

Faculty of Engineering and Architecture

Preparatory Course Master of Science in Biomedical Engineering

Language of instruction: Dutch

Programme version 6

## 1 General Courses

### 1.1 Intake: BSc/MSc in Engineering

Subscribe to no more than 45 credit units from the following list. Subject to approval by the faculty. Depending on the student's previous degree.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E063682 Biomechanics [en] <i>Charlotte Debbaut -- Department of Electronics and Information Systems</i>	6		1	A:1	180
2	E045120 Transport Phenomena <i>Tom De Mulder -- Department of Civil Engineering</i>	6		1	B:2	180
3	E090320 Electrical Circuits and Networks <i>Inge Nys -- Department of Electronics and Information Systems</i>	6		1	A:1	180
4	E074011 Quantitative Cell and Tissue Analysis [en] <i>Andre Skirtach -- Department of Biotechnology</i>	6		1	A:1	180
5	E092662 From Genome to Organism [en] <i>Fransiska Malfait -- Department of Biomolecular Medicine</i>	3		1	A:1	90
6	E092623 Modelling of Physiological Systems [en] <i>Patrick Segers -- Department of Electronics and Information Systems</i>	5		1	A:2	150
7	E032511 Electronic Systems and Instrumentation for Biomedical Engineers <i>Jan Doutreloigne -- Department of Electronics and Information Systems</i>	5		1	A:2	150
8	E068661 Biomedical Polymers and Processing [nl, en] <i>Sandra Van Vlierberghe -- Department of Organic Chemistry</i>	3		1	A:1	90
9	E010390 Medical Signal Processing and Statistics [en] <i>Nilesh Madhu -- Department of Electronics and Information Systems</i>	3		1	A:2	90
10	E092735 Medical Physics [en] <i>Klaus Bacher -- Department of Human Structure and Repair</i>	6		1	A:2	180

### 1.2 Intake: BSc/MSc Bioscience Engineering

90 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E063682 Biomechanics [en] <i>Charlotte Debbaut -- Department of Electronics and Information Systems</i>	6		1	A:1	180
2	E005020 Analysis of Systems and Signals <i>Gert De Cooman -- Department of Electronics and Information Systems</i>	6		1	A:1	180
3	E090320 Electrical Circuits and Networks <i>Inge Nys -- Department of Electronics and Information Systems</i>	6		1	A:1	180
4	E092623 Modelling of Physiological Systems [en] <i>Patrick Segers -- Department of Electronics and Information Systems</i>	5		1	A:2	150
5	E032511 Electronic Systems and Instrumentation for Biomedical Engineers <i>Jan Doutreloigne -- Department of Electronics and Information Systems</i>	5		1	A:2	150
6	E068661 Biomedical Polymers and Processing [nl, en] <i>Sandra Van Vlierberghe -- Department of Organic Chemistry</i>	3		1	A:1	90
7	E010390 Medical Signal Processing and Statistics [en] <i>Nilesh Madhu -- Department of Electronics and Information Systems</i>	3		1	A:2	90
8	E002910 Introduction to Numerical Mathematics <i>Karel Van Acoleyen -- Department of Electronics and Information Systems</i>	3		1	A:2	90

9	E092735	Medical Physics [en] <i>Klaus Bacher -- Department of Human Structure and Repair</i>	6	1	A:2	180
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### 1.2.1 General Courses depending on the previous degree

Subscribe to no more than 45 credit units from the Bachelor of Science in Engineering, main subject Biomedical Engineering, depending on the student's previous degree. Subject to approval by the faculty.

### 1.3 Intake: BSc/MSc in Physics and Astronomy

55 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E074011 Quantitative Cell and Tissue Analysis [en] <i>Andre Skirtach -- Department of Biotechnology</i>	6		1	A:1	180
2	E063682 Biomechanics [en] <i>Charlotte Debbaut -- Department of Electronics and Information Systems</i>	6		1	A:1	180
3	E045120 Transport Phenomena <i>Tom De Mulder -- Department of Civil Engineering</i>	6		1	B:2	180
4	E005020 Analysis of Systems and Signals <i>Gert De Cooman -- Department of Electronics and Information Systems</i>	6		1	A:1	180
5	E090320 Electrical Circuits and Networks <i>Inge Nys -- Department of Electronics and Information Systems</i>	6		1	A:1	180
6	E092662 From Genome to Organism [en] <i>Fransiska Malfait -- Department of Biomolecular Medicine</i>	3		1	A:1	90
7	E092623 Modelling of Physiological Systems [en] <i>Patrick Segers -- Department of Electronics and Information Systems</i>	5		1	A:2	150
8	E032511 Electronic Systems and Instrumentation for Biomedical Engineers <i>Jan Doutreloigne -- Department of Electronics and Information Systems</i>	5		1	A:2	150
9	E068661 Biomedical Polymers and Processing [nl, en] <i>Sandra Van Vlierberghe -- Department of Organic Chemistry</i>	3		1	A:1	90
10	E070310 Organic Chemistry <i>Filip Du Prez -- Department of Organic Chemistry</i>	6		1	A:2	180
11	E010390 Medical Signal Processing and Statistics [en] <i>Nilesh Madhu -- Department of Electronics and Information Systems</i>	3		1	A:2	90

