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Student information

Programme

til.tudelft.nl

Student Portal

student.tudelft.nl

Lecturers

phonebook.tudelft.nl

Courses

studyguide.tudelft.nl

Digital Learning
Environment

brightspace.tudelft.nl

Schedules

mytimetable.tudelft.nl

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Location information



Technische Universiteit Delft

Delft University of Technology

MSc Programme

Transport, Infrastructure and Logistics

is an interfaculty programme of:

Faculty of
Civil Engineering
and Geosciences

Building 23 Stevinweg 1 2628 CN Delft Faculty of Technology, Policy and Management

Building 31 Jaffalaan 5 2628 BX Delft Faculty of Mechanical, Maritime and Materials Engineering

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Contact

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Maritime and
Transport Technology

Section
Transport Engineering
and Logistics

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Overview

MSc Transport, Infrastructure and Logistics 2020 (120 EC)

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Courses (75 EC)
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1 Fundamentals (23 EC)
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TIL4030-20 TIL Research and Design Methods

CIE4801-18 Transport Modelling

SEN1221 Statistical Analysis of Choice Behaviour

ME44206 Quantitative Methods for Logistics **2 Specialisations** (27 EC) (1 specialisation)

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2.1 Specialisation P - Policy: Infrastructure, Planning and Environment (27 EC)
```

CIE5816 Urban Regions, Transport and Economics

CIE5817 Assessment of Transport Infrastructure and Systems

SEN171a Advanced Evaluation Methods for Transport Policy Decision-making

SEN1741 Innovations in Transport and Logistics

AR0093 Infrastructure and Environment Method Module

AR0191 Urban Sustainability

AR0551 People, Movement and Public Space

2.2 Specialisation D - Design: Transport Systems and Networks (27 EC)

CIE5802-18 Advanced Transportation Modelling

CIE5826 Railway Operations and Control

CIE4811-18 Planning and Operations of Public Transport Systems

SEN1721 Travel Behaviour Research

AE4423-20 Airline Planning and Optimization

AE4426 Airport Operations

2.3 Specialisation O - Operations: Traffic, Technology and Control (27 EC)

CIE4825 Traffic Flow Modelling and Control Part 1

CIE5821 Traffic Flow Modelling and Control Part 2

CIE5805-18 Intelligent Vehicles for Safe and Efficient Traffic: Design and Assessment

SEN9110 Simulation Master Class

ME44200 Operations and Maintenance

ME44305 System Analysis and Simulation

2.4 Specialisation E - Engineering: Transport, Logistics and Supply Chains (27 EC)

CIE5830 Freight Transport Systems: Analysis and Modelling SEN9710 Decision Making in Multimodal Transport Systems

SEN9720 Logistics and Supply Chain Innovations

ME44101 Dynamics and Interaction of Material and Equipment

ME44300 Multi-Machine Coordination for Logistics

ME44311 Advanced Operations Management

3 Electives (25 EC)

3.1 Electives T&P - Transport and Planning (at least 1 course)

CIE4811-18 Planning and Operations of Public Transport Systems

CIE4825 Traffic Flow Modelling and Control Part 1

CIE4831-18 Empirical Analysis for Transport and Planning

CIE4845 Emerging Topics for Transport & Planning

CIE5802-18 Advanced Transportation Modelling

CIE5803-18 Railway Traffic Management

CIE5805-18 Intelligent Vehicles for Safe and Efficient Traffic: Design and Assessment

CIE5810-19 Traffic Safety

CIE5815 Resilient Transport Systems: Analysis and Interventions

CIE5816 Urban Regions, Transport and Economics

CIE5817 Assessment of Transport Infrastructure and Systems

CIE5821 Traffic Flow Modelling and Control Part 2

CIE5822 Active modes: Traffic and Transport

CIE5825 Advanced Public Transport Modelling and Operations

CIE5826 Railway Operations and Control

CIE5830 Freight Transportation Systems: Analysis and Modelling

