Study Programme

Academic year 2026-2027

Faculty of Engineering and Architecture
Master of Science in Civil Engineering

Language of instruction: English
Programme version 13

1 General Courses — 64 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E044940	FEM and Constitutive Material Laws in Structural Engineering	3		1	B:1	90
		Diego Lorenzo Allaix -- Department of Structural Engineering and Building Materials					
2	E040661	Structural Dynamics	5		1	B:1	150
		Mia Loccufier -- Department of Electromechanical, Systems and Metal Engineering					
3	E045621	Groundwater and Contaminant Flow	4		1	B:1	120
		Herman Peiffer -- Department of Civil Engineering					
4	E044311	Structural Stability	6		1	A:1	180
		Robby Caspeele -- Department of Structural Engineering and Building Materials					
5	E045860	Water Management and Environment	5		1	B:1	150
		Tom De Mulder -- Department of Civil Engineering					
6	E052621	Concrete Structures: Prestressed Concrete and Slabs	6		1	A:2	180
		Roman Wan-Wendner -- Department of Structural Engineering and Building Materials					
7	E054820	Inland Waterways and Locks	6		1	B:2	180
		Tom De Mulder -- Department of Civil Engineering					
8	E052210	Geotechnics	5		1	B:2	150
		Mahya Roustaei Hossein Abadi -- Department of Civil Engineering					
9	E053560	Specialised Road Engineering and Mobility	5		1	B:2	150
		Pieter De Winne -- Department of Civil Engineering					
10	E050923	Structural Reliability and Risk Analysis	4		1	A:2	120
		Robby Caspeele -- Department of Structural Engineering and Building Materials					
11	E054920	Coastal Engineering and Harbour Construction	6		2	B:1	180
		Peter Troch -- Department of Civil Engineering					
12	E044821	Advanced Bridge and Tunnel Engineering	6		2	A:1	180
		Hans De Backer -- Department of Civil Engineering					
13	E050100	Design of Civil Structures	3		2	B:2	90
		Bart De Pauw -- Department of Civil Engineering					

2 Majors — 20 credits

Subscribe to 20 credit units from 1 major from the following list. Subject to approval by the faculty.

2.1 Major Dredging and Offshore Engineering

Subscribe to 20 credit units from the following list. Subject to approval by the faculty.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E055120	Introduction to Ships and Marine Technology	4		1	A:1	120
		Evert Lataire -- Department of Civil Engineering					
2	E055400	Coastal Hydrodynamics	3		2	A:1	90
		Peter Troch -- Department of Civil Engineering					
3	E044671	Offshore Foundations	4		2	A:1	120
		Bruno Stuyts -- Department of Civil Engineering					
4	E054680	Dredging: Techniques and Processes	5		2	A:2	150
		Mahya Roustaei Hossein Abadi -- Department of Civil Engineering					

5	E044666	Offshore Structures	4	2		A:2	120
		Andreas Kortenhaus -- Department of Civil Engineering					

2.2 Major Construction Design

Subscribe to 20 credit units from the following list. Subject to approval by the faculty.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E061502	Spatial Structures	6	1		A:1	180
		Jan Belis -- Department of Structural Engineering and Building Materials					
2	E044902	Conceptual Design	5	1		A:2	150
		Bart De Pauw -- Department of Civil Engineering					
3	E044571	Non-linear and Plastic Methods of Structural Analysis	3	2		A:1	90
		Robby Caspeele -- Department of Structural Engineering and Building Materials					
4	E044930	Seismic Design	3	2		A:2	90
		Hervé Degée -- Department of Structural Engineering and Building Materials					
5	E044631	Glass and Facade Structures	3	2		A:2	90
		Jan Belis -- Department of Structural Engineering and Building Materials					

3 Elective Courses   12 credits

Subscribe to 12 credit units from the following modules. Subject to approval by the faculty.
Students choose:
• no less than 3 and no more than 9 credit units from the Elective Technical Courses Civil Engineering (module 3.1);
• no less than 3 and no more than 9 credit units from the Broadening Elective Courses (clusters 3.2.1-3.2.11), with no more than 1
  course for cluster 3.2.1, 3.2.7 and 3.2.11 and no more than 2 courses per cluster for the other clusters;
• no more than 6 credit units from the programmes of Ghent University (cluster 3.2.12).

