

Access conditions to the Master ([http://www.ulg.ac.be/cms/c\\_274707/masters-bioingenieur-4-grades](http://www.ulg.ac.be/cms/c_274707/masters-bioingenieur-4-grades))

## First Year

Period 1

### Compulsory courses

#### Environmental engineering

INGE0003-1	<i>Engine</i> - Charles DEBOUCHE	24	-	-	2
HYDR0007-3	<i>Fluid mechanics</i> - Charles DEBOUCHE	14	10	-	2
HYDR0006-2	<i>Modelling of transfers in soils, 1st part</i> - Aurore DEGRÉ	12	12	-	2

#### Soil and geotechnics

GERE0008-2	<i>Soil mechanics</i> - Robert CHARLIER, Frédéric COLLIN	24	24	-	4
GEOP0006-2	<i>Soil quality evaluation and management</i> - Gilles COLINET - [6h FT]	6	6	[+]	2

Period 2

### Compulsory courses

#### Project

GERE0015-1	<i>Thematic Project</i> - COLLÉGIALITÉ	-	-	-	6
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#### Information technology

ENVT2048-1	<i>Introduction to geomatics</i> - Philippe LEJEUNE	8	16	-	2
GERE0006-3	<i>Environmental metrology</i> - Marie-France DESTAIN - [3h AUTR]	24	21	[+]	4

### Optional courses

Choose one module from :

#### Machinery and constructions 1/2

GERE0016-1	<i>Machine elements and computer-aided design, 1st part</i> - Marie-France DESTAIN	18	18	-	3
GERE0003-2	<i>Theory of structural calculations, 1st part</i> - Pierre LATTEUR	36	-	-	3

#### Data analysis tools and methods

ENVT2050-1	<i>Applied remote sensing</i> - Philippe LEJEUNE	12	12	-	2
ENVT2051-1	<i>Geomatics applied natural resource management</i> - Philippe LEJEUNE	8	16	-	2
STAT1213-1	<i>Elements of multivariate statistical methods</i> - Rodolphe PALM	12	12	-	2

Period 3

### Optional courses

Choose one group of modules from "Elements of rural engineering + Construction engineering 2/2" or "Soil composition and environmental quality" (module 1 + 2) :

*Notice* : if the module "Machinery and construction 1/2" is chosen during the 1st period, then the modules "Elements of rural engineering" and "Machinery and construction 2/2" are compulsory.  
if the module "Data analysis tools and methods" is chosen during the 2nd period, then the modules "Soil components and environmental quality" are compulsory.

#### Elements of rural engineering and construction engineering

##### Requisite

"Machines et constructions 1/2"

#### Elements of rural engineering

HYDR0010-1	<i>Open channel hydraulics</i> - Charles DEBOUCHE	10	14	-	2
GERE0007-3	<i>Digital electronics, first part</i> - Bernard HEINESCH	16	8	-	2
HYDR0004-1	<i>Irrigation</i> - Dimitri XANTHOULIS	24	-	-	2

#### Machinery and construction 2/2

GERE0011-2	<i>Building physics and special techniques, 1st part</i> - Frédéric LEBEAU	24	12	-	3
GERE0017-1	<i>Machine elements, 2nd part</i> - Marie-France DESTAIN - [3h AUTR]	15	18	[+]	3

#### Soil components and environmental quality

# Study programmes 2011-2012

## Gembloux Agro-Bio Tech

### Master in Environmental Bioengineering

Requisite "Outils et méthodes d'analyse des données"

#### Module 1

GEOP0007-2	<i>Soil components and the environment, 1st part</i> - Jean Marie MARCOEN - [4h AUTR]	24	8	[+]	3
HYDR0005-3	<i>Hydrogeology and groundwater management</i> - Jean Marie MARCOEN - [4h AUTR]	24	8	[+]	3

#### Module 2

CHIM9249-1	<i>Microbial ecology of soil and water</i> - Frank DELVIGNE	18	6	-	2
GEOP0003-2	<i>Pedogenesis and international system of reference</i> - Laurent BOCK - [6h AUTR]	18	-	[+]	2
GEOP0007-3	<i>Soil components and the environment, 2nd part</i> - Jean Marie MARCOEN	18	6	-	2

Period 4

#### Compulsory courses

##### Professional immersion

MANA0001-1	<i>Human resources and industrial relations management</i> - Philippe LEPOIVRE - [8h AUTR]	-	-	[+]	2
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RSTG0003-1	<i>Placement</i> - Frédéric LEBEAU	-	-	-	4
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Period 5

#### Compulsory courses

##### Data Acquisition and Modelling

HYDR0003-2	<i>Applied hydrology</i> - Aurore DEGRÉ	6	18	-	2
PHYS3009-2	<i>Exchange Models in biosystems</i> - Marc AUBINET	8	16	-	2
HYDR0006-3	<i>Modelling of transfers in soils, 2nd part</i> - Aurore DEGRÉ	12	12	-	2

#### Optional courses

Choose one module from :

##### Complements of engineering

ENVT3010-2	<i>Surveying (complement)</i> - Charles DEBOUCHE	8	10	-	2
HYDR0008-1	<i>Hydraulic pump and network</i> - Charles DEBOUCHE	10	14	-	2
GERE0003-4	<i>Theory of structural calculations, 2nd part</i> - Pierre LATTEUR	24	-	-	2

