



**Faculty of Medicine and Health Sciences  
Master of Science in Biomedical Sciences**

Language of instruction: English

Programme version 6

## 1 General Courses 27 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	D013626	Laboratory Quality Management and Assurance <i>Peter Van Eenoo -- Department of Diagnostic Sciences</i>	3		1	A:1	75
2	D012176	Bio-Ethics in Experimental Medicine <i>Katya De Groot -- Department of Internal Medicine and Pediatrics</i>	3		1	A:1	75
3	A003107	Advanced Academic English <i>Geert Jacobs -- Department of Linguistics</i>	3	UKV	1	A:1	90
4	D012528	Cell and Gene Therapy <i>Bart Vandekerckhove -- Department of Diagnostic Sciences</i>	4		1	A:1	120
5	D013628	Large Scale Analysis of Biomedical Data <i>Katleen De Preter -- Department of Biomolecular Medicine</i>	4		1	A:1	100
6	D012527	Good Clinical Practice - Clinical studies <i>Sylvie Rottey -- Department of Basic and Applied Medical Sciences</i>	3		1	A:2	90
7	D013627	Research Proposal Biomedical Sciences <i>Philip Meuleman -- Department of Diagnostic Sciences</i>	4		1	A:2	120
8	D012514	Medical Seminars <i>Tania Maes -- Department of Internal Medicine and Pediatrics</i>	3		2	A:J	75

## 2 Majors 26 credits

### 2.1 Major Nutrition and Metabolism 26 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	D012497	Methodology of Nutritional Research <i>Bruno Lapauw -- Department of Internal Medicine and Pediatrics</i>	5		1	A:1	150
2	D012498	Human Nutrition Science and Pathology <i>XAVIER VERHELST -- Department of Internal Medicine and Pediatrics</i>	6		1	A:2	180
3	D012496	Method and Device Validation <i>Carolien Bonroy -- Department of Diagnostic Sciences</i>	3		1	A:2	75
4	D012504	Public Health Nutrition <i>Stefaan De Henauw -- Department of Public Health and Primary Care</i>	3		1	A:2	90
5	D012495	Medical Laboratory Diagnostics <i>Peter Van Eenoo -- Department of Diagnostic Sciences</i>	3		1	A:2	90
6	D001877	Food Microbiology and Food Preservation <i>Andreja Rajkovic -- Department of Food Technology, Safety and Health</i>	6		2	A:1	180

### 2.2 Major Neurosciences 26 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	D012509	Structural Aspects of the Central Nervous System <i>Wim Ceelen -- Department of Human Structure and Repair</i>	5		1	A:1	150
2	D012538	Functional Aspects of the Central Nervous System <i>Alain Labro -- Department of Basic and Applied Medical Sciences</i>	5		1	A:2	150
3	D012511	Neurobiology <i>Evelien Carrette -- Department of Head and Skin</i>	5		1	A:2	150

4	D012512	Neurogenetics <i>Bart Dermaut -- Department of Biomolecular Medicine</i>	5	1	A:2	150
5	D012510	Clinical Neurology <i>Kristl Vonck -- Department of Head and Skin</i>	6	2	A:1, B:2	150

### 2.3 Major Tissue Engineering and Regenerative Medicine 26 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	D012548	Degeneration and Senescence <i>Mathieu Bertrand -- Department of Molecular Biology</i>	5	1	A:1	150	
2	D012549	Stem Cell Biology and Reprogramming <i>BJORN HEINDRYCKX -- Department of Human Structure and Repair</i>	4	1	A:2	120	
3	D012550	Clinical and Experimental Embryology <i>BJORN HEINDRYCKX -- Department of Human Structure and Repair</i>	3	1	A:2	90	
4	D012551	Biomaterials and Biocompatibility <i>Ruslan Dmitriev -- Department of Human Structure and Repair</i>	8	1	A:2	240	
5	D001923	Tissue Engineering <i>Ruslan Dmitriev -- Department of Human Structure and Repair</i>	6	2	A:1	180	

