Study Programme

Academic year 2025-2026

Faculty of Engineering and Architecture

Master of Science in Industrial Engineering and Operations Research -- Transport and Mobility Engineering

Language of instruction: English

Programme version 4

1 General Courses — 36 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E004255	Operations Research Models and Methods	6		1	A:1	180
		El-Houssaine Aghezzaf -- Department of Industrial Systems Engineering and Product Design					
		Indicative price: € 60					
2	E005741	Simulation of Stochastic Systems	6		1	A:1	180
		Stijn De Vuyst -- Department of Industrial Systems Engineering and Product Design					
		Indicative price: € 0					
3	E018321	Algorithmic Programming	6		1	A:1	180
		Pieter Leyman -- Department of Industrial Systems Engineering and Product Design					
		Indicative price: € 0					
4	E076951	Engineering Economy	6		1	A:1	180
		Sofie Verbrugge -- Department of Information Technology					
		Indicative price: € 60					
5	E004241	Industrial Systems Modelling and Optimization	6		1	A:2	180
		El-Houssaine Aghezzaf -- Department of Industrial Systems Engineering and Product Design					
		Indicative price: € 219					
6	E076341	Information Technology for Industrial Engineering	3		1	A:2	90
		Michiel Vlaminck -- Department of Telecommunications and Information Processing					
		Indicative price: € 0					
7	E004153	Heuristics and Search Methods	3		1	A:2	90
		Sidharta Gautama -- Department of Industrial Systems Engineering and Product Design					
		Indicative price: € 0					

2 Courses Related to the Main Subject — 30 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E084390	Traffic Flow Modelling	6		1	A:1	180
		Dieter Fiems -- Department of Telecommunications and Information Processing					
		Indicative price: € 0					
2	E084460	Design of Urban Services	6		1	A:2	180
		Sidharta Gautama -- Department of Industrial Systems Engineering and Product Design					
		Indicative price: unknown					
3	E084480	Advanced Topics in Traffic and Logistics	4		1	A:2	120
		Ivana Semanjski -- Department of Industrial Systems Engineering and Product Design					
		Indicative price: € 345					
4	C004177	Spatiotemporal Analysis and Modelling	5		2	A:1	150
		Nico Van de Weghe -- Department of Geography					
		Indicative price: € 0					
5	C003534	Urban Mobility and Logistics	5		2	A:1	150
		Giovanni Circella -- Department of Geography					
		Indicative price: € 0					
6	E084470	Computational Aspects of Transport and Mobility	4		2	A:1	120
		Pieter Audenaert -- Department of Information Technology					
		Indicative price: € 20					

3 Elective Courses   30 credits

Subscribe to 30 credit units from no less than 1 and no more than 2 modules from the following list. Subject to approval by the faculty.
Divided as:
- 8 credit units in year 1
- 22 credit units in year 2

3.1 In-depth Elective Courses and Minor   15 credits

Subscribe to at least 15 credit units from 1 modules from the following list. Subject to approval by the faculty.
Students take either 15 credit units from module 3.1.1 (elective courses) or the Minor Artificial Intelligence of at least 18 credit units.

3.1.1 Elective Courses Transport and Mobility

Subscribe to at least 15 credit units from the from the following list.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E003710	Game Theory and Multiagent Systems	6			A:1	180
		Heidi Steendam -- Department of Telecommunications and Information Processing					
		Indicative price: € 0					
2	E032600	Advanced Linear Process Control	6			(A:1)c	180
		Clara Ionescu -- Department of Electromechanical, Systems and Metal Engineering					
		Indicative price: € 0					
3	E061330	Machine Learning	6			B:1	180
		Joni Dambre -- Department of Electronics and Information Systems					
		Indicative price: € 0					
4	E003422	Fundamentals of Statistical Sensor Processing	6			A:1	180
		Hiep Luong -- Department of Telecommunications and Information Processing					
		Indicative price: € 0					
5	E019331	ICT and Mechatronics	6			A:2	180
		Guillaume Crevecoeur -- Department of Electromechanical, Systems and Metal Engineering					
		Indicative price: unknown					
6	E004720	Network Modelling and Design	4			B:2	120
		Mario Pickavet -- Department of Information Technology					
		Indicative price: € 30					
7	E011320	Queueing Theory	6			A:1	180
		Joris Walraevens -- Department of Telecommunications and Information Processing					
		Indicative price: € 10					
8	E003110	Applied Probability [nl]	3			A:2	90
		Sabine Wittevrongel -- Department of Telecommunications and Information Processing					
		Indicative price: € 8					
9	E076221	Manufacturing Planning and Control	6			A:1	180
		Birger Raa -- Department of Industrial Systems Engineering and Product Design					
		Indicative price: € 0					
10	E076380	Methods Engineering and Work Measurement	6			A:2	180
		Dieter Claeys -- Department of Industrial Systems Engineering and Product Design					
		Indicative price: € 50					
11	E060240	Quality Engineering and Industrial Statistics	6			A:2	180
		Stijn De Vuyst -- Department of Industrial Systems Engineering and Product Design					
		Indicative price: € 50					
12	E007120	Modelling and Control of Dynamic Systems [nl]	6			A:2	180
		Mia Loccufier -- Department of Electromechanical, Systems and Metal Engineering					
		Indicative price: € 12					
13	E018240	Big Data Technology	4			A:1	120
		Dieter De Witte -- Department of Electronics and Information Systems					
		Indicative price: € 0					

