

Cycle view of the study programme

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Notice : The Master's juries in bioengineering reserve the right not to organise elective courses if they are selected by fewer than five students.

Core curriculum compulsory courses (B1 : 27Cr, B2 : 36Cr)

Periods 1 and 2

STE1.10 Core curriculum 1

GERE0015-1	Group project - Adrien MICHEZ - [150h AUTR]	B1	Q1	4	-	[+]	5
HYDR0016-1	Applied fluid mechanics and hydraulics (english language) - Joost WELLENS	B1	Q1	24	12	-	4
ENVT0045-1	Geomatics and applied remote sensing, Introduction - JeanFrançois BASTIN, Philippe LEJEUNE	B1	Q1	16	22	-	4
GERE0037-1	Modelling the dynamics of biosystems - Bernard LONGDOZ, Benoît MERCATORIS	B1	Q1	14	31	-	5
GEOP0003-2	Origins, analysis and functions of soils - Gilles COLINET, Aurore DEGRÉ, N... - Suppl : Stefaan DONDEYNE - [9h FT]	B1	Q1	36	36	[+]	9

STE2.11 Environmental management

ECON2248-1	Environmental economy - Kevin MARÉCHAL	B2	Q1	18	-	-	2
DROI1306-1	Environmental law - N..., Renaud SMAL	B2	Q1	18	-	-	2

Periods 3 and 4

STE2.31 Final work and internship

RSTG0003-1	Internship and professional relations - Catherine COLAUX, Thomas DOGOT, Joost WELLENS	B2	TA	12	-	-	8
RTFE2002-1	Thesis in education environmental sciences and technologies - Catherine CHARLES	B2	Q2	-	-	-	24

Common core courses (B1 : 5Cr, B2 : 24Cr)

Choose courses totalling 5 ECTS from the following : (B1 : 5Cr)

STE1.42 Elective courses 1

GERE0046-1	Resource valorisation and circularity - Gilles COLINET, Aurore DEGRÉ, Andrea DI MARIA - [6h FT]	B1	Q2	21	18	[+]	5
GERE0047-1	Construction: Structural, energy and environmental performance - Andrea DI MARIA, Frédéric LEBEAU, Benoît MERCATORIS	B1	Q2	30	15	-	5
Corequisite : GERE0044-1 - Construction : matériaux, produits, systèmes et impacts environnementaux							
GERE0048-1	Solutions for conservation and protection of natural resources (english language) - Gilles COLINET, Aurore DEGRÉ, Jeroen MEERSMANS, AnneClaude ROMAIN	B1	Q2	24	21	-	5

Choose 3 courses of 4 credits from: (B2 : 12Cr)

STE 2.11 Elective courses

GERE0026-1	Autonomous navigation in the natural environment - Benoît MERCATORIS - [6h AUTR]	B2	Q1	18	18	[+]	4
INFO8008-2	Multivaried analysis 2: data mining et machine learning (english language)	B2	Q1				4
	- Introduction - Yves BROSTAUX, Juan Antonio FERNANDEZ PIERNA, Hélène SOYEURT			9	18	-	
	- In-depth study - Yves BROSTAUX,			3	6	-	

IERNA, Hélène SOYEURT

Prerequisite :

STAT1213-1 - Analyse multivariée 1 : exploration et structuration de données

ENVT3060-1	<i>Very high resolution remote sensing applied to the management of natural environments, Introduction</i> - Philippe LEJEUNE, Adrien MICHEZ	B2	Q1	12	24	-	4
	Prerequisite : ENVT0045-1 - Géomatique et télédétection appliquée						
GERE0049-1	<i>Nature in the city</i> - Gilles COLINET, Aurore DEGRÉ, Grégory MAHY	B2	Q1	12	24	-	4
GERE0050-1	<i>Nature-base solutions for climate change mitigation</i> (english language) - Andrea DI MARIA, Bernard HEINESCH, Jeroen MEERSMANS	B2	Q1	24	12	-	4