### 2.4 Major Radiation Sciences 26 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	D012508	Radiation Dosimetry and Radioprotection <i>Klaus Bacher -- Department of Human Structure and Repair</i>	5	1	A:1	150	
2	D012506	Radiochemistry and Radiopharmaceuticals <i>Filip De Vos -- Department of Pharmaceutical Analysis</i>	4	1	A:2	120	
3	D012507	Radiotherapy: Technology and Patient Dosimetry <i>Werner De Gersem -- Department of Human Structure and Repair</i>	6	1	A:2	150	
4	D012505	Medical Imaging <i>Klaus Bacher -- Department of Human Structure and Repair</i>	5	1	A:2	150	
5	D012563	Radiobiology and Radiopathology <i>Ans Baeyens -- Department of Human Structure and Repair</i>	6	2	A:1	180	

### 2.5 Major Medical Genetics 26 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	D012701	Advanced Human Genetics <i>Sofie Symoens -- Department of Biomolecular Medicine</i>	6	1	A:2	180	
2	D012490	Cancer Genetics <i>Kaat Durinck -- Department of Biomolecular Medicine</i>	5	1	A:2	150	
3	D012547	Massively Parallel Sequencing Data-analysis <i>Pieter Mestdagh -- Department of Biomolecular Medicine</i>	3	1	A:2	75	
4	D000652	Developmental Genetics and Gene Regulation <i>Elfride De Baere -- Department of Biomolecular Medicine</i>	6	1	A:1	180	
5	D000852	Genetical Diagnostics <i>Kathleen Claes -- Department of Biomolecular Medicine</i>	6	2	A:1	180	

### 2.6 Major Immunity and Infection 26 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	D012529	Immunopathology <i>Hamida Hammad -- Department of Internal Medicine and Pediatrics</i>	5	1	A:1	150	
2	D012531	Molecular Immunology <i>Tom Taghon -- Department of Diagnostic Sciences</i>	5	1	A:2	150	
3	D012533	Molecular Virology <i>Philip Meuleman -- Department of Diagnostic Sciences</i>	5	1	A:2	150	
4	D012530	Molecular Bacteriology <i>Piet Cools -- Department of Diagnostic Sciences</i>	5	1	A:2	150	
5	D013094	Vaccinology <i>Isabel Leroux-Roels -- Department of Diagnostic Sciences</i>	6	2	A:1	180	

### 2.7 Major Systems Biology 26 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
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1	D012555	Genomics, Proteomics and Metabolomics <i>Kris Gevaert -- Department of Biomolecular Medicine</i>	6	1	A:1	180
2	D012702	Advanced Imaging and Image Analysis <i>Marleen Van Troys -- Department of Biomolecular Medicine</i>	5	1	A:2	150
3	D012554	Machine Learning Methods for Biomedical Data <i>Ralf Gabriels -- Department of Biomolecular Medicine</i>	5	1	A:2	150
4	D012539	Protein Interaction Networks and Medical Applications <i>Sven Eyckerman -- Department of Biomolecular Medicine</i>	4	1	A:2	120
5	D012184	Systems Biology <i>Tine Claeys -- Department of Biomolecular Medicine</i>	6	2	A:1	150

## 2.8 Major Cancer 26 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	D012491	Proliferation and Survival <i>Panagiotis Ntziachristos -- Department of Biomolecular Medicine</i>	5	1		A:1	150
2	D012492	Communication and Metastasis <i>Olivier De Wever -- Department of Human Structure and Repair</i>	5	1		A:2	150
3	D012493	Clinical Aspects of Cancer <i>Wim Ceelen -- Department of Human Structure and Repair</i>	5	1		A:2	150
4	D012490	Cancer Genetics <i>Kaat Durinck -- Department of Biomolecular Medicine</i>	5	1		A:2	150
5	D012494	Precision Medicine in Cancer <i>Karim Vermaelen -- Department of Internal Medicine and Pediatrics</i>	6	2		A:1	180

## 3 Elective Courses

Subscribe to 31 credit units from no less than 2 and no more than 7 modules from the following list. Subject to approval by the faculty.  
Recommended: Students take 8 to 12 ECTS in the first master's year and 19 to 23 ECTS in the second year.

