

Master of Science in Chemistry -- Materials and Nano Chemistry

Language of instruction: English

Programme version 3

1 Courses Related to the Main Subject 108 credits

1.1 General Courses 30 credits

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|-----|---------|-------|
| 1 | C004140 Nanomaterials Chemistry <i>Pascal Van Der Voort -- Department of Chemistry</i> Indicative price: € 100 | 6 | | 1 | A:1 | 180 |
| 2 | C004141 Materials Physics <i>Zeger Hens -- Department of Chemistry</i> Indicative price: € 0 | 6 | | 1 | A:1 | 180 |
| 3 | C004142 Surface Topology, Internal Structure and Composition <i>Mieke Adriaens -- Department of Chemistry</i> Indicative price: € 0 | 6 | | 1 | A:1 | 180 |
| 4 | C004128 Molecular Physical Chemistry <i>Zeger Hens -- Department of Chemistry</i> Indicative price: € 15 | 6 | | 1 | A:1 | 180 |
| 5 | C004143 Integrated Problems in Materials and Nanochemistry <i>Iwan Moreels -- Department of Chemistry</i> Indicative price: € 0 | 6 | | 1 | A:1 | 180 |

1.2 Specialization Courses 12 credits

Subscribe to 12 credit units from the following list, distributed over the first standard learning path as follows: 12 credit units in year 1.
Subject to approval by the faculty.

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|-----|---------|-------|
| 1 | C004144 Topics in Nanoscience <i>Pieter Geiregat -- Department of Chemistry</i> Indicative price: € 0 | 4 | | 1 | A:2 | 120 |
| 2 | C004145 Functional Ceramics <i>Klaartje De Buysser -- Department of Chemistry</i> Indicative price: € 7 | 4 | | 1 | A:2 | 110 |
| 3 | C004146 The f-Elements <i>Rik Van Deun -- Department of Chemistry</i> Indicative price: € 10 | 4 | | 1 | | 100 |
| 4 | C004139 Polymer Materials: Biomedical and Sustainable Aspects <i>Peter Dubruel -- Department of Organic Chemistry</i> Indicative price: € 0 | 4 | | 1 | A:2 | 100 |
| 5 | C004147 Advanced Quantum Chemistry <i>Patrick Bultinck -- Department of Chemistry</i> Indicative price: € 0 | 4 | | 1 | A:2 | 115 |
| 6 | C004148 Computational Quantum Chemistry <i>Patrick Bultinck -- Department of Chemistry</i> Indicative price: € 0 | 8 | | 1 | A:2 | 210 |
| 7 | C004149 Light and Matter <i>Pieter Geiregat -- Department of Chemistry</i> Indicative price: € 15 | 4 | | 1 | A:2 | 120 |

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|----|---------|-------------------------------------------------------------------------------------------------------------------------------------------|---|---|-----|-----|
| 8 | C004150 | Bioinorganic Chemistry <i>Kristof Van Hecke -- Department of Chemistry</i> Indicative price: € 0 | 4 | 1 | A:2 | 120 |
| 9 | C004151 | Heterogeneous Catalysis <i>Pascal Van Der Voort -- Department of Chemistry</i> Indicative price: € 100 | 4 | 1 | A:2 | 120 |
| 10 | C004152 | Structure Analysis by X-ray Diffraction <i>Klaartje De Buysser -- Department of Chemistry</i> Indicative price: € 0 | 4 | 1 | A:2 | 120 |

1.3 Scientific and Professional Skills

66 credits

Subscribe to 66 credit units from the following list, with 30 credit units with reference a.

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|-----|---------|-------|
| 1 | C004165 Professional Skills of the Sustainable Chemist <i>Catherine Cazin -- Department of Chemistry</i> Indicative price: € 0 | 6 | | 1 | A:J | 150 |
| 2 | C004166 Master Thesis, Research Plan <i>Laszlo Vincze -- Department of Chemistry</i> Indicative price: unknown | 9 | | 1 | A:2 | 270 |
| 3 | C004167 Master Thesis, Research Project <i>Filip Du Prez -- Department of Organic Chemistry</i> Indicative price: unknown | 21 | | 2 | A:1 | 630 |
| 4 | C004168 Industrial Internship <i>Richard Hoogenboom -- Department of Organic Chemistry</i> Indicative price: unknown | 30 | a | 2 | A:2 | 900 |
| 5 | C004191 Academic Internship <i>Steven Nolan -- Department of Chemistry</i> Indicative price: unknown | 30 | a | 2 | A:2 | 900 |

2 Elective Courses

12 credits

Subscribe to 12 credit units from no less than 1 and no more than 4 modules from the following list. Subject to approval by the faculty.

2.1 In-depth Chemistry

Subscribe to no more than 4 credit units from the specialization courses of the different main subject of the Master in Chemistry.

2.2 Industry and Management

Subscribe to no more than 12 credit units from the following list.

