

Faculty of Bioscience Engineering

Bachelor of Science in Bioscience Engineering

Language of instruction: Dutch

Programme version 2

## 1 General Courses 150 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002907 Analysis: Functions of One Variable <i>Jan Baetens -- Department of Data Analysis and Mathematical Modelling</i>	5		1	A:1	150
2	I002417 Mechanics, Vibrations and Waves <i>Dirk Poelman -- Department of Solid State Sciences</i>	5		1	A:1	150
3	I002418 General and Inorganic Chemistry: Structure <i>Rik Van Deun -- Department of Chemistry</i>	5		1	A:1	150
4	I002419 Cellular and Molecular Biology <i>Tina Kyndt -- Department of Biotechnology</i>	4		1	A:1	120
5	I002420 Applied Botany: Morphology and Diversity <i>Pieter De Frenne -- Department of Environment</i>	5		1	A:1	150
6	I002908 Scientific Computing <i>Jan Verwaeren -- Department of Data Analysis and Mathematical Modelling</i>	4		1	A:1	120
7	I002909 Linear Algebra <i>Willem Waegeman -- Department of Data Analysis and Mathematical Modelling</i>	4		1	A:2	120
8	I002910 Analysis: Functions of Several Variables <i>Jan Baetens -- Department of Data Analysis and Mathematical Modelling</i>	4		1	A:2	120
9	I002423 Thermodynamic Processes <i>Frederik Ronsse -- Department of Green Chemistry and Technology</i>	5		1	A:2	150
10	I002424 General and Inorganic Chemistry: Reactivity and Analysis <i>Rik Van Deun -- Department of Chemistry</i>	6		1	A:2	180
11	I002425 Applied Zoology: Invertebrates <i>Luc Tirry -- Department of Plants and Crops</i>	5		1	A:2	150
12	I002911 Earth Sciences <i>David Van Rooij -- Department of Geology</i>	4		1	A:2	120
13	I002427 Ecology <i>Kathy Steppe -- Department of Plants and Crops</i>	4		1	A:2	120
14	I002428 Differential Equations <i>Michiel Stock -- Department of Data Analysis and Mathematical Modelling</i>	5		2	A:1	150
15	I002429 Electricity, Magnetism and Sensors <i>Toon Verstraelen -- Department of Physics and Astronomy</i>	5		2	A:1	150
16	I002430 Applied Zoology: Vertebrates <i>Luc Tirry -- Department of Plants and Crops</i>	4		2	A:1	120
17	I002431 Applied Botany: Physiology <i>Kathy Steppe -- Department of Plants and Crops</i>	5		2	A:1	150
18	I002432 Organic Chemistry: Structure <i>Matthias D'hooghe -- Department of Green Chemistry and Technology</i>	3		2	A:1	90
19	I002433 Biochemistry <i>Els Van Damme -- Department of Biotechnology</i>	4		2	A:1	120
20	I002439 Environmental Sciences <i>Philippe De Smedt -- Department of Environment</i>	4		2	A:1	120
21	I002912 Sustainable Development in Production and Consumption Systems <i>Joost Dessein -- Department of Agricultural Economics</i>	4		2	A:2	120

22	I002435	Probabilistic Models <i>Bernard De Baets -- Department of Data Analysis and Mathematical Modelling</i>	5	2	A:2	150
23	I002436	Microbiology <i>Wim Soetaert -- Department of Biotechnology</i>	5	2	A:2	150
24	I002437	Organic Chemistry: Reactivity <i>Matthias D'hooghe -- Department of Green Chemistry and Technology</i>	7	2	A:2	210
25	I002913	Fluid Mechanics <i>Niko Verhoest -- Department of Environment</i>	4	2	A:2	120
26	I002440	Data Science <i>Jan Verwaeren -- Department of Data Analysis and Mathematical Modelling</i>	5	2	A:2	150
27	I002441	Statistical Data Processing <i>Stijn Luca -- Department of Data Analysis and Mathematical Modelling</i>	4	3	A:1	120
28	I002443	Heat and Mass Transport <i>Jan Pieters -- Department of Plants and Crops</i>	4	3	A:1	120
29	I002446	Economics <i>Wim Verbeke -- Department of Agricultural Economics</i>	4	3	A:1	120
30	I003070	Process Engineering [en] <i>Jo Dewulf -- Department of Green Chemistry and Technology</i>	4	3	A:2	120
31	I002444	Chemical Analytical Techniques <i>Kristof Demeestere -- Department of Green Chemistry and Technology</i>	4	3	A:2	120
32	I002445	Modelling and Simulation of Biosystems <i>Michiel Stock -- Department of Data Analysis and Mathematical Modelling</i>	4	3	A:2	120
33	I002447	Bachelor Thesis <i>Niko Verhoest -- Department of Environment</i>	6	3	A:J	180

## 2 Majors

30 credits

Subscribe to 1 major from the following list.

