

#### Cycle view of the study programme

B1 Or Th Pr Au Cr

#### Cours obligatoires de la finalité (B1 : 30Cr)

##### Period 1

##### GFEN1.11 Inventory and biodiversity management

ENVT3050-1	<i>Quantification of ecosystem services</i> - Marc DUFRÈNE - [6h AUTR]	B1	Q1	9	5	[+]	2
ECON2248-1	<i>Environmental economy</i> - Kevin MARÉCHAL	B1	Q1	18	-	-	2
BIOD0001-3	<i>Biodiversity management</i> - Arnaud MONTY - [6h SEM]	B1	Q1	18	-	[+]	2

##### GFEN1.12 Quantification of the natural resources

FORE0004-3	<i>Forest mensuration and forest inventory</i> - Adeline FAYOLLE, Gauthier LIGOT - Suppl : Gauthier LIGOT - [3h FT]	B1	Q1	15	18	[+]	4
PAYS0007-2	<i>Landscape analysis and modeling</i> (english language) - JeanFrançois BASTIN	B1	Q1	8	8	-	2

##### Period 2

##### GFEN1.21 Biodiveristy analysis methods

BIOD0007-1	<i>Biodiveristy analysis methods</i> - <i>Community</i> - Adeline FAYOLLE - Suppl : N... - [8h AUTR] - <i>Populations</i> - Arnaud MONTY	B1	Q1	12	12	[+]	6
	<b>Corequisite :</b> BIOD0001-3 - Gestion de la biodiversité LANG2959-1 - Pratique de l'anglais scientifique de bioingénieur (GFEN) (niveau B2+)			15	9	-	

##### GFEN1.22 Geomatics applied to environmental management

ENVT0045-2	<i>Geomatics and applied remote sensing</i> - <i>Introduction</i> - JeanFrançois BASTIN, Philippe LEJEUNE - <i>In-depth</i> - JeanFrançois BASTIN, Philippe LEJEUNE	B1	Q1	16	22	-	6
				8	11	-	

##### GFEN1.23 Wood

FORE0010-1	<i>Wood Science</i> (english language) - Tom DE MIL - [9h SEM, 2h FT]	B1	Q1	18	7	[+]	4
FORE0036-1	<i>Timber anatomy and identification</i> - Benoît JOUREZ	B1	Q1	10	10	-	2

Notice : les jurys de Masters bioingénieur se réservent le droit de ne pas organiser des cours au choix s'ils sont choisis par moins de 5 étudiants.

#### Cours obligatoires du tronc commun (B1 : 30Cr, B2 : 38Cr)

##### Periods 3 and 4

##### GFEN1.30 Core curriculum Q2

MANA0004-1	<i>Portfolio (Master)</i> - Yves BECKERS, Hugues CLAESSENS, Gilles COLINET, Aurore DEGRÉ, Dorothée GOFFIN - [24h AUTR]	B1	TA	-	-	[+]	2
LANG2959-1	<i>Practice of Scientific English for bioengineers (GFEN) (level B2+)</i> - Sophie DEPOTERRE, Estelle MAYARD - [36h AUTR]	B1	TA	-	12	[+]	4
	<b>Corequisite :</b> FORE0025-1 - Expertise sylvicole BIOD0007-1 - Méthodes d'analyse de la biodiversité FORE0008-2 - Analyse et valorisation stationnelles						

##### Period 3

##### GFEN1.31 Economics and environmental law

DROI0969-1	<i>Forestry law and environmental law</i> - Etienne ORBAN DE XIVRY	B1	Q2	24	-	-	2
ECON2255-4	<i>Forest economics</i> - Gauthier LIGOT	B1	Q2	9	9	-	2

FORE0012-1 *Forest products supply chain* - Tom DE MIL - [3h SEM] B1 Q2 9 6 [+] 2

#### GFEN1.32 Basic Forest Management Principles

FORE0009-1 *Sustainable management of tropical forests* - JeanLouis DOUCET B1 Q2 36 - - 3

FORE0005-3 *Multifunctional management of forests* - Philippe LEJEUNE - [4h SEM] B1 Q2 7 16 [+] 3

#### Corequisite :

FORE0004-3 - Dendrométrie et inventaires

ENVT0045-2 - Géomatique et télédétection appliquée

#### Period 4

#### GFEN1.41 Forestry

FORE0008-2 *Site analysis and valuation* - Hugues CLAESSENS - [15h FT] B1 Q2 6 12 [+] 3

#### Corequisite :

LANG2959-1 - Pratique de l'anglais scientifique de bioingénieur (GFEN) (niveau B2+)

FORE0025-1 *Expertise in silviculture* - Hugues CLAESSENS, Marc DUFRÈNE - [16h FT] B1 Q2 10 1 [+] 3

