Block view of the study programme

		Or	Th	Pr	Au	Cr

Block 1

Notice : The juries for the Masters in Bioengineering reserve the right not to organise specific classes if they are chosen by fewer than five students.

Compulsory courses

Periods 1 and 2

STE1.10 Core curriculum 1

		Or	Th	Pr	Au	Cr
GERE0015-1	*Group project* - JeanThomas CORNELIS - Suppl : Marie DINCHER - [180h AUTR]	Q1	4	-	[+]	**6**
HYDR0012-1	*Fluid transport and distribution* (english language) **Corequisite :** LANG2956-1 - Pratique de l'anglais de spécialité en Sciences et Technologies de l'environnement : partie 1 (niveau B2+)	Q1	11	10	-	**2**
ENVT0045-1	*Geomatics and applied remote sensing* - JeanFrançois BASTIN, Philippe LEJEUNE	Q1	24	33	-	**6**
GERE0037-1	*Modelling the dynamics of biosystems* - Bernard LONGDOZ, Benoît MERCATORIS - Suppl : Bernard HEINESCH	Q1	14	31	-	**5**
GEOP0003-2	*Origins and functions of soils* - JeanThomas CORNELIS, Aurore DEGRÉ - Suppl : Marie DINCHER - [6h FT]	Q1	31	26	[+]	**6**

Optional courses

Single focus

Professional Focus

Periods 1 and 2

STE1.10 Core curriculum 1

		Or	Th	Pr	Au	Cr
STAT1213-1	*Multivariate analysis 1: data exploration and structuring* - Yves BROSTAUX	Q1	9	9	-	**2**

STE1.10 Core curriculum 2

		Or	Th	Pr	Au	Cr
MANA0004-1	*Portfolio (Master)* - Yves BECKERS, Hugues CLAESSENS, Gilles COLINET, Aurore DEGRÉ, Dorothée GOFFIN - [24h AUTR]	Q2	-	-	[+]	**2**
LANG2956-1	*Practice of specialized English in environment sciences and technologies : Part 1 (level B2+)* - Sophie DEPOTERRE, Estelle MAYARD - Suppl : Fiona THEWISSEN - [36h AUTR] **Corequisite :** GEOP0003-2 - Genèse et fonctionnement des sols HYDR0012-1 - Fluid transport and distribution GERE0037-1 - Modélisation de la dynamique des biosystèmes	TA	-	12	[+]	**4**

Period 3

STE1.10 Core curriculum 3

		Or	Th	Pr	Au	Cr
GERE0040-1	*Modelling soil transfers* - Aurore DEGRÉ	Q1	6	12	-	**2**
GEOP0010-1	*Soil quality evaluation* - Gilles COLINET	Q2	14	13	-	**3**

Choose courses totalling 10 credits out of the following :

STE1.32 Optional courses 1

		Or	Th	Pr	Au	Cr
GERE0028-2	*Building physics and special techniques* - Frédéric LEBEAU - [3h AUTR]	Q2	9	6	[+]	**2**

GERE0041-1	*Instrumentation: data acquisition* - Bernard HEINESCH	Q2	9	27	-	**4**
GERE0019-1	*Grounds mechanic and geotechnology* - Frédéric COLLIN, Bertrand FRANÇOIS	Q2	21	21	-	**4**
INGE0004-2	*Construction processes* - JeanFrançois RONDEAUX - [3h FT]	Q2	13	8	[+]	**2**
HYDR0015-1	*Irrigation* (english language) - Joost WELLENS - [3h FT]	Q2	13	20	[+]	**4**

Corequisite :
LANG2956-1 - Pratique de l'anglais de spécialité en Sciences et Technologies de l'environnement : partie 1 (niveau B2+)

Period 4

STE1.44 Field applications and visits

GERE0039-1	*Field applications and visits* - Jeroen MEERSMANS - [23h FT]	Q2	1	-	[+]	**2**
GERE0038-1	*Energy systems and renewable energies* - Frédéric LEBEAU	Q2	18	18	-	**4**

Choose one module from the optional courses n°1 (block 1) :

STE1.41 Spatial analysis, soil organisation in the landscape and soil conservation

GERE0023-1	*Spatial analysis, organisation of grounds in the landscape and preservation of grounds* - Gilles COLINET, Aurore DEGRÉ, Jeroen MEERSMANS - [8h FT]	Q2	23	23	[+]	**6**

