Cycle view of the study programme

		Bl	Or	Th	Pr	Au	Cr

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 : 12Cr, B2 : 41Cr)

Periods 3 and 4

AGRO1.30 Core curriculum Q2

MANA0004-1	*Portfolio (Master)* - Yves BECKERS, Hugues CLAESSENS, Gilles COLINET, Pierre DELAPLACE, Dorothée GOFFIN - [24h AUTR]	B1	TA	-	-	[+]	**2**
LANG2952-1	*Practice of Scientific English for bioengineers (AGRO) (level B2+)* - Estelle MAYARD, Lelania SPERRAZZA - [36h AUTR] **Corequisite :** GEST3019-2 - Food policies and strategies VEGE0046-1 - Biologie et écologie des bioagresseurs	B1	TA	-	12	[+]	**4**
INFO9028-1	*Data Management* - JeanFrançois BASTIN, Yves BROSTAUX, Nicolas GENGLER, Hélène SOYEURT - [12h Pr.]	B1	Q2	6	-	[+]	**2**
AGRO0026-1	*Integrated production systems* - Jérôme BINDELLE, Benjamin DUMONT , Haissam JIJAKLI	B1	Q2	8	16	-	**2**
AGRO0027-1	*Excursion week* - Caroline DE CLERCK, Pierre DELAPLACE, Frédéric FRANCIS, Nicolas GENGLER, Martine SCHROYEN - [8h Pr., 32h FT]	B1	Q2	-	-	[+]	**2**

Periods 1 and 2

AGRO2.10 Expert mission

AGRO0020-1	*Expert mission* - Fanny BOERAEVE, Arno FAIVRE, Sébastien MASSART - [72h AUTR]	B2	Q1	-	-	[+]	**8**
GEST3020-1	*Life Cycle Analysis* (english language) - Andrea DI MARIA	B2	Q1	9	-	-	**1**

Periods 3 and 4

AGRO2.31 Final dissertation, work placement and language

RTFE2007-1	*Thesis in agronomic sciences* - Yves BECKERS	B2	Q2	-	-	-	**24**
RSTG0001-1	*Internship and professional relations* - Catherine COLAUX, Thomas DOGOT, Hélène SOYEURT	B2	TA	12	-	-	**8**

Common core courses (B1 : 18Cr, B2 : 19Cr)

Choose one module from the courses with options no. 1 (period 3): (B1 : 1Nbr)

AGRO1.32 Livestock systems engineering (B1 : 6Cr)

ANIM0017-1	*Biotechnology aspects of livestock systems* - Yves BECKERS, Jérôme BINDELLE, Martine SCHROYEN	B1	Q2	36	-	-	**4**
ANIM0024-1	*Breeding system for agroecology* - Yves BECKERS, Jérôme BINDELLE - [3h FT]	B1	Q2	9	6	[+]	**2**

AGRO 1.33 Agricultural policy, sociology and rural legislation (B1 : 6Cr)

SOCI2234-1	*Construction of public policies* - Laurence LAMBERT	B1	Q2	18	-	-	**2**
ECON2247-1	*Agricultural policy* - Philippe BURNY - [4h SEM]	B1	Q2	9	5	[+]	**2**
DROI0967-1	*Rural law* - Gaëtan GOISSE	B1	Q2	18	-	-	**2**

AGRO 1.34 Systemic approach to plant production in temperate regions (B1 : 6Cr)

VEGE0027-1	*Systemic approach to plant production in temperate regions - Plant sciences and different field crop and production species* -	B1	Q2 21	7	-		**6**

	Benjamin DUMONT - *Implementation of technical pathways under real conditions* - Benjamin DUMONT - [3h FT] - *Evaluation and optimisation of production systems* - Benjamin DUMONT **Corequisite :** VEGE0024-1 - Phytotechnie générale et appliquée en milieux tempérés et tropicaux		- 12 [+] - 9 -				

Choose one module from the courses with options no. 2 (period 3): (B1 : 1Nbr)

AGRO 1.35 Biochemistry and animal pathology (B1 : 6Cr)

ANIM0012-1	*Farm animal immunology and pathology* (english language) - Martine SCHROYEN **Corequisite :** LANG2952-1 - Pratique de l'anglais scientifique de bioingénieur (AGRO) (niveau B2+)	B1	Q2	18	-	-	**2**
ANIM0005-1	*Functional biochemistry in health and disease* (english language) - Martine SCHROYEN **Corequisite :** LANG2952-1 - Pratique de l'anglais scientifique de bioingénieur (AGRO) (niveau B2+)	B1	Q2	9	9	-	**2**
ANIM0011-3	*Welfare and ethics in animal productions* (english language) - Nicolas GENGLER - [3h FT] **Corequisite :** LANG2952-1 - Pratique de l'anglais scientifique de bioingénieur (AGRO) (niveau B2+)	B1	Q2	9	6	[+]	**2**