3.2 Electives T&L - Transport and Logistics (at least 1 course) SEN1131 Institutional Economics for Design in Socio-technical Systems SEN1151 Law and Institutions SEN171a Advanced Evaluation Methods for Transport Policy Decision-making SEN1721 Travel Behaviour Research SEN1741 Innovations in Transport and Logistics SEN9110 Simulation Master Class SEN9710 Decision Making in Multimodal Transport Systems SEN9720 Logistics and Supply Chain Innovations SEN9725 Supply Chain Gaming TPM004a Transport Safety **3.3 Electives MME - Multi-Machine Engineering** (at least 1 course) ME44101 Dynamics and Interaction of Material and Equipment ME44105 Structural Design with FEM ME44110 Integration Project Multi-Machine Systems ME44115 Discrete Element Method (DEM) Simulation ME44125 Reliability and Maintenance of Transport Equipment ME44200 Operations and Maintenance ME44300 Multi-Machine Coordination for Logistics ME44305 System Analysis and Simulation ME44311 Advanced Operations and Production Management ME44312 Machine Learning for Transport and Multi-Machine Systems **3.4 External electives** (at least 1 course) 3.4.1 Electives C&O - Control and Operations AE4321-15 Air Traffic Management AE4423-20 Airline Planning and Optimization AE4446 Airport Operations 3.4.2 Electives U - Urbanism AR0093 Infrastructure and Environment Method Module AR0191 Urban Sustainability AR0551 People, Movement and Public Space AR3CS010 Workshop Cross Domain City of the Future AR3CS020 Seminar Cross Domain City of the Future AR8003TU Legal and Governance 3.4.3 Electives TIL - Other TIL fields CIE4330 Ports and Waterways 1 CIE4874 Elements of Railway Engineering CIE5306 Ports and Waterways 2 CME2300 Financial Engineering ME41105 Intelligent Vehicles MT44070 Shipping Management RO47016 Automotive Human Factors VI4062TU Transport, Routing and Scheduling WM1301TU Ethics of Transportation 3.5 Free electives (optional) TIL6010 TIL Programming / Matlab TIL6020 TIL Scientific Assignment Free electives

Projects and Thesis (45 EC)

4 Projects (15 EC)

TIL4020-20 TIL Research Project
TIL5050-20 TIL Design Project

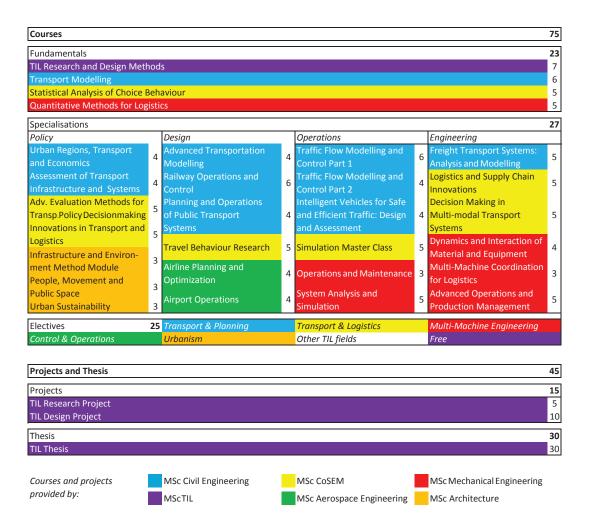
5 Thesis (30 EC)

TIL5060 TIL Thesis

O Programme

Category	EC
Courses	<i>75</i>
Fundamentals	23
Specialisations	27
Electives	25
Projects and Thesis	45
Projects	15
Thesis	30
Total	120

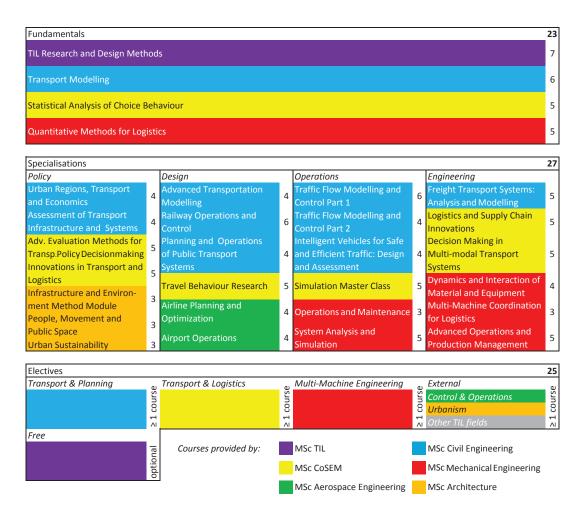
O Programme



1 2 3 Courses

Course type	EC
Fundamentals	23
Specialisations	27
Electives	25
Total	<i>75</i>

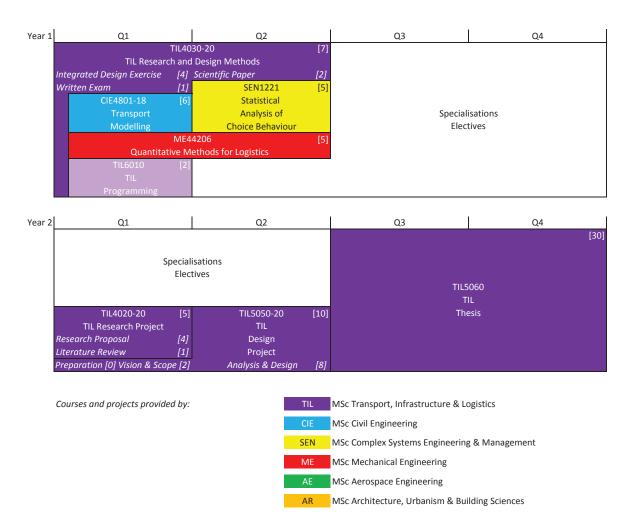
1 2 3 Courses



1 Fundamentals

Course			EC
TIL4030-20	TIL Research and Design Methods	_	7
TIL4030-20 F	1 Integrated Design Exercise	4	
TIL4030-20 F	2 Written Exam	1	
TIL4030-20 F	Scientific Paper	2	
CIE4801-18	Transport Modelling		6
SEN1221	Statistical Analysis of Choice Behaviour		5
ME44206	Quantitative Methods for Logistics		5
	Total		23
	Compulsory	7	

1 Fundamentals



2 Specialisations

Specialisation P - Policy: Infrastructure, Planning and Environment (27 EC)

Specialisation D - Design: Transport Systems and Networks (27 EC)

Specialisation O - Operations: Traffic, Technology and Control (27 EC)

Specialisation E - Engineering: Transport, Logistics and Supply Chains (27 EC)

Choose 1 specialisation

2 Specialisations

Policy		Design		Operations		Engineering	
Urban Regions, Transport	4	Advanced Transportation	4	Traffic Flow Modelling and	6	Freight Transport Systems:	-
and Economics	4	Modelling	4	Control Part 1	О	Analysis and Modelling	Э
Assessment of Transport	4	Railway Operations and	6	Traffic Flow Modelling and	4	Logistics and Supply Chain	_
Infrastructure and Systems		Control	О	Control Part 2	4	Innovations	5
Adv. Evaluation Methods for	5	Planing and Operations		Intelligent Vehicles for Safe		Decision Making in	
Transp.Policy Decisionmaking	5	of Public Transport	4	and Efficient Traffic: Design	4	Multi-modal Transport	5
Innovations in Transport and	-	Systems		and Assessment		Systems	
Logistics	Э	Travel Behaviour Research	_	Simulation Master Class	5	Dynamics and Interaction of	7
Infrastructure and Environ-	3	Travel Berlaviour Research	Э	Simulation Waster Class	Э	Material and Equipment	4
ment Method Module		Airline Planning and	1	Operations and Maintenance	2	Multi-Machine Coordination	,
People, Movement and	3	Optimization	4	operations and ividifice	э	for Logistics	3
Public Space	-	Airport Operations	4	System Analysis and	_	Advanced Operations and	_
Urban Sustainability	3	Airport Operations	4	Simulation	3	Production Management	3

Courses provided by:

MSc Civil Engineering

MSc Complex Systems Engineering & Management

MSc Mechanical Engineering

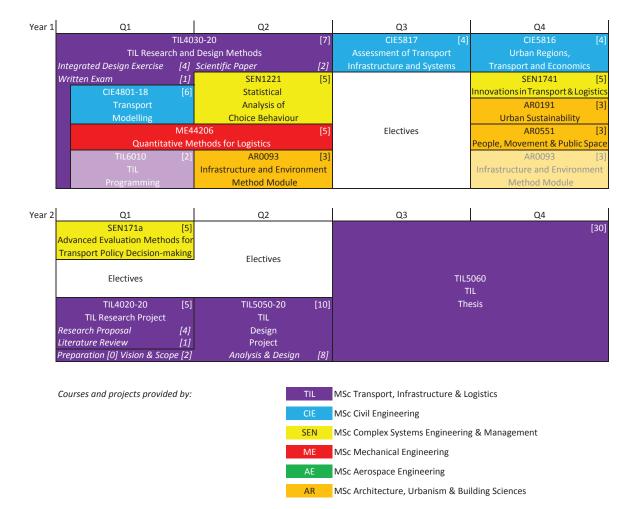
MSc Aerospace Engineering

MSc Architecture, Urbanism & Building Sciences

2.1 Specialisation P - Policy: Infrastructure, Planning & Environment

	Course	EC
CIE5816	Urban Regions, Transport and Economics	4