Corequisite :
GEOP0003-2 - Genèse et fonctionnement des sols

STE1.42 Theory of structural calculations

GERE0021-1	*Theory of structural calculations* - Laurent DUCHENE, JeanMarc FRANSSEN	Q2	29	28	-	**6**

Optional activities

RSTG0011-1	*Additional internship* - Aurore DEGRÉ	TA	-	-	-	**5**
HULG9547-1	*French course for IN mobility students (S1)* - N...	Q1	-	-	-	**3**
HULG9548-1	*French course for IN mobility students (S2)* - N...	Q2	-	-	-	**3**
HULG9546-1	*Erasmus: integration weeks* - N...	Q1	-	-	-	**3**

Block 2

Notice : The juries for the Masters in Bioengineering reserve the right not to organise specific classes if they are chosen by fewer than five students.

Compulsory courses

Periods 1 and 2

STE2. Environmental law

ECON2248-1	*Environmental economy* - Kevin MARÉCHAL	Q1	18	-	-	**2**
DROI1306-1	*Environmental law* - Martin LAUWERS, Renaud SMAL	Q1	18	-	-	**2**

Periods 3 and 4

STE2.31 Final work and internship

RSTG0003-1	*Internship and professional relations* - Catherine COLAUX, Thomas DOGOT, Didier VAN CAILLIE, Joost WELLENS	TA	12	-	-	**8**
RTFE2002-1	*Thesis in education environmental sciences and technologies* - Catherine CHARLES	Q2	-	-	-	**24**

Optional courses

Periods 1 and 2

Choose courses totalling 7 ECTS from the following :

STE 2.11 Environmental techniques and Data mining

CHIM9248-1	*Wastewater engineering* (english language) - Frank DELVIGNE	Q1	18	-	-	**2**
GERE0029-1	*Ground remediation* - Gilles COLINET - [10h FT]	Q1	6	8	[+]	**2**
GERE0024-1	*Digital eco-design* - Frédéric LEBEAU	Q1	12	12	-	**2**
GERE0026-1	*Autonomous navigation in the natural environment* - Benoît MERCATORIS - [6h AUTR]	Q1	18	18	[+]	**4**
ENVT2053-1	*Waste management* - Luc MINNE - [4h FT]	Q1	14	-	[+]	**2**
GERE0027-1	*Microcontrollers Base* - Bernard HEINESCH - [6h AUTR]	Q1	3	15	[+]	**2**
[...]	Between 2 and 6 credits from the list of replacement courses					

Choose courses totalling 8 ECTS from the following :

STE2.12 Optional courses

GEST3020-1	*Conceiving and economics assessment of projects* (english language) - Hossein AZADI - [9h SEM]	Q1	9	-	[+]	**2**
GERE0030-1	*Image analysis* (english language) - Vincent LEEMANS	Q1	9	9	-	**2**
GERE0031-1	*Support systems for decision* (english language) - Vincent LEEMANS - [6h AUTR] **Prerequisite :** STAT1213-1 - Analyse multivariée 1 : exploration et structuration de données	Q1	6	6	[+]	**2**
GERE0025-1	*Practical evaluation of grounds and water ressources* - Gilles COLINET, Aurore DEGRÉ, Jeroen MEERSMANS, Youri ROTHFUSS - [19h AUTR] **Prerequisite :** GEOP0010-1 - Evaluation de la qualité des sols	Q1	19	19	[+]	**6**
INFO8008-1	*Multivaried analysis 2: data mining and machine learning* (english language) - Yves BROSTAUX, Juan Antonio FERNANDEZ PIERNA, Hélène SOYEURT **Prerequisite :** STAT1213-1 - Analyse multivariée 1 : exploration et structuration de données	Q1	12	26	-	**4**
ENVT2049-2	*Assessing sustainability* - Andrea DI MARIA, Angélique LÉONARD - [9h AUTR]	Q1	9	-	[+]	**2**
[...]	Between 2 and 6 credits from the list of replacement courses					

Choose one module totalling 6 credits from :

STE2.13 Very high-resolution remote sensing applied to the management of natural environments

ENVT3060-1	*Very high resolution remote sensing applied to the management of natural environments* - Philippe LEJEUNE **Prerequisite :** ENVT0045-1 - Géomatique et télédétection appliquée	Q1	18	36	-	**6**