### 3.1 Elective Course List First Master's Year

Nr	Course		CRDT	Ref	MT1	Session	Study
1	D013531	Innovation Management <i>Jan Demolder -- Department of Biomolecular Medicine</i>	5	1		A:2	150
2	D012577	Pharmacology [nl] <i>Lindsey Devisscher -- Department off Basic and Applied Medical Sciences</i>	7	1		A:2	210
3	D013530	Laboratory Animal Science <i>Katleen Hermans -- Department of Pathobiology, Pharmacology and Zoological Medicine</i>	6	1		A:1	180
4	H002476	Powerful Learning Environments [nl] <i>Bram De Wever -- Department of Educational Studies</i>	6	1		A:1	180
5	C004114	Mathematics: Advanced Techniques [nl] <i>Marnix Van Daele -- Department of Mathematics, Computer Science and Statistics</i>	6	1		A:2	180
6	C004223	Nuclear Physics <i>Natalie Jachowicz -- Department of Physics and Astronomy</i>	4	1		A:2	120
7	A005503	Context and Nuance. A Critical Reflection on Current Topics [nl] <i>July De Wilde -- Department of Translation, Interpreting and Communication</i>	6	UKV	1	A:1	180
8	D013207	Economic Perspectives on Health <i>Nick Verhaeghe -- Department of Public Health and Primary Care</i>	3		1	A:1	90
9	J000454	Cutting Edge Technologies for Drug Delivery - Nanomedicines <i>Stefaan De Smedt -- Department of Pharmaceutics</i>	3		1	A:2	90

### 3.2 Biomedical Researcher in Industry and Management

Nr	Course		CRDT	Ref	MT1	Session	Study
1	D012577	Pharmacology [nl] <i>Lindsey Devisscher -- Department off Basic and Applied Medical Sciences</i>	7		2	A:2	210
2	J000445	Regulatory Affairs Health Products <i>Evelien Wynendaele -- Department of Pharmaceutical Analysis</i>	3		2	A:J	90
3	E092930	Translational Neuroscience <i>Christian Vanhove -- Department of Electronics and Information Systems</i>	3		2	A:2	90
4	C002681	Advanced Programming in Bioinformatics <i>Pieter De Bleser -- Department of Molecular Biology</i>	3		2		80

5	C003670	Biomolecular Production Methods <i>Nico Callewaert -- Department of Biochemistry, Physiology and Microbiology</i>	4	2	A:1	110
6	D013207	Economic Perspectives on Health <i>Nick Verhaeghe -- Department of Public Health and Primary Care</i>	3	2	A:1	90
7	E076820	Project Management <i>Mario Vanhoucke -- Department of Business Informatics and Operations Management</i>	6	2	A:2	180
8	J000453	Pharmaceutical Management Skills [nl] <i>Evelien Wynendaele -- Department of Pharmaceutical Analysis</i>	3	2	A:2	90
9	D013530	Laboratory Animal Science <i>Katleen Hermans -- Department of Pathobiology, Pharmacology and Zoological Medicine</i>	6	2	A:1	180
10	D013531	Innovation Management <i>Jan Demolder -- Department of Biomolecular Medicine</i>	5	2	A:2	150
11	J000427	Special Nutrition [nl] <i>Sarah De Saeger -- Department of Bio-analysis</i>	3	2	A:1	90
12	J000443	Pharmacoeconomics [nl] <i>Barbara Claus -- Department of Pharmaceutical Analysis</i>	3	2	A:2	90

### 3.3 Biomedical Researcher in a Changing Society

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E092930	Translational Neuroscience <i>Christian Vanhove -- Department of Electronics and Information Systems</i>	3		2	A:2	90
2	H002000	Modelling of Cognitive Processes <i>Tom Verguts -- Department of Experimental Psychology</i>	5		2	A:1	150
3	H001992	Neurobiology of Affective Disorders <i>Gilles Pourtois -- Department of Experimental Clinical and Health Psychology</i>	4		2	A:1	120
4	B000622	Medical Criminalistics [nl] <i>Evy De Boosere -- Department of Diagnostic Sciences</i>	4		2	A:2	120
5	B001499	Forensic Psychology [nl] <i>Lize Verbeke -- Department of Developmental, Personality and Social Psychology</i>	4		2	A:2	120
6	H001977	Coaching and Diversity [nl] <i>Elisabeth De Schauwer -- Department of Special Education</i>	3	UKV	2	A:J	90
7	A005503	Context and Nuance. A Critical Reflection on Current Topics [nl] <i>July De Wilde -- Department of Translation, Interpreting and Communication</i>	6	UKV	2	A:1	180
8	K001382	Strategic Communication <i>Veroline Cauberghe -- Department of Communication Sciences</i>	5		2		150
9	H001010	Introduction Industrial Psychology [nl] <i>Bart Wille -- Department of Developmental, Personality and Social Psychology</i>	5		2	C:1	150
10	B001497	Forensic Psychiatry [nl] <i>Kurt Audenaert -- Department of Head and Skin</i>	4		2	B:1	120
11	B001637	Drug Phenomena [nl] <i>Louis Favril -- Department of Criminology, Criminal Law and Social Law</i>	5		2	A:1	150
12	H002429	Neuropsychology [nl] <i>Wim Fias -- Department of Experimental Psychology</i>	5		2	A:2	150