CIE5817	Assessment of Transport Infrastructure and Systems	4
SEN171a	Advanced Evaluation Methods for Transport Policy Decision-making	į
SEN1741	Innovations in Transport and Logistics	į
AR0093	Infrastructure and Environment Method Module	3
AR0191	Urban Sustainability	3
AR0551	People, Movement and Public Space	3
	Total	27
	In a chosen specialisation all courses are compulsory	

2.1 Specialisation P - Policy: Infrastructure, Planning & Environment

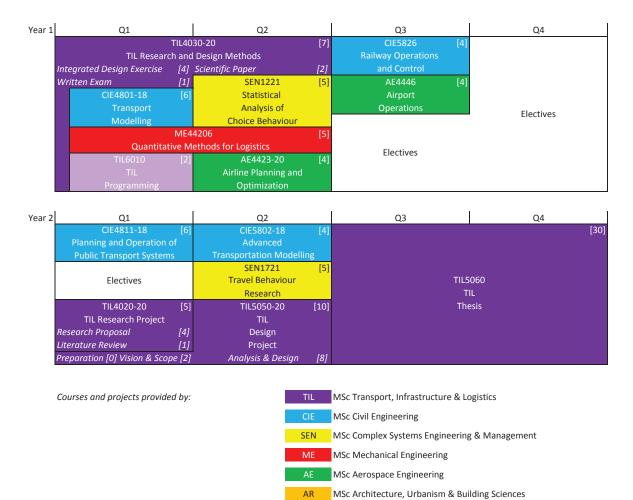


2.2 Specialisation D - Design: Transport Systems & Networks

	Course	EC
CIE5802-18	Advanced Transportation Modelling	4
CIE5826	Railway Operations and Control	4
CIE4811-18	Planning and Operations of Public Transport Systems	(
SEN1721	Travel Behaviour Research	Ţ
AE4423-20	Airline Planning and Optimization	4
AE4426	Airport Operations	4
	Total	27
	In a chosen specialisation all courses are compulsory	

In a chosen specialisation all courses are compulsory

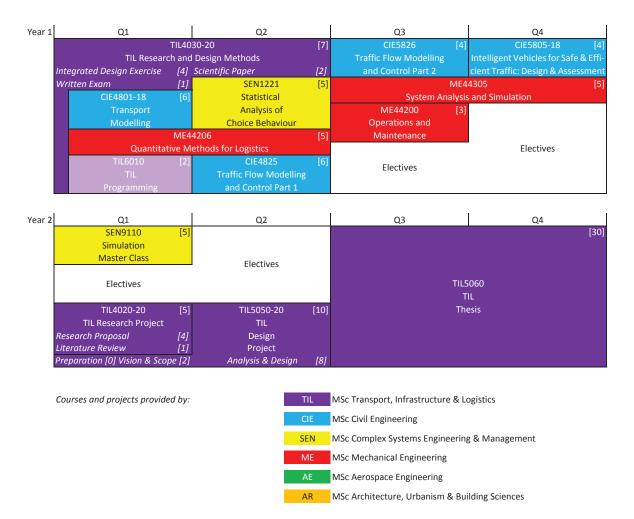
2.2 Specialisation D - Design: Transport Systems & Networks



2.3 Specialisation O - Operations: Traffic, Technology & Control

EC Course CIE4825 Traffic Flow Modelling and Control Part 1 6 CIE5821 Traffic Flow Modelling and Control Part 2 4 CIE5805-18 Intelligent Vehicles for Safe and Efficient Traffic: Design and Assessment 4 SEN9110 Simulation Master Class 5 ME44200 3 Operations and Maintenance ME44305 5 System Analysis and Simulation Total 27 In a chosen specialisation all courses are compulsory

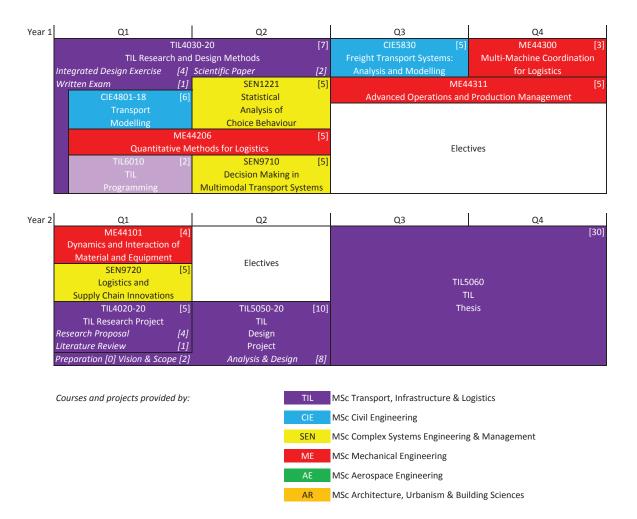
2.3 Specialisation O - Operations: Traffic, Technology & Control



2.4 Specialisation E - Engineering: Transport, Logistics & Supply Chains

	Course	EC
CIE5830 SEN9710 SEN9720 ME44101 ME44300 ME44311	Freight Transport Systems: Analysis and Modelling Decision Making in Multimodal Transport Systems Logistics and Supply Chain Innovations Dynamics and Interaction of Material and Equipment Multi-Machine Coordination for Logistics Advanced Operations Management	5 5 5 4 3 5
	Total In a chosen specialisation all courses are compulsory	27

2.4 Specialisation E - Engineering: Transport, Logistics & Supply Chains



3 Electives

Electives T&P - Transport and Planning (at least 1 course)
Electives T&L - Transport and Logistics (at least 1 course)
Electives MME - Multi-Machine Engineering (at least 1 course)
External electives (at least 1 course)
Electives C&O - Control and Operations
Electives U - Urbanism
Electives TIL - Other TIL fields
Free electives (optional)

3 Electives

Transport & Planning		Transport & Logistics		Multi-Machine Engineering	_ ;	<u>External</u>		Free	
Planning and Operations of	6	Institutional Economics De-	3	Dynamics and Interaction of	4	External Airline Planning and Optimization	4	TIL Programming / Matlab	
Public Transport Systems	Ŭ	sign Socio-technical Systems	,	Material and Equipment	_	Optimization		TIET TOBICITITING / WICKING	
Traffic Flow Modelling and Control Part 1	6	Law and Institutions	5	Structural Design with FEM	4 0	8 Airport Operations	4	TIL Scientific Assignment	
Empirical Analysis for Transport and Planning	6	Advanced Evaluation Methods for Transport	5	Integration Project Multi- Machine Systems	5	Air Traffic Management	4	Free electives	
EmergingTopicsforTransport and Planning	4	Travel Behaviour Research	5	Discrete Element Method (DEM) Simulation	4	Infrastructure & Environment Method Module	3		
Advanced Transport Modelling	4	Innovations in Transport and Logistics	5	Reliability and Maintenance of Transport Equipment	3	Urban Sustainability	3		
Railway Traffic Management	4	Simulation Master Class	5	Operations and Maintenance	3	People, Movement and Public Space	3		
Intelligent Vehicles for Safe & Efficient Traffic	4	Decision Making in Multi- modal Transport Systems	5	Multi-Machine Coordination for Logistics	3	Workshop Cross Domain City of the Future	3		
Traffic Safety	4	Logistics and Supply Chain Innovations	5	System Analysis and Simulation	5	Seminar Cross Domain City of the Future	6		
Resilient Transport Systems	4	Supply Chain Gaming	5	Advanced Operations and Production Management	5	Legal and Governance	5		
Urban Regions, Transport and Economics	4	Transport Safety	4	Machine Learning for Transp. and Multi-Machine Systems	3	Ports and Waterways 1	4		
Assessment of Transport Infrastructure and Systems	4					Ports and Waterways 2	4		
Traffic Flow Modelling and Control Part 2	4					Elements of Railway Engineering	4		
