

ENVI2M

2015 - 2016

Master [120] in Environmental Science and
Management**At Louvain-la-Neuve - 120 credits - 2 years - Day schedule - In french**Dissertation/Graduation Project : **YES** - Internship : **YES**Activities in English: **optional** - Activities in other languages : **NO**Activities on other sites : **NO**Main study domain : **Sciences**Organized by: **Faculté des bioingénieurs (AGRO)**Programme code: **envi2m** - Francophone Certification Framework: 7**Table of contents**

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ENVI2M - Introduction

Introduction

ENVI2M - Teaching profile

Learning outcomes

The Masters in Environmental Sciences and Management is offered as a priority to students who have completed a Masters level course of study at one of the faculties in the science and technology sector, human sciences sector or health sciences sector, or at a college of further education. The admission requirements are those of an advanced Masters.

Teaching on environmental sciences and management offers both graduate students and professionals the opportunity to learn about the basic principles of environmental sciences and the management of environmental problems that are complex by nature and involve several disciplines.

The student programme is partially tailored to suit their initial training. Part of the programme is aimed at allowing them to acquire basic knowledge in the various disciplines involved in environmental issues, in science and technology (chemistry, biology, ecology, IT, mathematics, statistics, geography...) and in human sciences (sociology, law, economics, philosophy...). Part of the programme is intended to address environmental issues through various disciplines (economics, law, politics, toxicology, science and technology). Finally, part of the programme is designed to develop the ability to approach environmental issues across disciplines, integrating their respective contributions (multidisciplinary approach) and to identify and negotiate consensual solutions with the different stakeholders.

Upon completion of the programme, the Master of Environmental Sciences and Management will be able to take a mediating role, alone or within a team, to resolve environmental issues: to gain an understanding of the problem and to analyse it as a whole, to summarise the positions of the various stakeholders, including experts, to communicate these comprehensibly to all parties, to develop and propose consensual solutions, to argue and negotiate with stakeholders.

On successful completion of this programme, each student is able to :

1. To analyse the scientific, technical and non-technical dimensions of an environmental problem.

1.1 To identify the stakeholders concerned by the environmental issue: the general public, scientific experts, non-governmental organisations, public authorities, companies, etc.

1.2 To gather information, in French and English, on the various dimensions of the environmental issue: scientific, technical/ technological, human, etc.

1.3 To use basic theoretical concepts in science and technology in an appropriate manner: chemistry, biology, ecology, toxicology, IT, mathematics, statistics, geography, etc. related to the environmental issue.

1.4 To use basic theoretical concepts in the human sciences in an appropriate manner: sociology, philosophy, law, economics, etc. related to the environmental issue.

1.5 To communicate with different stakeholders and with independent experts, to identify the elements underlying their respective viewpoints and to incorporate these into the analysis.

1.6 To establish links between the basic concepts in science and technology and the humanities to explain the environmental issue as a whole.

1.7 To work with colleagues to interpret all the aspects and facets of the environmental issue.

2. To construct and develop one or more solutions to tackle the environmental issue, factoring in the technological and non-technological aspects.

2.1 To summarise different types of documents related to an environmental issue (scientific and technical / technological and humanities)

2.2 To summarise the views of stakeholders involved in the environmental issue.

2.3 To develop innovative proposals for solutions to the environmental issue with the support of stakeholders, by combining the data and scientific, technical / technological and non-technical methods available.

2.4 To select proposals for solutions in a substantiated way (self-evaluation) that best fulfil the different dimensions of the environmental issue (scientific, technical / technological and non-technical).

2.5 To identify with different stakeholders and, in relation to each of them, to decipher their views and positions with regard to the environmental issue and anticipate their reactions to new data and proposals.

2.6 To evaluate solutions against all criteria (feasibility, consistency, stakeholders, etc.) and dimensions (scientific, technical / technological and humanities).

3. To communicate the proposed environmental solutions to the stakeholders.

3.1 To present the analysis of the environmental problem and the proposed solutions verbally and in writing, in a substantiated manner using modern communication techniques.

3.2 To adapt their language and vocabulary specifically taking the cultural differences of the conversational partners into consideration: colleagues, general public, scientific experts, non-governmental organisations, public authorities, businesses, etc.

4. To negotiate a consensual solution between environmental stakeholders, based on the various solutions proposed.

4.1 To interpret the views of stakeholders on the environmental issue.

4.2 To arbitrate the views of stakeholders on the environmental solutions.

4.3 To convince stakeholders of a common solution to the environmental issue through argumentation.

4.4 To make choices, alone or within a team, taking account of all the dimensions and all the stakeholders, with a view to reaching a consensual solution.

Programme structure

The interfaculty nature of the Master means that a significant part of the programme includes courses organized by different partner faculties.