AGRO 1.36 Economics of development (B1 : 6Cr)

ECON2246-2	*Economics of developing countries* (english language) - Isabel LAMBRECHT - [18h SEM] **Corequisite :** LANG2952-1 - Pratique de l'anglais scientifique de bioingénieur (AGRO) (niveau B2+)	B1	Q2	9	-	[+]	**3**
ECON2254-2	*Economics of tropical markets* (english language) - Isabel LAMBRECHT - [9h SEM] **Corequisite :** LANG2952-1 - Pratique de l'anglais scientifique de bioingénieur (AGRO) (niveau B2+)	B1	Q2	9	9	[+]	**3**

AGRO 1.37 Innovative systems of plant production (B1 : 6Cr)

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	B1	Q2 13 12 9	 13 - -	 - [+] -		**6**

Choose 1 optional module no. 3 (period 4) : (B1 : 1Nbr)

AGRO 1.43 Economic decision support (B1 : 6Cr)

ECON2299-1	*Assistance in economic decision-making* - Yves BROSTAUX, Catherine CHARLES, Thomas DOGOT - [6h AUTR]	B1	Q2	30	24	[+]	**6**

AGRO1.44 Bromatology and the cultivation of animal fodder (B1 : 6Cr)

ANIM0018-1	*Bromatology and grazing management* - Yves BECKERS, Jérôme BINDELLE - [7h FT]	B1	Q2	37	13	[+]	**6**

AGRO 1.45 Plant protection methods (B1 : 6Cr)

VEGE0028-1	*Methods for managing plant health* - Frédéric FRANCIS, Olivier GUELTON, Eric HAUBRUGE, François HENRIET, Haissam JIJAKLI, Sébastien MASSART, François VERHEGGEN	B1	Q2	42	15	-	**6**

Periods 1 and 2

Choose 3 modules from the 4 modules options : (B2 : 15Cr)

Option 1 of modules:

AGRO 2.11 Physiology, plant breeding and multiplication of cultivated plants (B2 : 5Cr)

Choose courses totalling 5 ECTS from the following : (B2 : 5Cr)

VEGE0047-1	*Physiology* - Pierre DELAPLACE **Prerequisite :** VEGE0046-1 - Biologie et écologie des bioagresseurs VEGE0024-1 - Phytotechnie générale et appliquée en milieux tempérés et tropicaux	B2	Q1	4	5	-	**1**
VEGE0048-1	*Improving and multiplying cultivated plants* - Ludivine LASSOIS **Prerequisite :** VEGE0046-1 - Biologie et écologie des bioagresseurs VEGE0024-1 - Phytotechnie générale et appliquée en milieux tempérés et tropicaux	B2	Q1	-	-	-	**4**

[...] Choice of between 1 and 5 credits from the following courses, replacing the elective courses in Block 2:

AGRO 2.12 Data mining & Machine learning (B2 : 5Cr)

Choose courses totalling 5 ECTS from the following : (B2 : 5Cr)

INFO8008-1	*Multivaried analysis 2: data mining et machine learning, Introduction* (english language) - Yves BROSTAUX, Juan Antonio FERNANDEZ PIERNA, Hélène SOYEURT **Prerequisite :** STAT1213-1 - Analyse multivariée 1 : exploration et structuration de données	B2	Q1	9	18	-	**3**
INFO8009-1	*Bioinformatics* - Sébastien MASSART, Martine SCHROYEN	B2	Q1	5	13	-	**2**

[...] Choice of between 2 and 5 credits from the following courses, replacing the elective courses in Block 2:

AGRO 2.13 Tropical agroecology (B2 : 5Cr)

VEGE0049-1	*Tropical agroecology* - Ludivine LASSOIS	B2	Q1	20	24	-	**5**

Module option 2 :

AGRO 2.14 Market and supply analysis (B2 : 5Cr)

ECON2318-1	*Analysis of markets and chains* - Thomas DOGOT, Arno FAIVRE, Isabel LAMBRECHT	B2	Q1	45	-	-	**5**

AGRO 2.15 Plant biotechnology (B2 : 5Cr)

VEGE0032-1	*Plant biotechnology* - *Molecular plant biotechnology* - Hervé VANDERSCHUREN - *Plant biotechnology and plant production* - Frédéric FRANCIS, Sébastien MASSART	B2	Q1 3 4	 18 20	 - -		**5**

AGRO 2.16 Smart Farming (B2 : 5Cr)

AGRO0023-1	*Smart farming* - JeanFrançois BASTIN, Jérôme BINDELLE, Benjamin DUMONT	B2	Q1	44	10	-	**5**