Active modes: Traffic and Transport	4					Financial Engineering	4		
Advanced Public Transport Modelling and Operations	4					Intelligent Vehicles	4		
Railway Operations and Control	4					Automotive Human Factors	5		
Freight Transport Systems: Analysis and Modelling	5				1010	Shipping Management Transport, Routing and	5		
		Courses provided by:		MSc TIL	T.1. E.	Transport, Routing and Scheduling	3		
MSc Civil Engineering		MSc CoSEM		MSc Mechanical Engineerin	g 3	Ethics of Transportation	3		
MSc Aerospace Engineeri	nσ	MSc Architecture		Service Education	Č	5]	

3.1 Electives T&P - Transport and Planning

	Course	EC
CIE4811-18	Planning and Operations of Public Transport Systems	6
CIE4825	Traffic Flow Modelling and Control Part 1	6
CIE4831-18	Empirical Analysis for Transport and Planning	6
CIE4845	Emerging Topics for Transport & Planning	4
CIE5802-18	Advanced Transportation Modelling	4
CIE5803-18	Railway Traffic Management	4
CIE5805-18	Intelligent Vehicles for Safe and Efficient Traffic: Design and Assessment	4
CIE5810-19	Traffic Safety	4
CIE5815	Resilient Transport Systems: Analysis and Interventions	4
CIE5816	Urban Regions, Transport and Economics	4
CIE5817	Assessment of Transport Infrastructure and Systems	4
CIE5821	Traffic Flow Modelling and Control Part 2	4
CIE5822	Active modes: Traffic and Transport	4
CIE5825	Advanced Public Transport Modelling and Operations	4
CIE5826	Railway Operations and Control	4
CIE5830	Freight Transportation Systems: Analysis and Modelling	5

Choose at least 1 course, not already chosen as part of specialisation

3.1 Electives T&P - Transport and Planning

Q1	Q2	ı	Q3		Q4	ı
·	·	[6]	· · · · · · · · · · · · · · · · · · ·	[4]	CIE4845	[4]
Design and Control of Public	Traffic Flow Modelling		Resilient Transport Systems:	٠.	Emerging Topics for	
Transport Systems	and Control Part 1		Analysis and Interventions		Transport and Planning	
	CIE4831-18 [[6]	(P) CIE5817	[4]	CIE5803-18	[4]
	Empirical Analysis for		Assessment of Transport		Railway Traffic	
	Transport and Planning		Infrastructure and Systems		Management	
	(D) CIE5802-18 [[4]	(O) CIE5821	[4]	(O) CIE5805-18	[4]
	Advanced		Traffic Flow Modelling		Intelligent Vehicles for Safe & E	Effi-
	Transport Modelling		and Control Part 2		cient Traffic: Design & Assessm	ent
	CIE5810-19 [[4]	CIE5822	[4]	(P) CIE5816	[4]
	Traffic		Active Modes:		Urban Regions,	
	Safety		Traffic and Transport		Transport and Economics	
			CIE5825	[4]		
			Advanced Public Transport			
			Operations and Modelling			
			(D) CIE5826	[4]		
			Railway Operations			
			and Control			
			(E) CIE5830	[5]		
			Freight Transport Systems:			
			Analysis and Modelling			

Courses provided by:

CIE MSc Civil Engineering
Track Transport & Planning

- (P) Course is part of Specialisation P Policy: Infrastructure, Planning and Environment
- (D) Course is part of Specialisation D Design: Transport Systems and Networks
- (O) Course is part of Specialisation O Operations: Traffic, Technology and Control
- (E) Course is part of Specialisation E Engineering: Transport, Logistics and Supply Chains

3.2 Electives T&L - Transport and Logistics

	Course	EC
SEN1131	Institutional Economics for Design in Socio-technical Systems	3
SEN1151	Law and Institutions	5
SEN171a	Advanced Evaluation Methods for Transport Policy Decision-making	5
SEN1721	Travel Behaviour Research	5
SEN1741	Innovations in Transport and Logistics	5
SEN9110	Simulation Master Class	5
SEN9710	Decision Making in Multimodal Transport Systems	5
SEN9720	Logistics and Supply Chain Innovations	5
SEN9725	Supply Chain Gaming	5
TPM004a	Transport Safety	4

Choose at least 1 course, not already chosen as part of specialisation

3.2 Electives T&L - Transport and Logistics

1	Q1	Q2		Q3	Q4
	SEN1131 [3]	(D) SEN1721	[5]	SEN1151 [5] (F	P) SEN1741 [5]
	Institutional Economics for	Travel Behaviour		Law and	Innovations in
De	sign in Socio-technical Systems	Research		Institutions	Transport and Logistics
(P)	SEN171a [5]	(E) SEN9710	[5]		
A	Advanced Evaluation Methods	Decision Making in			
f	or Transport Decision-making	Multimodal Transport Syster	ns		
(O) SEN9110 [5]	SEN9725	[5]		
	Simulation	Supply Chain			
	Master Class	Gaming			
(E)	SEN9720 [5]				
	Logistics and				
	Supply Chain Innovations				
	TPM004a [4]				
	Transport				
	Safety				

Courses provided by:

SEN MSc Systems Engineering, Policy Analysis and Management Track Transport & Logistics

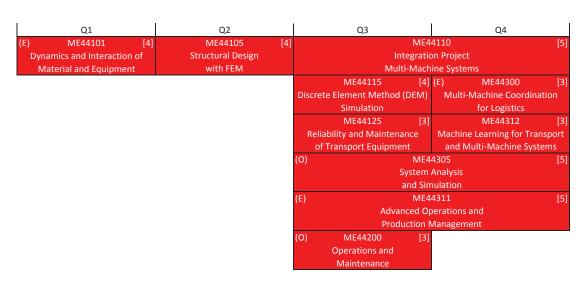