The programme is structured as follows :

1. students from different backgrounds will follow introductory courses which will enable them to acquire a foundation in disciplines they have not studied before. Students must take all these activities to qualify for the Master degree : exemptions may be given for subjects already studied and previous results. If more than 21 credits are lacking, students will have to complete a preparatory year before they can enter the Master programme.
2. a block of compulsory group activities : 7 credits
3. a professional focus including 30 credits for compulsory activities
4. an option or a block of optional subjects : the option programme must include a minimum of 15 credits and a maximum of 30. It is possible to select a mixed programme of activities. However, it is compulsory to take at least 15 credits for activities within a single option if this option is to be mentioned in the supplement to the degree certificate. Failing this, there will be no specific reference to a particular option : the supplement will merely list the optional subjects taken.
5. a professional work placement, ideally done outside the university: 30 credits
6. a final piece of individual work (report on the professional work placement) : 15 credits
7. optional activities enabling students to supplement their programme, depending on any exemptions they may have been granted.

To recap :

1. Core subjects (total : min. 52 credits and max. 75 credits)
 - work placement (*) : 30 credits
 - individual final projet (*) : 15 credits
 - compulsory group activities (*) : 7 credits
 - basic activities : 21 credits maximum
 - optional activities : 15 credits
2. Professional focus (*) : 30 credits
3. Option courses or optional subjects :
 - Option course: 15 credits minimum (*) and 30 credits maximum.
 - Optional subjects : 15 credits minimum (*).

(*) Compulsory activities

Each individual programme must always be approved by the programme coordinator.

For a programme-type, and regardless of the focus, options/or elective courses selected, this master will carry a minimum of 120 credits divided over two annual units, corresponding to 60 credits each.

[> Tronc commun](#) [en-prog-2015-envi2m-lenvi220t.html]

[> Professional focus](#) [en-prog-2015-envi2m-lenvi200s]

Options courses

[> Option 1 : Industry and Environment](#) [en-prog-2015-envi2m-lenvi201o.html]

[> Option 2 : Agriculture and Environment](#) [en-prog-2015-envi2m-lenvi202o.html]

[> Option 3: Land Development and Environnement](#) [en-prog-2015-envi2m-lenvi203o.html]

[> Option 4: Public Administration and Environment](#) [en-prog-2015-envi2m-lenvi204o.html]

[> Optional Courses](#) [en-prog-2015-envi2m-lenvi206o.html]

ENVI2M Detailed programme

Programme by subject

CORE COURSES

Une mise à niveau dans les différentes disciplines de base (Tronc commun)

Le master ENVI est conçu pour des étudiants venant de différents horizons (sciences et technologies, sciences humaines, sciences médicales) qui n'ont pas nécessairement acquis toutes les notions de base importantes en sciences de l'environnement et du développement durable. Pour leur garantir une formation de base adéquate, le tronc commun comprend un ensemble de cours de mise à niveau dans les disciplines de base (cours de niveau bachelier). Une formation de base dans chacune de ces disciplines doit avoir été obligatoirement suivie pour obtenir le diplôme de master. Des dispenses sont accordées en fonction des cours déjà suivis par l'étudiant dans le cadre de son diplôme universitaire précédent et des résultats obtenus.

- Mandatory
- △ Courses not taught during 2015-2016
- ⊕ Periodic courses taught during 2015-2016
- ⊗ Optional
- ⊖ Periodic courses not taught during 2015-2016
- Activity with requisites

Click on the course title to see detailed informations (objectives, methods, evaluation...)

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o Activités communes obligatoires

Pour 53 crédits minimum :

○ LENVI2199	Stage professionnel	Jean-Pascal van Ypersele de Strihou	15h	30 Credits			x
○ LENVI2099	Projet personnel de fin d'études	N.		15 Credits			x
○ LESPO2103	Environment and Global Economy	Thierry Bréchet	30h	5 Credits			x

o Une activité au choix parmi les intitulés suivants :

⊗ LBRTE2201	Human and environmental toxicology	Alfred Bernard, Cathy Debier (coord.)	45h+7.5h	5 Credits	1q	x	
⊗ LBRTE2201A	Toxicologie humaine	Alfred Bernard, Cathy Debier	30h	3 Credits	1q	x	

o Mandatory subjects

Rem 1: L'étudiant(e) doit choisir un cours dans chacune des disciplines suivantes, s'il(elle) n'a pas réussi dans sa formation universitaire antérieure un cours qui aura été jugé équivalent, sachant que le total des crédits de son programme devra atteindre 120 crédits pour l'ensemble du master. Ce choix devra être soumis à l'approbation du coordinateur du programme. Rem 2: L'étudiant(e) veillera à s'assurer qu'il/elle dispose des bases nécessaires pour suivre les activités choisies.

⊗ Biology: one course to be chosen

Certaines des activités proposées pourront être suivies en partie.

