

Curriculum CEM/CME 2024-2025

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 (≥25 EC)		EC	Quartile	Profile Courses (≥25 EC)		EC	Quartile	Profile Courses (≥25 EC)		EC	Quartile	Profile Courses (≥25 EC)		EC	Quartile
Civil Engineering Challenges*	5	1		Civil Engineering Challenges*	5	1		Civil Engineering Challenges*	5	1		Civil Engineering Challenges*	5	1	
Legal & Governance Aspects	5	1		Planning & Process Management	5	1		Water Footprint Assessment	5	1		Water Footprint Assessment	5	1	
Planning & Process Management	5	1		Public Transport Modelling	5	2		Hydrology	5	1		Sustainable Transportation Infrastructure	5	1	
Sustainable Transportation Infrastructure	5	1		Sustainable Transport	5	2		Hydrological Modelling and Forecasting	5	2		Transitions in Civil Engineering*	5	2	
Transitions in Civil Engineering*	5	2		Rail Transport	5	2		Sustainable Engineering	5	3		Sustainable Transport	5	2	
Construction Process Management	5	2		Traffic Safety	5	2		Integrated Water Management	5	3		Sustainable Engineering	5	3	
Circular Systems Engineering	5	3		Data Science (BIT)	5	2 or 3		Urban Resilience in a Changing Climate	5	3		Circular Systems Engineering	5	3	
Infrastructure Asset Management	5	4		Land Use and Transport Interactions	5	4		Water and Climate	5	4		Urban Resilience in a Changing Climate	5	3	
												Water and Climate	5	4	
Profile Electives (~40 EC)				Profile Electives (~40 EC)				Profile Electives (~40 EC)				Profile Electives (~40 EC)			
- 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)			
- Below: list of CEM-courses that fit best in this profile (in addition to profile courses)				- Below: list of CEM-courses that fit best in this profile (in addition to profile courses)				- Below: list of CEM-courses that fit best in this profile (in addition to profile courses)				- Below: list of CEM-courses that fit best in this profile (in addition to profile courses)			
Suggested Profile Electives		EC	Quartile	Suggested Profile Electives		EC	Quartile	Suggested Profile Electives		EC	Quartile	Suggested Profile Electives		EC	Quartile
Construction Supply Chains and Digitization	5	1		Simulation (IEM)	5	1		Water Quality	5	1		Legal & Governance Aspects	5	1	
Urban Resilience in a Changing Climate	5	3		Traffic Operations	5	1		River Flow Processes	5	1		Hydrology	5	1	
Value Management	5	3		Empirical Methods for Designers (IDE)	5	2		Data Analysis in Water Engineering and Management	5	2		Planning & Process Management	5	1	
Culture in International Construction	5	4		Network Modelling and Forecasting	5	3		Circular Systems Engineering	5	3		Construction Process Management	5	2	
Procurement Strategies and Tendering	5	4		Urban Resilience in a Changing Climate	5	3		Hydraulic Engineering	5	3		Value Management	5	3	
				Transportation & Logistics Management (IEM)	5	3		Building with Nature	5	4		Infrastructure Asset Management	5	4	
				Traffic Management	5	3						Land Use and Transport Interactions	5	4	
				Infrastructure Asset Management	5	4						Building with Nature	5	4	
				Mathematical Optimization in Transport	5	4									
				Smart Mobility	5	4									
Digital Technologies in Construction				Transport and Logistics				River and Coastal Engineering				Civil Engineering Structures			
Profile Courses (≥25 EC)		EC	Quartile	Profile Courses (≥25 EC)		EC	Quartile	Profile Courses (≥25 EC)		EC	Quartile	Profile Courses (≥25 EC)		EC	Quartile
Civil Engineering Challenges*	5	1		Civil Engineering Challenges*	5	1		Civil Engineering Challenges*	5	1		Civil Engineering Challenges*	5	1	
Legal & Governance Aspects	5	1		Simulation (IEM)	5	1		River Flow Processes	5	1		Structural Health Monitoring for Smart Infrastructure	5	1	