- (P) Course is part of Specialisation P Policy: Infrastructure, Planning and Environment
- (D) Course is part of Specialisation D Design: Transport Systems and Networks
- (O) Course is part of Specialisation O Operations: Traffic, Technology and Control
- (E) Course is part of Specialisation E Engineering: Transport, Logistics and Supply Chains

3.3 Electives MME - Multi-Machine Engineering

	Course	EC
ME44101	Dynamics and Interaction of Material and Equipment	۷
ME44105	Structural Design with FEM	4
ME44110	Integration Project Multi-Machine Systems	5
ME44115	Discrete Element Method (DEM) Simulation	۷
ME44125	Reliability and Maintenance of Transport Equipment	3
ME44200	Operations and Maintenance	3
ME44300	Multi-Machine Coordination for Logistics	3
ME44305	System Analysis and Simulation	5
ME44311	Advanced Operations and Production Management	5
ME44312	Machine Learning for Transport and Multi-Machine Systems	3

Choose at least 1 course, not already chosen as part of specialisation

3.3 Electives MME - Multi-Machine Engineering



Courses provided by:

ME MSc Mechanical Engineering
Track Multi-Machine Engineering

- (P) Course is part of Specialisation P Policy: Infrastructure, Planning and Environment
- (D) Course is part of Specialisation D Design: Transport Systems and Networks
- (O) Course is part of Specialisation O Operations: Traffic, Technology and Control
- (E) Course is part of Specialisation E Engineering: Transport, Logistics and Supply Chains

3.4 External electives

Electives C&O - Control and Operations Electives U - Urbanism Electives TIL - Other TIL fields

Choose at least 1 course, not already chosen as part of specialisation

3.4 External Electives

Q1	Q2	Q3	Q4	
AR3	CS010 [3]	WI4062TU [3]	(P) AR0191 [3]	
Workshop	Cross Domain	Transport, Routing	Urban	
City of	the Future	and Scheduling	Sustainability	
AR3	CS020 [6]	WM1301TU [3]	(P) AR0551 [3]	
Seminar C	ross Domain	Ethics of People, Movemen		
City of	the Future	Transportation	Public Space	
AR8003TU [5	(P) AR0093 [3]	MT44070 [5]	(P) AR0093 [3]	
Legal and	Infrastructure and Environment	Shipping	Infrastructure and Environment	
Governance	Method Module	Management	Method Module	
CME2300 [4	(D) AE4423-20 [4]	(D) AE4446 [4]	RO47016 [5]	
Financial	Airline Planning and	Airport	Automotive	
Engineering	Optimization	Operations	Human Factors	
CIE4330 [4	AE43	321-15 [4]	CIE5306 [4]	
Ports and	Air 1	raffic	Ports and	
Waterways 1	Mana	gement	Waterways 2	
	CIE4874 [4]			
	Elements of			
	Railway Engineering			
	ME41105 [4]			
	Intelligent			
	Vehicles			
		_		
Courses provided by:		MSc Aerospace Engine	eering, Track Control & Operations	
		AR Electives		

CEG Electives

3mE Electives

Service Education EWI / Interfaculty Education TPM

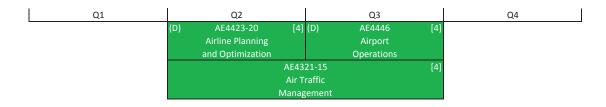
- (P) Course is part of Specialisation P Policy: Infrastructure, Planning and Environment
- (D) Course is part of Specialisation D Design: Transport Systems and Networks
- (O) Course is part of Specialisation O Operations: Traffic, Technology and Control
- (E) Course is part of Specialisation E Engineering: Transport, Logistics and Supply Chains

3.4.1 Electives C&O - Control and Operations

	Course	EC
AE4321-15	Air Traffic Management	4
AE4423-20	Airline Planning and Optimization	4
AE4446	Airport Operations	4

Choose at least 1 course, not already chosen as part of specialisation Optional if at least 1 course of Electives U or TIL has been chosen

3.4.1 Electives C&O - Control and Operations



Courses provided by:

AE MSc Aerospace Engineering Track Control & Operations

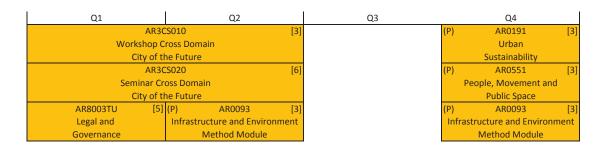
- (P) Course is part of Specialisation P Policy: Infrastructure, Planning and Environment
- (D) Course is part of Specialisation D Design: Transport Systems and Networks
- (O) Course is part of Specialisation O Operations: Traffic, Technology and Control
- (E) Course is part of Specialisation E Engineering: Transport, Logistics and Supply Chains

3.4.2 Electives U - Urbanism

	Course	EC
AR0093	Infrastructure and Environment Method Module	3
AR0191	Urban Sustainability	3
AR0551	People, Movement and Public Space	3
AR3CS010	Workshop Cross Domain City of the Future	3
AR3CS020	Seminar Cross Domain City of the Future	6
AR8003TU	Legal and Governance	5

Choose at least 1 course, not already chosen as part of specialisation Optional if at least 1 course of Electives C&O or TIL has been chosen

3.4.2 Electives U - Urbanism