### 3.4 Biomedical Exploration: Major Courses

Nr	Course		CRDT	Ref	MT1	Session	Study
1	D012498	Human Nutrition Science and Pathology <i>XAVIER VERHELST -- Department of Internal Medicine and Pediatrics</i>	6			A:2	180
2	D012496	Method and Device Validation <i>Carolien Bonroy -- Department of Diagnostic Sciences</i>	3			A:2	75
3	D012504	Public Health Nutrition <i>Stefaan De Henauw -- Department of Public Health and Primary Care</i>	3			A:2	90
4	D012495	Medical Laboratory Diagnostics <i>Peter Van Eenoo -- Department of Diagnostic Sciences</i>	3			A:2	90
5	D012497	Methodology of Nutritional Research <i>Bruno Lapauw -- Department of Internal Medicine and Pediatrics</i>	5			A:1	150
6	D012509	Structural Aspects of the Central Nervous System <i>Wim Ceelen -- Department of Human Structure and Repair</i>	5			A:1	150

7	D012538	Functional Aspects of the Central Nervous System <i>Alain Labro -- Department of Basic and Applied Medical Sciences</i>	5	A:2	150
8	D012511	Neurobiology <i>Evelien Carrette -- Department of Head and Skin</i>	5	A:2	150
9	D012512	Neurogenetics <i>Bart Dermaut -- Department of Biomolecular Medicine</i>	5	A:2	150
10	D012549	Stem Cell Biology and Reprogramming <i>BJORN HEINDRYCKX -- Department of Human Structure and Repair</i>	4	A:2	120
11	D012550	Clinical and Experimental Embryology <i>BJORN HEINDRYCKX -- Department of Human Structure and Repair</i>	3	A:2	90
12	D012548	Degeneration and Senescence <i>Mathieu Bertrand -- Department of Molecular Biology</i>	5	A:1	150
13	D012551	Biomaterials and Biocompatibility <i>Ruslan Dmitriev -- Department of Human Structure and Repair</i>	8	A:2	240
14	D012506	Radiochemistry and Radiopharmaceuticals <i>Filip De Vos -- Department of Pharmaceutical Analysis</i>	4	A:2	120
15	D012508	Radiation Dosimetry and Radioprotection <i>Klaus Bacher -- Department of Human Structure and Repair</i>	5	A:1	150
16	D012507	Radiotherapy: Technology and Patient Dosimetry <i>Werner De Gersem -- Department of Human Structure and Repair</i>	6	A:2	150
17	D012505	Medical Imaging <i>Klaus Bacher -- Department of Human Structure and Repair</i>	5	A:2	150
18	D012490	Cancer Genetics <i>Kaat Durinck -- Department of Biomolecular Medicine</i>	5	A:2	150
19	D012547	Massively Parallel Sequencing Data-analysis <i>Pieter Mestdagh -- Department of Biomolecular Medicine</i>	3	A:2	75
20	D000652	Developmental Genetics and Gene Regulation <i>Elfride De Baere -- Department of Biomolecular Medicine</i>	6	A:1	180
21	D012701	Advanced Human Genetics <i>Sofie Symoens -- Department of Biomolecular Medicine</i>	6	A:2	180
22	D012531	Molecular Immunology <i>Tom Taghon -- Department of Diagnostic Sciences</i>	5	A:2	150
23	D012533	Molecular Virology <i>Philip Meuleman -- Department of Diagnostic Sciences</i>	5	A:2	150
24	D012530	Molecular Bacteriology <i>Piet Cools -- Department of Diagnostic Sciences</i>	5	A:2	150
25	D012529	Immunopathology <i>Hamida Hammad -- Department of Internal Medicine and Pediatrics</i>	5	A:1	150
26	D012702	Advanced Imaging and Image Analysis <i>Marleen Van Troys -- Department of Biomolecular Medicine</i>	5	A:2	150
27	D012554	Machine Learning Methods for Biomedical Data <i>Ralf Gabriels -- Department of Biomolecular Medicine</i>	5	A:2	150
28	D012539	Protein Interaction Networks and Medical Applications <i>Sven Eyckerman -- Department of Biomolecular Medicine</i>	4	A:2	120
29	D012555	Genomics, Proteomics and Metabolomics <i>Kris Gevaert -- Department of Biomolecular Medicine</i>	6	A:1	180
30	D012491	Proliferation and Survival <i>Panagiotis Ntziachristos -- Department of Biomolecular Medicine</i>	5	A:1	150
31	D012492	Communication and Metastasis <i>Olivier De Wever -- Department of Human Structure and Repair</i>	5	A:2	150
32	D012493	Clinical Aspects of Cancer <i>Wim Ceelen -- Department of Human Structure and Repair</i>	5	A:2	150
33	D012490	Cancer Genetics <i>Kaat Durinck -- Department of Biomolecular Medicine</i>	5	A:2	150
34	D001877	Food Microbiology and Food Preservation <i>Andreja Rajkovic -- Department of Food Technology, Safety and Health</i>	6	A:1	180
35	D012510	Clinical Neurology <i>Kristl Vonck -- Department of Head and Skin</i>	6	A:1	150