⊗ LBIO1114	Introduction to biology	Patrick Dumont, Caroline Nieberding	30h+7.5h	3 Credits	2q	x	x
⊗ LPSP1005	Biologie générale, y compris éléments de génétique humaine	André Moens	30h	4 Credits	1q	x	x

⊗ Chemistry: one course to be chosen

Certaines des activités proposées pourront être suivies en partie.

⊗ LIEPR1001	General chemistry and biomolecules	Patrick Henriet	30h+15h	5 Credits	1q	x	x
⊗ LCHM1111	General chemistry 1	Michel Devillers (coord.)	60h+60h	10 Credits	1q	x	x
⊗ LINGE1115	Chemistry (Part 1)	Yaroslav Filinchuk, Tom Leyssens	50h+10h	5 Credits	1q	x	x
⊗ LINGE1223	Chemistry	Agnès Gnagnarella, Jean-François Gohy	20h+10h	3 Credits	2q	x	x
⊗ LFSAB1301	Chemistry and Physical Chemistry 1	Sophie Demoustier, Alain Jonas, Bernard Nysten	30h+30h	6 Credits	2q	x	x
⊗ LMAPR1231	Process in inorganic chemistry	Pascal Jacques, Joris Proost	30h+30h	5 Credits	2q	x	x

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⊗ Ecology: one course to be chosen*Le cours LBIO1351 est recommandé.*

⊗ LBIO1351	Ecology of individuals and populations	Thierry Hance, Marie-Jeanne Holveck (compensates Caroline Nieberding), Anne-Laure Jacquemart, Caroline Nieberding	50h	4 Credits	1q	X	X
⊗ LBIO1251B	Introductory ecology	N.	30h	3 Credits	2q	X	X
⊗ LBIR1326A	Ecologie, physiologie et systématiques végétales: Partim A (Ecologie animale et végétale)	Cathy Debier, Anne-Laure Jacquemart, Stanley Lutts	22.5h +7.5h	2 Credits	1q	X	X

⊗ Economie: une activité au choix parmi les intitulés suivants:

⊗ LBIR1242	Principes d'Economie	Bruno Henry de Frahan	30h+15h	3 Credits	1q	X	X
⊗ LECGE1115	Political Economics	Paul Belleflamme, Etienne De Callatay (compensates Jean Hindriks), Pierre Dehez, Jean Hindriks, Rigas Oikonomou	45h+15h	5 Credits	1q	X	X
⊗ LPSP1009	Economie : éducation, santé et travail	Barbara Cresti	30h	3 Credits	2q	X	X

⊗ Philosophy: one course to be chosen*LSC1120 is recommended.*

⊗ LCOPS1124	Philosophy	Sylvain Camilleri, Nathalie Frogneux, Danielle Lories	30h	5 Credits	1 ou 2q	X	X
⊗ LFILO1210	Philosophy of Nature	Alexandre Guay	30h	3 Credits	1q	X	X
⊗ LSC2220	Philosophy of science	Alexandre Guay	30h	2 Credits	2q	X	X
⊗ LSC1120	Philosophy	Bernard Feltz	30h	2 Credits	1q	X	X

⊗ Sociology: one course to be chosen*Le cours LPSP1007 est recommandé.*

⊗ LPOLS1121	Sociologie du comportement politique	Benoît Rihoux	22.5h	4 Credits	2q	X	X
⊗ LPSP1007	Sociologie : éducation, santé et travail	Marc Zune	30h	3 Credits	1q	X	X
⊗ LDROI1221	Introduction to Sociology	Eric Mangez, Benoît Rihoux	45h	3 Credits	1q	X	X

⊗ Geography: one course to be chosen*L'étudiant peut éventuellement choisir d'autres activités de Géographie en fonction des prérequis dont il dispose.*

⊗ LGEO1221	Elements of human geography	Marie-Laurence De Keersmaecker	30h+42h	5 Credits	1q	X	X
⊗ LGEO2110	Mondialisation, développement et environnement	Eric Lambin	30h+30h	5 Credits	1q	X	X

⊗ Applied Informatics: one course to be chosen

⊗ LBIR1204	Informatique et mathématiques appliquées	Patrick Bogaert, Emmanuel Hanert (coord.), Marnik Vanclooster	22.5h +22.5h	4 Credits	2q	X	X
⊗ LECGE1215	Information Technology in Economics and Management	Manuel Kolp (coord.), Marco Saerens, Yves Wautelet (compensates Manuel Kolp)	30h+20h	4 Credits	1q	X	X

⊗ Statistics and Data Analysis: one course to be chosen

⊗ LBIR1203	Probabilities and statistics (I)	Patrick Bogaert	30h+15h	4 Credits	1q	X	X
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☒ LFSAB1105	Probability and statistics	Anouar El Ghouch, Rainer von Sachs	30h+30h	4 Credits	1q	x	x	
☒ LMAT1271	Calculation of probability and statistical analysis	Catherine Timmermans (compensates Rainer von Sachs), Rainer von Sachs	30h+30h	6 Credits	2q	x	x	
☒ LMAT1375	Biometry	Nicolas Schtickzelle	25h+25h	4 Credits	2q	x	x	
☒ LECGE1114	Statistics in Economics and Management I	Marie-Paule Kestemont	30h+30h	5 Credits	2q	x	x	

☒ English: one course to be chosen

Le cours LANGL1882 est fortement recommandé (thèmes liés à l'environnement). Les cours suivants le sont par ordre d'intérêt décroissant. Des tests dispensatoires sont organisés au début du 1er quadrimestre.