Planning & Process Management	5	1		Traffic Operations	5	1		Long Waves and Tidal Morphodynamics	5	1		Data Analysis in Water Engineering and Management	5	2	
Construction Process Management	5	2		Public Transport Modelling	5	2		Wave-Dominated Coastal Dynamics	5	1		Circular Systems Engineering	5	3	
Circular Systems Engineering	5	3		Data Science (BIT)	5	2 or 3		Morphology*	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 (~40 EC)				Profile Electives (~40 EC)				Profile Electives (~40 EC)				Profile Electives (~40 EC)			
- 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		EC	Quartile	Suggested Profile Electives		EC	Quartile	Suggested Profile Electives		EC	Quartile	Suggested Profile Electives		EC	Quartile
Sustainable Transportation Infrastructure	5	1		Planning & Process Management	5	1		Water Quality	5	1		Sustainable Transportation Infrastructure	5	1	
Construction Supply Chains and Digitization	5	1		Sustainable Transport	5	2		Hydrology	5	1		Hydrology	5	1	
Structural Health Monitoring for Smart Infrastructure	5	1		Rail Transport	5	2		Data Analysis in Water Engineering and Management	5	2		BIM and 5D Planning	5	2	
Transitions in Civil Engineering*	5	2		Empirical Methods for Designers (IDE)	5	2		Hydrological Modelling and Forecasting	5	2		Rail Transport	5	2	
BIM and 5D Planning	5	2		Traffic Safety	5	2		Hydraulic Engineering	5	3		Mathematical Physics of Water Systems	5	3	
Simulation and Optimization of Construction Processes	5	3		Land Use and Transport Interactions	5	4		Advanced Soil Mechanics	5	3		Technology and Innovation in Road Construction	5	4	
Value Management	5	3		Infrastructure Asset Management	5	4		Building with Nature	5	4		Water and Climate	5	4	
Subsurface Infrastructure Engineering	5	4						Water and Climate	5	4					
Infrastructure Asset Management	5	4						Geo Risk Assessment	5	4					
GENERAL COURSES				GENERAL COURSES				GENERAL COURSES				GENERAL COURSES			
Free Electives (max 15 EC)		EC	Quartile	Free Electives (max 15 EC)		EC	Quartile	Free Electives (max 15 EC)		EC	Quartile	Free Electives (max 15 EC)		EC	Quartile
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**			
On the CEM/CME Canvas page there is a list of courses from other MSc programmes available that fit this track. In some occasions, you can include courses from other programmes as a profile elective. In that case you need approval of your track-coordinator.				On the CEM/CME Canvas page there is a list of courses from other MSc programmes available that fit this track. In some occasions, you can include courses from other programmes as a profile elective. In that case you need approval of your track-coordinator.				On the CEM/CME Canvas page there is a list of courses from other MSc programmes available that fit this track. In some occasions, you can include courses from other programmes as a profile elective. In that case you need approval of your track-coordinator.				On the CEM/CME Canvas page there is a list of courses from other MSc programmes available that fit this track. In some occasions, you can include courses from other programmes as a profile elective. In that case you need approval of your track-coordinator.			
Other usefull courses (0 EC)		EC	Quartile	Other usefull courses (0 EC)		EC	Quartile	Other usefull courses (0 EC)		EC	Quartile	Other usefull courses (0 EC)		EC	Quartile
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 ***		EC	Quartile	Thesis ***		EC	Quartile	Thesis ***		EC	Quartile	Thesis ***		EC	Quartile
Academic Research Skills in CEM/CME		5	2,4	Academic Research Skills in CEM/CME		5	2,4	Academic Research Skills in CEM/CME		5	2,4	Academic Research Skills in CEM/CME		5	2,4
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: Dr.ir. Ruth Sloot 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			