

## 1 General Courses

The references in the list below represent the following fields:

- Basic Life Science (BLS)
- Biomedical Technology (BT)
- Medical Device Design (MDD)
- Health Care (HC)

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Quantitative Cell Biology		3	BLS	1				90
2	From Genome to Organism		6	BLS	1				180
3	Modelling of Physiological Systems	Patrick Segers TW06	6	BLS	1				180
4	Biomedical Imaging		3	BT	1	1			90
5	Bioelectronics		3	BT	1			30	90
6	Biomaterials		6	BT	1				180
7	Biomechanics	Charlotte Debbaut TW06	6	BT	1				180
8	Technology in Clinical Neuroscience	Pieter van Mierlo TW06	3	BT	1				90
9	Medical Physics	Klaus Bacher GE38	3	BT	1				90
10	Biomedical Product Development	Ewout Vansteenkiste WE05	6	MDD	1	J		30	180
11	Medical Equipment	Sunny Eloot GE35	5	MDD	1			60	150
12	Human and Environment, Safety and Regulations	Carlos De Wagter GE38	4	MDD	1				120
13	Technology and Design of Artificial Organs	Thierry Bové GE38	6	MDD	2				180
14	Clinical Study Design and Biostatistics	Barbara Vanderstraeten GE38	3	HC	2	1		25	90
15	Leadership in Health Care	Pascal Verdonck TW06	3	HC	2	2		22.5	90
16	Health Information and Decision Support Systems	Jef Vandemeulebroucke VUB	3	HC	2	2		31.5	90
17	Hospital Project		3	HC	2				90

## 2 Elective Courses

Subscribe to 24 credit units from no less than 1 and no more than 5 modules from the following list. Subject to approval by the faculty.

- 6 credit units in year 1
- 18 credit units in year 2

### 2.1 Elective Courses Biomedical Engineering

Subscribe to no more than 24 credit units from the following list. Subject to approval by the faculty.

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Modeling in Medicine and Biomedical Engineering: Case Studies	Patrick Segers TW06	3			2		30	90
2	Bioelectromagnetism	Wout Joseph TW05	4					45	120
3	Biomedical Acoustics		6						180
4	Control of Drug-delivery Systems	Clara-Mihaela Ionescu TW08	4			2		46	120
5	Data Analytics in Healthcare and Connected Care	Sofie Van Hoecke TW06	6			2		60	180
6	Internship 1 [en, nl]	Patrick Segers TW06	3				A:11, B:	7.5	90
7	Internship 2 [en, nl]	Patrick Segers TW06	3				A:11, B:	7.5	90
8	Internship 3 [en, nl]	Patrick Segers TW06	6				A:11, B:	7.5	180

9	International Internship 1	Patrick Segers TW06	3		A:11, B: 7.5	90
10	International Internship 2	Patrick Segers TW06	3		A:11, B: 7.5	90
11	International Internship 3	Patrick Segers TW06	6		A:11, B: 7.5	180
12	Manufacturing Planning and Control	Birger Raa TW18	6		1 60	180
13	Ethics, Engineering and Society [nl]	Guido Pennings LW01	3		2 15	90
14	Artificial Intelligence	Aleksandra Pizurica TW07	6		1 60	180

## 2.2 Elective Courses Cluster Medical Devices

*Subscribe to at most 24 credit units from the modules from the following list. Subject to approval by the faculty.*

### 2.2.1 Advanced Design Methods in Biomedical Engineering

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Computational Fluid Dynamics		3						90
2	Computational Biomechanics	Nele Famaey TW06	3						90
3	From Medical Image to Computational Model [en, nl]		6				A:11, B: 45		180

### 2.2.2 Assistive Technologies

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Biomedical Robotics		5						150
2	Virtual Reality		5						150

