

Master programme Civil Engineering and Management

Integrated Civil Engineering Systems (1)							
PROFILES							
Civil Engineering Structures				Modeling and Forecasting			
Profile Courses (30 EC)	Course code	EC	Quartile	Profile Courses (minimum 30 EC)	Course code	EC	Quartile
Sustainable Building	195810400	7,5	1	Transport Modeling	201100008	7,5	2
Morphology (pr.knowl: Marine Dynamics)	195410200	7,5	2	Design Project Water II	195400500	7,5	2
Research Methodology & Academic Skills	195820400	7,5	2	Tools for Water Policy Analysis	195400600	7,5	3
Geo Risk Management	195820300	7,5	3	Mathematical Optimization in Transport	201100012	7,5	3
Hydraulic Engineering	195410300	7,5	4	Mathematical Physics of Water Systems	195400900	7,5	3
				Transport Research Project	201100009	7,5	any
				Morphology (pr.knowl: Marine Dynamics)	195410200	7,5	2
Profile Electives				Profile Electives			
- Free to choose any of the 35 CEM-courses (pay attention to the required prior knowledge)				- Free to choose any of the 35 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: courses from other programmes that fit in this profile				- Below: courses from other programmes that fit in this profile			
(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)				(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)			
Design Project Water II	195400500	7,5	2	Hydrology	195400100	7,5	1
Data Analysis in Water Engineering & Management	195410100	7,5	2	Marine Dynamics (prior knowledge: Math.Physics of WS)	195400800	7,5	1
Mathematical Physics of Water Systems	195400900	7,5	3	Traffic Operations	201100005	7,5	2
Collaborative Design & Engineering	195800400	7,5	3	Data Analysis in Water Engineering & Management	195410100	7,5	2
Building Information Modeling & 5D Planning	195820600	7,5	3	Data Science (EWI) + assignment	201400174	7,5	2 or 3
				Building Information Modeling & 5D Planning	195820600	7,5	3
				Traffic Management	201100006	7,5	4
				River Dynamics (prior knowledge: Math.Physics of WS)	195400400	7,5	4
Introduction to Finite Elements (part mod11 WB)	201400311	± 3	3	Statistics and Probability (IEM)	191506103	5	1
Numerical Methods in ME (ME; prior knowledge: Intro FE)	191157710	5	1-2	Simulation (IEM; follow up of Module 8 CIT/TBK)	191820210	5	1-2
Linear Solid Mechanics (ME)	201400037	5	3	Numerical Methods in ME (ME; prior knowledge: Intro FE)	191157710	5	1-2
Nonlinear Solid Mechanics (ME; prior knowledge: linear SM)	201400042	5	4	Discrete Optimization (AM)	191581100	5	1
Dynamica 2 & knik (mod 8 WB)	201500496	± 4,5	4	Optimization Modelling (AM)	191581420	6	3
Structural Health and Condition Monitoring (ME)	201500452	5	4	Scientific Computing (AM)	191551200	6	3
Failure Mechanisms & Life Prediction (ME)	201300038	5	2	Introduction to Finite Elements (part mod11 WB)	201400311	± 3	3
Data Science (EWI)	201400174	5	2 or 3	Theory of Partial Differential Equations (AM)	191550105	5	3
				Applied Finite Elements for PDE (AM)	191551161	6	3
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		7,5	-	Preparation Master Thesis		7,5	-
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							

* 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 Engineering Technology.
 For a list of partner universities, see: <https://www.utwente.nl/ctw/student-mobility/partners/>
 For courses from other universities: contact your track-coordinator.
 The Free Electives should be at MSc-level and should have no overlap with other courses in your programme.

** For the procedure of how to start the course Preparation Master Thesis and your MSc-thesis project, see: https://www.utwente.nl/cem/master_programme/graduate/