

Curriculum CEM/CME 2023-2024

Construction Management and Engineering			Transport Engineering and Management			Water Engineering and Management			Integrated Civil Engineering Systems		
PROFILES			PROFILES			PROFILES			PROFILES		
Markets & Organization of Construction			Integrated Urban Transport			Integrated Water Management			Sustainability & Resilience		
Profile Courses (minimum 30 EC)	<i>EC</i>	<i>Quartile</i>	Profile Courses (minimum 30 EC)	<i>EC</i>	<i>Quartile</i>	Profile Courses (minimum 30 EC)	<i>EC</i>	<i>Quartile</i>	Profile Courses (minimum 30 EC)	<i>EC</i>	<i>Quartile</i>
Legal & Governance Aspects	5	1	Transport Research Project (compulsory in year 2)	5	1,2,3,4	Water Footprint Assessment	5	1	Water Footprint Assessment	5	1
Transitions in Civil Engineering	5	1	Planning & Process Management	5	1	Hydrology	5	1	Sustainable Transportation Infrastructure	5	1
Planning & Process Management	5	1	GIS for Transport	5	1	Advanced Research Skills in Water Engineering & Management	5	2	Transitions in Civil Engineering	5	1
Sustainable Transportation Infrastructure	5	1	Public Transport Modelling	5	2	Sustainable Engineering	5	2	Research Methodology & Academic Skills	5	2
Research Methodology & Academic Skills (compulsory)	5	2	Sustainable Transport	5	2	Hydrological Modelling and Forecasting	5	2	Sustainable Transport	5	2
Construction Process Management	5	2	Empirical Methods for Designers (IDE)	5	2	Integrated Water Management	5	3	Sustainable Engineering	5	2
Circular Systems Engineering	5	3	Rail Transport	5	2	Urban Resilience in a Changing Climate	5	3	Circular Systems Engineering	5	3
Infrastructure Asset Management	5	4	Traffic Safety	5	2	Water and Climate	5	4	Urban Resilience in a Changing Climate	5	3
			Data Science (BIT)	5	2 or 3				Water and Climate	5	4
			Land Use and Transport Interactions	5	4						
Profile Electives			Profile Electives			Profile Electives			Profile Electives		
- Free to choose any of the CEM-courses (pay attention to the required prior knowledge)			- Free to choose any of the CEM-courses (pay attention to the required prior knowledge)			- Free to choose any of the CEM-courses (pay attention to the required prior knowledge)			- Free to choose any of the CEM-courses (pay attention to the required prior knowledge)		
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Suggested Profile Electives	<i>EC</i>	<i>Quartile</i>	Suggested Profile Electives	<i>EC</i>	<i>Quartile</i>	Suggested Profile Electives	<i>EC</i>	<i>Quartile</i>	Suggested Profile Electives	<i>EC</i>	<i>Quartile</i>
Construction Supply Chains and Digitization	5	1	Simulation (IEM)	5	1	Water Quality	5	1	Legal & Governance Aspects	5	1
Safety by Design for Products, Equipment and Systems (ME)	5	2	Traffic Operations	5	1	River Flow Processes	5	1	Hydrology	5	1
Procurement Strategies and Tendering	5	3	Network Modelling and Forecasting	5	3	Data Analysis in Water Engineering and Management	5	2	Planning & Process Management	5	1
Urban Resilience in a Changing Climate	5	3	Urban Resilience in a Changing Climate	5	3	Circular Systems Engineering	5	3	Construction Process Management	5	2
Value Management	5	4	Transportation & Logistics Management (IEM)	5	3	Hydraulic Engineering	5	3	Infrastructure Asset Management	5	4
Culture in International Construction	5	4	Traffic Management	5	3	Building with Nature	5	4	Land Use and Transport Interactions	5	4
			Infrastructure Asset Management	5	4				Value Management	5	4
			Mathematical Optimization in Transport	5	4				Building with Nature	5	4
			Smart Mobility	5	4						
Digital Technologies in Construction			Transport and Logistics			River and Coastal Engineering			Civil Engineering Structures		
Profile Courses (minimum 30 EC)	<i>EC</i>	<i>Quartile</i>	Profile Courses (minimum 30 EC)	<i>EC</i>	<i>Quartile</i>	Profile Courses (minimum 30 EC)	<i>EC</i>	<i>Quartile</i>	Profile Courses (30 EC)	<i>EC</i>	<i>Quartile</i>
Legal & Governance Aspects	5	1	Transport Research Project (compulsory in year 2)	5	1,2,3,4	River Flow Processes	5	1	Structural Health Monitoring for Smart Infrastructure	5	1
Planning & Process Management	5	1	Simulation (IEM)	5	1	Long Waves and Tidal Morphodynamics	5	1	Research Meth. & Ac. Skills, OR Advanced Research Skills in WEM	5	2
Research Methodology & Academic Skills (compulsory)	5	2	Traffic Operations	5	1	Wave-Dominated Coastal Dynamics	5	1	Data Analysis in Water Engineering and Management	5	2