STE2.14 Ecosystem exchanges - atmosphere, under climate change

GERE0034-1	*Exchanges between the ecosystem and the atmosphere as a result of climate change* - Bernard HEINESCH, Bernard LONGDOZ, Youri ROTHFUSS - [3h AUTR]	Q1	14	40	[+]	**6**

STE2.15 Integrated project on hydrogeophysics

GERE0035-1	*Integrated project on hydrogeophysics* (english language) - Frédéric NGUYEN	Q1	4	38	-	**6**

STE2.16 Energy transition in agriculture

GERE0042-1	*Energy transition in agriculture* - Frédéric LEBEAU	Q1	9	27	-	**6**

[...]   or 6 credits from the list of replacement courses

Choose a language module from :

Periods 3 and 4

STE 2.31 English language

LANG2957-1	*Practice of specialized english in sciences and environmental technologies : part 2 (level C1 - presentation)* - Sophie DEPOTERRE, Estelle MAYARD - Suppl : Fiona THEWISSEN - [36h AUTR]	TA	-	12	[+]	**4**

All year round

STE 2.32 Dutch language

LANG9914-1	*Dutch Intermediate Level* (dutch language) - Catherine PEETERS	TA	18	18	-	**4**

STE 2.33 Spanish language

LANG9915-1	*Spanish - beginners* - Valérie COYETTE	TA	18	18	-	**4**

Optional activity

INFO9013-1	*Multivaried analysis 3: Data mining et Machine Learning: advanced* (english language) - Yves BROSTAUX, David COLIGNON, Benoît MERCATORIS, Hélène SOYEURT	Q2	12	28	-	**4**

Notice : INFO8001-1 prerequisite of the INFO9013-1 course

Bloc d'aménagement du programme de l'année

Additional ECTS Master in environmental bioengineering

Compulsory courses

GEST3028-2	*Accounting and management*	Q1				**4**
	- *General accounting* - Thomas DOGOT		12	12	-	
	- *Management, green accounting and business plan* - Thomas DOGOT		10	14	-	
GEST3773-1	*Management of quality* - Mohamed AYADI, Sébastien MASSART - [6h AUTR]	Q1	18	-	[+]	**2**
STAT2004-1	*Applied statistics : First part* - Yves BROSTAUX	Q1	12	12	-	**2**
STAT2005-1	*Applied statistic : Second part* - Yves BROSTAUX **Corequisite :** STAT2004-1 - Statistique appliquée : 1ère partie	Q2	12	12	-	**2**
PSYC5897-3	*Team, organization and change* - Daniel FAULX, Véronique JANS, Tiber MANFREDINI - [44h SEM] **Corequisite :** GEST3028-2 - Comptabilité et gestion des entreprises GEST3773-1 - Gestion de la qualité MANA0003-1 - Portfolio (Bachelier)	TA	4	-	[+]	**2**
MANA0003-1	*Portfolio (Bachelor)* - Yves BECKERS, Hugues CLAESSENS, Gilles COLINET, Aurore DEGRÉ, Dorothée GOFFIN - [24h AUTR] **Corequisite :** PSYC5897-3 - Equipe, organisation & changement	TA	-	-	[+]	**2**
RSTG0008-1	*Internship (Bachelor)* - Hélène SOYEURT - [18h AUTR] **Corequisite :** GEST3773-1 - Gestion de la qualité	TA	6	-	[+]	**2**

GEST3028-2 - Comptabilité et gestion des entreprises
PSYC5897-3 - Equipe, organisation & changement