☒ LANGL1882	English : reading and listening comprehension of texts in Bioengineering	Isabelle Druant, Sandrine Meirlaen (compensates Isabelle Druant), Annick Sonck (coord.), Anne-Julie Toubeau (compensates Isabelle Druant)	30h	2 Credits	1q	x	x
☒ LANG1861	English: reading and listening comprehension of scientific texts	Ahmed Adriouèche (coord.), Catherine Avery (compensates Fanny Desterbecq), Fanny Desterbecq, Sandrine Meirlaen (compensates Charlotte Peters), Charlotte Peters, Annick Sonck (coord.)	10h	2 Credits	2q	x	x
☒ LANG1862	English: reading and listening comprehension of scientific texts	Ahmed Adriouèche (coord.), Isabelle Druant, Sandrine Meirlaen (compensates Isabelle Druant), Annick Sonck, Anne-Julie Toubeau (compensates Isabelle Druant)	30h	2 Credits	1q	x	x

☒ Activités facultatives:

Le volume de ces activités est modulable avec les activités obligatoires pour obtenir 120 crédits minimum pour l'ensemble du master. D'autres activités relevant des sciences de l'environnement peuvent également être choisies.

☒ Communication scientifique

☒ LCOMU2600	Scientific popularisation	Philippe Verhaegen	30h	5 Credits	1q	x	x
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☒ Anthropologie

☒ LDVLP2320	Anthropology of development and environment	Pierre-Joseph Laurent	30h	5 Credits	1q	x	x
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☒ Philosophie des sciences de la nature: une activité au choix parmi les intitulés suivants:

☒ LFILO2240	Advanced Studies in the Philosophy of Natural Sciences A	Bernard Feltz	30h	5 Credits	2q ⊕	x	x
☒ LFILO2241	Advanced Studies in the Philosophy of Natural Sciences B	Alexandre Guay	30h	5 Credits	2q ⊗	x	x
☒ LFILO2003E	Ethics in the Sciences and technics (sem)	Bernard Feltz, Hervé Jeanmart, René Rezsóhazy	15h+15h	2 Credits	2q	x	x

PROFESSIONAL FOCUS [30.0]

Un coeur de formation interdisciplinaire, spécifique et original (Finalité spécialisée)

- Un ensemble de cours, dédiés aux sciences environnementales et aux approches interdisciplinaires de gestion des problématiques environnementales et du développement durable. Ces cours sont rassemblés dans le tronc commun obligatoire et dans la finalité spécialisée.
- Un stage réalisé en milieu professionnel, à l'extérieur de l'université, amenant les étudiants à mettre en pratique leur formation théorique dans des situations concrètes, en s'intégrant et en apportant leur contribution à l'équipe des professionnels de l'institution d'accueil (entreprise, bureau d'étude, ONG, administration publique,...) pour résoudre les problématiques environnementales auxquelles ils sont confrontés.
- Un projet personnel de fin d'études, correspondant à la rédaction d'un rapport sur le stage professionnel.

○ Mandatory

△ Courses not taught during 2015-2016

⊕ Periodic courses taught during 2015-2016

⊗ Optional

⊖ Periodic courses not taught during 2015-2016

■ Activity with requisites

Click on the course title to see detailed informations (objectives, methods, evaluation...)

Year

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o Problématique générale de l'environnement

○ LENVI2010	Public strategies for sustainable development	Marie-Paule Kestemont (coord.) , Benoît Rihoux , Jean-Pascal van Ypersele de Strihou	15h	2 Credits	1q	x	
○ LENVI2002	Seminars in environmental science and management	Philippe Baret , Denis Dochain , Marie-Paule Kestemont , Jean-Pascal van Ypersele de Strihou (coord.)	15h	2 Credits	1q	x	
○ LENVI2101	Sociétés, populations, environnement, développement: problématiques et approches interdisciplinaires	Denis Dochain , Bernard Feltz , Pierre-Joseph Laurent , Jean-Pascal van Ypersele de Strihou	45h	6 Credits	1q	x	

o Pollution et environnement

○ LENVI2012	Environment Pollution	Mohamed Ayadim , Patrick Gerin (coord.) , Nathalie Kruyts	45h+30h	7 Credits	2q	x	
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o Droit et environnement

