

Faculty of Engineering and Architecture  
Master of Science in Civil Engineering

Language of instruction: English

Programme version 10

## 1 General Courses 64 credits

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

## 2 Elective Courses

Subscribe to

- Either 20 credit units from 1 major from the following list.
- Either 18 credit units from 1 minor from the following list.

Subject to approval by the faculty.

### 2.1 Major Dredging and Offshore Engineering 20 credits

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

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E055044 Introduction to Maritime Technology (partim) Evert Lataire -- Department of Civil Engineering	4			A:1	120
2	E044666 Offshore Structures Andreas Kortenhaus -- Department of Civil Engineering	4			A:2	120
3	E055400 Coastal Hydrodynamics Peter Troch -- Department of Civil Engineering	3			A:1	90

4	E044671	Offshore Foundations Bruno Stuyts -- Department of Civil Engineering	4	A:1	120
5	E054680	Dredging: Techniques and Processes Mahya Roustaei -- Department of Civil Engineering	5	A:2	150

## 2.2 Major Construction Design

20 credits

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 Jan Belis -- Department of Structural Engineering and Building Materials	6		A:1	180
2	E044571	Non-linear and Plastic Methods of Structural Analysis Robby Caspeepe -- Department of Structural Engineering and Building Materials	3		A:1	90
3	E044902	Conceptual Design Bart De Pauw -- Department of Civil Engineering	5		A:2	150
4	E044930	Seismic Design Hervé Degée -- Department of Structural Engineering and Building Materials	3		A:2	90
5	E044631	Glass and Facade Structures Jan Belis -- Department of Structural Engineering and Building Materials	3		A:2	90

## 2.3 Minor Operations Management

18 credits

Subscribe to 18 credit units from the following list, with 6 credit units with reference a. Subject to approval by the faculty.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E076221	Manufacturing Planning and Control Birger Raa -- Department of Industrial Systems Engineering and Product Design	6	a	A:1	180
2	E004255	Operations Research Models and Methods El-Houssaine Aghezzaf -- Department of Industrial Systems Engineering and Product Design	6		A:1	180
3	E060240	Quality Engineering and Industrial Statistics Stijn De Vuyst -- Department of Industrial Systems Engineering and Product Design	6		A:2	180
4	E076951	Engineering Economy Sofie Verbrugge -- Department of Information Technology	6		A:1	180

## 3 Elective Courses

Subscribe to:

- Either 12 credit units from 2 or 3 modules from the following list (in combination with 1 major)
- Either 14 credit units from 2 or 3 modules from the following list (in combination with 1 minor)

Subject to approval by the faculty.

At least 6 credit units of elective social courses and at least 6 credit units of technical courses.

### 3.1 Elective Courses Civil Engineering

Subscribe to no less than 6 credit units from the following list. Subject to approval by the faculty.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E052630	Prefabricated Concrete Constructions Stijn Matthys -- Department of Structural Engineering and Building Materials	3		A:1	90
2	E080830	Information Management in Architecture and Construction [en, nl] Paulus Present -- Department of Architecture and Urban Planning	3		B:2	90
3	E050720	Diagnosis and Repair of Buildings Stijn Matthys -- Department of Structural Engineering and Building Materials	3		A:1	90
4	E065480	Life Cycle Assessment of Materials and Structures Nele De Belie -- Department of Structural Engineering and Building Materials	3		A:2	90
5	E051540	Explosions and Industrial Fire Safety Filip Verplaetsen -- Department of Structural Engineering and Building Materials	6		A:1	180
6	E051610	Passive Fire Protection Emmanuel Annerel -- Department of Structural Engineering and Building Materials	3		A:1	90
7	E086621	Planning and Transition: Mobility Koos Fransen -- Department of Industrial Systems Engineering and Product Design	3		A:1	90
8	E053620	Railroads [nl] Jan Mys -- Department of Civil Engineering	3		A:2	90
9	E055320	Ship Behaviour in Shallow and Confined Water Guillaume Delefortrie -- Department of Civil Engineering	3		A:2	90
10	E063671	Biomaterials and Tissue Engineering Ruslan Dmitriev -- Department of Human Structure and Repair	5		A:1	150

11	E063682	Biomechanics Charlotte Debbaut -- Department of Electronics and Information Systems	6		A:1	180
12	E092623	Modelling of Physiological Systems Patrick Segers -- Department of Electronics and Information Systems	5		A:2	150
13	E099400	Research Internship Patrick Segers -- Department of Electronics and Information Systems	6		A:J	180
14	E099400	Research Internship Patrick Segers -- Department of Electronics and Information Systems	3		B:J	90

### 3.2 Elective Social Courses

Subscribe to no less than 6 credit units from the following list. Subject to approval by the faculty.