[...] or 4 credits from the list of alternative courses

ENVT3050-1	<i>Quantification of ecosystem services</i> - Marc DUFRÊNE - [6h AUTR]	B2	Q1	9	5	[+]	2
BIOD0001-3	<i>Biodiversity management</i> - Arnaud MONTY - [6h SEM]	B2	Q1	18	-	[+]	2
VEGE0037-1	<i>Innovative system of plant production</i> - <i>Urban agriculture</i> - Haissam JIJAKLI - <i>Developmental physiology applied to plant productions</i> - Pierre DELAPLACE - [6h FT] - <i>Physical parameters control of plant productions in controlled conditions</i> - Vincent LEEMANS	B2	Q2	13	13	-	6
				12	-	[+]	
				9	-	-	
VEGE0028-1	<i>Methods for managing plant health</i> - Frédéric FRANCIS, Olivier GUELTON, Eric HAUBRUGE, Haissam JIJAKLI, Sébastien MASSART, François VERHEGGEN	B2	Q2	42	15	-	6
CHIM9321-1	<i>Immunology</i> - Bénédicte MACHIELS	B2	Q2	27	-	-	3
ALIM0015-1	<i>Food sanitary safety</i> - Mohamed AYADI - [2h SEM]	B2	Q1	16	6	[+]	2
ALIM0013-2	<i>Techniques for preparing and preserving foods</i> - <i>General concepts</i> - Christophe BLECKER - <i>In-depth study for bioengineers</i> - Christophe BLECKER	B2	Q2	21	-	-	2
				3	-	-	
BIOL2015-3	<i>Molecular biology</i> - Patrick FICKERS	B2	Q2	24	-	-	2

Choose a module for a total of 4 credits from: (B2 : 4Cr)

STE2.13 Applied soil and landscape analysis

GERE0051-1	<i>Applied soil and landscape analysis</i> - Gilles COLINET, Jeroen MEERSMANS	B2	Q1	6	30	-	4
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STE2.14 Agrivoltaic modelling: application of complex systems engineering

GERE0052-1	<i>Agrivoltaic modelling: application of complex systems engineering</i> - Frédéric LEBEAU - [6h AUTR]	B2	Q1	15	15	[+]	4
	Prerequisite : GERE0038-1 - Systèmes énergétiques et énergies renouvelables						

STE2.15 Hydrological engineering of landscapes

GERE0053-1	<i>Hydrological engineering of landscapes</i> - Aurore DEGRÉ, Adrien MICHEZ - [18h AUTR]	B2	Q1	9	9	[+]	4
	Prerequisite : ENVT0045-1 - Géomatique et télédétection appliquée						

[...] or 4 credits from the list of alternative courses

ENVT3050-1	<i>Quantification of ecosystem services</i> - Marc DUFRÊNE - [6h AUTR]	B2	Q1	9	5	[+]	2
BIOD0001-3	<i>Biodiversity management</i> - Arnaud MONTY - [6h SEM]	B2	Q1	18	-	[+]	2

VEGE0037-1	<i>Innovative system of plant production</i> - Urban agriculture - Haïssam JIJAKLI - Developmental physiology applied to plant productions - Pierre DELAPLACE - [6h FT] - Physical parameters control of plant productions in controlled conditions - Vincent LEEMANS	B2	Q2	13	13	-			6
				12	-	[+]			
				9	-	-			
VEGE0028-1	<i>Methods for managing plant health</i> - Frédéric FRANCIS, Olivier GUELTON, Eric HAUBRUGE, Haïssam JIJAKLI, Sébastien MASSART, François VERHEGGEN	B2	Q2	42	15	-			6
CHIM9321-1	<i>Immunology</i> - Bénédicte MACHIELS	B2	Q2	27	-	-			3
ALIM0015-1	<i>Food sanitary safety</i> - Mohamed AYADI - [2h SEM]	B2	Q1	16	6	[+]			2
ALIM0013-2	<i>Techniques for preparing and preserving foods</i> - General concepts - Christophe BLECKER - In-depth study for bioengineers - Christophe BLECKER	B2	Q2	21	-	-			2
				3	-	-			
BIOL2015-3	<i>Molecular biology</i> - Patrick FICKERS	B2	Q2	24	-	-			2

