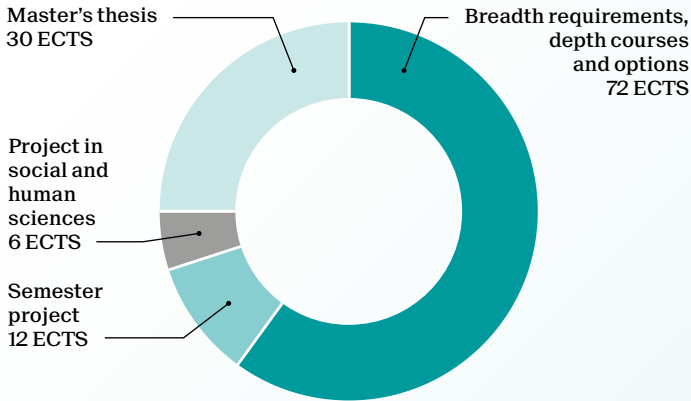


Master of Science in CYBER SECURITY

Joint master EPF Lausanne - ETH Zürich

2-year program - 120ECTS



	Credits
Breadth requirement (min. 30 credits)	
Advanced algorithms	7
Advanced computer architecture	6
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 to spend at least one semester at 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.

	Credits
Depth courses 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
Applied biostatistics	5
Applied data analysis	6
Artificial neural networks	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
Data visualization	4
Deep learning	4
Design technologies for integrated systems	6
Digital education and 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 of data science	6
Fundamentals of VLSI design	4
Gödel and recursivity	5
Image processing I, II	6
Industrial automation	3
Information theory and coding	7
Intelligent agents	6
Interaction design	4
Introduction to natural language processing	4
Learning theory	4
Machine learning for behavioral data	4
Markov chains and algorithmic applications	4
Mathematical foundations of signal processing	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
Principles of computer systems	7
Probabilistic method in combinatorics	5
Real-time embedded systems	4
Sensors in medical instrumentation	3
Set theory	5
Smart grids 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
ETHZ courses counting as depth courses	
ETHZ courses counting as options	