### 2.1 Major Forest and Nature Management

30 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002455 Soil Properties and Soil Processes <i>Stefaan De Neve -- Department of Environment</i>	5		3	A:1	150
2	I002450 Remote Sensing <i>Frieke Vancoillie -- Department of Environment</i>	5		3	A:1	150
3	I002457 Vegetation Science <i>Lander Baeten -- Department of Environment</i>	3		3	A:1	90
4	I002458 Basics of Forest and Wood Science <i>Kris Verheyen -- Department of Environment</i>	6		3	A:J	180
5	I002751 Principles of Quantitative Water Management <i>Niko Verhoest -- Department of Environment</i>	3		3	A:2	90
6	I002414 Geographic Information Systems: Basics and Applications <i>Frieke Vancoillie -- Department of Environment</i>	5		3	A:2	150
7	I002461 Integrated Practicum Forest and Nature <i>Kris Verheyen -- Department of Environment</i>	3		3	A:2	90

### 2.2 Major Cell and Gene Biotechnology

30 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002511 Biocatalysis and Enzyme Technology <i>Tom Desmet -- Department of Biotechnology</i>	5		3	A:1	150
2	I002521 Cell Biology <i>Laurens Pauwels -- Department of Biotechnology</i>	5		3	A:1	150
3	I003073 Gene Technology and Molecular Diagnostics [en] <i>Tina Kyndt -- Department of Biotechnology</i>	6		3	A:1	180
4	I002505 Microbial Ecological Processes <i>Nico Boon -- Department of Biotechnology</i>	4		3	A:1	120
5	I002518 Applied Genetics <i>Thomas Van Leeuwen -- Department of Plants and Crops</i>	5		3	A:2	150
6	I003074 Molecular Biology of Plant, Animal and Human Associated Bacteria [en]	5		3	A:2	150

## 2.3 Major Chemistry and Food

30 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I003057 Microbiology of Bio-based Products <i>Frank Devlieghere -- Department of Food Technology, Safety and Health</i>	5		3	A:1	150
2	I002511 Biocatalysis and Enzyme Technology <i>Tom Desmet -- Department of Biotechnology</i>	5		3	A:1	150
3	I003058 Green Organic Chemistry <i>Matthias D'hooghe -- Department of Green Chemistry and Technology</i>	5		3	A:1	150
4	I002513 Food Chemistry <i>Bruno De Meulenaer -- Department of Food Technology, Safety and Health</i>	5		3	A:2	150
5	I002510 Reaction Kinetics and Reactor Design <i>Paul Van der Meeren -- Department of Green Chemistry and Technology</i>	5		3	A:2	150
6	I003059 Physical and Chemical Modification of Renewable Resources <i>Sven Mangelinckx -- Department of Green Chemistry and Technology</i>	5		3	A:2	150

## 2.4 Major Agricultural Sciences

30 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002455 Soil Properties and Soil Processes <i>Stefaan De Neve -- Department of Environment</i>	6		3	B:1	180
2	I002515 Crop Husbandry <i>Steven Maenhout -- Department of Plants and Crops</i>	5		3	A:1	150
3	I002517 Animal Production Systems <i>Stefaan De Smet -- Department of Animal Sciences and Aquatic Ecology</i>	5		3	A:1	150
4	I003063 Molecular Tools for Agriculture [en] <i>Tina Kyndt -- Department of Biotechnology</i>	3		3	A:1	90
5	I002518 Applied Genetics <i>Thomas Van Leeuwen -- Department of Plants and Crops</i>	5		3	A:2	150
6	I002645 Identification and Diagnosis of Plant Diseases, Pests and Weeds <i>Benny De Cauwer -- Department of Plants and Crops</i>	6		3	A:2	180

## 2.5 Major Land, Water and Climate

30 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002455 Soil Properties and Soil Processes <i>Stefaan De Neve -- Department of Environment</i>	6		3	B:1	180
2	I002449 Hydrological Processes and Hydrometry <i>Niko Verhoest -- Department of Environment</i>	3		3	A:1	90
3	I002450 Remote Sensing <i>Frieke Vancoillie -- Department of Environment</i>	5		3	A:1	150
4	I002504 Applied Freshwater Ecology [en] <i>Peter Goethals -- Department of Animal Sciences and Aquatic Ecology</i>	3		3	A:1	90
5	I002452 Geographic Information Systems: Basics <i>Frieke Vancoillie -- Department of Environment</i>	3		3	A:2	90
6	I002453 Biogeochemical Cycles <i>Steven Sleutel -- Department of Environment</i>	5		3	A:2	150
7	I002655 Meteorology and Ecoclimatology <i>Hans Verbeeck -- Department of Environment</i>	5		3	A:2	150

## 2.6 Major Environmental Technology

30 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002503 Environmental Chemistry <i>Filip Tack -- Department of Green Chemistry and Technology</i>	6		3	A:1	180
2	I002504 Applied Freshwater Ecology [en] <i>Peter Goethals -- Department of Animal Sciences and Aquatic Ecology</i>	3		3	A:1	90
3	I002505 Microbial Ecological Processes <i>Nico Boon -- Department of Biotechnology</i>	4		3	A:1	120
4	I003061 Concepts for Sustainable Systems Engineering [en] <i>Sophie Huysveld -- Department of Green Chemistry and Technology</i>	3		3	A:1	90

5	I002507	Environmental Technology: Solid Waste Streams <i>Frederik Ronsse -- Department of Green Chemistry and Technology</i>	4	3	A:2	120
6	I003072	Environmental Technology: Water [en] <i>Jo De Vrieze -- Department of Biotechnology</i>	6	3	A:2	180
7	E039060	Sustainable Energy and Rational Use of Energy [en] <i>Filip Strubbe -- Department of Electronics and Information Systems</i>	4	3	A:2	120

#### 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