

Master of Science programme Civil Engineering



Admission requirement for students holding a BSc from a Dutch WO Institute

A bachelor's degree that matches the MSc programme usually gives direct access to TU Delft. If the bachelor's degree is not a complete match with the MSc programme, then you will have to follow extra courses to bring your knowledge to the required level. Together, these courses are called a bridging programme. The bridging programme's curriculum differs per MSc programme and will be determined together with the bridging coordinator of the study programme of your choice.

Admission Prerequisite knowledge For admission to the MSc Civil Engineering, knowledge and skills at undergraduate level are required in seven fields:

- Materials – commonly used civil engineering materials, resources, life cycle, microstructure, physical and mechanical behaviour, sustainability and durability, production.
- Geo-engineering – soil characteristics, groundwater, geomechanics, strength of soils, foundations, retaining structures and slopes.
- Structures – design and verification of civil engineering structures in steel and concrete, general construction technology
- Fluids – characteristics and properties of fluids, hydrostatics, kinematics, balance equations of mass, volume, momentum and energy, flows around bodies or walls, gradually varying flows in open channels, waves, tides.
- Mechanics – statics, solid mechanics, structural analysis, dynamics of civil engineering structures. Transport – design of transport infrastructures (road, rail), transport and traffic modelling.
- Mathematics – calculus, linear algebra, probability and statistics, numerical methods. In addition, it is assumed that students opting for our MSc adequately master basics of civil engineering, physics and computer programming.

Most bachelor programmes in civil engineering sufficiently include the above topics. In the case of deficiencies, a pre-master programme may apply. Students are advised to check by themselves for

possible deficiencies and prevent or reduce them whenever possible, for instance by deploying the elective space in their bachelor programme.

Pre-master or bridging programmes Admission to the master programme Civil Engineering may require prior completion of a pre-master programme, depending on previous education. It is important to note that pre-master programmes are meant to compensate limited discrepancies between previous education and required prior knowledge only. If the required pre-master exceeds 50EC, the concerned student is referred to the BSc Civil Engineering of TU Delft.



The table below offers an overview of pre-master programmes that apply to students holding one of the mentioned BSc diplomas. Students holding a BSc in Civil Engineering from either TU Delft of UTwente are directly admissible. Pre-masters for other previous education are issued upon request.

WO Bachelor																	
period & EC	course code	course title															
			1	2	3	4	Applied earth sciences	Architecture (TUD, TU/e)	Electrical engineering	Applied engineering	Applied mathematics	Engineering physics	Aerospace and policy analysis	Mechanical engineering	Maritime engineering	Boatem, water, atmosfeer (WUF)	
3	CTB2105	Differential equations															
3	CT1730	Introduction geotechnical engineering															
6	CTB1001	Analysis															
3	CT2023	Computer programming															
5	CTB1210	Dynamics and modelling															
3	CTB2200	Probability and statistics															
5	CTB2220-14	Concrete and steel structures															
6	CTB1002	Linear algebra															
5	CTB1310	Structural mechanics 2															
3	CTB2300	Dynamics of systems															
4	CTB3335	Concrete structures 2															
4	CTB3350	Open channel flow															
3	CTB2400	Numerical analysis															
4	CTB3420	Integral design of infrastructure															
5	CTB2110	Fluid mechanics															
5	CTB2210	Structural mechanics 3															
5	CTB2320-17	Design of structures and foundations 2															
4	CTB3370-18	Geometrical design of roads and railways															
4	CTB3355	Hydraulic structures															
5	CTB2410	Hydraulic engineering															

Total EC: 37 45 44 44 38 44 40 40 40 45

■ compulsory ■ choose one

The official language of pre-master programmes is Dutch. English versions are being developed, but not available yet

Admission requirement with a HBO Diploma

An HBO diploma does not grant direct access to a TU Delft Msc programme. You will first have to take extra courses to bring your knowledge to the required level. Together, these courses are called a bridging programme or pre-master.

The table below offers an overview of pre-master programmes that apply to students holding a HBO Bachelor degree in either Civil Engineering or Built Environment from a Dutch HBO Institute. Students with other HBO diplomas are not admissible.

period & EC				course code	course title	Civil Engineering Built Environment	
1	2	3	4				
3				IFEEMCS012100	Calculus for engineering 1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3				WI1807TH1-21	Linear Algebra (part 1)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3				CT1730HBO	Introduction to Geotechnical Engineering	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	5			CTB1210	Dynamics and Modelling	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	3			IFEEMCS012200	Calculus for engineering 2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	3			WI1909TH	Differential Equations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		3		CTB2300	Dynamics of Systems	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
			3	IFEEMCS012300	Calculus for engineering 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	3			CT2023	Computer Programming HBO	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
			3	CTB2400	Numerical Analysis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
			3	IFEEMCS010500	Probability and statistics (HBO)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5				CTB2110	Fluid mechanics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	5			CTB2210	Structural mechanics 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
			4	CTB3340-15	Building structures 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			4	CTB3355	Hydraulic structures	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			4	CTB3370-18	Geometrical design of roads and railways	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			4	CTB3420	Integral Design of Infrastructure	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Total EC: 44 45

compulsory choose one

To be admitted to the above pre-master programmes, students need to have successfully completed prescribed tests on mathematics and English proficiency. Detailed information about these tests (expected level; where they can be taken and so on) can be found on our website on "Applying for a Master's degree programme with a Dutch certificate"

What are the admission requirements for the bridging programme?

- You have obtained your HBO bachelor's degree.
- Your HBO bachelor's degree matches the MSc programme of your choice.
- Mathematics B and English at VWO level.
- For Dutch-language bridging programmes (when the bachelor's programme has Dutch as its language of instruction) a language requirement applies if your previous education prior to your Dutch HBO bachelor's degree was completed abroad.
- You meet the additional requirements that apply to the MSc programme of your choice. More information can be found the website "Applying for a master degree programme".