Students may apply for another elective social course, given a clear motivation and after approval by the faculty (exceptionally, as a rule a course from the list below is followed).

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E099300 Industry Internship Engineering and Architecture [en, nl] Patrick Segers -- Department of Electronics and Information Systems	6			A:J	180
2	E037810 Safety of Electrical and Mechanical Installations [nl] Jos Knockaert -- Department of Electromechanical, Systems and Metal Engineering	3			A:2	90
3	E039060 Sustainable Energy and Rational Use of Energy Jeroen Beeckman -- Department of Electronics and Information Systems	4			A:2	120
4	K001339 Sustainability Thinking [nl] Thomas Block -- Department of Political Sciences	5	UKV		A:J	150
5	E078310 Sustainable Use of Materials: Metals [nl] Kim Verbeken -- Department of Materials, Textiles and Chemical Engineering	3			A:1	90
6	E078320 Sustainable Use of Materials: Plastics and Derived Materials [nl] Lode Daelemans -- Department of Materials, Textiles and Chemical Engineering	3			A:2	90
7	E078010 Technology and Environment Luc Martens -- Department of Information Technology	3			A:1	90
8	E078752 Water and Air Quality Management Joris Thybaut -- Department of Materials, Textiles and Chemical Engineering	4			A:2	120
9	E092100 Biosystems [nl] Pascal Verdonck -- Department of Electronics and Information Systems	3			A:1	90
10	E075310 Ethics, Engineering and Society [nl] Seppe Segers -- Department of Philosophy and Moral Sciences	3			A:2	90
11	E075060 Philosophy and Science [nl] Maarten Van Dyck -- Department of Philosophy and Moral Sciences	3			A:1	90
12	E076320 The Information Society and ICT [nl] Erik Mannens -- Department of Electronics and Information Systems	3			A:1	90
13	A001900 Introduction to Psychology [nl] Wim Notebaert -- Department of Experimental Psychology	3			A:1	90
14	H001977 Coaching and Diversity [nl] Elisabeth De Schauwer -- Department of Special Education	3	UKV		A:J	90
15	A005503 Context and Nuance. A Critical Reflection on Current Topics [nl] Stef Craps -- Department of Literary Studies	6	UKV		A:1	180
16	E076450 Basic Entrepreneurship [nl] Yannick Dillen -- Department of Marketing, Innovation and Organisation	3	UKV		A:1	90
17	E076431 Introduction to Entrepreneurship Petra Andries -- Department of Marketing, Innovation and Organisation	3			A:1	90
18	E076460 Dare to Venture Johan Verrue -- Department of Marketing, Innovation and Organisation	4			A:2	120
19	E076471 Dare to Start Frank Gielen -- Department of Information Technology	3			A:2	90
20	E076621 Principles of Law and Construction Law [nl] Jelle Laverge -- Department of Architecture and Urban Planning	3			A:1	90
21	E076520 Commercial Law [nl] Diederik Bruloot -- Department of Interdisciplinary Study of Law, Private Law and Business Law	3			A:1	90
22	E076951 Engineering Economy Sofie Verbrugge -- Department of Information Technology	6			A:1	180

23	H002169	Powerful Learning Environments [nl] Bram De Wever -- Department of Educational Studies	6		A:1	180
24	H002196	Classroom Management and Reflection [nl] Melissa Tuytens -- Department of Educational Studies	4		A:2	120
25	H002197	The Teacher within School and Society [nl] Melissa Tuytens -- Department of Educational Studies	4		A:1	120
26	H002198	Psychology of Adolescence [nl] Wim Beyers -- Department of Developmental, Personality and Social Psychology	4		A:1	120
27	F000083	Macroeconomics [nl] Freddy Heylen -- Department of Economics	6		A:1	180
28	H001010	Introduction Industrial Psychology [nl] Bart Wille -- Department of Developmental, Personality and Social Psychology	5		Z:1	150
29	F000551	Business Skills Mieke Audenaert -- Department of Marketing, Innovation and Organisation	4		C:2	120
30	A003001	Academic English Geert Jacobs -- Department of Linguistics	3	UKV	B:1, A:2	90
31	E075800	Communication [nl] Leen Pollefliet -- Department of Information Technology	3		A:1	90

### 3.3 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 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 2024-2025	f: annually, from 2025-2026	i: annually, from 2026-2027
b: tri-annually	d: bi-annually, from 2024-2025	g: bi-annually, from 2025-2026	j: bi-annually, from 2026-2027
	e: tri-annually, from 2024-2025	h: tri-annually, from 2025-2026	k: tri-annually, from 2026-2027