Courses provided by:

AR MSc Architecture, Urbanism & Building Sciences
AR Electives

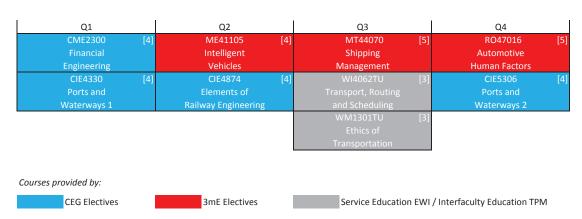
- (P) Course is part of Specialisation P Policy: Infrastructure, Planning and Environment
- (D) Course is part of Specialisation D Design: Transport Systems and Networks
- (O) Course is part of Specialisation O Operations: Traffic, Technology and Control
- (E) Course is part of Specialisation E Engineering: Transport, Logistics and Supply Chains

3.4.3 Electives TIL - Other TIL fields

	Course	EC
CIE4330	Ports and Waterways 1	4
CIE4874	Elements of Railway Engineering	4
CIE5306	Ports and Waterways 2	4
CME2300	Financial Engineering	4
ME41105	Intelligent Vehicles	4
MT44070	Shipping Management	5
RO47016	Automotive Human Factors	5
WI4062TU	Transport, Routing and Scheduling	3
WM1301TU	Ethics of Transportation	3

Choose at least 1 course, not already chosen as part of specialisation Optional if at least 1 course of Electives C&O or U has been chosen

3.4.3 Electives TIL - Other TIL fields



- (P) Course is part of Specialisation P Policy: Infrastructure, Planning and Environment
- (D) Course is part of Specialisation D Design: Transport Systems and Networks
- (O) Course is part of Specialisation O Operations: Traffic, Technology and Control
- (E) Course is part of Specialisation E Engineering: Transport, Logistics and Supply Chains

3.5 Free electives

Course EC

TIL6010 TIL6020

TIL Programming / Matlab
TIL Scientific Assignment
Free electives

2 7

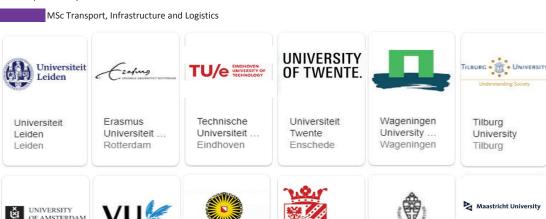
Optional



3.5 Free electives

Q1		Q2			Q3			Q4	
Free elective		Free elective		Free	e elective		Free	elective	
TIL6020 TIL Scientific Assignment		TIL6020 TIL Scientific Assignment	[7]		IL6020 Scientific ignment	[7]		L6020 Scientific gnment	[7]
TIL6010 TIL Programming /	[2]		•						

Courses provided by:



Universiteit
van Amster...
Amsterdam



Universiteit ...

Amsterdam

Universiteit Utrecht
Universiteit
Utrecht

Utrecht



Rijksuniver... Radboud Universiteit Nij Groningen Universiteit Nijmegen

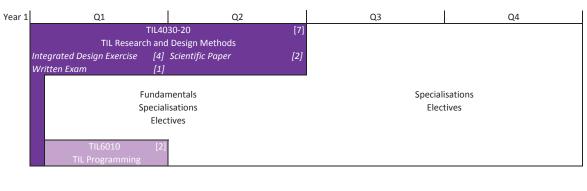
offlood Universiteit Nijmegen

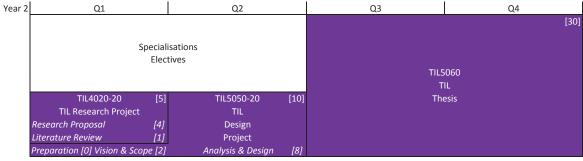
adboud Maastricht hiversiteit University megen Maastricht

4 5 Projects and thesis

Project type	EC
Projects Thesis	15 30
Total	45

4 5 Projects and Thesis





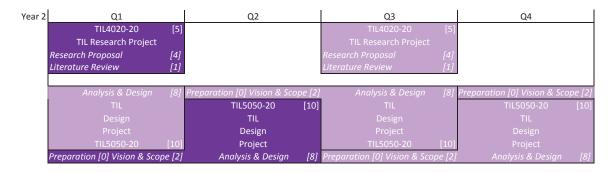
Courses and projects provided by:

MSc Transport, Infrastructure and Logistics

4 Projects

	Project		EC
TIL4020-20	TIL Research Project	4	5
TIL4020-20 P1 TIL4020-20 P2	,	4 1	
TIL5050-20	TIL Design Project	0	10
TIL5050-20 P0 TIL5050-20 P1	•	0 2	
TIL5050-20 P2	•	8	
	Total		15
	Compulsory		

4 Projects



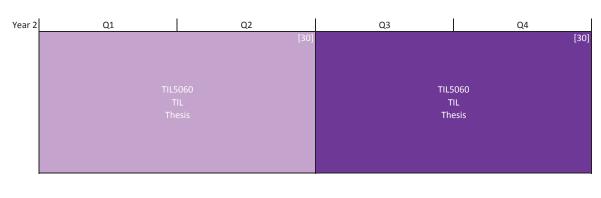
Projects provided by:

MSc Transport, Infrastructure and Logistics

5 Thesis

	Project	EC
TIL5060	TIL Thesis	30
	Compulsory	

5 Thesis



Projects provided by:

MSc Transport, Infrastructure and Logistics

Extras

- A Honours Programmes Master
- B Schakelprogramma HBO (Bridging Programme)
- C Convergentieprogramma WO (Convergence Programme)
 - C.1 Convergence Programme: Specialisation P Policy
 - C.2 Convergence Programme: Specialisation D Design
 - C.3 Convergence Programme: Specialisation O Operations
 - C.4 Convergence Programme: Specialisation E Engineering
- D Example Electives
 - D.1 Example Electives in Specialisation P Policy
 - D.2 Example Electives in Specialisation D Design
 - D.3 Example Electives in Specialisation O Operations
 - D.4 Example Electives in Specialisation E Engineering

A Honours Programme Master

	Course or project	EC
UD2010 TIL6020	Critical Reflection on Technology TIL Scientific Assignment	5 7
	Thematically consistent set of Electives	8
	Total	20
	Optional	

20 EC on top of MSc programme

A Honours Programme Master

	Q1 Q2		Q3	Q4
Electives El		Electives	Electives	Electives
	TIL6020 [7] TIL Scientific Assignment	TIL6020 [7] TIL Scientific Assignment	TIL6020 [7] TIL Scientific Assignment	TIL6020 [7] TIL Scientific Assignment
		UD2010 [5] Critical Reflection on Technology		UD2010 [5] Critical Reflection on Technology

Courses provided by:

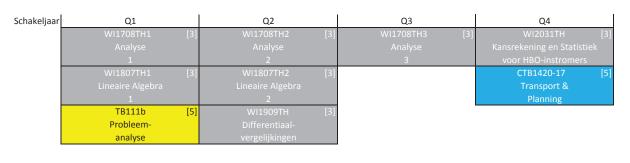
Interfaculty Education TPM

MSc Transport, Infrastructure and Logistics

B Schakelprogramma HBO

	Vak	EC
WI1708TH1	Analyse 1	3
WI1708TH2	Analyse 2	3
WI1708TH3	Analyse 3	3
WI1807TH1	Lineaire Algebra 1	3
WI1807TH2	Lineaire Algebra 2	3
WI1909TH	Differentiaalvergelijkingen	3
