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## First Year

### Common core courses

All year round

### Compulsory courses

STAT1207-1	<i>Applied statistics</i> - Yves BROSTAUX	30	30	-	5
LANG0906-4	<i>English language, part 2</i> - Ingrid BERTRAND	-	48	-	4

First semester

### Compulsory courses

GEST3015-1	<i>Quality management</i> - Marianne SINDIC - [6h SEM]	18	-	[+]	2
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Second semester

### Compulsory courses

GEST3028-2	<i>Accounting and management</i> - Thomas DOGOT, Philippe LEBAILLY	24	24	-	4
RSTG0006-1	<i>Internship and professional relations</i> - COLLÉGIALITÉ	-	-	-	12

### Optional courses

[...] Choose courses from the programme of the 1st and 2nd Master in bioengineering totalling 33 ECTS, with the approval of the President of the Jury

## Second year

### Common core courses

Second semester

### Compulsory courses

DOCU0449-3	<i>Scientific literature and information literacy</i> - Bernard POCHE - [14h AUTR]	4	6	[+]	2
RTFE0013-1	<i>Final work</i> - COLLÉGIALITÉ	-	-	-	18

[...] Choose courses, with the approval of the President of the Jury, totalling minimum 10 ECTS from the following list

- \* 1st and 2nd year courses in the master in bioengineering in subjects related to the field of speciality;
- \* Master-level courses from another of the ULg's faculties in subjects related to the field;
- \* Bibliographical studies and preparation for final thesis.

### Professional focus in biological processes for waste reprocessing

#### Basic subjects

#### Optional courses

Choose courses totalling 4 ECTS from the following :

#### All year round

GESA0003-1	<i>Automatisation of processing sites</i> - N...	9	9	-	2
GESA0004-2	<i>Environmental legislation and policy</i> - N...	12	-	-	2
CHIB0010-1	<i>Basis of physical chemistry applied to environment</i> - Magali DELEU	-	-	-	2

#### First semester

GESA0001-2	<i>Chemical and physico-chemical analysis of waters</i> - JeanPaul BARTHELEMY	8	16	-	2
GESA0005-1	<i>Fluid mechanics and hydrology</i> - N...	10	4	-	2
GESA0014-1	<i>Life cycle analysis</i> - Angélique LÉONARD	12	12	-	2

#### Second semester

GESA0002-1	<i>Measurement and analysis of pollutants and micropollutants</i> - Philippe MAESEN	18	6	-	2
ENVT2055-1	<i>Ecosystem deterioration</i> - Roger PAUL	12	-	-	2
CHIM0683-2	<i>Green chemistry</i> - Aurore RICHEL	12	-	-	2

#### Physico-chemical treatments

### Compulsory courses

#### First semester

GESA0007-1	<i>Fundamental processes of physico-chemical wastewater treatment - Philippe THONART</i>	24	-	-	2
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#### Second semester

GESA0006-1	<i>Practical aspects of physico-chemical wastewater treatment - Philippe THONART</i>	-	36	-	3
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#### Biological treatment of polluted environments

##### All year round

GESA0008-1	<i>Wastewater treatment microbiology - Frank DELVIGNE</i>	15	9	-	2
GESA0009-1	<i>Practical aspects of biological wastewater treatments - Frank DELVIGNE - [27h FT]</i>	3	6	[+]	3
GESA0010-1	<i>Fundamental processes of biological wastewater treatment - Frank DELVIGNE</i>	24	-	-	2
CHIM9225-1	<i>Gas effluents processing - JeanMarc ALDRIC</i>	14	-	-	2

##### Second semester

GESA0016-1	<i>Industrial effluent treatment - Philippe THONART</i>	12	-	-	2
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### Collegial classes on transforming waste and energy

#### Compulsory courses

##### All year round

GESA0015-1	<i>Waste recovery : latest developments - Philippe THONART - [20h SEM]</i>	20	20	[+]	5
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#### Soil, waste and energy treatment

#### Compulsory courses

##### First semester

ENVT2053-1	<i>Physical aspects of waste management - Luc MINNE - [3h FT]</i>	21	-	[+]	2
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##### Second semester

GESA0013-1	<i>Soil remediation - Bruno CAMPANELLA, Gilles COLINET, Jacqueline DESTAIN - [6h SEM]</i>	30	-	[+]	3
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### Professional focus in xylochemistry and bio-refining

#### All year round

#### Compulsory courses

GESA0015-1	<i>Waste recovery : latest developments - Philippe THONART - [20h SEM]</i>	20	20	[+]	5
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#### First semester

#### Compulsory courses

GBLX0054-1	<i>Processes of biorefinery and white biotechnology - Aurore RICHEL - [6h SEM, 8h FT]</i>	4	6	[+]	2
CHIM9247-1	<i>Industrial chemical processes engineering - Aurore RICHEL</i>	12	12	-	2
BIOL2017-5	<i>Biological chemistry - Aurore RICHEL</i>	12	12	-	2
GESA0014-1	<i>Life cycle analysis - Angélique LÉONARD</i>	12	12	-	2

#### Second semester

#### Compulsory courses

CHIM0683-2	<i>Green chemistry - Aurore RICHEL</i>	12	-	-	2
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#### Semester to define

#### Compulsory courses

FORE0037-1	<i>Physico-chemical characteristics and timber properties - Valérie GILBERT</i>	-	-	-	3
FORE0038-1	<i>Principles of industrial wood processing - Valérie GILBERT</i>	-	-	-	3
FORE0039-1	<i>Products and techniques for the preservation of wood - N...</i>	-	-	-	2
FORE0040-1	<i>Biomass-energy, ligniculture - Valérie GILBERT</i>	-	-	-	2
BIOC2000-1	<i>Industrial processes of purification - Jacqueline DESTAIN, Philippe THONART</i>	13	-	-	2
ENVT3052-1	<i>European regulation, environmental standards - N...</i>	-	-	-	3

### Research Focus

#### Compulsory courses

##### All year round

DOCU0451-1	<i>Literature seminar - N...</i>	-	-	-	8
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DOCU0452-1	<i>Quality systems and their systems of reference in terms of research</i> - Marianne SINDIC	-	-	-	<b>2</b>
LANG0907-2	<i>English language : scientific communication</i> - Sophie DEPOTERRE, Estelle MAYARD-	36	-		<b>4</b>
DOCU0453-1	<i>Study and design of a research project</i> - MarieLaure FAUCONNIER, Hélène SOYEURT	-	-	-	<b>6</b>
[...]	Classes for a total of 10 credits to be chosen from the 1st and 2nd year Masters in Bioengineering programme from subjects relating to the field, in agreement with the President of the Jury				