3.1 Elective Technical Courses in Civil Engineering

Subscribe to no less than 3 and no more than 9 credit units from the following list.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E052630	Prefabricated Concrete Constructions	3			A:1	90
		Stijn Matthys -- Department of Structural Engineering and Building Materials					
2	E050720	Diagnosis and Repair of Buildings	3			A:1	90
		Stijn Matthys -- Department of Structural Engineering and Building Materials					
3	E065480	Life Cycle Assessment of Materials and Structures	3			A:2	90
		Nele De Belie -- Department of Structural Engineering and Building Materials					
4	E051610	Passive Fire Protection	3			A:1	90
		Emmanuel Annerel -- Department of Structural Engineering and Building Materials					
5	E053620	Railroads [nl]	3			A:2	90
		Jan Mys -- Department of Civil Engineering					
6	E055320	Ship Behaviour in Shallow and Confined Water	3			A:2	90
		Guillaume Delefortrie -- Department of Civil Engineering					
7	E081830	Performance-based design: Fire Protection of Buildings	3			B:2	90
		Bart Merci -- Department of Structural Engineering and Building Materials					

3.2 Broadening Elective Courses

Subscribe to no less than 3 and no more than 9 credit units from the following list.
When making their selection, students must take into account the maximum number of courses that may be included per module.

3.2.1 Cluster Internship and Integrated portfolio

Subscribe to maximum 1 course.

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					
2	E099400	Research Internship	6			A:J	180
		Patrick Segers -- Department of Electronics and Information Systems					
3	E099400	Research Internship	3			B:J	90
		Patrick Segers -- Department of Electronics and Information Systems					
4	E098010	Integrated Portfolio [en, nl]	6			A:J	180
		Hiep Luong -- Department of Telecommunications and Information Processing					
5	E098010	Integrated Portfolio [en, nl]	3			B:J	90
		Hiep Luong -- Department of Telecommunications and Information Processing					

3.2.2 Cluster Sustainability and Transition

Subscribe to maximum 2 courses.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E086621	Planning and Transition: Mobility	3			A:1	90
		Koos Fransen -- Department of Civil Engineering					
2	E035421	Sustainable Energy	3			A:2	90
		Jan Mertens -- Department of Electromechanical, Systems and Metal Engineering					
3	E039060	Sustainable Energy and Rational Use of Energy	4			A:2	120
		Filip Strubbe -- Department of Electronics and Information Systems					
4	E078310	Sustainable Use of Materials: Metals [nl]	3			A:1	90
		Kim Verbeken -- Department of Materials, Textiles and Chemical Engineering					
5	E078320	Sustainable Use of Materials: Plastics and Derived Materials [nl]	3			A:2	90
		Lode Daelemans -- Department of Materials, Textiles and Chemical Engineering					
6	E078010	Technology and Environment	3			A:1	90
		Luc Martens -- Department of Information Technology					
7	E078752	Water and Air Quality Management	4			A:2	120
		Joris Thybaut -- Department of Materials, Textiles and Chemical Engineering					

3.2.3 Cluster Safety and Health

Subscribe to maximum 2 courses.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	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					
2	E037810	Safety of Electrical and Mechanical Installations [nl]	3			A:2	90
		Jos Knockaert -- Department of Electromechanical, Systems and Metal Engineering					
3	E092100	Biosystems [nl]	3			A:1	90
		Pascal Verdonck -- Department of Electronics and Information Systems					

3.2.4 Cluster Digitalization and Artificial Intelligence

Subscribe to maximum 2 courses.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E076321	Digital Innovation for People and Society [nl]	3			A:2	90
		Erik Mannens -- Department of Electronics and Information Systems					
2	E080830	Information Management in Architecture and Construction [nl, en]	3			A:2	90
		Paulus Present -- Department of Architecture and Urban Planning					
3	E016350	Artificial Intelligence	3			B:2	90
		Aleksandra Pizurica -- Department of Telecommunications and Information Processing					
4	E061331	Machine Learning: Learning from Data	6			A:1	180
		Joni Dambre -- Department of Electronics and Information Systems					
5	E045280	Computational Fluid Dynamics	3			A:1	90
		Joris Degroote -- Department of Electromechanical, Systems and Metal Engineering					