Choose a module for a total of 4 credits from: (B2 : 4Cr)

STE2.16 Phenotyping

GERE0054-1	<i>Phenotyping by imaging</i> - Vincent LEEMANS, Benoît MERCATORIS	B2	Q1	18	18	-			4
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STE2.17 Ecosystem exchanges - atmosphere, under climate change

GERE0034-1	<i>Exchanges between the ecosystem and the atmosphere as a result of climate change</i> - Bernard HEINESCH, Bernard LONGDOZ, Youri ROTHFUSS - [3h AUTR]	B2	Q1	24	12	[+]			4
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STE 2.18 Environmental quality improvement

GERE0055-1	<i>Soil remediation and water purification</i> - Gilles COLINET, Frank DELVIGNE - [10h AUTR]	B2	Q1	24	8	[+]			4
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[...] or 4 credits from the list of alternative courses

ENVT3050-1	<i>Quantification of ecosystem services</i> - Marc DUFRÊNE - [6h AUTR]	B2	Q1	9	5	[+]			2
BIOD0001-3	<i>Biodiversity management</i> - Arnaud MONTY - [6h SEM]	B2	Q1	18	-	[+]			2
VEGE0037-1	<i>Innovative system of plant production</i> - Urban agriculture - Haïssam JIJAKLI - Developmental physiology applied to plant productions - Pierre DELAPLACE - [6h FT] - Physical parameters control of plant productions in controlled conditions - Vincent LEEMANS	B2	Q2	13	13	-			6
				12	-	[+]			
				9	-	-			
VEGE0028-1	<i>Methods for managing plant health</i> - Frédéric FRANCIS, Olivier GUELTON, Eric HAUBRUGE, Haïssam JIJAKLI, Sébastien MASSART, François VERHEGGEN	B2	Q2	42	15	-			6
CHIM9321-1	<i>Immunology</i> - Bénédicte MACHIELS	B2	Q2	27	-	-			3
ALIM0015-1	<i>Food sanitary safety</i> - Mohamed AYADI - [2h SEM]	B2	Q1	16	6	[+]			2
ALIM0013-2	<i>Techniques for preparing and preserving foods</i> - General concepts - Christophe BLECKER - In-depth study for bioengineers - Christophe BLECKER	B2	Q2	21	-	-			2
				3	-	-			
BIOL2015-3	<i>Molecular biology</i> - Patrick FICKERS	B2	Q2	24	-	-			2

Choose a language module from : (B2 : 4Cr)

All year round

STE 2.31 English language (B2 : 4Cr)

LANG2957-1	<i>Practice of specialized English in Sciences and Environmental Technologies: (level C1 - presentation)</i> - Estelle MAYARD, Lelania SPERRAZZA - [36h AUTR]	B2	TA	-	12	[+]	4
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STE 2.32 Dutch language (B2 : 4Cr)

LANG9914-1	<i>Dutch Intermediate Level (dutch language)</i> - Catherine PEETERS	B2	TA	18	18	-	4
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STE 2.33 Spanish language (B2 : 4Cr)

LANG9915-1	<i>Spanish - beginners</i> - Valérie COYETTE	B2	TA	18	18	-	4
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Optional activities (B1 : 14Cr, B2 : 4Cr)

RSTG0011-1	<i>Additional internship</i> - Pierre DELAPLACE	B1	TA	-	-	-	5
HULG9547-1	<i>French course for IN mobility students (S1)</i> - N...	B1	Q1	-	-	-	3
HULG9548-1	<i>French course for IN mobility students (S2)</i> - N...	B1	Q2	-	-	-	3
HULG9546-1	<i>Erasmus: integration weeks</i> - N...	B1	Q1	-	-	-	3
INFO9013-1	<i>Multivaried analysis 3: Data mining et Machine Learning: advanced (english language)</i> - Yves BROSTAU, David COLIGNON, Benoît MERCATORIS, Hélène SOYEURT	B2	Q2	12	28	-	4