Option 3 of modules:

AGRO 2.17 Socio-economic analysis of transition challenges (B2 : 5Cr)

Choose courses totalling 5 ECTS from the following : (B2 : 5Cr)

ECON2298-3	*Transition and new economic models (Service Learning)* - Kevin MARÉCHAL	B2	Q1	9	18	-	**3**
ECON2248-1	*Environmental economy* - Kevin MARÉCHAL	B2	Q1	18	-	-	**2**

[...] Choice of between 2 and 5 credits from the following courses, replacing the elective courses in Block 2:

AGRO 2.18 Applied strategies for the integrated management of pests and weeds (B2 : 5Cr)

VEGE0042-1	*Integrated and agroecological protection of crops* -	B2	Q1	24	23	-	**5**

RANCIS, François HENRIET, Haissam JIJAKLI, Sébastien MASSART, François VERHEGGEN

AGRO 2.19 Advanced animal genetics, genomics and biodiversity (B2 : 5Cr)

ANIM0031-1	*Advanced animal genetics, genomics and biodiversity* (english language) - Nicolas GENGLER **Prerequisite :** ANIM0030-1 - Animal recording, breeding and reproduction in modern sustainable animal production system ANIM0029-1 - Fondements et dynamiques des systèmes d'élevage	B2	Q1	22,5	22,5	-	**5**

Module option 4 :

AGRO 2.20 Applied rural socioeconomics (B2 : 5Cr)

ECON2273-1	*Applied rural socioeconomics* - Yves BROSTAUX, Thomas DOGOT - [3h SEM] **Prerequisite :** STAT1213-1 - Analyse multivariée 1 : exploration et structuration de données	B2	Q1	8	37	[+]	**5**

AGRO 2.21 Chemical, biological and environmental risks related to plant productions (B2 : 5Cr)

VEGE0034-1	*Chemical, biological and environmental risks related to plant productions* - Patrick DU JARDIN, Benjamin DUMONT , Jeroen MEERSMANS, François VERHEGGEN **Prerequisite :** VEGE0046-1 - Biologie et écologie des bioagresseurs VEGE0024-1 - Phytotechnie générale et appliquée en milieux tempérés et tropicaux	B2	Q1	20	28	-	**5**

AGRO 2.22 Feed & food (B2 : 5Cr)

Choose courses totalling 5 ECTS from the following : (B2 : 5Cr)

ANIM0025-1	*Feeding dairy cow* - Yves BECKERS	B2	Q1	9	18	-	**3**
ALIM0010-3	*Food, human nutrition and dietetics* (english language) - Jérôme BINDELLE	B2	Q1	18	-	-	**2**

[...] Choice of between 2 and 5 credits from the following courses, replacing the elective courses in Block 2:

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

All year round

AGRO 2.31 English language (B2 : 4Cr)

LANG2953-1	*Practice of specialized English for agricultural science (level C1 - Presentation)* - Estelle MAYARD, Lelania SPERRAZZA - [36h AUTR] **Corequisite :** AGRO0020-1 - Mission Expert	B2	TA	-	12	[+]	**4**

AGRO 2.32 Dutch language (B2 : 4Cr)

LANG9914-1	*Dutch Intermediate Level* (dutch language) - Catherine PEETERS	B2	TA	18	18	-	**4**

AGRO 2.33 Spanish language (B2 : 4Cr)

LANG9915-1	*Spanish - beginners* - Valérie COYETTE	B2	TA	18	18	-	**4**

Replacement courses:

ENVT3129-1	*Evaluating sustainability* - Andrea DI MARIA - [2h SEM]	B2	Q2	12	16	[+]	**3**
ENVT3050-1	*Quantification of ecosystem services* - Marc DUFRÊNE - [6h AUTR]	B2	Q1	9	5	[+]	**2**
BIOD0001-3	*Biodiversity management* - Arnaud MONTY - [6h SEM]	B2	Q1	18	-	[+]	**2**
CHIM9321-1	*Immunology* - N...	B2	Q2	27	-	-	**3**
ALIM0015-1	*Food sanitary safety* - Mohamed AYADI - [2h SEM]	B2	Q1	16	6	[+]	**2**

ALIM0013-2	*Techniques for preparing and preserving foods* - *General concepts* - Christophe BLECKER - *In-depth study for bioengineers* - Christophe BLECKER	B2	Q2 21 3	- -	- -		**2**
BIOL2015-3	*Molecular biology* - Patrick FICKERS	B2	Q2	24	-	-	**2**

Optional activities (B1 : 14Cr, B2 : 4Cr)

RSTG0011-1	*Additional internship* - Pierre DELAPLACE	B1	TA	-	-	-	**5**
HULG9547-1	*French course for IN mobility students (S1)* - N...	B1	Q1	-	-	-	**3**
HULG9548-1	*French course for IN mobility students (S2)* - N...	B1	Q2	-	-	-	**3**
HULG9546-1	*Erasmus: integration weeks* - N...	B1	Q1	-	-	-	**3**
INFO9013-1	*Multivaried analysis 3: Data mining et Machine Learning: advanced* (english language) - Yves BROSTAUX, David COLIGNON, Benoît MERCATORIS, Hélène SOYEURT *Notice* : INFO8001-1 prerequisite of the INFO9013-1 course	B2	Q2	12	28	-	**4**

Focus compulsory courses (B1 : 30Cr)

Periods 1 and 2

AGRO1.11 Rural economics and European and international policy.