Construction Process Management	5	2	Public Transport Modelling	5	2	Advanced Research Skills in Water Engineering & Management	5	2	Circular Systems Engineering	5	3
Circular Systems Engineering	5	3	Data Science (BIT)	5	2 or 3	Morphology (Year 2)	5	2	Hydraulic Engineering	5	3
Digital Technologies in Construction	5	3	Network Modelling and Forecasting	5	3	Mathematical Physics of Water Systems	5	3	Advanced Soil Mechanics	5	3
Technology and Innovation in Road Construction	5	4	Transportation & Logistics Management (IEM)	5	3	Hydraulic Modelling	5	3	Subsurface Infrastructure Engineering	5	4
			Traffic Management	5	3	River Morphodynamics	5	4	Building with Nature	5	4
			Mathematical Optimization in Transport	5	4				Geo Risk Assessment	5	4
			Smart Mobility	5	4						
Profile Electives			Profile Electives			Profile Electives			Profile Electives		
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Sustainable Transportation Infrastructure	5	1	GIS for Transport	5	1	Water Quality	5	1	Sustainable Transportation Infrastructure	5	1
Transitions in Civil Engineering	5	1	Planning & Process Management	5	1	Hydrology	5	1	Hydrology	5	1
Construction Supply Chains and Digitization	5	1	Sustainable Transport	5	2	Data Analysis in Water Engineering and Management	5	2	BIM and 5D Planning	5	2
Structural Health Monitoring for Smart Infrastructure	5	1	Rail Transport	5	2	Hydrological Modelling and Forecasting	5	2	Rail Transport	5	2
BIM and 5D Planning	5	2	Empirical Methods for Designers (IDE)	5	2	Hydraulic Engineering	5	3	Mathematical Physics of Water Systems	5	3
Safety by Design for Products, Equipment and Systems (ME)	5	2	Traffic Safety	5	2	Advanced Soil Mechanics	5	3	Technology and Innovation in Road Construction	5	4
Simulation and Optimization of Construction Processes	5	3	Land Use and Transport Interactions	5	4	Building with Nature	5	4	Water and Climate	5	4
Value Management	5	4	Infrastructure Asset Management	5	4	Water and Climate	5	4			
Subsurface Infrastructure Engineering	5	4									
Infrastructure Asset Management	5	4									
GENERAL COURSES			GENERAL COURSES			GENERAL COURSES			GENERAL COURSES		
Free Electives (max 15 EC)	<i>EC</i>	<i>Quartile</i>	Free Electives (max 15 EC)	<i>EC</i>	<i>Quartile</i>	Free Electives (max 15 EC)	<i>EC</i>	<i>Quartile</i>	Free Electives (max 15 EC)	<i>EC</i>	<i>Quartile</i>
Any course from UT or approved other university*			Any course from UT or approved other university*			Any course from UT or approved other university*			Any course from UT or approved other university*		
Other useful courses (0 EC)	<i>EC</i>	<i>Quartile</i>	Other useful courses (0 EC)	<i>EC</i>	<i>Quartile</i>	Other useful courses (0 EC)	<i>EC</i>	<i>Quartile</i>	Other useful courses (0 EC)	<i>EC</i>	<i>Quartile</i>
Boost your Competences	0	1,2,3,4	Boost your Competences	0	1,2,3,4	Boost your Competences	0	1,2,3,4	Boost your Competences	0	1,2,3,4
Thesis **	<i>EC</i>	<i>Quartile</i>	Thesis **	<i>EC</i>	<i>Quartile</i>	Thesis **	<i>EC</i>	<i>Quartile</i>	Thesis **	<i>EC</i>	<i>Quartile</i>
Preparation Master Thesis	5	-	Preparation Master Thesis	5	-	Preparation Master Thesis	5	-	Preparation Master Thesis	5	-
Master Thesis Construction	30	-	Master Thesis Traffic	30	-	Master Thesis Water	30	-	Master Thesis Construction/Traffic/Water	30	-
PLANNING AND CONSULTATION FOR THE MASTER PROFILES			PLANNING AND CONSULTATION FOR THE MASTER PROFILES			PLANNING AND CONSULTATION FOR THE MASTER PROFILES			PLANNING AND CONSULTATION FOR THE MASTER PROFILES		
Track-coordinator: Drs.ing. Hans Boes Coordinator Master Thesis: Dr.ir. Robin de Graaf			Track-coordinator: Prof.dr.ir. Eric van Berkum Coordinator Master Thesis: Prof.dr.ir. Eric van Berkum			Track-coordinator: Dr.ir. Bas Borsje Coordinator Master Thesis: Dr.ir. Martijn Booij			Track-coordinator: Dr. Jord Warmink Coordinator Master Thesis: Coordinators from CME, TEM or WEM		

* an "approved university" is any university in The Netherlands (not HBO-schools), or any international university that is partner of the UT or of the faculty of ET.
The Free Electives should be at MSc-level and should have no overlap with other courses in your programme. For courses from other universities, contact your track-coordinator.

[Click here for the Canvas page including a list of partner universities](#)

** Click here for the procedure of how to start the course Preparation MSc-thesis and your MSc-thesis project