3.1.2 Minor Artificiële intelligentie

Subscribe to no less than 18 and no more than 22 credit units from the following list. Subject to approval by the faculty.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E061330	Machine Learning	6			B:1	180
		Joni Dambre -- Department of Electronics and Information Systems					
		Indicative price: € 0					
2	E016340	Probabilistic Graphical Models	4			A:2	120
		Aleksandra Pizurica -- Department of Telecommunications and Information Processing					
		Indicative price: € 0					

3	E018230	Recommender Systems	6			A:2	180
		Toon De Pessemier -- Department of Information Technology					
		Indicative price: € 0					
4	E003710	Game Theory and Multiagent Systems	6			A:1	180
		Heidi Steendam -- Department of Telecommunications and Information Processing					
		Indicative price: € 0					
5	E061370	Data Visualization for and with AI	3			A:1	90
		Jefrey Lijffijt -- Department of Electronics and Information Systems					
		Indicative price: € 0					
6	E018240	Big Data Technology	4			A:1	120
		Dieter De Witte -- Department of Electronics and Information Systems					
		Indicative price: € 0					
7	E018250	Big Data Algorithms	3				90
		Indicative price: € 0					
8	E016350	Artificial Intelligence	3			B:2	90
		Aleksandra Pizurica -- Department of Telecommunications and Information Processing					
		Indicative price: € 75					

3.2   15 credits

Subscribe to 15 credit units from no less than 1 and no more than 2 modules from the following list. Subject to approval by the faculty.

3.2.1 Broadening Elective Courses Transport and Mobility Engineering

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E099300	Industry Internship Engineering and Architecture [en, nl]	6			A:J	180
		Patrick Segers -- Department of Electronics and Information Systems					
		Indicative price: unknown					
2	E099400	Research Internship	6			A:J	180
		Patrick Segers -- Department of Electronics and Information Systems					
		Indicative price: unknown					
3	E099400	Research Internship	3			B:J	90
		Patrick Segers -- Department of Electronics and Information Systems					
		Indicative price: unknown					
4	E098010	Integrated Portfolio [en, nl]	6			A:J	180
		Hiep Luong -- Department of Telecommunications and Information Processing					
		Indicative price: € 50					
5	E098010	Integrated Portfolio [en, nl]	3			B:J	90
		Hiep Luong -- Department of Telecommunications and Information Processing					
		Indicative price: € 50					
6	E037830	Basics of Health and Safety at Work for Engineers [nl]	3			A:1	90
		Sofie Van Volsem -- Department of Industrial Systems Engineering and Product Design					
		Indicative price: € 0					
7	E076820	Project Management	6			A:2	180
		Mario Vanhoucke -- Department of Business Informatics and Operations Management					
		Indicative price: € 75					
8	E037810	Safety of Electrical and Mechanical Installations [nl]	3			A:2	90
		Jos Knockaert -- Department of Electromechanical, Systems and Metal Engineering					
		Indicative price: € 30					
9	E076320	The Information Society and ICT [nl]	3			A:2	90
		Erik Mannens -- Department of Electronics and Information Systems					
		Indicative price: unknown					
10	B001514	Transport Economics and Policy	3			A:1	90
		Frank Witlox -- Department of Geography					
		Indicative price: unknown					
11	F000892	Innovation Management	3			A:2	90
		Katrien Verleye -- Department of Marketing, Innovation and Organisation					
		Indicative price: € 55					
12	F001022	Dare to Venture	4			A:2	120
		Johan Verrue -- Department of Marketing, Innovation and Organisation					
		Indicative price: unknown					
13	F000750	Labour and Employment [nl]	6			A:1	180
		Stijn Baert -- Department of Economics					

