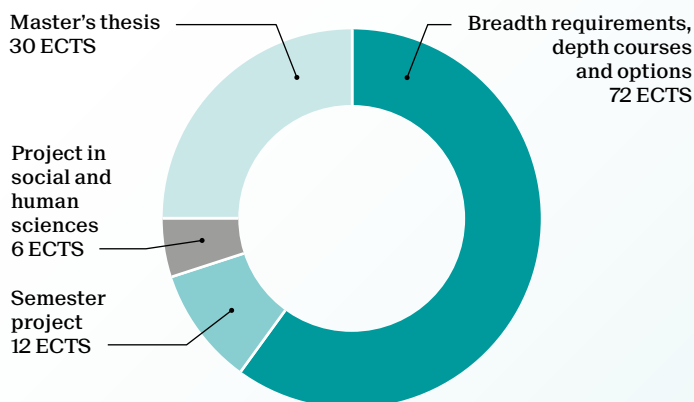


Master of Science in CYBER SECURITY

Joint master EPF Lausanne - ETH Zürich

2-year program - 120ECTS



	Credits
Breadth requirement (min. 30 credits)	
Advanced algorithms	8
Advanced computer architecture	8
Cryptography and security	8
Decentralized systems engineering	8
Distributed algorithms	8
Foundations of software	4
Information security and privacy	8
Machine learning	8
Systems for data management and data science	8
TCP/IP networking	8
ETHZ courses counting as breadth requirement	

The program includes a compulsory internship of eight weeks during the summer, or six months during the semester. The internship can also be combined with the master's thesis.

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.

Career Prospects

The internship portal, with more than 3000 active contacts, is a very effective way to promote internships and master projects. The EPFL Innovation Park, a few steps away from the campus, also hosts many R&D laboratories such as NagraVision SA, Armasuisse and Elca Informatique SA which hire a large number of Cyber Security students for internships or master's projects and also collaborate with researchers from the IC School.

The EPFL Innovation Park is the springboard for numerous start-ups, most of which have emerged from the IC School.

It only takes on average 7 weeks to find one's first job. Moreover, many Cyber Security graduates receive a job offer during the last semester of their training. Companies such as Oracle, Google, Meta, or Microsoft, recruit directly on campus by participating in various events.

School of Computer and Communication Sciences
go.epfl.ch/master-cyber-security
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	Credits
Depth courses and options	
Advanced compiler construction	4
Advanced computer graphics	6
Advanced cryptography	4
Advanced multiprocessor architecture	6
Advanced probability and applications	8
Advanced topics in privacy enhancing technologies	7
Advanced VLSI design	4
Applied biomedical signal processing	4
Applied biostatistics	5
Applied data analysis	8
Artificial neural networks/reinforcement learning	5
Automatic speech processing	3
Basics of mobile robotics	4
Cellular biology and biochemistry for engineers	4
Computational complexity	4
Computational neuroscience: neural dynamics	5
Computational photography	5
Computer vision	4
Concurrent algorithms	5
Data visualization	4
Deep learning	4
Design technologies for integrated systems	6
Digital education	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	8
Foundations of probabilistic proofs	6
Fundamentals of VLSI design	4
Gödel and recursivity	5
Image processing I, II	6
Industrial automation	3
Information theory and coding	8
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	8
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 physics of computation	4
Statistical signal and data processing through applications	8
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	