○ LDROP2061	Sustainable Development Law	Charles-Hubert Born	30h	3 Credits	2q	x	
○ LDROP2063	Environmental Law	Nicolas de Sadeleer , Damien Jans	30h	3 Credits	2q	x	

o Gestion de l'environnement

○ LENVI2011	Méthodes d'évaluation et de gestion environnementale	Jean-Pierre Tack	30h	3 Credits	2q	x	
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o Formation à la communication

○ LENVI2004	Atelier en communication environnementale et en gestion des conflits par la négociation	Jean-Pascal van Ypersele de Strihou	20h	4 Credits	1q	x	
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OPTIONS

Une option et/ou un ensemble de cours au choix (Options)

L'étudiant dispose d'une grande liberté pour compléter le cœur de sa formation (voir TC et FS) par le choix des cours qui l'intéressent dans un ensemble de cours facultatifs du tronc commun et de cours proposés au sein de différentes options. Il est possible de panacher un programme de cours parmi ces options. Il est cependant nécessaire de prendre au moins 15 crédits d'activités dans une seule et même option pour que celle-ci figure dans le supplément au diplôme. Dans le cas contraire, aucune référence à une option ne sera mentionnée dans le supplément au diplôme, qui indiquera simplement la liste des cours au choix qui ont été suivis.

Pour être validée et donc figurer dans le supplément au diplôme, une option doit comporter 15 crédits minimum et 30 crédits maximum. Il est possible de panacher un programme d'activités au sein de ces options mais il est obligatoire de prendre au moins 15 crédits dans une seule et même option.

- > [Option 1 : Industry and Environment](#) [en-prog-2015-envi2m-lenvi201o]
- > [Option 2 : Agriculture and Environment](#) [en-prog-2015-envi2m-lenvi202o]
- > [Option 3: Land Development and Environment](#) [en-prog-2015-envi2m-lenvi203o]
- > [Option 4: Public Administration and Environment](#) [en-prog-2015-envi2m-lenvi204o]
- > [Optional Courses](#) [en-prog-2015-envi2m-lenvi206o]

OPTION 1 : INDUSTRY AND ENVIRONMENT

- Mandatory
- △ Courses not taught during 2015-2016
- ⊕ Periodic courses taught during 2015-2016
- ⊗ Optional
- ⊖ Periodic courses not taught during 2015-2016
- Activity with requisites

Click on the course title to see detailed informations (objectives, methods, evaluation...)

De 15 à 30 crédits parmi

Year
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⊗ Activités en gestion de l'environnement

⊗ LBIR1305	Introduction to systems analysis	Philippe Baret	10h+20h	3 Credits	1q	x	x
⊗ LBRAI2210	Microeconomics of Development	Frédéric Gaspart	30h	3 Credits	1q	x	x
⊗ LENVI2006	Sociologie de l'environnement	Françoise Bartiaux	15h+15h	3 Credits	2q	x	x
⊗ LMAPR2510	Mathematical ecology	Eric Deleersnijder, Emmanuel Hanert, Thierry Van Effelterre	30h +22.5h	5 Credits	2q	x	x

⊗ Activités en traitement et recyclage

⊗ LAUCE2191	Hydrogeology and Geoenvironment	Pierre-Yves Bolly, Alain Holeyman	40h+10h	5 Credits	2q	x	x
⊗ LMAPR2647	Sustainable treatment of industrial and domestic waste: Fundamentals	Jacques Devaux, Olivier Françoisse, Patricia Luis Alconero, Olivier Noiset	30h+15h	5 Credits	1q	x	x
⊗ LMAPR2648	Sustainable treatment of industrial and domestic waste: Case studies	Damien Debecker, Olivier Françoisse, Patricia Luis Alconero, Olivier Noiset, Benoît Stenuit	30h+15h	5 Credits	2q	x	x

⊗ Activité en énergie et environnement

⊗ LENVI2007	Renewable energies	Xavier Draye, Patrick Gerin (coord.), Hervé Jeanmart, Geoffrey Van Moeseke	30h	4 Credits	1q	x	x
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⊗ Activité en risques technologiques

● LMECA2645	Major technological hazards in industrial activity.	Denis Dochain, Alexis Dutrieux	30h	3 Credits	2q	x	x
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Year

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⌘ *Activité en climat: état, pression et réponses*

Le cours PHY2153 peut également être suivi en partie pour 3 crédits.

