GHENT UNIVERSITY

Study Programme

Academic year 2026-2027

Faculty of Engineering and Architecture

Master of Science in Sustainable Materials Engineering

Language of instruction: English

Programme version 13

1 General Courses 60 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E042740	Fracture and Deformation Behaviour of Materials *Leo Kestens -- Department of Electromechanical, Systems and Metal Engineering* Indicative price: unknown	6		1	B:1	180
2	E068900	Structure and Dynamics of Polymers *Karen De Clerck -- Department of Materials, Textiles and Chemical Engineering* Indicative price: € 0	6		1	B:1	180
3	E069041	Bio-based and Synthetic Fibres *Karen De Clerck -- Department of Materials, Textiles and Chemical Engineering* Indicative price: € 0	6		1	A:1	180
4	E065340	Micro-analysis and Structure Determination in Materials Science *Hossein Beladi -- Department of Electromechanical, Systems and Metal Engineering* Indicative price: unknown	6		1	A:2	180
5	E900069	Composites *Wim Van Paepegem -- Department of Materials, Textiles and Chemical Engineering* Indicative price: € 20	6		1	A:1	180
6	E065472	Metal Extraction and Recycling *Inge Bellemans -- Department of Materials, Textiles and Chemical Engineering* Indicative price: € 0	6		1	A:2	180
7	E071400	Computer Aided Materials Engineering *Lode Daelemans -- Department of Materials, Textiles and Chemical Engineering* Indicative price: € 0	6		1	A:1	180
8	E064221	Design and Manufacturing of Textile Structures *Lieva Van Langenhove -- Department of Materials, Textiles and Chemical Engineering* Indicative price: unknown	6		1	A:2	180
9	E066230	Microstructure-Property Control of Metals *Hossein Beladi -- Department of Electromechanical, Systems and Metal Engineering* Indicative price: unknown	6		1	A:2	180
10	E066662	Environmentally Assisted Degradation of Materials *Kim Verbeken -- Department of Materials, Textiles and Chemical Engineering* Indicative price: € 10	6		1	A:2	180

2 Majors 18 credits

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

2.1 Major Metal Science and Engineering 18 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E066270	Metal Processing and Technology *Leo Kestens -- Department of Electromechanical, Systems and Metal Engineering* Indicative price: unknown	6		2	A:2	180
2	E066170	Physical Materials Science *Leo Kestens -- Department of Electromechanical, Systems and Metal Engineering* Indicative price: unknown	6		2	C:1	180

3	E024122	Computational Materials Physics *Stefaan Cottenier -- Department of Electromechanical, Systems and Metal Engineering* Indicative price: unknown	6		2	A:2	180

2.2 Major Polymer and Fibre Engineering 18 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E064761	Textile Functionalization *Karen De Clerck -- Department of Materials, Textiles and Chemical Engineering* Indicative price: € 0	6		2	A:2	180
2	E064201	Technical Textiles *Lieva Van Langenhove -- Department of Materials, Textiles and Chemical Engineering* Indicative price: unknown	6		2	A:1	180
3	E064961	Polymer Processing and Circularity *Dagmar D'hooge -- Department of Materials, Textiles and Chemical Engineering* Indicative price: € 0	6		2	A:2	180

3 Elective Courses 18 credits

Subscribe to 18 credit units from no less than 1 and no more than 3 modules from the following list. Subject to approval by the faculty.

3.1 Elective Courses Materials Science

Subscribe to no less than 6 credit units from the following list. Subject to approval by the faculty.
•The courses with reference 'M' are from the major Metal Science and Engineering
•The courses with reference 'P' are from the major Polymer and Fibre Engineering