36	D001923	Tissue Engineering <i>Ruslan Dmitriev -- Department of Human Structure and Repair</i>	6	A:1	180
37	D012563	Radiobiology and Radiopathology <i>Ans Baeyens -- Department of Human Structure and Repair</i>	6	A:1	180
38	D013094	Vaccinology <i>Isabel Leroux-Roels -- Department of Diagnostic Sciences</i>	6	A:1	180

### 3.5 Preparing for EduMa

Nr	Course		CRDT	Ref	MT1	Session	Study
1	H002476	Powerful Learning Environments [nl] <i>Bram De Wever -- Department of Educational Studies</i>	6			A:1	180
2	H002478	The Student: Development and Motivation [nl] <i>Wim Beyers -- Department of Developmental, Personality and Social Psychology</i>	6			A:1	180
3	H002477	The Teacher within Class, School and Society [nl] <i>Melissa Tuytens -- Department of Educational Studies</i>	6			A:2	180
4	H002587	Teaching Methodology: Health Sciences I [nl] <i>Leen Haerens -- Department of Movement and Sports Sciences</i>	9			A:1	270

### 3.6 Medical Radiation Physics

Nr	Course		CRDT	Ref	MT1	Session	Study
1	C004114	Mathematics: Advanced Techniques [nl] <i>Marnix Van Daele -- Department of Mathematics, Computer Science and Statistics</i>	6		2	A:2	180
2	C004212	Python for Scientists <i>Toon Verstraeten -- Department of Physics and Astronomy</i>	5		2	A:1	150
3	C004223	Nuclear Physics <i>Natalie Jachowicz -- Department of Physics and Astronomy</i>	4		2	A:2	120
4	D002433	Detection and Measurement of Ionizing Radiation [nl] <i>Klaus Bacher -- Department of Human Structure and Repair</i>	3		2	A:1	90
5	D013254	Radiation Protection, Safety and Legislation [nl] <i>Klaus Bacher -- Department of Human Structure and Repair</i>	5		2	A:J	150

### 3.7 Elective Courses: Free Choice

6 credits

Subscribe to no more than 6 credit units from the study programmes of Ghent University, including the Ghent University Elective Courses. Subject to approval by the faculty.  
The maximum number of 6 ECTS credits for elective courses that can be freely chosen may be exceeded to a maximum of 12 ECTS credits, only for elective courses in support of the master's thesis or major. Moreover, the request to take more than 6 SP of free electives needs to be motivated on behalf of the curriculum committee, who will give its final approval, for all the included free electives within the package of maximal 12 SP.

#### Ghent University Elective Courses

4 Work Placement					
Nr	Course		CRDT	Ref	MT1
1	D013637	Major Internship Biomedical Sciences <i>Kaat Durinck -- Department of Biomolecular Medicine</i>	6		1

5 Master's Dissertation					
Nr	Course		CRDT	Ref	MT1
1	D012185	Master's Dissertation	30		2

## 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 2026-2027	f: annually, from 2027-2028	i: annually, from 2028-2029
b: tri-annually	d: bi-annually, from 2026-2027	g: bi-annually, from 2027-2028	j: bi-annually, from 2028-2029
	e: tri-annually, from 2026-2027	h: tri-annually, from 2027-2028	k: tri-annually, from 2028-2029