⌘ LPHY2153	Introduction to the physics of the climate system and its modeling	Hugues Goosse, Jean-Pascal van Ypersele de Strihou	30h+15h	5 Credits	1q	x	x
⌘ LENVI2005	Changements climatiques: impacts et solutions	Philippe Marbaix, Jean-Pascal van Ypersele de Strihou (coord.)	30h	3 Credits	2q	x	x
⌘ LBIR1338	Bioclimatologie	Thierry Fichet (coord.), Hugues Goosse	22.5h +7.5h	3 Credits	1q	x	x

OPTION 2 : AGRICULTURE AND ENVIRONMENT

● Mandatory

△ Courses not taught during 2015-2016

⊕ Periodic courses taught during 2015-2016

⊗ Optional

⊖ Periodic courses not taught during 2015-2016

■ Activity with requisites

Click on the course title to see detailed informations (objectives, methods, evaluation...)

De 15 à 30 credits parmi

Year

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⊗ Activités en pollution

⊗ LBIRE2105	Water and soil quality's Evaluation	Henri Halen, Xavier Rollin (coord.)	30h+7.5h	3 Credits	2q	x	x
⊗ LMAPR2647	Sustainable treatment of industrial and domestic waste: Fundamentals	Jacques Devaux, Olivier Françoisse, Patricia Luis Alconero, Olivier Noiset	30h+15h	5 Credits	1q	x	x

⊗ Activités en agriculture et écologie

⊗ LBOE2166	Lutte biologique	Claude Bragard, Thierry Hance	12h+24h	3 Credits	2q	x	x
⊗ LBIRA2109A	Agrarian systems and farm : partim	Pierre Bertin	22.5h +7.5h	3 Credits	1q	x	x
⊗ LBOE2292	Modélisation écologique et évolutive	Renate Wesselingh	12h+36h	4 Credits	1q	x	x

⊗ Activités en gestion: compléments

⊗ LBIR1305	Introduction to systems analysis	Philippe Baret	10h+20h	3 Credits	1q	x	x
⊗ LBRAI2210	Microeconomics of Development	Frédéric Gaspart	30h	3 Credits	1q	x	x
⊗ LENVI2006	Sociologie de l'environnement	Françoise Bartiaux	15h+15h	3 Credits	2q	x	x

⊗ Activité en climat: état, pression et réponses

Le cours PHY2153 peut également être suivi en partie pour 3 crédits.

⊗ LPHY2153	Introduction to the physics of the climate system and its modeling	Hugues Goosse, Jean-Pascal van Ypersele de Strihou	30h+15h	5 Credits	1q	x	x
⊗ LENVI2005	Changements climatiques: impacts et solutions	Philippe Marbaix, Jean-Pascal van Ypersele de Strihou (coord.)	30h	3 Credits	2q	x	x
⊗ LBIR1338	Bioclimatologie	Thierry Fichet (coord.), Hugues Goosse	22.5h +7.5h	3 Credits	1q	x	x

⊗ Activité en développement territorial

⊗ LBRAT2103	Sociology of the actors and the rural territories	Yves Hanin	30h	3 Credits	2q	x	x
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OPTION 3: LAND DEVELOPMENT AND ENVIRONNEMENT

● Mandatory

△ Courses not taught during 2015-2016

⊕ Periodic courses taught during 2015-2016

⊗ Optional

⊖ Periodic courses not taught during 2015-2016

■ Activity with requisites

Click on the course title to see detailed informations (objectives, methods, evaluation...)

De 15 à 30 credits parmi

Year

1 2

⊗ Activités en sociologie du développement territorial

⊗ LBRAT2103	Sociology of the actors and the rural territories	Yves Hanin	30h	3 Credits	2q	x	x
⊗ LSPED2010	Space, settlement and resources	Thierry Eggerickx, Etienne Verhaegen	30h	5 Credits	2q	x	x

⊗ Activités en développement territorial

⊗ LBRAT2101	Suburban and rural space development	Pierre Defourny (coord.), Yves Hanin, Anne-Laure Jacquemart	45h +22.5h	6 Credits	1q	x	x
⊗ LBOE2120	Conservation de la biodiversité	Nicolas Schtickzelle, Hans Van Dyck	36h+12h	4 Credits	1q	x	x
⊗ LBOE2292	Modélisation écologique et évolutive	Renate Wesselingh	12h+36h	4 Credits	1q	x	x
⊗ LAUCE2915	Planification stratégique (cours - atelier)	Marie-Laurence De Keersmaecker, Pierre Defourny, Yves Hanin (coord.)	60h+45h	8 Credits	1q	x	x

⊗ Activités en gestion

⊗ LBIRE2102	Applied Geomatic	Pierre Defourny	30h +22.5h	4 Credits	1q	x	x
⊗ LBRAI2210	Microeconomics of Development	Frédéric Gaspart	30h	3 Credits	1q	x	x
⊗ LENVI2005	Changements climatiques: impacts et solutions	Philippe Marbaix, Jean-Pascal van Ypersele de Strihou (coord.)	30h	3 Credits	2q	x	x
⊗ LENVI2006	Sociologie de l'environnement	Françoise Bartiaux	15h+15h	3 Credits	2q	x	x
⊗ LGEO1343	Remote sensing	Eric Lambin	30h+30h	5 Credits	1q	x	x
⊗ LMAPR2510	Mathematical ecology	Eric Deleersnijder, Emmanuel Hanert, Thierry Van Effelterre	30h +22.5h	5 Credits	2q	x	x

OPTION 4: PUBLIC ADMINISTRATION AND ENVIRONMENT

● Mandatory

△ Courses not taught during 2015-2016

⊕ Periodic courses taught during 2015-2016

⊗ Optional

⊖ Periodic courses not taught during 2015-2016

■ Activity with requisites

Click on the course title to see detailed informations (objectives, methods, evaluation...)