WI2031TH	Kansrekening en Statistiek voor HBO-instromers	3
TB111b	Probleemanalyse	5
CTB1420-17	Transport & Planning	5
	Totaal	31
	Verplicht of te ronden vóór aanvang MSc-opleiding	

B Schakelprogramma HBO



Vak afkomstig uit:

TH Serviceonderwijs EWI

CTB BSc Civiele Techniek

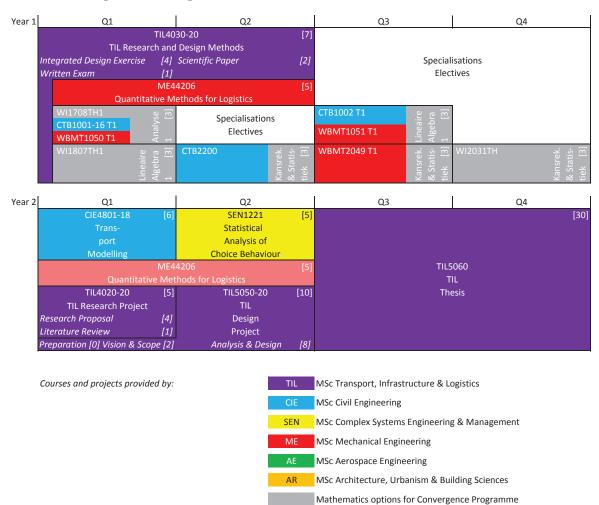
TB BSc Technische Bestuurskunde

C Convergentieprogramma WO

	Vak	Onderdeel	EC
	Analyse		(kies 1 vak)
WI1708TH1	Analyse 1		3
CTB1001-16 Toets 1	Analyse	Analyse deeltentamen 1	3
WBMT1050 Toets 1	Wiskunde 1	Analyse 1 - deeltentamen	3
	ingangseis voor	CIE4801-18 Transport Modelling	
	Lineaire Algebra		(kies 1 vak)
WI1807TH1	Lineaire Algebra	1	3
CTB1002 Toets 1	Lineaire Algebra	Toets 1	3
WBMT1051 Toets 1	Wiskunde 2	Lineaire Algebra 1 - deeltentamen	3
	ingangseis voor	CIE4801-18 Transport Modelling	
	Kansrekening en	Statistiek	(kies 1 vak)
WI2031TH	Kansrekening en	Statistiek voor HBO-instromers	3
CTB2200	Kansrekening en	Statistiek	3
WBMT2049 T1	Wiskunde 4	Kansrekening en Statistiek - deelten	tamen 3
	ingangseis voor	SEN1221 Statistical Analysis of Choice	Behaviour

Uit elke categorie 1 vak op te nemen als Free Elective in MSc-opleiding

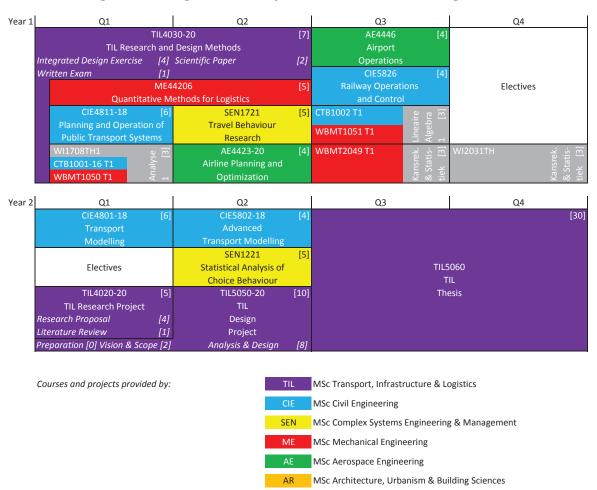
C Convergence Programme: Fundamentals



C.1 Convergence Programme: Specialisation P - Policy

Year 1	Q1		Q2		Q3		Q4	1
	TIL4030-20 [CIE5817	[4]	CIE5816	[4]
	TIL Research and Design Methods				Assessment of Tra	nsport	Urban Regions,	
	Integrated Design Exercis	se [4]	Scientific Paper	[2]	Infrastructure and Systems		Transport and Economics	
	Written Exam	[1]	AR0093	[3]			AR0551	[3]
	SEN171a	[5]	Infrastructure a	and	Electives		People,	
	Adv. Evaluation Met	hods for	Environment	t	Licetives		Movement and	
	Transp.Policy Decisio	nmaking	Method Modu	ule			Public Space	
	WI1708TH1	se [3]			CTB1002 T1	ra [3]	AR0191	[3]
	CTB1001-16 T1	Analyse 1 [3]	Electives		WBMT1051 T1	Lineaire Algebra 1 [3]	Urban	
	WBMT1050 T1						Sustainability	
	WI1807TH1	Lineaire Algebra 1 [3]	CTB2200	Kansrek. & Statis- tiek [3]	WBMT2049 T1	ansrek. Statis- ek [3]	SEN1741	[5]
		Lineaire Algebra 1 [3]		ansrek کی Statis iek [3		ansrek. کہ Statis- iek [3]	Innovations in	
		ı A E		Ka & tie		Ka & tie	Transport and Logistics	
Year 2	Q1		Q2		Q3	ĺ	Q4	1
rear 2	CIE4801-18	[6]	SEN1221	[5]	<u> </u>		۷,	[30]
	Trans-	1-1	Statistical	[-]				[]
	port		Analysis of					
	Modelling		Choice Behavio	our				
		ME4	4206	[5]		TIL5	060	
Quantitative Methods for Logistics						TI	L	
	TIL4020-20	[5]	TIL5050-20	[10]		The	esis	
TIL Research Project		TIL						
	Research Proposal	[4]	Design					
	Literature Review	[1]	Project					
	Preparation [0] Vision & S	Scope [2]	Analysis & Des	ign [8]				

C.2 Convergence Programme: Specialisation D - Design

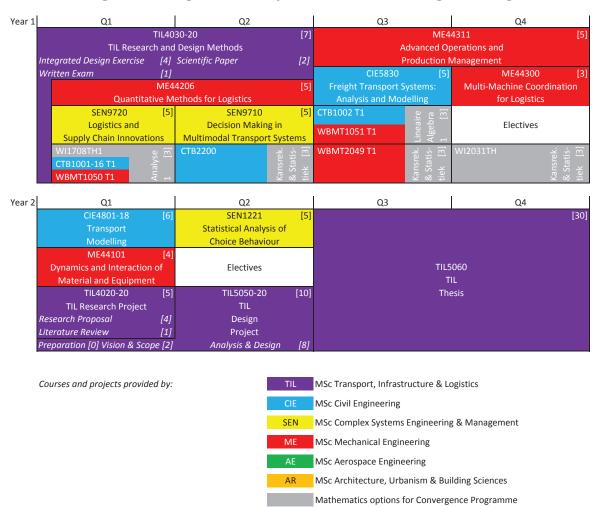


Mathematics options for Convergence Programme

C.3 Convergence Programme: Specialisation O - Operations

Year 1	r 1 Q1		Q2		Q3		Q4
	TIL4030-20			[7]	CIE5826	[4]	CIE5805-18 [4]
	TIL Research and Design Methods				Traffic Flow Mod	elling	Intelligent Vehicles for Safe & Effi-
	Integrated Design Exercise	[4]	Scientific Paper	[2]	and Control Pa	rt 2	cient Traffic: Design & Assessment
	Written Exam	[1]	CIE4825	[6]		ME4	4305 [5]
	SEN9110	[5]	Traffic Flow				and Simulation
	Simulation		Modelling and Con	itrol	ME44200	[3]	
	Master Class		Part 1		Operations and Mair	ntenance	
	WI1708TH1	se [3]			CTB1002 T1		Electives
	CTB1001-16 T1	Anaiyse 1 [3]	Electives		WBMT1051 T1		
		-					
	in eaire H144081IM	Algebra 1 [3]	CTB2200	Kansrek. & Statis- tiek [3]	WBMT2049 T1	ansrek. لا Statis- iek [3]	WI2031TH
	nea	lger		ansrek 2 Statis iek [3			(ansrek & Statis-
		T T		ス & 注		- 2g 公立	
Year 2	Q1		Q2		Q3		Q4
	CIE4801-18	[6]	SEN1221	[5]			[30]
	Trans-		Statistical				
	port		Analysis of				
	Modelling		Choice Behaviou	ır			
	ME44206					TIL5	060
Quantitative Methods for Logistics						Т	IL
	TIL4020-20	[5]	TIL5050-20	[10]		The	esis
	TIL Research Project		TIL				
	Research Proposal	[4]	Design				
	Literature Review	[1]	Project				
	Preparation [0] Vision & Scop	e [2]	Analysis & Desig	n [8]			

C.4 Convergence Programme: Specialisation E - Engineering

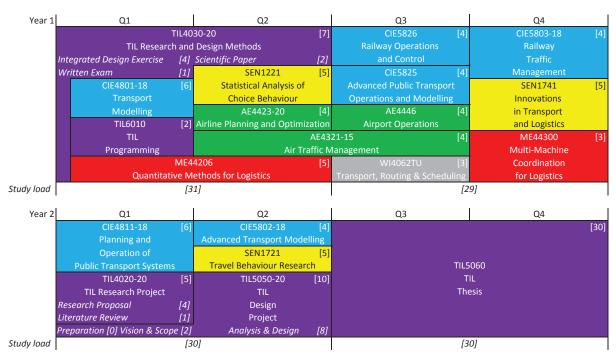


D.1 Example Electives in Specialisation P - Policy

Year 1	Q1		Q2	I	Q3		Q4	1
	TIL4030-20 [7]			CIE5817	[4]	CIE5816	[4]	
	TIL Research and Design Methods				Assessment of Transport		Urban Regions,	
	Integrated Design Exercise	[4]	Scientific Paper	[2]	Infrastructure and System	ıs	Transport and Economic	S
