

ETH zürich

Master Programmes

Swiss Federal Institute of Technology Zurich





The historic main building is right in the centre of vibrant Zurich.
ETH Zurich shares many facilities with next-door neighbour University of Zurich.

This is ETH Zurich → 18,200 students
→ 466 professors → 4,900 other teaching and
research staff → 2 campuses → 21 Nobel Laureates
→ 136 labs → 41% international students
→ 113 nationalities → 42 languages

Explore ETH Zurich:

www.ethz.ch/en →

Campus Hönggerberg, a few minutes from downtown Zurich, is ETH Zurich's "Science City", home to the architecture, construction and natural science departments.





ETH Zurich → over 150 years of excellence in science and engineering → pushing the forefronts of scientific knowledge → teaching based on leading-edge research → global outlook → international graduate programmes

An international flagship of education and research in science and engineering

ETH Zurich – the Swiss Federal Institute of Technology Zurich – has long been recognized as a global leader in research and education. Excellent conditions for learning and research, state-of-the-art facilities and an attractive urban environment provide an ideal setting for some of the brightest minds in the world. ETH Zurich is academic home to 25,000 students, researchers, faculty and staff members.

Broad range of programmes

ETH Zurich offers degree programmes in the fields of construction sciences, engineering sciences, natural sciences and mathematics, system-oriented natural sciences, and management and social sciences.

The degree structure is internationally compatible with three-year Bachelor programmes, followed by Master programmes of one and a half or two years' duration.

There is a Master programme corresponding to each of the twenty-three Bachelor programmes. In addition, specialized Master programmes offer the opportunity to focus on interdisciplinary or emerging subject fields. Master graduates wishing to pursue a career in research can continue in doctoral programmes lasting between three and four years.

Close links to research

The Master programmes at ETH Zurich are closely linked to research. Teaching takes place in small groups. Semester projects and the Master thesis introduce graduate students to independent research work, offering the possibility to work in research teams. All Masters require elective courses in the humanities, the social or political sciences. ETH graduates have the broad education needed to master tomorrow's challenges.

Global outlook

Seventy percent of ETH professors and two-thirds of all doctoral students come from outside of Switzerland – this is 113 nationalities under one roof. This global perspective is characteristic of the academic experience at ETH Zurich.

Ranked among the best

For over 150 years, ETH Zurich has been a touchstone for science and engineering leaders. The university is consistently ranked among the top institutions worldwide for its unparalleled research and education. Twenty-one Nobel laureates, from Wilhelm Konrad Röntgen (1901) and Albert Einstein (1921) to Kurt Wüthrich (2002) have been associated with ETH Zurich over the years.

See ETH inside:

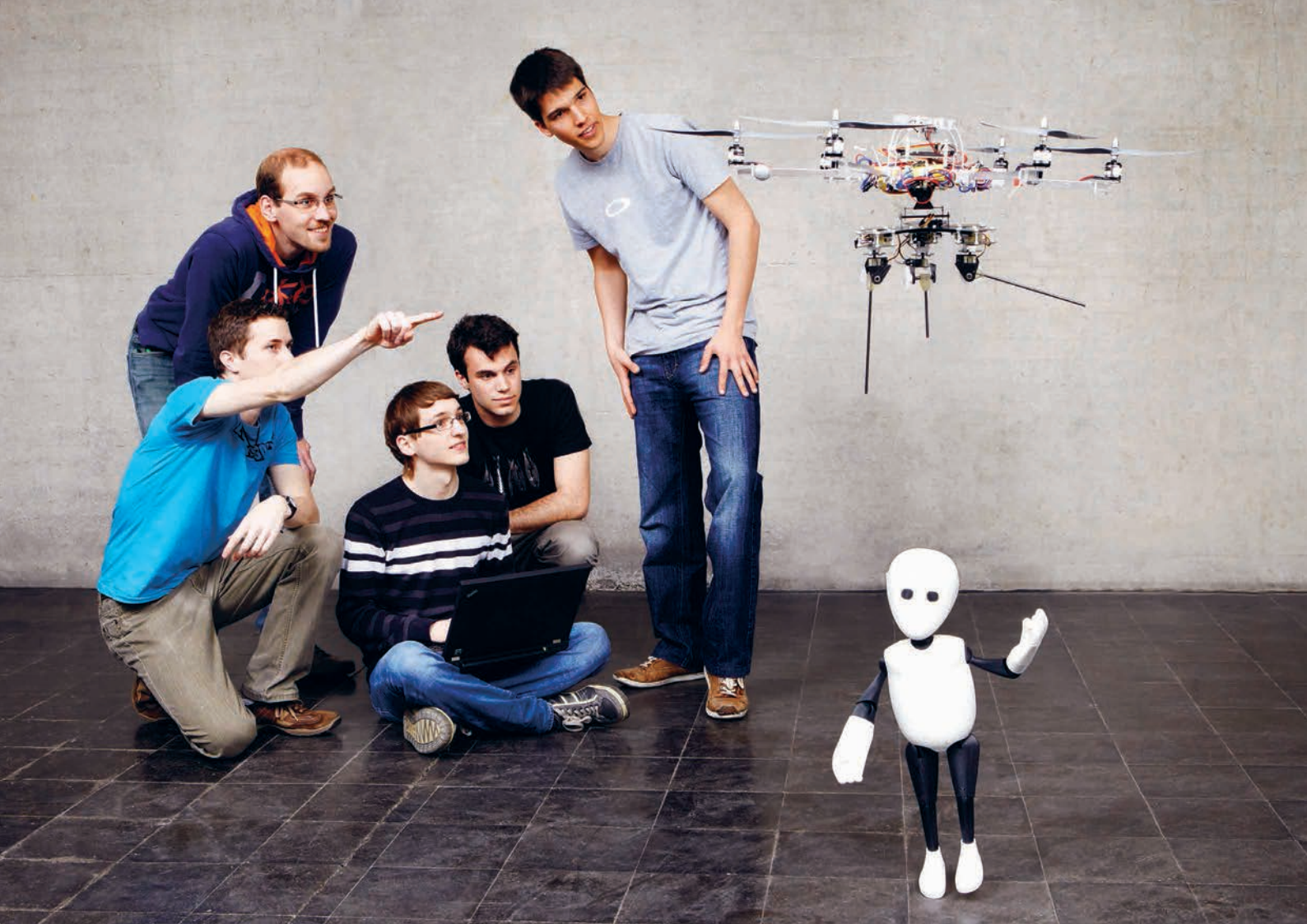
www.ethz.ch/en →

www.study.ethz.ch →

You'll find it all at [ETH Zurich](#) → state-of-the-art labs → excellent teaching → close contacts with industry → attractive career prospects → world-wide alumni network → fantastic sports and wellness facilities → a wealth of entertainment and culture

Hands-on laboratory work in state-of-the-art facilities is part of the Master experience at ETH Zurich.





The curricula of ETH Zurich's Master programmes combine a solid scientific foundation with practical application.

First-class facilities for a first-class education

At ETH Zurich you will benefit from first-class facilities, ranging from modern laboratories and great library resources to a state-of-the-art computing infrastructure. The university's two locations provide an excellent learning and research environment: in the centre of Zurich, and on the Campus Hönggerberg – a natural setting a few minutes from downtown.

ETH Zurich's Master programmes are taught in small groups. You will work closely with your professors and have access to the support and guidance you need. To prepare for life after graduation, the Career Centre is on hand to assist you in the transition to your chosen career path. The ETH Alumni association provides a dynamic means to stay connected to the global community of ETH Zurich graduates.

Overview → Master Programmes

Engineering Sciences

- **Biomedical Engineering EN**
Majors: Bioelectronics; Bioimaging; Biomechanics; Medical Physics; Molecular Bioengineering
- **Biotechnology EN**
Majors: Biotechnology; Systems Biology; Synthetic Biology (in Basel)
- **Computational Biology and Bioinformatics EN**
Specialized Master with an individual curriculum under the guidance of a mentor
- **Computer Science EN**
Specializations: Theoretical Computer Science; Information Systems; Distributed Systems; Visual Computing; Information Security; Software Engineering; Computational Science; General Computer Science
- **Electrical Engineering and Information Technology EN**
Specializations: Communications; Computers and Networks; Electronics and Photonics; Energy and Power Electronics; Systems and Control
- **Energy Science and Technology EN**
Specialized Master with a tutor-based individual curriculum
- **Materials Science EN**
Tutor-based programme with an individual curriculum
- **Mechanical Engineering EN**
Tutor-based programme with an individual curriculum
- **Micro and Nanosystems EN**
Specialized Master with a tutor-based individual curriculum
- **Neural Systems and Computation EN**
Specialized Master with a mentor-led individual curriculum (Joint Master with the University of Zurich)
- **Nuclear Engineering EN**
Tutor-based programme with an individual curriculum (Joint Master with EPFL in Lausanne)
- **Process Engineering EN**
Tutor-based programme with an individual curriculum
- **Robotics, Systems and Control EN**
Specialized Master with a tutor-based individual curriculum