#### Corequisite :

LANG2959-1 - Pratique de l'anglais scientifique de bioingénieur (GFEN) (niveau B2+)

ENVT3050-1 - Quantification des services écosystémiques

FORE0004-3 - Dendrométrie et inventaires

FORE0008-2 - Analyse et valorisation stationnelles

BIOD0001-3 - Gestion de la biodiversité

#### GFEN1.42 Management of natural ecosystems and landscapes

FORE0018-3 *Management of large fauna in temperate climate* - Alain LICOPPE - [7h FT] B1 Q2 14 - [+] 2

PAYS0001-2 *Ecological networks* - Marc DUFRÈNE, Grégory MAHY - [10h FT] B1 Q2 6 2 [+] 2

#### Corequisite :

BIOD0001-3 - Gestion de la biodiversité

FORE0003-2 *Participatory management of natural environments* - Cédric VERMEULEN - [9h AUTR] B1 Q2 9 3 [+] 2

#### Corequisite :

BIOD0001-3 - Gestion de la biodiversité

#### Periods 1 and 2

#### GFEN2.10 Group Project

FORE0028-1 *Group project* - JeanLouis DOUCET, Adeline FAYOLLE - Suppl : Simon LHOEST - [54h AUTR] B2 Q1 - - [+] 6

#### Prerequisite :

BIOD0007-1 - Méthodes d'analyse de la biodiversité

FORE0004-3 - Dendrométrie et inventaires

#### Periods 3 and 4

#### GFEN2.31 Final work and internship

RTFE2009-1 *Thesis in forest and natural areas management* - Cédric VERMEULEN B2 Q2 - - - 24

RSTG0004-1 *Internship and professional relations* - Hugues CLAESSENS, Catherine COLAUX, Thomas DOGOT B2 TA 12 - - 8

#### Cours au choix du tronc commun (B2 : 22Cr)

Choose 3 modules from the elective courses : (B2 : 18Cr)

#### Period 1

#### GFEN2.11 Ecological engineering

PAYS0014-1 *Ecological engineering* - Marc DUFRÈNE, Grégory MAHY - [23h FT] B2 Q1 19 15 [+] 6

#### GFEN2.12 Forest Health

FORE0041-1 *Forest health* - Hugues CLAESSENS, Frédéric FRANCIS, Simon LHOEST, Sébastien MASSART - [10h FT] B2 Q1 40 7 [+] 6

#### GFEN2.13 Integrated management of wildlife

RAVT0003-1 *Management of large fauna in tropical areas* - Cédric VERMEULEN - [4h SEM, 3h FT] B2 Q1 9 2 [+] 2

**Prerequisite :**

FORE0003-2 - Gestion participative des milieux naturels  
 PAYS0001-2 - Réseaux écologiques  
 FORE0018-3 - Gestion de la grande faune en milieu tempéré  
 ENVT0045-2 - Géomatique et télédétection appliquée  
 BIOD0001-3 - Gestion de la biodiversité

RAVT0001-1 *Wildlife population inventory and modelling techniques* - Philippe LEJEUNE, Sébastien LHOEST B2 Q1 9 9 - 2

**Prerequisite :**

ENVT0045-2 - Géomatique et télédétection appliquée  
 FORE0004-3 - Dendrométrie et inventaires  
 BIOD0007-1 - Méthodes d'analyse de la biodiversité

RAVT0002-1 *Eco-ethology and wildlife conservation* - Cédric VERMEULEN - [9h AUTR] B2 Q1 9 - [+] 2

#### GFEN2.14 Applied forestry

FORE0032-1 *Forestry itineraries* - Hugues CLAESSENS, Gauthier LIGOT - [30h FT] B2 Q1 6 - [+] 4

**Prerequisite :**

FORE0025-1 - Expertise sylvicole  
 FORE0008-2 - Analyse et valorisation stationnelles  
 FORE0012-1 - Mobilisation des produits forestiers  
 ECON2255-4 - Economie forestière  
 DROI0969-1 - Droit forestier et droit de l'environnement  
 ENVT3050-1 - Quantification des services écosystémiques

FORE0033-1 *Forest genetic resources management* - Ludivine LASSOIS - [4h FT] B2 Q1 14 - [+] 2

#### GFEN2.15 Tropical forestry (Number of students limited - based on application file)

*Notice :* Module given abroad

FORE0042-1 *Tropical forestry* B2 Q1 6 18 - 6  
 - *Certification of tropical forests* - JeanLouis DOUCET 6 18 -  
 - *Tropical agroforestry* - JeanLouis DOUCET 12 12 -  
 - *Applied tropical botany* - JeanLouis DOUCET 12 12 -