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E066270	Metal Processing and Technology *Leo Kestens -- Department of Electromechanical, Systems and Metal Engineering* Indicative price: unknown	6	M		A:2	180
2	E066170	Physical Materials Science *Leo Kestens -- Department of Electromechanical, Systems and Metal Engineering* Indicative price: unknown	6	M		C:1	180
3	E024122	Computational Materials Physics *Stefaan Cottenier -- Department of Electromechanical, Systems and Metal Engineering* Indicative price: unknown	6	M		A:2	180
4	E064961	Polymer Processing and Circularity *Dagmar D'hooge -- Department of Materials, Textiles and Chemical Engineering* Indicative price: € 0	6	P		A:2	180
5	E064761	Textile Functionalization *Karen De Clerck -- Department of Materials, Textiles and Chemical Engineering* Indicative price: € 0	6	P		A:2	180
6	E064201	Technical Textiles *Lieva Van Langenhove -- Department of Materials, Textiles and Chemical Engineering* Indicative price: unknown	6	P		A:1	180
7	C004145	Functional Ceramics *Klaartje De Buysser -- Department of Chemistry* Indicative price: € 7	3			B:2	90
8	E063671	Biomaterials and Tissue Engineering *Peter Dubruel -- Department of Organic Chemistry* Indicative price: unknown	5			A:1	150
9	C002965	Advanced Polymer Chemistry *Filip Du Prez -- Department of Organic Chemistry* Indicative price: € 0	3			A:1	75
10	E006800	Modelling and Engineering of Nanoscale Materials *Louis Vanduyfhuys -- Department of Applied Physics* Indicative price: € 0	6			A:1	180
11	C004140	Nanomaterials Chemistry *Iwan Moreels -- Department of Chemistry* Indicative price: € 100	6			A:1	180
12	E070650	Advanced Instrumental Techniques for Chemical Analysis *Laszlo Vincze -- Department of Chemistry* Indicative price: unknown	3			A:1	90
13	C003122	Nuclear Methods in Material Research *Stefaan Cottenier -- Department of Electromechanical, Systems and Metal Engineering*	6			A:2	180

		Indicative price: € 0				
14	C004144	Topics in Nanoscience *Pieter Geiregat -- Department of Chemistry* Indicative price: € 0	4		A:2	120
15	E064950	Polymer Reaction Engineering *Dagmar D'hooge -- Department of Materials, Textiles and Chemical Engineering* Indicative price: € 0	6		A:2	180
16	C004126	Advanced Macromolecular Chemistry *Filip Du Prez -- Department of Organic Chemistry* Indicative price: € 0	6		A:1	180
17	E024730	Complex Materials and Rheology *Flavio Marchesini de Oliveira -- Department of Materials, Textiles and Chemical Engineering* Indicative price: unknown	6		A:2	180
18	E099400	Research Internship *Patrick Segers -- Department of Electronics and Information Systems* Indicative price: unknown	6		A:J	180
19	E099400	Research Internship *Patrick Segers -- Department of Electronics and Information Systems* Indicative price: unknown	3		B:J	90

3.2 Elective Social Courses

Subscribe to no less than 3 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* Indicative price: unknown	6			A:J	180
2	E098010	Integrated Portfolio [en, nl] *Hiep Luong -- Department of Telecommunications and Information Processing* Indicative price: € 50	6			A:J	180
3	E098010	Integrated Portfolio [en, nl] *Hiep Luong -- Department of Telecommunications and Information Processing* Indicative price: € 50	3			B:J	90
4	E037810	Safety of Electrical and Mechanical Installations [nl] *Jos Knockaert -- Department of Electromechanical, Systems and Metal Engineering* Indicative price: € 30	3			A:2	90
5	E039060	Sustainable Energy and Rational Use of Energy *Filip Strubbe -- Department of Electronics and Information Systems* Indicative price: € 7	4			A:2	120
6	E078310	Sustainable Use of Materials: Metals [nl] *Kim Verbeken -- Department of Materials, Textiles and Chemical Engineering* Indicative price: € 8	3			A:1	90
7	E078320	Sustainable Use of Materials: Plastics and Derived Materials [nl] *Lode Daelemans -- Department of Materials, Textiles and Chemical Engineering* Indicative price: € 15	3			A:2	90
8	E078010	Technology and Environment *Luc Martens -- Department of Information Technology* Indicative price: € 0	3			A:1	90
9	E078752	Water and Air Quality Management *Joris Thybaut -- Department of Materials, Textiles and Chemical Engineering* Indicative price: € 0	4			A:2	120
10	E092100	Biosystems [nl] *Pascal Verdonck -- Department of Electronics and Information Systems* Indicative price: unknown	3			A:1	90
11	E075310	Ethics, Engineering and Society [nl] *Seppe Segers -- Department of Philosophy and Moral Sciences* Indicative price: unknown	3			A:2	90
12	C004009	History and Philosophy of Sciences [nl] *Maarten Van Dyck -- Department of Philosophy and Moral Sciences* Indicative price: € 0	3			B:2	90