De 15 à 30 credits parmi

Year

1 2

⊗ Activité en énergie et environnement

⊗ LENVI2007	Renewable energies	Xavier Draye, Patrick Gerin (coord.), Hervé Jeanmart, Geoffrey Van Moeseke	30h	4 Credits	1q	X	X
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⊗ Activités en stratégies publiques**⊗ Un cours au choix parmi les intitulés suivants:**

⊗ LBRAT2103	Sociology of the actors and the rural territories	Yves Hanin	30h	3 Credits	2q	X	X
⊗ LBRAT2101	Suburban and rural space development	Pierre Defourny (coord.), Yves Hanin, Anne-Laure Jacquemart	45h +22.5h	6 Credits	1q	X	X
⊗ LSPRI2225	Publics policies of Sustainability in the European Union	David Aubin	30h	5 Credits	△ ⊖	X	X

⊗ Un cours au choix parmi les intitulés suivants:

⊗ LAUCE2915	Planification stratégique (cours - atelier)	Marie-Laurence De Keersmaecker, Pierre Defourny, Yves Hanin (coord.)	60h+45h	8 Credits	1q	X	X
⊗ LAUCE3011	Acteurs, territoires et contextes de développement	Bernard Declève, Aniss Mezoued, Chloé Salembier, Quentin Wilbaux	50h	5 Credits	1q	X	X
⊗ LENVI2006	Sociologie de l'environnement	Françoise Bartiaux	15h+15h	3 Credits	2q	X	X

⊗ Activités en traitement et recyclage

⊗ LAUCE2191	Hydrogeology and Geoenvironment	Pierre-Yves Bolly, Alain Holeyman	40h+10h	5 Credits	2q	X	X
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⊗ Activité en risques technologiques

⊗ LMECA2645	Major technological hazards in industrial activity.	Denis Dochain, Alexis Dutrieux	30h	3 Credits	2q	X	X
⊗ LENVI2005	Changements climatiques: impacts et solutions	Philippe Marbaix, Jean-Pascal van Ypersele de Strihou (coord.)	30h	3 Credits	2q	X	X

⊗ Activités en santé publique et environnement**⊗ Activités au choix**

⊗ LDEMO2610	Populations and health	Philippe Bocquier, Catherine Gourbin	30h	5 Credits	2q	X	X
⊗ WFSP2238	Epidémiologie avancée	Niko Speybroeck	20h+20h	5 Credits	2q	X	X
⊗ WESP2284	Santé et environnement: risques psycho-sociaux	Guy Lories	15h	3 Credits	2q	X	X

OPTIONAL COURSES

● Mandatory

△ Courses not taught during 2015-2016

⊕ Periodic courses taught during 2015-2016

⊗ Optional

⊖ Periodic courses not taught during 2015-2016

■ Activity with requisites

Click on the course title to see detailed informations (objectives, methods, evaluation...)

De 15 à 30 credits parmi

Year

1 2

⊗ *Activité d'enrichissement personnel*

Les étudiants peuvent effectuer un stage supplémentaire. Ce stage fait partie intégrante du programme et ne fera l'objet ni de crédits ni d'évaluation. Cette activité est couverte par l'assurance de l'université.

⊗ LBIR2001	Masters Internship	N.	Credits	x	x
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Course prerequisites

A document entitled [en-prerequis-2015-envi2m.pdf](#) specifies the activities (course units - CU) with one or more pre-requisite(s) within the study programme, that is the CU whose learning outcomes must have been certified and for which the credits must have been granted by the jury before the student is authorised to sign up for that activity.

These activities are identified in the study programme: their title is followed by a yellow square.

As the prerequisites are a requirement of enrolment, there are none within a year of a course.

The prerequisites are defined for the CUs for different years and therefore influence the order in which the student can enrol in the programme's CUs.

In addition, when the panel validates a student's individual programme at the beginning of the year, it ensures the consistency of the individual programme:

- It can change a prerequisite into a corequisite within a single year (to allow studies to be continued with an adequate annual load);
- It can require the student to combine enrolment in two separate CUs it considers necessary for educational purposes.

For more information, please consult [regulation of studies and exams](#).