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|-----|---------|-------|
| 1 | E076460 Dare to Venture <i>Johan Verrue -- Department of Marketing, Innovation and Organisation</i> Indicative price: unknown | 4 | | 1 | A:2 | 120 |
| 2 | E076471 Dare to Start <i>Wouter Haerick -- Department of Information Technology</i> Indicative price: unknown | 3 | | 1 | A:2 | 90 |
| 3 | F000845 Business Administration [nl] <i>Mirjam Knockaert -- Department of Marketing, Innovation and Organisation</i> Indicative price: € 35 | 4 | | 1 | A:2 | 120 |
| 4 | F000551 Business Skills <i>Mieke Audenaert -- Department of Marketing, Innovation and Organisation</i> Indicative price: € 46 | 4 | | 1 | C:2 | 120 |
| 5 | C000833 Project Management [nl] <i>Mario Vanhoucke -- Department of Business Informatics and Operations Management</i> Indicative price: € 75 | 4 | | 1 | A:2 | 120 |
| 6 | F000855 Organization Theory <i>Gosia Kozusznik -- Department of Marketing, Innovation and Organisation</i> Indicative price: € 46 | 4 | | 1 | A:2 | 120 |
| 7 | F001010 Financial Markets and Institutions [nl] <i>Rudi Vander Venet -- Department of Economics</i> Indicative price: € 0 | 5 | | 1 | A:2 | 150 |
| 8 | F000752 Environmental Economics and Policy [nl] <i>Brent Bleys -- Department of Economics</i> Indicative price: € 55 | 4 | | 1 | B:2 | 120 |

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|----|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|-----|-----|
| 9 | F000859 | Corporate Social Responsibility [nl] <i>Saskia Crucke -- Department of Marketing, Innovation and Organisation</i> Indicative price: € 0 | 3 | 1 | A:2 | 90 |
| 10 | F000892 | Innovation Management <i>Katrien Verleye -- Department of Marketing, Innovation and Organisation</i> Indicative price: € 55 | 3 | 1 | A:2 | 90 |
| 11 | E039060 | Sustainable Energy and Rational Use of Energy <i>Jeroen Beeckman -- Department of Electronics and Information Systems</i> Indicative price: € 7 | 4 | 1 | A:2 | 120 |
| 12 | F000758 | Economics [nl] <i>Bruno Merlevede -- Department of Economics</i> Indicative price: € 50 | 5 | 2 | A:1 | 150 |
| 13 | E076431 | Introduction to Entrepreneurship <i>Petra Andries -- Department of Marketing, Innovation and Organisation</i> Indicative price: € 33 | 3 | 2 | A:1 | 90 |
| 14 | F000768 | Marketing Management [nl] <i>Maggie Geuens -- Department of Marketing, Innovation and Organisation</i> Indicative price: € 40 | 6 | 2 | A:1 | 180 |
| 15 | F001009 | Business Cycles and Growth [nl] <i>Freddy Heylen -- Department of Economics</i> Indicative price: € 65 | 5 | 2 | A:1 | 150 |
| 16 | F001008 | Markets and Prices [nl] <i>Dirk Van de gaer -- Department of Economics</i> Indicative price: € 50 | 5 | 2 | A:1 | 150 |
| 17 | E065460 | Rational Use of Materials <i>Tom Depover -- Department of Materials, Textiles and Chemical Engineering</i> Indicative price: unknown | 5 | 2 | A:1 | 150 |
| 18 | C002275 | Environmental Law [nl] <i>Hendrik Schoukens -- Department of European, Public and International Law</i> Indicative price: € 0 | 5 | 2 | A:1 | 125 |
| 19 | I001571 | Environmental Legislation <i>Hendrik Schoukens -- Department of European, Public and International Law</i> Indicative price: unknown | 3 | 2 | A:1 | 75 |

2.3 Scientific broadening

Subscribe to no more than 12 credit units from the following list.

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|-----|--------------------|-------|
| 1 | C004169 Advanced Topics in Chemistry <i>Klaartje De Buysser -- Department of Chemistry</i> Indicative price: unknown | 3 | | 2 | A:1 | 90 |
| 2 | C004192 Green Chemistry Indicative price: € 0 | 3 | | 2 | | 75 |
| 3 | C004193 History of Chemistry [nl] <i>Mieke Adriaens -- Department of Chemistry</i> Indicative price: € 0 | 3 | | 2 | (A:2) ^d | 75 |
| 4 | C004009 History and Philosophy of Sciences [nl] <i>Maarten Van Dyck -- Department of Philosophy and Moral Sciences</i> Indicative price: € 0 | 3 | | 2 | A:1 ^a | 90 |
| 5 | C004194 Chemical Laboratory Skills [nl] <i>Katrien Strubbe -- Department of Chemistry</i> Indicative price: unknown | 4 | | 2 | A:J | 115 |
| 6 | C004089 International Course Indicative price: unknown | 3 | | 2 | A:J | 90 |

2.4 Elective Courses UGent and other Universities

Subscribe to no more than 12 credit units from the study programmes of UGent including the [Ghent University elective courses](#) or from other universities of the Flemish Community, or (online) courses from [Erasmus+ partner universities](#).

Programme related study costs

Type: Laptop

Name: laptop
Indicative price: € 750
Optional: No
Fulltime standard learning track year: 1
Available through Student Association : No
Usability and Lifetime within the Course Unit : intensive
Usability and Lifetime within the Study Programme : intensive
Usability and Lifetime after the Study Programme : regularly

Type: Lab Material

Name: labcoat + safety goggles
Indicative price: € 55
Optional: No
Fulltime standard learning track year: 1
Available through Student Association : No
Usability and Lifetime within the Course Unit : intensive
Usability and Lifetime within the Study Programme : intensive
Usability and Lifetime after the Study Programme : intensive

Type: Excursion

Name: travel cost to VUB
Indicative price: € 120
Optional: No
Fulltime standard learning track year: 1
Additional information: Because this program is an alliance with the VUB, travel costs to the VUB need to be taken in consideration

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 2025-2026 | f: annually, from 2026-2027 | i: annually, from 2027-2028 |
| b: tri-annually | d: bi-annually, from 2025-2026 | g: bi-annually, from 2026-2027 | j: bi-annually, from 2027-2028 |
| | e: tri-annually, from 2025-2026 | h: tri-annually, from 2026-2027 | k: tri-annually, from 2027-2028 |

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.