
Master's Program in Computer Science – Master's Track in Theoretical Computer Science

Please find further information on how to plan your studies and the least amount of credits per course category in the Study Guide. Each individual study plan needs to be approved by the student's mentor.

Core Focus Courses

At least two Core Focus Courses must be chosen:

Title	Credits	Semester
Machine Learning	8	autumn
Randomized Algorithms and Probabilistic Methods	7	autumn
Cryptography Foundations	7	spring

Elective Focus Courses

Title	Credits	Semester
Algorithmic Game Theory	7	autumn
Geometry: Combinatorics and Algorithms	6	autumn
Lattice Cryptography	4	autumn
Mathematical Optimization	11	autumn
Combinatorial Optimization	6	spring
Cryptographic Protocols (two-yearly course)	5	spring
Einführung in die Quanteninformatik	3	spring
Geometric Integer Programming	6	spring
Graph Theory	5	spring
Models of Computation	6	spring
Polyhedral Computation	6	spring

Seminar in Focus

At least one Seminar must be chosen:

Title	Credits	Semester
Seminar in Theoretical Computer Science	2	autumn
Algorithms for Database Systems	2	spring
Geometry: Combinatorics and Algorithms	2	spring
Quantum Information and Cryptography	2	spring
Seminar Algorithmic Game Theory	2	spring
Seminar on Randomized Algorithms and Probabilistic Methods	2	spring
Seminar in Theoretical Computer Science	2	spring

Elective Computer Science Courses

Of all Master level courses offered by D-INFK, at least one course must be chosen.

Inter Focus Courses

At least two of the following three Labs must be chosen:

Title	Credits	Semester
Advanced Systems Lab	6	autumn
Algorithms Lab	6	autumn
Computational Intelligence Lab	6	spring

Elective Courses

All Master level courses offered by ETH Zurich, EPF Lausanne and the University of Zurich may be chosen. Please see the Study Guide for restrictions on language courses.

GESS Courses

One course offered by GESS: www.gess.ethz.ch

Master's Thesis

The supervisor of your Master's thesis must be a member of your specialization area of D-INFK.

Mentors

Prof. Angelika Steger
Prof. Bernd Gärtner
Prof. Juraj Hromkovic
Prof. Ueli Maurer
Prof. Emo Welzl
Prof. Peter Widmayer