##### Applied pedology

FORE0008-2	<i>Site analysis and valuation</i> - Hugues CLAESSENS	14	22	-	3
GEOP0005-2	<i>Applied regional geomorphopedology</i> - Laurent BOCK - [18h FT]	12	6	[+]	3

## Second year

#### Optional courses

Choose one option from the following :

##### "Environmental sciences and technologies" courses programme

#### Period 1

##### Corporate and projects management

GEST3028-2	<i>Accounting and management</i> - Philippe LEBAILLY	24	24	-	4
GEST3020-1	<i>Conceiving and economic assessment of project</i> - Baudouin MICHEL - [12h SEM]	12	-	[+]	2

##### Environmental techniques

CHIM9248-1	<i>Basic principles of wastewater treatments</i> - Frank DELVIGNE	24	-	-	2
ENVT0036-1	<i>Sanitation and soil improvement</i> - Gilles COLINET - [12h AUTR]	6	-	[+]	2
HYDR0009-2	<i>Hydraulic engineering and environmental aspects</i> - Aurore DEGRÉ - [3h AUTR]	15	6	[+]	2

#### Period 2

Choose one module from :

##### Machines 2/2

# Study programmes 2011-2012

## Gembloux Agro-Bio Tech

### Master in Environmental Bioengineering

	<u>Prerequisite</u>	"Machines et constructions 1/2"				
GERE0018-1	<i>Building physics and special techniques (2nd part)</i> - Frédéric LEBEAU - [6h AUTR]		6	12	[+]	2
GERE0007-2	<i>Digital electronics, second part</i> - Bernard HEINESCH		6	18	-	2
GERE0012-2	<i>Automatics and robotics in agriculture</i> - Marie-France DESTAIN		12	12	-	2

#### Environmental management

ENVT2049-2	<i>Introduction to environmental assessment</i> - Charles DEBOUCHE		12	-	-	2
ECON2248-1	<i>Environmental economy</i> - Kevin MARÉCHAL		24	-	-	2
ENVT2052-1	<i>The environmental effects of projects and plans</i> - Catherine DUBOIS - [6h SEM]		18	-	[+]	2

#### Choose one module from :

##### Land settlement

GEAT0003-1	<i>Introduction to land planning</i> - Jacques TELLER		24	-	-	2
PAYS0007-1	<i>Introduction to landscape analysis and modeling</i> - Jan BOGAERT		12	-	-	2
GEOL0009-1	<i>Space analysis and soil mapping</i> - Gilles COLINET - [6h AUTR]		6	6	[+]	2

##### Plants-Ecosystem-Climate (PEC) Relations

GBLX0156-1	<i>Theoretical aspects of PEC relationships</i> - Marc AUBINET		12	12	-	2
GBLX0157-1	<i>Experimental aspects of PEC relationships</i> - Bernard HEINESCH		12	12	-	2
GBLX0158-1	<i>Impact of disruptions on PEC exchanges</i> - Christine MOUREAUX		12	12	-	2

#### Choose one module from :

##### Aquatic environments management

GESA0001-2	<i>Chemical and physico-chemical analysis of waters</i> - Jean-Paul BARTHELEMY		8	16	-	2
HYDR0011-2	<i>Ecohydrology</i> - Aurore DEGRÉ - [12h FT]		6	-	[+]	2
VEGE0021-1	<i>Limnology</i> - Frédéric FRANCIS - [4h SEM]		10	10	[+]	2

##### Environmental technologies

ENVT0037-1	<i>Machines and environment</i> - Marie-France DESTAIN - [3h AUTR]		9	12	[+]	2
ENVT2053-1	<i>Waste management</i> - Luc MINNE - [3h FT]		21	-	[+]	2
ENVT2054-1	<i>Renewable energies</i> - [4h FT]		20	-	[+]	2

#### HEC-ULg

GEST3001-1	<i>People management and organisation</i> - Jocelyne ROBERT		24	24	-	4
GEST3002-1	<i>Human Resources</i> - Jocelyne ROBERT		24	-	-	2
GEST3003-1	<i>Competitive strategy in the marketplace</i> (english language) - Michael GHILISSEN		16	16	-	3
GEST3004-1	<i>Marketing (operations and management)</i> (english language) - Michael GHILISSEN		16	16	-	3
GEST3005-2	<i>Accountancy and Finance</i> - Jacques BERWART		24	24	-	4
GEST3006-1	<i>Operations and supply chain management I</i> - Yasemin ARDA		16	16	-	3
GSTG3001-1	<i>Business plan</i> - COLLÉGIALITÉ		-	30	-	4
GSTG3002-1	<i>Functional analysis of a company</i> - COLLÉGIALITÉ - [30h Internship]		-	-	[+]	4

#### Choose one of the following courses :

GEST3010-1	<i>Operations and supply chain management II</i> - Sabine LIMBOURG		16	16	-	3
GEST3011-2	<i>ICT for Business</i> - Alain DUBOIS		16	16	-	3
GEST3012-1	<i>Financial and actuarial modelling</i> - Louis ESCH		16	16	-	3

#### Compulsory courses

##### Period 3

##### Dissertation

RTFE0002-1	<i>Final dissertation</i> - N...		-	-	-	27
LANG0907-2	<i>English language : scientific communication</i> - andréas CHAUMOND, Marie-Anne DUFFELER		-	36	-	3