Notice : INFO8008-2: prerequisite for the course INFO9013-1

Focus compulsory courses (B1 : 20Cr)

Period 1 and 2

STE1.10 Core curriculum 1

STAT1213-1	<i>Multivariate analysis 1: data exploration and structuring</i> - Yves BROSTAU	B1	Q1	9	9	-	2
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STE1.10 Core curriculum 2

MANA0004-1	<i>Portfolio (Master)</i> - Yves BECKERS, Hugues CLAESSENS, Gilles COLINET, Pierre DELAPLACE, Dorothée GOFFIN - [24h AUTR]	B1	TA	-	-	[+]	2
LANG2956-1	<i>Practice of Scientific English for bioengineers (STE) (level B2+)</i> - Estelle MAYARD, Lelania SPERRAZZA - [36h AUTR]	B1	TA	-	12	[+]	4

Corequisite :

GEOP0003-2 - Genèse, analyse et fonctionnement des sols
GERE0037-1 - Modélisation de la dynamique des biosystèmes

Period 3

STE1.10 Core curriculum 3

GERE0040-1	<i>Modelling soil transfers</i> - Aurore DEGRÉ	B1	Q2	6	12	-	2
GERE0019-1	<i>Grounds mechanic and geotechnology</i> - Frédéric COLLIN, Bertrand FRANÇOIS	B1	Q2	21	21	-	4

Period 4

STE1.41 Field applications and visits

GERE0039-1	<i>Field applications and visits</i> - Gilles COLINET, Jeroen MEERSMANS - [23h FT]	B1	Q2	1	-	[+]	2
GERE0038-1	<i>Energy systems and renewable energies</i> - Frédéric LEBEAU	B1	Q2	18	18	-	4

Focus optional courses (B1 : 8Cr)

Choose courses for a total of 8 credits (note, GERE0044-1 and GERE0045-1 cannot be taken together): (B1 : 8Cr)

STE1.32 Optional courses 1

GERE0041-1	<i>Instrumentation: data acquisition</i> - Bernard HEINESCH	B1	Q2	9	27	-	4
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HYDR0015-1	<i>Irrigation (english language)</i> - Joost WELLENS - [3h FT]	B1	Q2	13	20	[+]	4
GERE0044-1	<i>Construction: materials, products, systems and environmental impact</i> - Andrea DI MARIA, JeanFrançois RONDEAUX	B1	Q2	27	12	-	4
GERE0045-1	<i>Terrestrial ecosystems functioning and C dynamics</i> - Bernard LONGDOZ, Jeroen MEERSMANS	B1	Q2	18	24	-	4

Bridging courses Master in environmental bioengineering

Compulsory courses (B0 : 58Cr)

