
Distributed intelligent systems	5
Dynamical system theory for engineers	4
Embedded systems	4
Enterprise and service-oriented architecture	6
Experience design	6
Formal verification	6
Foundations and tools for processing tree structured data	4
Fundamentals of VLSI design	4
Gödel and recursivity	5
Human-computer interaction	4
Image and video processing	6
Image processing I	3
Image processing II	3
Industrial automation	3
Information theory and coding	7
Information theory and signal processing	6
Intelligent agents	6
Introduction to natural language processing	4
Learning theory	4
Markov chains and algorithmic applications	4
Mathematical foundations of signal processing	6
Media security	6
Mobile networks	4
Modern digital communications: a hands-on approach	6
Networks out of control	4
Number theory in cryptography	5
Optimization for machine learning	5
Optional project in computer science	8
Performance evaluation	7
Principles of computer systems	7
Probabilistic method	5
Real-time embedded systems	4
Sensors in medical instrumentation	3
Set theory	5
Smart grid technologies	5
Social media	2
Software security	6
Statistical signal and data processing through applications	6
Student seminar : security protocols and applications	3
Sublinear algorithms for big data analysis	4
Technology ventures in IC	4
Topics in theoretical computer science	4
Virtual reality	4
Projects and SHS	18
Project in Cyber Security	12
Project in human and social sciences	6