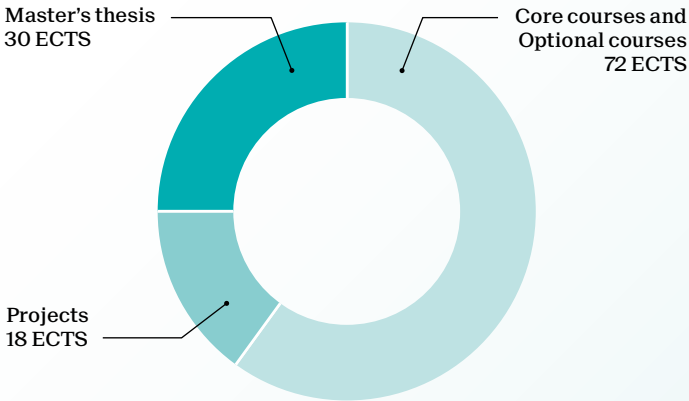


Master of Science in DATA SCIENCE

2-year program - 120ECTS



The program includes a compulsory 8-week to 6-month internship, which can be combined with the Master's thesis.

Students may choose a 30 ECTS Minor in:

- Biocomputing
- Biomedical Technologies
- Computational Science and Engineering
- Management, Technology and Entrepreneurship
- Space Technologies

Other Minors may be possible, in agreement with the programs' directors.

Career prospects

The EPFL Innovation Park, literally two steps away, is home to numerous R&D laboratories from international companies such as Cisco, Logitech, Credit Suisse or Nitto Denko. Such companies closely collaborate with the researchers from the School of Computer and Communication Sciences IC. The EPFL Innovation Park is the springboard for plenty of start-ups, most of them stemming from the IC School.

It only takes an average of 10 weeks to find one's first job in the field of Information and Communication Technologies (ICT). Moreover, many graduates in the ICT field receive a job offer during the last semester of their training. Companies like Facebook, Google and Microsoft have even begun recruiting directly on campus.

School of Computer and Communication Sciences
master.epfl.ch/datascience
 contact: sylviane.dalmas@epfl.ch

	Credits
Core courses (min. 30 credits)	
Advanced Algorithms	7
Applied Data Analysis	6
Information security and privacy	6
Information Theory and Signal Processing	6
Machine learning	7
Optimization for Machine Learning	4
Statistics for Data Science	6
Systems for Data Science	6

Optional courses	
A Network Tour of Data Science	4
Advanced cryptography	4
Advanced probability and applications	6
Advanced topics on privacy enhancing technologies	7
Analytic algorithms	4
Applied biostatistics	5
Artificial neural networks	4
Audio and acoustic signal processing	5
Automatic speech processing	3
Biological modeling of neural networks	4
Combinatorial optimization	5
Computational linear algebra	5
Computational complexity	4
Computational Photography	5
Computer vision	4
Convex optimization and applications	4
Cryptography and security	4
Data Visualization	4
Digital education & learning analytics	4
Distributed information systems	4
Distributed intelligent systems	5
Foundations and tools for processing tree structured data	4
Graph Theory	5
Human-computer interaction	7
Image analysis and pattern recognition	4
Information theory and coding	7
Intelligent agents	6
Introduction to natural language processing	4
Learning theory	4
Linear models	5
Markov chains and algorithmic applications	4
Mathematical foundations of signal processing	6
Mathematics of data: from theory to computation	4
Networks out of control	4
Optional project in Data Science	8
Performance evaluation	7
Risk, rare events and extremes	5
Robust and nonparametric Statistics	3
Statistical Theory	5
Student seminar : security protocols and applications	3
Technology ventures in IC	4
Time series	5
Topics in theoretical computer science	4
Virtual reality	4

Projects	18
Project in Data Science	12
Project in human and social sciences	6