Architecture, construction and Geomatics

- **Architecture DE**
- **Civil Engineering DE**
Specializations: Construction and Maintenance Management; Geotechnical Engineering; Structural Engineering; Transport Systems; Hydraulic Engineering and Water Resources Management; Materials and Mechanics
- **Environmental Engineering EN**
Specializations: Water Resources Management; Urban Water Management; Ecological Systems Design, Air Quality Control and Waste Management; Hydraulic Engineering; Soil Protection
- **Geomatics EN**
Majors: Engineering Geodesy and Photogrammetry; Space Geodesy and Navigation; Geoinformation Science and Cartography; Planning DE
- **Integrated Building Systems EN**
Specialized interdisciplinary Master
- **Spatial Development and Infrastructure Systems DE/EN**
Specializations: Transport Planning; Transport Systems; Spatial Development; Landscape and Environmental Planning

Natural Sciences and Mathematics

- **Biology EN**
Majors: Ecology and Evolution; Neurosciences; Microbiology and Immunology; Cell Biology; Molecular Health Sciences; Biochemistry; Plant Biology; Systems Biology; Structural Biology and Biophysics; Biological Chemistry
- **Chemical and Bioengineering EN**
- **Chemistry EN**
- **Computational Science and Engineering EN**
- **High Energy Physics EN**
(Joint Master with Ecole Polytechnique Paris)
- **Interdisciplinary Sciences EN**
- **Mathematics/Applied Mathematics EN**
- **Medicinal and Industrial Pharmaceutical Sciences EN**
- **Pharmaceutical Sciences DE/EN**
- **Physics EN**
- **Quantitative Finance EN**
(Joint Master with the University of Zurich)
- **Statistics EN**
Majors: Applied Statistics; Biostatistics; Statistical Methodology

Language of instruction

- EN** Programmes taught in English.
- EN/DE** Programmes taught in English with some courses in German, knowledge of German is required.
- DE/EN** Programmes taught in German and English, knowledge of German is required.



All Master programmes require a number of elective courses in the humanities, social or political sciences. ETH graduates have the broad education needed to master tomorrow's challenges.

Earth, Environment, Natural resources

- **Agroecosystem Science EN/DE**
Majors: Animal Science; Crop Science; Food and Resource Use Economics
- **Applied Geophysics EN**
(Joint Master with Delft University of Technology and RWTH Aachen University)
- **Atmospheric and Climate Science EN**
- **Earth Sciences EN**
Majors: Geology; Mineralogy and Geochemistry; Engineering Geology; Geophysics
- **Environmental Sciences EN**
Majors: Atmosphere and Climate; Biogeochemistry and Pollutant Dynamics; Ecology and Evolution; Forest and Landscape Management; Human-Environment Systems; Human Health, Nutrition and Environment
- **Food Science EN/DE**
Majors: Food Processing; Food Quality and Safety; Nutrition and Health; Human Health, Nutrition and Environment
- **Health Sciences and Technology EN**
Majors: Health Technologies; Human Health, Nutrition and Environment; Human Movement Science and Sport; Molecular Health Sciences; Neurosciences

Management and Social Sciences

- **Comparative and International Studies EN**
(Joint Master with the University of Zurich)
- **History and Philosophy of Knowledge DE/EN**
Specializations: Philosophy; History; Science of Literature and Culture
- **Management, Technology and Economics EN**

Individual course information:

www.courses.ethz.ch →

Detailed information about all Master programmes:

www.master.ethz.ch →



How to apply → admission → tuition fees → scholarships → visa → housing

Good to know before you apply

Admission requirements

To apply to a Master programme at ETH Zurich you need the equivalent of an ETH Bachelor degree from a recognized university. A requirement profile for each Master programme describes the formal prerequisites in terms of subjects, quality, depth and breadth of your previous studies.

ETH Zurich sets high academic standards. The Master programmes are intense and demanding, so in order to succeed you will need to be able to perform at a high level from the start. While high academic achievement does not guarantee admission, ETH Zurich expects such achievement or other persuasive evidence of academic promise from successful candidates.

Language requirements

The language of instruction of most Master programmes is English, but some programmes require knowledge of German. The minimum level of skills in the language(s) of instruction is C1 according to the Common European Framework of Reference for languages.

How to apply

ETH Zurich handles Master applications online.

Application periods:

- **1 November – 15 December:** for international students requiring a visa for Switzerland
- **1 March – 15 April** for all other students.

We also recommend using the earlier application period if you need an early admissions decision, for example, when applying for a scholarship.

www.admission.ethz.ch/master →

Academic year

ETH Zurich's academic year is divided into two semesters: the Autumn Semester from mid-September up to the Christmas/New Year break, and the Spring Semester from mid-February to the end of May.

The academic year begins in September, but in some programmes you can begin your studies in either the Autumn or Spring Semester.

