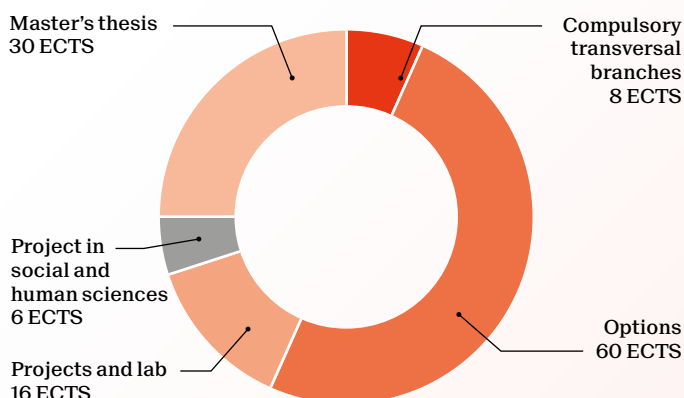


Master of Science in CIVIL ENGINEERING

2-year program - 120 ECTS



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

Students must choose either a 30 ECTS specialization or a 30 ECTS minor from the available options. They may also opt to combine two specializations, or one specialization with a minor.

Specializations available:

- B Geotechnics
- C Transport and mobility
- D Structural engineering
- E Hydraulics
- F Urban energy

Minors recommended with this Master:

- Computational science and engineering
- Data science
- Energy
- Engineering for sustainability
- Imaging
- Integrated design, architecture and sustainability (IDEAS)
- Management, technology and entrepreneurship
- Sustainable construction

Career prospects

The EPFL civil engineering academic performances are top-rated at the international level. Its master curriculum is widely recognized for the high quality of its training and offers very interesting professional perspectives.

The increased demand in Switzerland for highly qualified civil engineers provides excellent career prospects for our students. Civil engineering consulting firms, state administrations and construction companies all benefit from hiring our graduates. Furthermore, the scientific skills and the versatility of our engineers also allow them to pursue very diverse professional activities in research and development. Whatever path you choose, you will collaborate with numerous partners from the domains of architecture, environment, sociology, economy, energy, or politics. The know-how of the Swiss civil engineers is very well respected abroad, which also opens the door to an international career.

School of Architecture, Civil and Environmental Engineering
go.epfl.ch/master-civil-engineering
 Contact: secretariat.sgc@epfl.ch

	Specializations					Credits
	B	C	D	E	F	
Compulsory transversal branches						8
Analyse et gestion de risques						2
Computational systems thinking for sustainable eng.						4
Contrats de construction et responsabilité						3
Droit public pour ingénieur-es civil-es						2
Etudes d'impact sur l'environnement						3
Innovation for construction and the environment						3
Intercultural presentation skills						2
Management de projet et analyse de risque						4
Programming concept in scientific computing						4
Research skills for engineers						2

Options						60
Advanced composites in engineering structures			D			3
Bridge design						3
Composites design and innovation						3
Computational geomechanics	B					4
Conception et réalisation des voies de circulation		C				3
Continuum mechanics and applications	B		D			6
Dam engineering				E		3
Decision-aid methodologies in transportation		C				4
Deep learning for autonomous vehicles		C				6
Design of precast concrete structures						3
Dynamics of structures			D			4
Energy and comfort in buildings				F		5
Energy conversion and renewable energy				E	F	4
Energy geostructures	B				F	4
Engineering of existing structures			D			4
Fracture of materials	B					4
Fundamentals of traffic operations and control		C				4
Geomechanics	B					5
Geothermal resource development	B				F	3
Hydraulique fluviale et aménagement de cours d'eau				E		3
Hydrologie urbaine				E	F	4
Hydropower schemes and pumped-storage				E		4
Indoor air quality and ventilation					F	4
Ingénierie de la mobilité		C				3
Irrigation and drainage engineering				E		4
Life cycle assessment in energy systems					F	3
Machine learning for predictive maintenance applications		C				6
Materials and structures						3
Mathematical modeling of behavior		C			F	5
Modeling and optimization of energy systems					F	4
Multiscale modeling in mechanics	B					4
Nonlinear analysis of structures	B		D			6
Ondes de crue et de rupture de barrage	B			E		3
Optional interdisciplinary project						4
Quantitative imaging for engineers						3
Railway systems and their transition		C				3
Reinforced concrete structures - advanced topics			D			4
Risques hydrologiques et aménagements				E		3
River eco-morphodynamics and bioengineering				E		4
Rock mass characterization for engineering design	B					4
Seismic engineering			D			6
Shaping future railway systems		C				3
Slope stability	B					3
Steel structures, selected topics			D			3
Structural stability			D			4
Thermodynamics of comfort in buildings					F	3
Timber construction			D			3
Transportation economics		C				3
Transportation network modeling and analysis		C				3
Underground construction	B					3
Urban hydraulic systems				E		3
Ville et mobilité		C				3
Water resources engineering and management				E	F	5

Projects and lab						16
Civil engineering project 1						8
Civil engineering project 2						8
Projet ENAC or UE architecture						4
Summer Workshop						4
UE génie civil: Advanced drawing structures						4