	Written Exam	[1]	SEN1221	[5]	SEN1151	[5]	SEN1741	[5]
	CIE4801-18	[6]	Statistical		Law and		Innovations in Transport & Log	gistics
	Transport		Analysis of	L	Institutions		AR0191	[3]
	Modelling		Choice Behaviour		WM1301TU	[3]	Urban Sustainability	
		ME4	4206	[5]			AR0551	[3]
	Quantitati	ve M	ethods for Logistics		Transportation		People, Movement & Public S	Space
	TIL6010	[2]	AR0093	[3]		ME4	4311	[5]
	TIL		Infrastructure and Environr	nent	Advanced Operations and			
	Programming		Method Module		Product	tion N	Management	
Study load		[2	8]			[3.	2]	
Year 2	Q1		Q2	1	Q3		Q4	- 1
	SEN171a	[5]	CIE4831-18	[6]				[30]
	Advanced Evaluation Method	s for	Empirical Analysis					
	Transport Policy Decision-ma	king	for Transport					
	TPM004a	[4]	and Planning					
	Transport Safety		TIL5050-20	[10]		TIL5	060	
	TIL4020-20	[5]	TIL			TI	IL	
	TIL Research Project		Design			The	esis	
	Research Proposal	[4]	Project					
	Literature Review	[1]	Analysis &					
	Preparation [0] Vision & Scop	e [2]	Design	[8]				
Study load		[3	0]			[3	0]	

[<u>5</u> 120]

D.2 Example Electives in Specialisation D - Design



[<u>5</u> 120]

Courses and projects provided by:

TIL MSc Transport, Infrastructure & Logistics

CIE MSc Civil Engineering

SEN MSc Complex Systems Engineering & Management

ME MSc Mechanical Engineering

AE MSc Aerospace Engineering

AR MSc Architecture, Urbanism & Building Sciences

TU Service Education EWI / Interfaculty Education TPM

D.3 Example Electives in Specialisation O - Operations

Year 1	Q1		Q2		Q3	Q4
	TIL4030-20		30-20	[7]	ME4	4305 [5]
	TIL Research	h and	Design Methods	System Analysi	s and Simulation	
	Integrated Design Exercise	[4]	Scientific Paper	[2]	ME44200 [3]	ME44300 [3]
	Written Exam	[1]	SEN1221	[5]	Operations and Maintenance	Multi-Machine Coordination
	CIE4801-18	[6]	Statistical Analysis of		CIE5822 [4]	for Logistics
	Trans-		Choice Behaviour		Active Modes: Traffic & Transport	RO47016 [5]
	port		CIE4825	[6]	CIE5826 [4]	Automotive
	Model-		Traffic Flow Modelling		Traffic Flow Modelling	Human
	ling		and Control Part 1		and Control Part 2	Factors
		ME4	4206	[5]	CIE5815 [4]	CIE5805-18 [4]
	C	Quant	itative		Resilient	Intelligent Vehicles
Methods					Transport Systems:	for Safe and Efficient Traffic:
	f	or Lo	gistics		Analysis and Interventions	Design and Assessment
Study load		[2	9]		[3	[2]
Year 2	Q1		Q2		Q3	Q4
	SEN9110	[5]	SEN1721	[5]		[30]
	Simulation		Travel Behaviour Research	ch		
	Master		ME41105	[4]		
Class Intelligent Vehicles				TILS	5060	
	TIL4020-20	[5]	TIL5050-20	[10]	T	TL .
	TIL Research Project TIL				Th	esis
	Research Proposal	[4]	Design			
	Literature Review	[1]	Project			
	Preparation [0] Vision & Scop	e [2]	Analysis & Design	[8]		
Study load		[2	9]		[3	90]

[<u>5</u> 120]

D.4 Example Electives in Specialisation E - Engineering

Year 1	Q1	Q2		Q3	Q4		
	TIL40	30-20	[7]	CIE5830 [5]	CIE4845 [4]		
	TIL Research and	Design Methods		Freight Transport Systems:	Emerging Topics for		
	Integrated Design Exercise [4]	Scientific Paper [[2]	Analysis and Modelling	Transport and Planning		
	Written Exam [1]	SEN1221	[5]	WI4062TU [3]	SEN1741 [5]		
	CIE4801-18 [6]	Statistical Analysis of			Innovations in Transport & Logistics		
	Transport Modelling	Choice Behaviour		Routing and	ME44300 [3]		
	ME4-	4206	[5]	Scheduling	MultiMachineCoordin.forLogistics		
	Quantitative Me	ethods for Logistics		ME4	4311 [5]		
	SEN1131 [3]	SEN9710	[5]	Advanced Operations and	d Production Management		
	Institutional Economics for De-	Decision Making in		ME4	4305 [5]		
	signinSocio-technicalSystems Multimodal Transport S			System Analysis and Simulation			
Study load	[3	1]		[3	30]		
-	•			-	,		
Year 2	Q1	Q2		Q3	Q4		
	SEN9720 [5]	SEN9725	[5]		[30]		
	Logistics & Supply Chain Innovations	Supply					
	ME44101 [4]	Chain					
	Dynamics and Interaction of	Gaming					
	Material and Equipment	TIL5050-20 [1	10]	TIL!	5060		
	TIL4020-20 [5]	TIL		Т	TL .		
	TIL Research Project	Design		Th	esis		
	Research Proposal [4]	Project					
	Literature Review [1]	Analysis &					
	Preparation [0] Vision & Scope [2]	Design [[8]				
Study load	[2:	9]		[3	30]		

[∑ 120]

Courses and projects provided by:

TIL MSc Transport, Infrastructure & Logistics

CIE MSc Civil Engineering

SEN MSc Complex Systems Engineering & Management

ME MSc Mechanical Engineering

AE MSc Aerospace Engineering

AR MSc Architecture, Urbanism & Building Sciences

TU Service Education EWI / Interfaculty Education TPM