Fees and cost of living

Education at ETH Zurich is funded by the government, which means that all students – Swiss and foreign – pay the same modest tuition fees. The current tuition and student fees are 644 Swiss francs (CHF) per semester. You need to budget a total of CHF 21,000 per year for study and living costs, including accommodation, food, health insurance, and local transport.

Under the Excellence Scholarship and Opportunity Programme, ETH Zurich offers full scholarships for outstanding Master students. Some programmes also offer partial financial support. Further information is available from the Scholarship Office.

www.master.ethz.ch →

Visa, insurance, housing

International students from outside the European Union and EFTA countries need a valid visa and residence permit to study in Switzerland. Once your application for admission has been approved, the International Student Support of ETH Zurich's Rectorate will help you with advise and guidance through the immigration formalities. You can also receive support in other practical matters, such as finding accommodation, advise with health insurance or opening a bank account.

www.study.ethz.ch →



The academic sports association ASVZ offers facilities for over 70 forms of sports and wellness.

For brain, body and soul

A student's life is not all study. A broad range of sports, culture and leisure activities offer a welcome complement to everyday academic life. You can benefit from the services of Europe's largest academic sports facilities, get involved in one of the many student associations or sign up to sing or play in one of the numerous music groups. Many student facilities are shared with the University of Zurich.

Located in the intimate, international city of Zurich, the ETH Zurich community enjoys a rich cultural life, a vibrant social scene and great outdoor activities. Zurich combines a well-preserved Old Town with a modern life style, catering to all tastes and needs. It is also a compact, clean and safe city with a well-functioning public transport system. So whether you want to explore the nearby Alps, one of Switzerland's four language regions or a neighbouring country, it's all within easy reach.

There's more to Zurich than ETH → 395,000 people
→ one lake → 2 rivers → 1,100 fresh-water fountains
→ 2,013 restaurants and bars → 50 museums and
32 theatres → 2 football clubs → 10 minutes to the
airport → 100 km to the snowy Alps

See Zurich and Switzerland from different angles:

www.swissinfo.org →

www.zuerich.com →

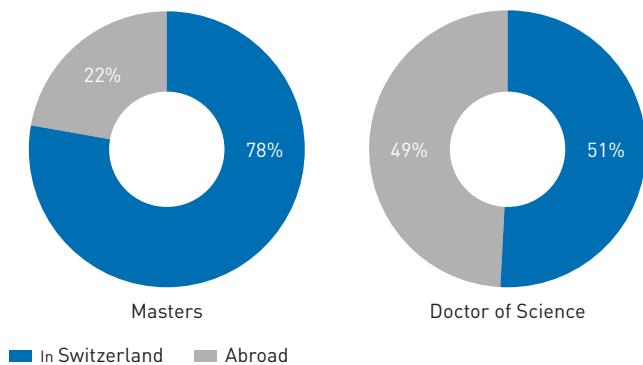
Lake Zurich, the river Limmat and the majestic snow-capped Alps are among the factors that make life in Zurich so pleasant.



Your career starts right here

ETH Zurich is the starting point for many of today's leaders in business, industry, science and academia. Whether it is a Master degree in engineering, a doctorate in the sciences or a professional certificate in management, an ETH qualification provides a solid foundation for your career. At ETH Zurich you learn how to master complexity and gain the flexibility you need to apply your knowledge in today's and tomorrow's professional life.

Country of employment of international ETH graduates one year after graduation



One year after graduation, nearly four-fifths of ETH Zurich's Master graduates are working or continuing with doctoral studies in Switzerland. Starting a career as entrepreneur is also an attractive option: every year ETH graduates and scientist create over 20 spin-off companies based on the outcome of their research.

(Source: ETH Zurich Graduate Survey 2013)

Doctoral studies at ETH Zurich

A Master's degree is an excellent starting point for a professional career in industry, but it also opens up the possibility to pursue a doctorate in a corresponding discipline. ETH Zurich offers doctoral studies in all fields of study offered in the Master programmes.

The doctorate is based on independent scientific research work supervised by a professor. Doctoral students specialise in a specific research area and establish important contacts with the scientific community and the working world. It is an important stepping stone for students wishing to pursue a research career.

www.phd.ethz.ch →

Invest your genius → www.master.ethz.ch



ETH Zurich
Rämistrasse 101
8092 Zurich
Switzerland

www.ethz.ch

Published by
ETH Zurich

Edited by
Anders Hagström

Layout
null-oder-eins.ch

Photos
Marco Carocari
Alessandro Della Bella
Marie-Christine Gerber
vision on wings / Manfred Richter

Printrun
4,000

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