**Prerequisite :**

FORE0009-1 - Gestion durable des forêts tropicales

#### Period 2

#### GFEN2.21 Wood development

FORE0015-2 *Logging* - Tom DE MIL B2 Q1 6 12 - 2

**Prerequisite :**

FORE0025-1 - Expertise sylvicole  
 ENVT0045-2 - Géomatique et télédétection appliquée

FORE0043-1 *Wood industries* - Tom DE MIL, Benoît JOUREZ - [24h FT] B2 Q1 18 - [+] 4

**Prerequisite :**

FORE0010-1 - Wood Science  
 FORE0036-1 - Anatomie et identification des bois

#### GFEN2.22 Aquatic environments management

GESA0001-2 *Chemical and physico-chemical analysis of waters* - B2 Q1 6 12 - 2

URCARO

FORE0017-1	<i>Ecology of fresh water organisms</i> - Ecology and dynamics of fresh water fish populations - Aquatic macro-invertebrates and bioindications - Rudy CAPARROS MEGIDO, Frédéric FRANCIS	B2	Q1						<b>2</b>
				10	-	-			
				9	-	-			

VEGE0021-1	<i>Animal communities and water quality</i> - Rudy CAPARROS MEGIDO, Frédéric FRANCIS	B2	Q1	4	14	-			<b>2</b>
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#### GFEN2.23 Plants and towns

PAYS0016-1	<i>Plants and towns</i> - Agriculture and towns - Haissam JIAKLI - [12h FT] - Agriculture and towns: in depth - Haissam JIAKLI - [10h Mon. WS]	B2	Q1						<b>3</b>
				8	-	[+]			
				-	-	[+]			

#### Prerequisite :

BIOD0001-3 - Gestion de la biodiversité

PAYS0017-1	<i>Plants and towns</i> - Biodiversity and towns - Grégory MAHY - [11h Proj.] - Biodiversity and towns: advanced - Grégory MAHY	B2	Q1						<b>3</b>
				16	-	[+]			
				8	-	-			

#### Prerequisite :

BIOD0001-3 - Gestion de la biodiversité

#### GFEN 2.24 Very high-resolution remote sensing applied to the management of natural environments

ENVT3060-2	<i>Very high resolution remote sensing applied to the management of natural environments</i> - Introduction - Philippe LEJEUNE, Adrien MICHEZ - In-depth - Philippe LEJEUNE	B2	Q1						<b>6</b>
				12	24	-			
				6	12	-			

#### Corequisite :

ENVT0045-2 - Géomatique et télédétection appliquée

#### Periods 1 and 2

#### GFEN 2.25 Data mining & Machine learning

STAT1213-1	<i>Multivariate analysis 1: data exploration and structuring</i> - Yves BROSTAUX	B2	Q1	9	9	-			<b>2</b>
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INFO8008-1	<i>Multivariate analysis 2: data mining and machine learning</i> (english language) - Yves BROSTAUX, Juan Antonio FERNANDEZ PIERNA, Hélène SOYEURT	B2	Q1	12	26	-			<b>4</b>
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#### Corequisite :

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

[...] Possibility to choose between 2 and 6 credits from the following courses

GEOP0010-1	<i>Soil quality evaluation</i>	B2	Q2	14	13	-			<b>3</b>
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ENVT3129-1	<i>Evaluating sustainability</i> - Andrea DI MARIA, Angélique LÉONARD - [2h SEM]	B2	Q2	12	16	[+]			<b>3</b>
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GERE0023-1	<i>Spatial analysis, organisation of grounds in the landscape and preservation of grounds</i> - [8h FT]	B2	Q2	23	23	[+]			<b>6</b>
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VEGE0037-1	<i>Innovative system of plant production</i> - Urban agriculture - Haissam JIAKLI - Developmental physiology applied to plant productions - Pierre DELAPLACE - [6h FT] - Physical parameters control of plant productions in controlled conditions - Vincent LEEMANS	B2	Q2						<b>6</b>
				13	13	-			
				12	-	[+]			
				9	-	-			

VEGE0028-1	<i>Methods for managing plant health</i> - Frédéric FRANCIS, Olivier GUELTON, Eric HAUBRUGE, François HENRIET, Haissam JIAKLI, Sébastien MASSART, François VERHEGGEN	B2	Q2	42	15	-			<b>6</b>
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CHIM9321-1	<i>Immunology</i> - Bénédicte MACHIELS	B2	Q2	27	-	-			<b>4</b>
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ALIM0015-1	<i>Food sanitary safety</i> - Mohamed AYADI - [2h SEM]	B2	Q1	16	6	[+]	2
ALIM0013-2	<i>Techniques of food preservation</i> - Christophe BLECKER	B2	Q2	24	-	-	2
BIOL2015-3	<i>Molecular biology</i> - Patrick FICKERS	B2	Q2	24	-	-	2