ECON0942-1	*Rural economics and farm business management* - Philippe BURNY, Thomas DOGOT - [8h FT]	B1	Q1	25	15	[+]	**5**
GEST3019-2	*Food policies and strategies* (english language) - Arno FAIVRE - [3h FT] **Corequisite :** LANG2952-1 - Pratique de l'anglais scientifique de bioingénieur (AGRO) (niveau B2+)	B1	Q1	9	15	[+]	**3**
STAT1213-1	*Multivariate analysis 1: data exploration and structuring* - Yves BROSTAUX	B1	Q1	9	9	-	**2**

AGRO1.12 General crop husbandry

VEGE0046-1	*Biology and ecology of bioagressors* - Frédéric FRANCIS, François HENRIET, Sébastien MASSART - [9h AUTR] **Corequisite :** LANG2952-1 - Pratique de l'anglais scientifique de bioingénieur (AGRO) (niveau B2+)	B1	Q1	32	13	[+]	**5**
VEGE0024-1	*General and applied phytotechnology in temperate and tropical settings* - Nicolas DESOIGNIES, Benjamin DUMONT - [3h FT]	B1	Q1	39	6	[+]	**5**

AGRO1.13 Livestock systems

ANIM0029-1	*Foundations and dynamics of livestock systems* - Yves BECKERS, Jérôme BINDELLE, Martine SCHROYEN	B1	Q1	54	-	-	**6**
ANIM0030-1	*Animal recording, breeding and reproduction in modern sustainable animal production system* (english language) - Nicolas GENGLER, Martine SCHROYEN - [4h FT] **Corequisite :** LANG2952-1 - Pratique de l'anglais scientifique de bioingénieur (AGRO) (niveau B2+)	B1	Q1	22	10	[+]	**4**

Bridging courses Master in agricultural bioengineering

Compulsory courses (B0 : 60Cr)

Common core courses

GEST3028-2	*Accounting and management* - Thomas DOGOT	B0	Q1	22	26	-	**4**

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

Course Agricultural Sciences

AGRO0001-1	*Basic principles of agriculture and agroecology* - Pierre DELAPLACE, Benjamin DUMONT - [4h Ex.]	B0	Q2	16	4	[+]	**2**
AGRO0002-1	*Fertilization and crop nutrition* - Caroline DE CLERCK, Patrick DU JARDIN, Benjamin DUMONT - [4h AUTR] **Corequisite :** AGRO0001-1 - Fondement d'agriculture et d'agroécologie BIOL2044-1 - Physiologie végétale	B0	Q2	16	4	[+]	**2**
AGRO0021-1	*Introduction to cultivation techniques and levers* - Nicolas DESOIGNIES, Benjamin DUMONT - [4h AUTR] **Corequisite :** AGRO0001-1 - Fondement d'agriculture et d'agroécologie	B0	Q2	18	2	[+]	**2**

BIOL2015-3	*Molecular biology* - Patrick FICKERS **Corequisite :** BIOL2016-3 - Génétique générale	B0	Q2	24	-	-	**2**
BIOL2016-3	*General genetics* - Nicolas GENGLER, Ludivine LASSOIS **Corequisite :** BIOL2015-3 - Biologie moléculaire	B0	Q2	12	12	-	**2**
BIOL2018-1	*Animal nutrition* - Yves BECKERS	B0	Q2	24	-	-	**2**
SPRA0001-1	*Sustainable breeding and zoogenetic resources* - Nicolas GENGLER - [4h FT] **Corequisite :** BIOL2016-3 - Génétique générale	B0	Q2	20	-	[+]	**2**
BIOL2043-1	*Application of molecular biology and genetics* - Nicolas GENGLER, Martine SCHROYEN, Hervé VANDERSCHUREN, Luc WILLEMS **Corequisite :** BIOL2016-3 - Génétique générale	B0	Q2	-	24	-	**2**
GERE0043-1	*Foundations of soil quality* - Gilles COLINET, Caroline DE CLERCK, Aurore DEGRÉ	B0	Q2	18	6	-	**2**