3.2.5 Cluster Economy and Entrepreneurship

Subscribe to maximum 2 courses.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E076951	Engineering Economy	6			A:1	180
		Sofie Verbrugge -- Department of Industrial Systems Engineering and Product Design					
2	F000083	Macroeconomics [nl]	6			A:1	180
		Freddy Heylen -- Department of Economics					
3	F001022	Dare to Venture	4			A:2	120
		Johan Verrue -- Department of Marketing, Innovation and Organisation					
4	E076471	Dare to Start	3			A:2	90
		Wouter Haerick -- Department of Information Technology					
5	F001020	Introduction to Entrepreneurship	3			A:1	90
		Petra Andries -- Department of Marketing, Innovation and Organisation					
6	F001021	Basic Entrepreneurship [nl]	3	UKV		A:1	90
		Evy Van Lancker -- Department of Marketing, Innovation and Organisation					

3.2.6 Cluster Law

Subscribe to maximum 2 courses.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E076621	Principles of Law and Construction Law [nl]	3			A:1	90
		Jelle Laverge -- Department of Architecture and Urban Planning					

2	B001581	Human Rights: Multidisciplinary Perspectives	5	UKV		A:2	150
		Eva Brems -- Department of European, Public and International Law					
3	A005646	Introduction to Business Law [nl]	3			A:1	90
		Diederik Bruloot -- Department of Interdisciplinary Study of Law, Private Law and Business Law					

3.2.7 Cluster Operations Management

Subscribe to maximum 1 course.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E076221	Manufacturing Planning and Control	6			A:1	180
		Birger Raa -- Department of Industrial Systems Engineering and Product Design					
2	E004255	Operations Research Models and Methods	6			A:1	180
		El-Houssaine Aghezzaf -- Department of Industrial Systems Engineering and Product Design					
3	E060240	Quality Engineering and Industrial Statistics	6			A:2	180
		Stijn De Vuyst -- Department of Industrial Systems Engineering and Product Design					

3.2.8 Cluster Psychology and People Management

Subscribe to maximum 2 courses.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	A001900	Introduction to Psychology [nl]	3			A:1	90
		Wim Notebaert -- Department of Experimental Psychology					
2	H002668	Introduction Industrial Psychology [nl]	4			A:1	120
		Bart Wille -- Department of Developmental, Personality and Social Psychology					
3	H001977	Coaching and Diversity [nl]	3	UKV		A:J	90
		Elisabeth De Schauwer -- Department of Special Education					
4	F000551	Business Skills	4			C:2	120
		Mieke Audenaert -- Department of Marketing, Innovation and Organisation					
5	F001012	Leadership for student directors [nl]	3	UKV		A:1	90
		Stijn Baert -- Department of Economics					
6	H002395	Migration and Society: an Interdisciplinary Introduction	5	UKV		A:2	150
		Robin Vandevoordt -- 'Department of Social Work and Social Pedagogy					
7	A005569	Global Minds	5	UKV		A:2	150
		Amaury Frankl -- Department of Geography					

3.2.9 Cluster Ethics and Philosophy

Subscribe to maximum 2 courses.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E075310	Ethics, Engineering and Society [nl]	3			A:2	90
		Seppe Segers -- Department of Philosophy and Moral Sciences					
2	C004009	History and Philosophy of Sciences [nl]	3			B:2	90
		Maarten Van Dyck -- Department of Philosophy and Moral Sciences					
3	A005503	Context and Nuance. A Critical Reflection on Current Topics [nl]	6	UKV		A:1	180
		July De Wilde -- Department of Translation, Interpreting and Communication					

3.2.10 Cluster Communication

Subscribe to maximum 2 courses.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	A003001	Academic English	3	UKV		B:1, A:2	90
		Geert Jacobs -- Department of Linguistics					
2	A003107	Advanced Academic English	3	UKV		A:1, B:2	90
		Geert Jacobs -- Department of Linguistics					

3.2.11 Cluster Education

Subscribe to maximum 1 course.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	H002476	Powerful Learning Environments [nl]	6			A:1	180
		Bram De Wever -- Department of Educational Studies					
2	H002477	The Teacher within Class, School and Society [nl]	6			A:2	180
		Melissa Tuytens -- Department of Educational Studies					
3	H002478	The Student: Development and Motivation [nl]	6			A:1	180
		Wim Beyers -- Department of Developmental, Personality and Social Psychology					

3.2.12 Elective Courses Ghent University

No more than 6 course units from the study programmes of Ghent University (social courses or technical courses), including the Ghent University Elective Courses. 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

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 2027-2028	f: annually, from 2028-2029	i: annually, from 2029-2030
b: tri-annually	d: bi-annually, from 2027-2028	g: bi-annually, from 2028-2029	j: bi-annually, from 2029-2030
	e: tri-annually, from 2027-2028	h: tri-annually, from 2028-2029	k: tri-annually, from 2029-2030