13	E076321	Digital Innovation for People and Society [nl] *Erik Mannens -- Department of Electronics and Information Systems* Indicative price: unknown	3		A:2	90
14	A001900	Introduction to Psychology [nl] *Wim Notebaert -- Department of Experimental Psychology* Indicative price: unknown	3		A:1	90
15	H001977	Coaching and Diversity [nl] *Elisabeth De Schauwer -- Department of Special Education* Indicative price: € 0	3	UKV	A:J	90
16	A005503	Context and Nuance. A Critical Reflection on Current Topics [nl] *Katrijn Maryns -- Department of Translation, Interpreting and Communication* Indicative price: € 0	6	UKV	A:1	180
17	F001021	Basic Entrepreneurship [nl] *Evy Van Lancker -- Department of Marketing, Innovation and Organisation* Indicative price: € 0	3	UKV	A:1	90
18	A005646	Introduction to Business Law [nl] *Diederik Bruloot -- Department of Interdisciplinary Study of Law, Private Law and Business Law* Indicative price: unknown	3		A:1	90
19	F001022	Dare to Venture *Johan Verrue -- Department of Marketing, Innovation and Organisation* Indicative price: unknown	4		A:2	120
20	E076471	Dare to Start *Wouter Haerick -- Department of Information Technology* Indicative price: unknown	3		A:2	90
21	E076621	Principles of Law and Construction Law [nl] *Jelle Laverge -- Department of Architecture and Urban Planning* Indicative price: € 341	3		A:1	90
22	E076951	Engineering Economy *Sofie Verbrugge -- Department of Industrial Systems Engineering and Product Design* Indicative price: € 60	6		A:1	180
23	F001020	Introduction to Entrepreneurship *Petra Andries -- Department of Marketing, Innovation and Organisation* Indicative price: € 33	3		A:1	90
24	H002476	Powerful Learning Environments [nl] *Bram De Wever -- Department of Educational Studies* Indicative price: € 50	6		A:1	180
25	H002477	The Teacher within Class, School and Society [nl] *Melissa Tuytens -- Department of Educational Studies* Indicative price: € 55	6		A:2	180
26	H002478	The Student: Development and Motivation [nl] *Wim Beyers -- Department of Developmental, Personality and Social Psychology* Indicative price: € 75	6		A:1	180
27	F000083	Macroeconomics [nl] *Freddy Heylen -- Department of Economics* Indicative price: € 65	6		A:1	180
28	H002668	Introduction Industrial Psychology [nl] *Bart Wille -- Department of Developmental, Personality and Social Psychology* Indicative price: € 55	4		A:1	120
29	F000551	Business Skills *Mieke Audenaert -- Department of Marketing, Innovation and Organisation* Indicative price: € 46	4		C:2	120
30	A003001	Academic English *Geert Jacobs -- Department of Linguistics* Indicative price: € 0	3	UKV	B:1, A:2	90
31	E037830	Basics of Health and Safety at Work for Engineers [nl] *Sofie Van Volsem -- Department of Industrial Systems Engineering and Product Design* Indicative price: € 0	3		A:1	90

3.3 Elective Courses Ghent University

Subscribe to no more than 6 credit units from the programmes of Ghent University, 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 Indicative price: unknown	24		2	B:J	720

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 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

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.