### 2.2.3 Micro and Nano Devices

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Design of Microsystems [nl]	Jan Doutreloigne TW06	6				1 60		180
2	Microphotonics [en, nl]	Dries Van Thourhout TW05	6				A:11, B: 60		180
3	Biophotonics	Nicolas Le Thomas TW05	4				1 30		120
4	Sensors and Actuators	Herbert De Smet TW06	6				2 45		180
5	Photonics [nl]	Roel Baets TW05	6				2 60		180
6	Micro and Nanobiotechnology		3						90
7	Technological Processes for Photonics and Electronics [en, nl]		4				A:JJ, B: 50		120
8	Embedded Bioelectronics Systems		5						150
9	Biomedical Devices		4						120
10	Architecture and Fabrication of Biomedical Microsystems		3						90

## 2.3 Elective Courses Cluster Health Care

*Subscribe to at most 24 credit units from the modules from the following list. Subject to approval by the faculty.*

### 2.3.1 Personalized Medicine

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Physics and Chemistry of Nanostructures	Zeger Hens WE06	6					52.5	180
2	Contrast Agents and Biomarkers for Imaging and Therapy	Christian Vanhove TW06	3				1 30		90
3	Scientific and Clinical Applications of Magnetic Nanoparticles	Annelies Coene TW08	3				2 30		90

### 2.3.2 Neuro-engineering

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Advanced Image and Signal Processing [en, nl]	Stefaan Vandenberghe TW06	3				A:11, B: 25		90
2	Nuclear Magnetic Resonance Imaging Technology	Roel Van Holen TW06	3				2 30.5		90
3	Neuro-physiological Signal Processing and Network Analysis [en, nl]	Guy Nagels VUB	4				A:22, B: 50		120
4	Translational Neuroscience	Christian Vanhove TW06	3				2 30		90

5	Neural Interfaces, Neuromodulation and Minimally Invasive Neurotechnology	Vincent Keereman TW06	3		2	30	90
6	Auditory Computation, Modelling and Devices	Sarah Verhulst TW05	3		2	25	90

### 2.3.3 Engineering (Physics) in Oncology

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Measurement Techniques in Nuclear Science	Freya Blekman VUB	3				2	22.5	90
2	Nuclear Physics [en, nl]	Michel Sonck VUB	3				A:22, B:	30	90
3	Nuclear Reactors and Cyclotrons	Michel Sonck VUB	3				1	22.5	90
4	Technology of Radiotherapy	Werner De Gersem GE38	3				1	30	90
5	Medical Dosimetry	Nico Buls VUB	3				1	37.5	90
6	Radiologic Techniques	Klaus Bacher GE38	3				1	22.5	90
7	Radioprotection and Regulations [nl]	Michel Sonck VUB	3				2	25	90
8	Radiochemistry [nl]	Filip De Vos FW02	3				2	25	90
9	Radiobiology and Radiopathology	Marc Van Eijkeren GE38	3				2	15	90
10	Contrast Agents and Biomarkers for Imaging and Therapy	Christian Vanhove TW06	3				1	30	90

### 2.4 Elective Courses Study Programme VUB

Subscribe to no more than 24 credit units from the Elective Courses list VUB. Subject to approval by the faculty.  
For list see [www.ugent.be/ea](http://www.ugent.be/ea) > Opleidingen > Opleidingsaanbod > Overzicht opleidingen Master na Bachelor

### 2.5 Elective Courses Ghent University of VUB

Subscribe to no more than 24 credit units from Elective Courses Ghent University or VUB. Subject to approval by the faculty.

## 3 Master's Dissertation

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Master's Dissertation		24		2	J		60	720

#### Teaching languages

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 2022-2023	f: annually, from 2023-2024	i: annually, from 2024-2025
b: tri-annually	d: bi-annually, from 2022-2023	g: bi-annually, from 2023-2024	j: bi-annually, from 2024-2025
	e: tri-annually, from 2022-2023	h: tri-annually, from 2023-2024	k: tri-annually, from 2024-2025