### 1.4 Intake: MSc Engineering Technology

46 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E074011 Quantitative Cell and Tissue Analysis [en] <i>Andre Skirtach -- Department of Biotechnology</i>	6		1	A:1	180
2	E063682 Biomechanics [en] <i>Charlotte Debbaut -- Department of Electronics and Information Systems</i>	6		1	A:1	180
3	E092662 From Genome to Organism [en] <i>Fransiska Malfait -- Department of Biomolecular Medicine</i>	3		1	A:1	90
4	E001161 Mathematic Models <i>Karel Van Acoleyen -- Department of Electronics and Information Systems</i>	6		1	A:1	180
5	E032511 Electronic Systems and Instrumentation for Biomedical Engineers <i>Jan Doutreloigne -- Department of Electronics and Information Systems</i>	5		1	A:2	150
6	E068661 Biomedical Polymers and Processing [nl, en] <i>Sandra Van Vlierberghe -- Department of Organic Chemistry</i>	3		1	A:1	90
7	E092735 Medical Physics [en] <i>Klaus Bacher -- Department of Human Structure and Repair</i>	6		1	A:2	180
8	E010390 Medical Signal Processing and Statistics [en] <i>Nilesh Madhu -- Department of Electronics and Information Systems</i>	3		1	A:2	90
9	E092623 Modelling of Physiological Systems [en] <i>Patrick Segers -- Department of Electronics and Information Systems</i>	5		1	A:2	150
10	E002910 Introduction to Numerical Mathematics <i>Karel Van Acoleyen -- Department of Electronics and Information Systems</i>	3		1	A:2	90

### 1.5 Intake: MSc Biochemical Engineering Technology

61 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E045120 Transport Phenomena <i>Tom De Mulder -- Department of Civil Engineering</i>	6		1	B:2	180

2	E005020	Analysis of Systems and Signals <i>Gert De Cooman -- Department of Electronics and Information Systems</i>	6	1	A:1	180
3	E090320	Electrical Circuits and Networks <i>Inge Nys -- Department of Electronics and Information Systems</i>	6	1	A:1	180
4	E001161	Mathematic Models <i>Karel Van Acoleyen -- Department of Electronics and Information Systems</i>	6	1	A:1	180
5	E040420	Mechanics of Materials <i>Wim Van Paepegem -- Department of Materials, Textiles and Chemical Engineering</i>	6	1	A:1	180
6	E032511	Electronic Systems and Instrumentation for Biomedical Engineers <i>Jan Doutreloigne -- Department of Electronics and Information Systems</i>	5	1	A:2	150
7	E068661	Biomedical Polymers and Processing [nl, en] <i>Sandra Van Vlierberghe -- Department of Organic Chemistry</i>	3	1	A:1	90
8	E092735	Medical Physics [en] <i>Klaus Bacher -- Department of Human Structure and Repair</i>	6	1	A:2	180
9	E010390	Medical Signal Processing and Statistics [en] <i>Nilesh Madhu -- Department of Electronics and Information Systems</i>	3	1	A:2	90
10	E092623	Modelling of Physiological Systems [en] <i>Patrick Segers -- Department of Electronics and Information Systems</i>	5	1	A:2	150
11	E002910	Introduction to Numerical Mathematics <i>Karel Van Acoleyen -- Department of Electronics and Information Systems</i>	3	1	A:2	90
12	E063682	Biomechanics [en] <i>Charlotte Debbaut -- Department of Electronics and Information Systems</i>	6	2	A:1	180

### 1.6 Intake: BSc/MSc degrees in the field of study of Biomedical Sciences and Medicine, Pharmaceutical Sciences, Dentistry

85 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E015041 Informatics <i>Bart Dhoedt -- Department of Information Technology</i>	6		1	A:J	180
2	E045120 Transport Phenomena <i>Tom De Mulder -- Department of Civil Engineering</i>	6		1	B:2	180
3	E001321 Mathematical Analysis III <i>Hendrik De Bie -- Department of Electronics and Information Systems</i>	6		1	A:1	180
4	E020220 Physics II <i>Christophe Leys -- Department of Applied Physics</i>	6		1	A:1	180
5	E090320 Electrical Circuits and Networks <i>Inge Nys -- Department of Electronics and Information Systems</i>	6		1	A:1	180
6	E005020 Analysis of Systems and Signals <i>Gert De Cooman -- Department of Electronics and Information Systems</i>	6		1	A:1	180
7	E007120 Modelling and Control of Dynamic Systems <i>Mia Loccupfier -- Department of Electromechanical, Systems and Metal Engineering</i>	6		1	A:2	180
8	E032511 Electronic Systems and Instrumentation for Biomedical Engineers <i>Jan Doutreloigne -- Department of Electronics and Information Systems</i>	5		1	A:2	150
9	E068661 Biomedical Polymers and Processing [nl, en] <i>Sandra Van Vlierberghe -- Department of Organic Chemistry</i>	3		1	A:1	90
10	E092735 Medical Physics [en] <i>Klaus Bacher -- Department of Human Structure and Repair</i>	6		1	A:2	180
11	E010390 Medical Signal Processing and Statistics [en] <i>Nilesh Madhu -- Department of Electronics and Information Systems</i>	3		1	A:2	90
12	E002910 Introduction to Numerical Mathematics <i>Karel Van Acoleyen -- Department of Electronics and Information Systems</i>	3		1	A:2	90
13	E092623 Modelling of Physiological Systems [en] <i>Patrick Segers -- Department of Electronics and Information Systems</i>	5		1	A:2	150
14	E040420 Mechanics of Materials <i>Wim Van Paepegem -- Department of Materials, Textiles and Chemical Engineering</i>	6		2	A:1	180
15	E022110 Electromagnetism I <i>Dries Vande Ginste -- Department of Information Technology</i>	6		2	A:1	180
16	E063682 Biomechanics [en] <i>Charlotte Debbaut -- Department of Electronics and Information Systems</i>	6		2	A:1	180

## 1.6.1 General Courses depending on the previous degree

Subscribe to no more than 3 credit units from the Bachelor of Science in Engineering, main subject Biomedical Engineering, depending on the student's previous degree. Subject to approval by the faculty.

### 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