GEST3028-2	<i>Accounting and management</i> - Thomas DOGOT	B0	Q1	22	26	-	4
GEST3773-1	<i>Management of quality</i> - Mohamed AYADI, Sébastien MASSART - [6h AUTR]	B0	Q1	18	-	[+]	2
STAT2004-1	<i>Applied statistics : First part</i> - Yves BROSTAUX	B0	Q1	12	12	-	2
STAT2005-1	<i>Applied statistic : Second part</i> - Yves BROSTAUX	B0	Q2	12	12	-	2
Corequisite : STAT2004-1 - Statistique appliquée : 1ère partie							
PSYC5897-3	<i>Team, organization and change</i> - Daniel FAULX, Tiber MANFREDINI, Elise SEGHERS - [44h SEM]	B0	TA	4	-	[+]	2
Corequisite : MANA0003-1 - Portfolio (Bachelier) GEST3773-1 - Gestion de la qualité GEST3028-2 - Comptabilité et gestion des entreprises							
MANA0003-1	<i>Portfolio (Bachelor)</i> - Yves BECKERS, Hugues CLAESSENS, Gilles COLINET, Pierre DELAPLACE, Dorothee GOFFIN - [24h AUTR]	B0	TA	-	-	[+]	2
Corequisite : PSYC5897-3 - Equipe, organisation & changement							
RSTG0008-1	<i>Internship (Bachelor)</i> - Hélène SOYEURT - [18h AUTR]	B0	TA	6	-	[+]	2
Corequisite : PSYC5897-3 - Equipe, organisation & changement GEST3028-2 - Comptabilité et gestion des entreprises GEST3773-1 - Gestion de la qualité							
BIOL2044-1	<i>Plant physiology</i> - Patrick DU JARDIN	B0	Q1	27	9	-	3
BIOL2013-2	<i>General microbiology, Introduction</i> - Patrick FICKERS, Philippe JACQUES	B0	Q1	16	8	-	2
ENVT2044-1	<i>General ecology</i> - Grégory MAHY, Arnaud MONTY	B0	Q1	24	-	-	2
INFO2038-1	<i>Computer science and algorithmic</i> - Hélène SOYEURT	B0	Q1	2	22	-	2
MATH2016-1	<i>General mathematics and modelling of dynamics systems</i> - Jérôme BINDELLE, Catherine CHARLES, Frank DELVIGNE, Gauthier LIGOT, Benoît MERCATORIS	B0	Q1	24	24	-	4
PHYS3036-1	<i>Environmental physics</i> - Bernard LONGDOZ	B0	Q1	18	18	-	3
LANG2966-2	<i>English language: level 3</i> - Lelania SPERRAZZA - [48h E-Lrng]	B0	TA	-	24	[+]	4
INGE0008-1	<i>Multidisciplinary experimental project</i> - Yves BROSTAUX, Pierre DELAPLACE, Sébastien MASSART, Benoît MERCATORIS, Jacques MIGNON, Arnaud MONTY - [60h AUTR]	B0	TA	6	6	[+]	6
Corequisite : ENVT2044-1 - Ecologie générale BIOL2044-1 - Physiologie végétale GEST3773-1 - Gestion de la qualité STAT2004-1 - Statistique appliquée : 1ère partie STAT2005-1 - Statistique appliquée : 2ème partie							

Option Environmental Bioengineering

GERE0036-1	<i>Instrumentation: sensors and signals</i> - Benoît MERCATORIS Corequisite : MATH2016-1 - Mathématique générale et modélisation des systèmes dynamiques	B0	Q2	24	24	-	4
HYDR0001-1	<i>General hydrology</i> - Aurore DEGRÉ	B0	Q2	14	10	-	2
GERE0043-1	<i>Foundations of soil quality</i> - Gilles COLINET, Caroline DE CLERCK, Aurore DEGRÉ	B0	Q2	18	6	-	2
INGE0001-2	<i>Strength of materials and elasticity</i> - Introduction - Laurent DUCHENE - In-depth study - Laurent DUCHENE	B0	Q2	24	-	-	3
PHYS3010-2	<i>Climate changes</i> - Bernard LONGDOZ	B0	Q2	24	-	-	2
ENVT3129-1	<i>Evaluating sustainability</i> - Andrea DI MARIA - [2h SEM]	B0	Q2	12	16	[+]	3

Option cours (B0 : 2Cr)

Select 1 course from Environmental sciences and technologies subject : (B0 : 1Nbr)

AGRO0001-1	<i>Basic principles of agriculture and agroecology</i> - Pierre DELAPLACE, Benjamin DUMONT - Suppl : Christophe LACROIX - [4h Ex.]	B0	Q2	16	4	[+]	2
INGE0002-1	<i>Refrigeration and drying</i> - Nicolas JACQUET, Paul MALUMBA KAMBA	B0	Q2	18	6	-	2