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

**Periods 3 and 4**

**GFEN 2.31 English language (B2 : 4Cr)**

LANG2960-1	<i>Practice of specialized English for forests and natural areas: part 2 (level C1 - Presentation)</i> - Sophie DEPOTERRE, Estelle MAYARD - [36h AUTR]	B2	TA	-	12	[+]	4
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**Corequisite :**

FORE0028-1 - Projet de groupe

**All year round**

**GFEN 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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**GFEN 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> - Aurore DEGRÉ	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 : INFO8001-1 prerequisite of the INFO9013-1 course

## Additional ECTS Master in forests and natural areas engineering

**Compulsory courses (B0 : 60Cr)**

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 BROSTAU	B0	Q1	12	12	-	2
STAT2005-1	<i>Applied statistic : Second part</i> - Yves BROSTAU	B0	Q2	12	12	-	2
<b>Corequisite :</b>							
STAT2004-1 - Statistique appliquée : 1ère partie							
PSYC5897-3	<i>Team, organization and change</i> - Daniel FAULX, Véronique JANS, Tiber MANFREDINI - [44h SEM]	B0	TA	4	-	[+]	2
<b>Corequisite :</b>							
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, Aurore DEGRÉ, Dorothée GOFFIN - [24h AUTR]	B0	TA	-	-	[+]	2

**Corequisite :**

PSYC5897-3 - Equipe, organisation & changement

RSTG0008-1	<i>Internship (Bachelor)</i> - H��l��ne SOYEURT - [18h AUTR]	B0	TA	6	-	[+]	2
	<b>Corequisite :</b> PSYC5897-3 - Equipe, organisation & changement GEST3028-2 - Comptabilit�� et gestion des entreprises GEST3773-1 - Gestion de la qualit��						
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> - Gr��gory MAHY, Arnaud MONTY	B0	Q1	24	-	-	2
INFO2038-1	<i>Computer science and algorithmic</i> - H��l��ne SOYEURT	B0	Q1	2	22	-	2
MATH2016-1	<i>General mathematics and modelling of dynamics systems</i> - J��r��me BINDELLE, Catherine CHARLES, Frank DELVIGNE, Adeline FAYOLLE, Beno��t MERCATORIS - Suppl : Gauthier LIGOT	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> - Sophie DEPOTERRE, Estelle MAYARD, Fiona THEWISSEN - [48h E-Lrng]	B0	TA	-	24	[+]	4
INGE0008-1	<i>Multidisciplinary experimental project</i> - Yves BROSTAUX, Pierre DELAPLACE, S��bastien MASSART, Beno��t MERCATORIS, Jacques MIGNON, Arnaud MONTY - [60h AUTR]	B0	TA	6	6	[+]	6
	<b>Corequisite :</b> ENVT2044-1 - Ecologie g��n��rale BIOL2044-1 - Physiologie v��g��tale GEST3773-1 - Gestion de la qualit�� STAT2004-1 - Statistique appliqu��e : 1��re partie STAT2005-1 - Statistique appliqu��e : 2��me partie						
HYDR0001-1	<i>General hydrology</i> - Aurore DEGR��	B0	Q2	14	10	-	2
<b>Option Forests and natural Areas Engineering</b>							
AGRO0001-1	<i>Basic principles of agriculture and agroecology</i> - Pierre DELAPLACE, Benjamin DUMONT - [4h FT]	B0	Q2	20	-	[+]	2
BIOL2015-3	<i>Molecular biology</i> - Patrick FICKERS	B0	Q2	24	-	-	2
	<b>Corequisite :</b> BIOL2016-3 - G��n��tique g��n��rale						
BIOL2016-3	<i>General genetics</i> - Nicolas GENGLER, Ludivine LASSOIS	B0	Q2	12	12	-	2
	<b>Corequisite :</b> BIOL2015-3 - Biologie mol��culaire						
FORE0021-2	<i>Tree species in temperate regions</i> - Arnaud MONTY	B0	Q2	12	12	-	2
FORE0022-3	<i>Ecological foundations of the silviculture</i> - [12h AUTR]	B0	Q2	12	2	[+]	2
INGE0001-4	<i>Strength of materials and elasticity, Introduction</i> - Laurent DUCHENE	B0	Q2	24	-	-	2
PAYS0006-2	<i>Landscape ecology concepts</i> - Jan BOGAERT	B0	Q2	12	12	-	2
PHYS3010-2	<i>Climate changes</i> - Bernard LONGDOZ	B0	Q2	24	-	-	2
<b>Optional activity (B0 : 5Cr)</b>							
RSTG0012-1	<i>Additional internship</i> - Aurore DEGR��	B0	TA	-	-	-	5