

Master Programme Civil Engineering and Management

Construction Engineering and Engineering	Transport Engineering and Management	Water Engineering and Management	Integrated Civil Engineering Systems
PROFILES			
Markets & Organization of Construction		Transport Planning and Modelling	
Profile Courses (minimum 30 EC) Research Methodology & Academic Skills (compulsory) 7,5 2 Research Methodology & Academic Skills (compulsory) (2019-2020) 5 any Legal & Governance Aspects 7,5 1 Planning & Process Management 5 1 Sustainability and Circularity in Civil Engineering 5 1 Construction Industry Dynamics 5 2 Construction Process Management 5 2 Systems Engineering in Construction 5 3 Infrastructure Asset Management 5 4		Profile Courses (minimum 30 EC) Transport Research Project (mandatory) 5 any Planning & Process Management 5 1 Modelling Consumer Behaviour 5 1 Rail Transport 5 2 Choice Modelling 5 2 Land Use and Transport Interactions 5 3 Public Transport Modelling 5 3 Sustainable Transport 5 4	
Profile Electives		Profile Electives	
- Free to choose any of the CEM courses offered (pay attention to the required prior knowledge) - 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 (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)		- Free to choose any of the CEM courses offered (pay attention to the required prior knowledge) - 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 (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)	
Construction Supply Chains and Digitization 5 1 Experiments in Water Infrastructure 5 2 Procurement Strategies and Tendering 5 3 Infrastructure Maintenance Machines 5 4 Urban Governance and Resilience for Smarter Cities (2019-2020) 5 4 Value Management 5 4 Culture in Construction (2019-2020) 5 4 Innovation in Construction (2019-2020) 5 4 Decision Engineering in Construction (2019-2020) 5 4		Legal & Governance Aspects 7,5 1 Traffic Forecasting & Analysis 5 2 Network Modelling & Forecasting 5 2 Data Science (CSC) 5 2 or 3 Data Science Additional Topics (CSC) 5 3 Public Governance & Policy Networks (PA) 5 3 Infrastructure Asset Management 5 4 Traffic Management 5 4 Network Equilibrium Analysis 5 4 Geospatial Modelling (2019-2020) 5 4 Smart City Engineering (2019-2020) 5 4 Transport in Smart Cities (2019-2020) 5 4	
Digital Technologies in Construction		River and Coastal Engineering	
Profile Courses (minimum 30 EC) Research Methodology & Academic Skills (compulsory) 7,5 2 Research Methodology & Academic Skills (compulsory) (2019-2020) 5 any Legal & Governance Aspects 7,5 1 Planning & Process Management 5 1 Construction Industry Dynamics 5 2 Construction Process Management 5 2 Systems Engineering in Construction 5 3 Digital Technologies for Civil Engineering 5 3 Technology and Innovation in Road Construction 5 4		Profile Courses (minimum 30 EC) Transport Research Project (mandatory) 5 any Simulation (IEM) 5 1 Traffic Operations 5 1 Traffic Forecasting & Analysis 5 2 Network Modelling & Forecasting 5 2 Mathematical Optimization (DMMP) 5 3 Public Transport Modelling 5 3 Traffic Management 5 4 Network Equilibrium Analysis 5 4	
Profile Electives		Profile Electives	
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Sustainability and Circularity in Civil Engineering 5 1 Construction Supply Chains and Digitization 5 1 BIM and 5D Planning 5 2 Experiments in Water Infrastructure 5 2 Simulation and Optimization of Construction Processes 5 3 Value Management 5 4 Subsurface Infrastructure Engineering 5 4 Infrastructure Maintenance Machines 5 4 Infrastructure Asset Management 5 4 Innovation in Construction (2019-2020) 5 4 Decision Engineering in Construction (2019-2020) 5 4 Simulation (IEM; follow-up of Module 8 CIT/TBK) 191820210 5 1 Sustainable Engineering and Management (ME) 201200146 5 1 Product Life Cycle (IDE) 192850740 5 2 Scenario based product design (IDE) 192850810 5 2 Cost Management and Engineering (EM) 194110140 5 2 Product Life Cycle Management (IDE) 192850750 5 3 Product Life Cycle Management (IDE) 192850750 5 3 Reliability Engineering & Maintenance Mgmt. (IEM) 191852630 5 3 Design for Maintenance Operations (IDE) 201500235 5 3 Advanced 3D Modelling (IDE) 201500518 5 3 Supply Chain Finance (IEM) 5 3 Virtual Reality (IDE) 201000201 5 4 LEAN Six-Sigma Green Belt (ME) 191127520 5 4 Safety by Design 5 2		Water Quality 5 1 River Flow & Sediment Transport 5 1 Data Analysis in Water Engineering and Management 5 2 Hydrological Modelling and Forecasting 5 2 Hydraulic Engineering 5 3 Geo Risk Assessment 5 3 Building with Nature 5 4 Water and Climate 5 4 Advanced Research Skills in River and Coastal Engineering 5 2 Morphology 5 2 Mathematical Physics of Water Systems 5 3 River Morphodynamics 5 4	
GENERAL COURSES		GENERAL COURSES	
Free Electives (max 15 EC) Any course from UT or approved other university*		Free Electives (max 15 EC) Any course from UT or approved other university*	
Thesis ** Research Methodology and Academic skills 5 Preparation Master Thesis 5 Master Thesis Construction 30		Thesis ** Preparation Master Thesis 5 or 10 Master Thesis Water 30	
PLANNING AND CONSULTATION FOR THE MASTER PROFILES		PLANNING AND CONSULTATION FOR THE MASTER PROFILES	
Track-coordinator: drs. ing. Hans Boes		Track-coordinator: dr. ir. Eric van Berkum	
Coordinator Master Theses: dr. ir. Robin de Graaf		Coordinator Master Theses: dr. ir. Martijn Boel	

* 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.
 Click here for a list of partner universities.
 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.

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