

Integrated Civil Engineering Systems

PROFILES

Modelling and Forecasting			Smart Cities		
Profile Courses (minimum 30 EC)	EC	Quartile	Profile Courses (30 EC)	EC	Quartile
Statistics and probability (IEM)	5	1	Planning & Process Management	5	1
Simulation (IEM)	5	1	Sustainability and Circularity in Civil Engineering	5	1
Research Methodology & Academic Skills	5	2	Research Methodology & Academic Skills	5	2
Data Analysis in Water Engineering and Management	5	2	Sustainable Transport	5	2
Hydrological Modelling and Forecasting	5	2	Urban Resilience in a Changing Climate	5	3
Mathematical optimization in Transport	5	2	Land Use and Transport Interactions (ITC; check Osiris for prerequisites)	5	4
Data Science (CSC)	5	2 or 3			
Profile Electives <i>- Free to choose any of the CEM-courses</i> <i>(pay attention to the required prior knowledge)</i> <i>- Below: list of CEM-courses that fit best in this profile (in addition to profile courses)</i> <i>- On the website: courses from other programmes that fit in this profile</i> <i>(If you include courses from other programmes, we recommend you to make a selection, such that the majority of the programme is still formed by CEM-courses)</i>			Profile Electives <i>- Free to choose any of the CEM courses offered</i> <i>(pay attention to the required prior knowledge)</i> <i>- Below: list of CEM-courses that fit best in this profile (in addition to profile courses)</i> <i>- On the website: courses from other programmes that fit in this profile</i> <i>(If you include courses from other programmes, we recommend you to make a selection, such that the majority of the programme is still formed by CEM-courses)</i>		
Hydrology	5	1	Water Footprint Assessment	5	1
Long Waves and Tidal Morphodynamics	5	1	Water and Energy	5	2
Short Waves and Coastal Dynamics	5	1	Data Science (CSC)	5	2 or 3
Traffic Operations	5	1	Public Transport Modelling	5	3
Morphology (check Osiris for prerequisites)	5	2	Traffic Management	5	3
Empirical Methods for Designers (IDE)	5	2	Value Management	5	4
BIM and 5D Planning	5	2	BIM and 5D Planning	5	2
Mathematical Physics of Water Systems	5	3	Systems Engineering in Construction	5	3
Hydraulic Modelling	5	3	Subsurface Infrastructure Engineering	5	4
Public Transport Modelling	5	3	Infrastructure Asset Management	5	4
Traffic Management	5	3			
Simulation and Optimization of Construction Processes	5	3			
River Morphodynamics	5	4			
Subsurface Infrastructure Engineering	5	4			

GENERAL COURSES

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*		
Thesis **	EC	Quartile	Thesis **	EC	Quartile
Preparation Master Thesis	5	-	Preparation Master Thesis	5	-
Master Thesis Construction/Traffic/Water	30	-	Master Thesis Construction/Traffic/Water	30	-

PLANNING AND CONSULTATION FOR THE MASTER PROFILES

Track-coordinator: dr. Jord Warmink

Coordination of Master Theses: see coordinators from CME, TEM or WEM