Nr	Course		CRDT	Ref	MT1	Session	Study

| 14 | F000083 | Macroeconomics [nl] | 6 | | | A:1 | 180 |

Freddy Heylen -- Department of Economics

| 15 | H001010 | Introduction Industrial Psychology [nl] | 5 | | | C:1 | 150 |

Bart Wille -- Department of Developmental, Personality and Social Psychology

| 16 | A005646 | Introduction to Business Law [nl] | 3 | | | A:1 | 90 |

Diederik Bruloot -- Department of Interdisciplinary Study of Law, Private Law and Business Law

| 17 | F000551 | Business Skills | 4 | | | C:2 | 120 |

Mieke Audenaert -- Department of Marketing, Innovation and Organisation

| 18 | F000132 | Corporate Finance | 6 | | | A:2 | 180 |

Virginie Mataigne -- Department of Accounting, Corporate Finance and Taxation

| 19 | F000683 | Investment Analysis | 6 | | | A:1 | 180 |

Michael Frömmel -- Department of Economics

| 20 | F000778 | Business Process Management | 4 | | | A:2 | 120 |

Michaël Verdonck -- Department of Business Informatics and Operations Management

| 21 | H001977 | Coaching and Diversity [nl] | 3 | UKV | | A:J | 90 |

Elisabeth De Schauwer -- Department of Special Education

| 22 | E078310 | Sustainable Use of Materials: Metals [nl] | 3 | | | A:1 | 90 |

Kim Verbeken -- Department of Materials, Textiles and Chemical Engineering

| 23 | E078320 | Sustainable Use of Materials: Plastics and Derived Materials [nl] | 3 | | | A:2 | 90 |

Lode Daelemans -- Department of Materials, Textiles and Chemical Engineering

| 24 | E078010 | Technology and Environment | 3 | | | A:1 | 90 |

Luc Martens -- Department of Information Technology

| 25 | A001900 | Introduction to Psychology [nl] | 3 | | | A:1 | 90 |

Wim Notebaert -- Department of Experimental Psychology

| 26 | D002354 | Movement and Sports: Now and Later [nl] | 3 | UKV | | A:2 | 90 |

Veerle Segers -- Department of Movement and Sports Sciences

| 27 | K001298 | Sustainable Development | 5 | | | A:2 | 150 |

Bernard Mazijn -- Department of Conflict and Development Studies

| 28 | C004545 | Bayesian Statistics | 5 | | | A:2 | 150 |

Koen De Turck -- Department of Telecommunications and Information Processing

| 29 | E084710 | Planning Theory: Contemporary Challenges | 4 | | | A:2 | 120 |

Tim Devos -- Department of Civil Engineering

| 30 | E086621 | Planning and Transition: Mobility | 3 | | | A:1 | 90 |

Koos Fransen -- Department of Civil Engineering

3.2.2 Elective Courses Faculty

Subscribe to no more than 15 credit units of technical courses from the study programmes Master of Science in Engineering (with the exception of Architecture) of the Faculty of Engineering and Architecture. Subject to approval by the faculty.

4 Master's Dissertation — 24 credits

Nr	Course	CRDT	Ref	MT1	Session	Study

1	E091103	Master's Dissertation		24	2	B:J	720
		Indicative price: unknown					

Programme related study costs

None

Teaching

When a course is not taught (solely) in the programme's language of instruction, the effectively used languages are indicated in square brackets following the cours name, using the following ISO codes:

bg: Bulgarian	de: German	es: Spanish	ja: Japanese	pl: Polish	sh: Kroatian/Serbian	zh: Chinese
cs: Czech	el: Greek	fr: French	nl: Dutch	pt: Portuguese	sl: Slovene	
da: Danish	en: English	it: Italian	no: Norwegian	ru: Russian	sv: Swedish	

Semester

Semesters are indicated by their number (1 or 2); semester 3 represents the summer period and J indicates a course spanning semesters 1 and 2.
When a capital letter precedes a semester number, the course has multiple offerings. The letter indicates the offering concerned.
When a semester is shown in brackets, the course in not offered this year in the specific offering.
The offering frequency and first year of offering are indicated by the following codes:

a: bi-annually	c: annually, from 2026-2027	f: annually, from 2027-2028	i: annually, from 2028-2029
b: tri-annually	d: bi-annually, from 2026-2027	g: bi-annually, from 2027-2028	j: bi-annually, from 2028-2029
	e: tri-annually, from 2026-2027	h: tri-annually, from 2027-2028	k: tri-annually, from 2028-2029

Learning materials

The prices stated are indicative and subject to fluctuations.
The list of learning materials per course unit can be found in the course sheets.