

Master

Master of Science ETH in Computer Science



Master's Program in Computer Science

Computer Science is one of the most influential scientific fields of the 21st century. The Master's program at ETH Zurich aims to fulfill the highest ambitions towards outstanding education in a city notable for its exceptional quality of life.

Comprehensive and individual

Master's program

The Master's program aims to equip each individual student with advanced methodological and conceptual knowledge that goes beyond today's technological developments and prepares students for scientific forerunner roles. Three major factors ensure the high quality of the ETH computer science degree: student selection, curriculum rigor, and close interaction with the department's faculty. The program guides each student through a variety of fundamental and elective course offers, designing a profile fitting both personal inclinations and prospective career opportunities. Students can either choose general studies or one of several focus areas: Information Security, Software Engineering, Information Systems, Distributed Systems, Theoretical Computer Science, Visual Computing, and Computational Science.



ETH Zurich - excellence in research and teaching

ETH Zurich stands for highest educational standards, ground-breaking research, and applied results benefitting society as a whole. Since its foundation in 1855, the institution has believed and invested in long-term research. Ambitious to foster a vibrant intellectual community for its students, it continually strives to bring some of the world's most talented and leading minds to Zurich. As a result, the institution regularly appears in international rankings as a top university. Currently, more than 450 professors maintain and build upon its excellent reputation and scientific proficiency. 21 Nobel laureates have studied, taught, or conducted

research at ETH and Niklaus Wirth won the Turing Award for ETH.

Business and industry partnerships

The internationally diverse faculty of 30+ professors conducts cutting-edge research in a variety of fields and attracts business and industrial collaborations from around the world. Collaborators include influential global players in information technology such as IBM, Microsoft, Intel, SAP, Google, and Credit Suisse. The department also takes pride in the foundation of the Disney Research Zurich center at ETH, the only Disney research laboratory in Europe. A number of successful ETH spin-offs complete the picture.

Duration: 3 semesters

Language: English

Tuition fee: 580 CHF per semester

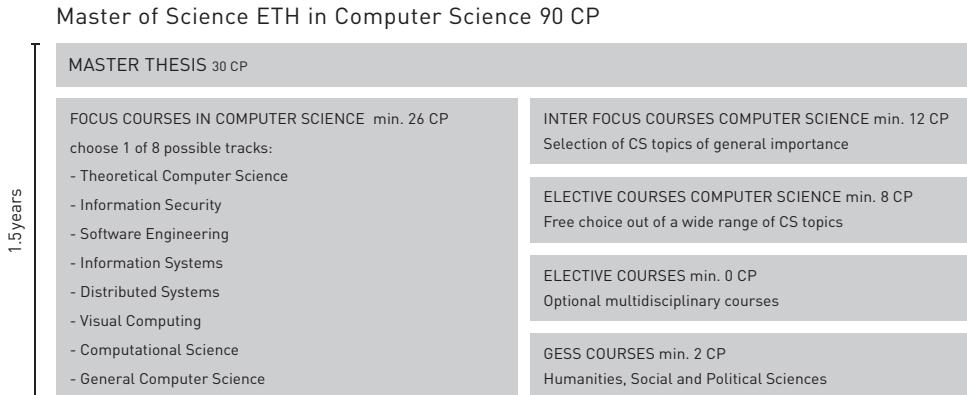
Studies administration:

+41 (0)44 632 72 11

master@inf.ethz.ch

www.inf.ethz.ch/master

www.admission.ethz.ch



Zurich and Switzerland

Zurich is Switzerland's technological, economic and cultural center and one of the world's leading business and financial hubs. Switzerland is well known for its political stability, safety and natural beauty. Amid a thriving environment, ETH Master's students are offered diverse opportunities to grow and learn, both inside the institution and out. ETH is a first-rate place to study, develop, and explore.

grants flexible curriculum choice. Or, students choose a specialized track in preparation for a particular career route from the following fields:

Theoretical Computer Science

- Algorithms and data structures
- Combinatorial and geometric algorithms
- Randomized algorithms and probabilistic methods
- Complexity theory

Information Systems

- Databases
- Cloud computing
- Big data, Web 2.0
- Information interaction
- Data stream processing

Distributed Systems

- Mobile computing, mobile devices
- Distributed data processing
- Architecture of enterprise data centers
- Multi-core architectures
- Distributed algorithms and network protocols
- Internet of things

Visual Computing

- Computer graphics
- Computer vision
- Geometric modeling
- Physically-based animation
- 3D modeling for images/video
- Digital geometry processing
- Image and video processing
- Display and multi-modal interaction technology

Computational Science

- Machine learning
- Multi-scale modeling and simulation
- High performance computing
- Scientific visualization
- Computational biology
- Bioinformatics
- Computational intelligence

«Our graduates leave the institution with the expertise to make a significant impact in their professional fields and to sustain a competitive edge throughout their careers.»

Prof. Markus Püschel, Head of the Department

Cultural as well as recreational facilities complement this dynamic atmosphere.

Generalization or specialization?

The Master's program combines theory and hands-on practice, providing students with a comprehensive education. Students are given the choice between two types of tracks catering to their personal as well as career interests. The General Computer Science track allows a combination of courses from different areas and

Information Security

- Cryptographic systems, algorithms, and proofs
- Quality assurance methods for security-critical systems
- Vulnerability analysis
- Wireless network security

Software Engineering

- Programming languages and tools
- Parallel and high-performance computing
- Static and dynamic program analysis
- Software testing and verification

Contact

ETH Zurich
Department of Computer Science
Universitätstrasse 6, CAB
8092 Zurich

www.inf.ethz.ch

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