

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

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 <i>Evert Lataire -- Department of Civil Engineering</i>	4		1	A:1	120
2	E055400 Coastal Hydrodynamics <i>Peter Troch -- Department of Civil Engineering</i>	3		2	A:1	90
3	E044671 Offshore Foundations <i>Bruno Stuyts -- Department of Civil Engineering</i>	4		2	A:1	120
4	E054680 Dredging: Techniques and Processes <i>Mahya Roustaei -- Department of Civil Engineering</i>	5		2	A:2	150

5	E044666	Offshore Structures <i>Andreas Kortenhaus -- Department of Civil Engineering</i>	4	2	A:2	120
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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 <i>Jan Belis -- Department of Structural Engineering and Building Materials</i>	6		1	A:1	180
2	E044902 Conceptual Design <i>Bart De Pauw -- Department of Civil Engineering</i>	5		1	A:2	150
3	E044571 Non-linear and Plastic Methods of Structural Analysis <i>Robby Caspeele -- Department of Structural Engineering and Building Materials</i>	3		2	A:1	90
4	E044930 Seismic Design <i>Hervé Degée -- Department of Structural Engineering and Building Materials</i>	3		2	A:2	90
5	E044631 Glass and Facade Structures <i>Jan Belis -- Department of Structural Engineering and Building Materials</i>	3		2	A:2	90

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

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

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

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] <i>Sofie Van Volsem -- Department of Industrial Systems Engineering and Product Design</i>	3			A:1	90
2	E037810 Safety of Electrical and Mechanical Installations	3				90
3	E092100 Biosystems [nl] <i>Pascal Verdonck -- Department of Electronics and Information Systems</i>	3			A:1	90

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] <i>Erik Mannens -- Department of Electronics and Information Systems</i>	3			A:2	90
2	E080830 Information Management in Architecture and Construction [nl, en] <i>Paulus Present -- Department of Architecture and Urban Planning</i>	3			A:2	90
3	E016350 Artificial Intelligence <i>Aleksandra Pizurica -- Department of Telecommunications and Information Processing</i>	3			B:2	90
4	E061331 Machine Learning: Learning from Data <i>Joni Dambre -- Department of Electronics and Information Systems</i>	6			A:1	180
5	E045280 Computational Fluid Dynamics <i>Joris Degroote -- Department of Electromechanical, Systems and Metal Engineering</i>	3			A:1	90

3.2.5 Cluster Economy and Entrepreneurship

[Subscribe to maximum 2 courses.](#)

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

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] <i>Jelle Laverge -- Department of Architecture and Urban Planning</i>	3			A:1	90

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

3.2.7 Cluster Operations Management

[Subscribe to maximum 1 course.](#)

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

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	3			90
2	H002668	Introduction Industrial Psychology [nl] <i>Bart Wille -- Department of General and Applied Psychology</i>	4		A:1	120
3	H001977	Coaching and Diversity [nl] <i>Elisabeth De Schauwer -- Department of Educational Sciences</i>	3	UKV	A:J	90
4	F000551	Business Skills <i>Mieke Audenaert -- Department of Marketing, Innovation and Organisation</i>	4		C:2	120
5	F001012	Leadership for student directors [nl] <i>Brecht Neyt -- Department of Economics</i>	3	UKV	A:1	90
6	H002395	Migration and Society: an Interdisciplinary Introduction <i>Robin Vandevoordt -- Department of Educational Sciences</i>	5	UKV	A:2	150
7	A005569	Global Minds <i>Amaury Frankl -- Department of Geography</i>	5	UKV	A:2	150

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] <i>Seppe Segers -- Department of Philosophy and Moral Sciences</i>	3		A:2	90
2	C004009	History and Philosophy of Sciences [nl] <i>Maarten Van Dyck -- Department of Philosophy and Moral Sciences</i>	3		B:2	90
3	A005503	Context and Nuance. A Critical Reflection on Current Topics [nl] <i>Katrijn Maryns -- Department of Translation, Interpreting and Communication</i>	6	UKV	A:1	180

3.2.10 Cluster Communication

[Subscribe to maximum 2 courses.](#)

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

3.2.11 Cluster Education

[Subscribe to maximum 1 course.](#)

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

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.

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 course name, using the following ISO codes:

bg: Bulgarian	de: German	es: Spanish	ja: Japanese	pl: Polish	sh: Croatian/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 is 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 2028-2029	f: annually, from 2029-2030	i: annually, from 2030-2031
b: tri-annually	d: bi-annually, from 2028-2029	g: bi-annually, from 2029-2030	j: bi-annually, from 2030-2031
	e: tri-annually, from 2028-2029	h: tri-annually, from 2029-2030	k: tri-annually, from 2030-2031