BIOL2044-1	*Plant physiology* - Patrick DU JARDIN	Q1	27	9	-	**3**
BIOL2013-2	*General microbiology, Introduction* - Patrick FICKERS, Philippe JACQUES	Q1	16	8	-	**2**
ENVT2044-1	*General ecology* - Grégory MAHY, Arnaud MONTY	Q1	24	-	-	**2**
INFO2038-1	*Computer science and algorithmic* - Hélène SOYEURT	Q1	2	22	-	**2**
MATH2016-1	*General mathematics and modelling of dynamics systems* - Jérôme BINDELLE, Catherine CHARLES, Frank DELVIGNE, Adeline FAYOLLE, Benoît MERCATORIS	Q1	24	24	-	**4**
PHYS3036-1	*Environmental physics* - Bernard LONGDOZ	Q1	18	18	-	**3**
LANG2966-2	*English language: level 3* - Sophie DEPOTERRE, Estelle MAYARD, Fiona THEWISSEN - Suppl : Fiona THEWISSEN - [48h E-Lrng]	TA	-	24	[+]	**4**
INGE0008-1	*Multidisciplinary experimental project* - Yves BROSTAUX, Pierre DELAPLACE, Sébastien MASSART, Benoît MERCATORIS, Arnaud MONTY, Bernard POCHET - [60h AUTR] **Corequisite :** STAT2005-1 - Statistique appliquée : 2ème partie STAT2004-1 - Statistique appliquée : 1ère partie GEST3773-1 - Gestion de la qualité BIOL2044-1 - Physiologie végétale ENVT2044-1 - Ecologie générale	TA	6	6	[+]	**6**

Option Environmental Bioengineering

GERE0036-1	*Instrumentation: sensors and signals* - Benoît MERCATORIS **Corequisite :** MATH2016-1 - Mathématique générale et modélisation des systèmes dynamiques	Q2	24	24	-	**4**
HYDR0001-1	*General hydrology* - Aurore DEGRÉ	Q2	14	10	-	**2**
HYDR0007-3	*Fluid mechanics* - Michel PIROTTON	Q2	14	10	-	**2**
INGE0001-2	*Strength of materials and elasticity* *- Introduction* - Laurent DUCHENE *- In-depth study* - Laurent DUCHENE	Q2 	 24 12	 - -	 - -	**3**
PHYS3010-2	*Bioclimatology basis* - Bernard LONGDOZ - Suppl : Bernard HEINESCH	Q2	24	-	-	**2**
ENVT3129-1	*Evaluating sustainability* - Andrea DI MARIA, Angélique LÉONARD - [2h SEM]	Q2	12	16	[+]	**3**

Option cours

Select 1 course from Environmental sciences and technologies subject :

AGRO0001-1	*Basic principles of agriculture and agroecology* - Pierre DELAPLACE, Benjamin DUMONT - [4h FT]	Q2	20	-	[+]	**2**
INGE0002-1	*Refrigeration and drying* - Nicolas JACQUET, Paul MALUMBA KAMBA	Q2	18	6	-	**2**

Possibility to choose between 2 and 6 credits among the following courses, replacing the B2 elective courses:

ENVT3050-1	*Quantification of ecosystem services* - Marc DUFRÊNE - [6h AUTR]	Q1	9	5	[+]	**2**
BIOD0001-3	*Biodiversity management* - Arnaud MONTY - [6h SEM]	Q1	18	-	[+]	**2**
VEGE0037-1	*Innovative system of plant production* *- Urban agriculture* - Haissam JIJAKLI *- Developmental physiology applied to plant productions* - Pierre DELAPLACE - [6h FT] *- Physical parameters control of plant productions in controlled conditions* - Vincent LEEMANS	Q2 13 12 9	 13 - -	 - [+] -		**6**
VEGE0028-1	*Methods for managing plant health* - Frédéric FRANCIS, Olivier GUELTON, Eric HAUBRUGE, Haissam JIJAKLI, Ludivine LASSOIS, Sébastien MASSART,	Q2	42	15	-	**6**

François VERHEGGEN

Code	Course	Q				ECTS
VEGE0036-1	*Tropical agroecology*	Q2				**6**
	- *Introduction* - Ludivine LASSOIS - Suppl : N... - [20h FT]		-	-	[+]	
	- *Depth notions: part 1* - Ludivine LASSOIS - Suppl : Nicolas DESOIGNIES, N...		8	11	-	
	- *Depth notions: part 2* - Ludivine LASSOIS - Suppl : Nicolas DESOIGNIES, N...		8	10	-	
CHIM9321-1	*Immunology* - Bénédicte MACHIELS	Q2	27	-	-	**3**
ALIM0015-1	*Food sanitary safety* - Mohamed AYADI - [2h SEM]	Q1	16	6	[+]	**2**
ALIM0013-2	*Techniques of food preservation* - Christophe BLECKER	Q2	24	-	-	**2**
BIOL2015-3	*Molecular biology* - Patrick FICKERS	Q2	24	-	-	**2**