The programme's courses and learning outcomes

For each UCL training programme, a [reference framework of learning outcomes](#) specifies the competences expected of every graduate on completion of the programme. You can see the contribution of each teaching unit to the programme's reference framework of learning outcomes in the document "In which teaching units are the competences and learning outcomes in the programme's reference framework developed and mastered by the student?"

The document is available by clicking [this link](#) after being authenticated with UCL account.

ENVI2M - Information

Admission

General and specific admission requirements for this program must be satisfied at the time of enrolling at the university..

L'étudiant doit avoir obtenu au moins 70% des points ou une mention équivalente lors de l'obtention du diplôme qui lui permet d'accéder au master. En outre, son dossier de candidature sera soumis à l'approbation de la commission de gestion du programme.

- [University Bachelors](#)
- [Non university Bachelors](#)
- [Holders of a 2nd cycle University degree](#)
- [Holders of a non-University 2nd cycle degree](#)
- [Adults taking up their university training](#)
- [Personalized access](#)

University Bachelors

Diploma	Special Requirements	Access	Remarks
UCL Bachelors			
Bachelor in Chemistry		On the file: direct access or access with additional training	
Bachelor in Biology		On the file: direct access or access with additional training	
Bachelor in Computer Science		On the file: direct access or access with additional training	
Bachelor in Geography : General		On the file: direct access or access with additional training	
Bachelor in Mathematics		On the file: direct access or access with additional training	
Bachelor in Physics		On the file: direct access or access with additional training	
Bachelor in Bioengineering		On the file: direct access or access with additional training	
Bachelor in Engineering		On the file: direct access or access with additional training	
#prog:intitle:2012-Larch1ba#		On the file: direct access or access with additional training	
Others Bachelors of the French speaking Community of Belgium			
#prog:intitulé:2012-Lmath1ba#		On the file: direct access or access with additional training	
Bachelor in Computer Science		On the file: direct access or access with additional training	
Bachelor in Physics		On the file: direct access or access with additional training	
Bachelor in Chemistry		On the file: direct access or access with additional training	
Bachelor in Biology		On the file: direct access or access with additional training	
		On the file: direct access or access with additional training	
Bachelor in Bioengineering		On the file: direct access or access with additional training	
Bachelor in Engineering		On the file: direct access or access with additional training	

Bachelor in Engineering :
Architecture

On the file: direct access or
access with additional training

Bachelors of the Dutch speaking Community of Belgium

On the file: direct access or
access with additional training

Foreign Bachelors

Direct access

— Non university Bachelors

Diploma	Access	Remarks
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> Find out more about [links](#) to the university

<ul style="list-style-type: none"> > BA - ingénieur commercial - type long > BA en gestion de l'entreprise - type long > BA en gestion publique - type long > BA en sciences agronomiques - type long > BA en sciences industrielles - type long 	Accès au master moyennant ajout de maximum 60 crédits d'enseignements supplémentaires obligatoires au programme. Voir 'Module complémentaire'	Type long
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<ul style="list-style-type: none"> > BA - conseiller(ère) social(e) > BA - technologue de laboratoire médical > BA en agronomie > BA en architecture des jardins et du paysage > BA en chimie (toutes finalités) > BA en chimie finalité biochimie > BA en commerce extérieur > BA en comptabilité > BA en droit > BA en gestion de l'environnement urbain > BA en immobilier > BA en marketing > BA en sciences administratives et gestion publique > BA en écologie sociale > BA-AESI en sciences humaines: histoire, géographie, sciences sociales > BA-AESI en sciences économiques et sciences économiques appliquées > BA-AESI en sciences: biologie, chimie, physique > Spécialisation en analyse et traitement des eaux 	Accès au master moyennant ajout de maximum 60 crédits d'enseignements supplémentaires obligatoires au programme. Voir 'Module complémentaire'	Type court
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— Holders of a 2nd cycle University degree

Diploma	Special Requirements	Access	Remarks
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"Licenciés"

Direct access

Masters

Direct access

En principe, les masters de tous les domaines.Vu le caractère interdisciplinaire de ce master qui par ailleurs, est très largement accessible aux détenteurs d'un grade de master de tous les domaines, une partie du programme consiste en une liste de cours de base proposés au choix. En fonction du grade de master dont il est porteur et des éventuelles dispenses qui

pourront lui être octroyées, l'étudiant inscrira à son programme 0 à 21 crédits de cours repris dans cette liste. Ces cours feront bien sûr partie intégrante de son programme.

— Holders of a non-University 2nd cycle degree

Diploma	Access	Remarks
> Find out more about links to the university		
<ul style="list-style-type: none"> > MA - ingénieur commercial > MA architecte paysagiste > MA en gestion de l'entreprise > MA en gestion publique > MA en sciences administratives > MA en sciences agronomiques > MA en sciences commerciales > MA en sciences de l'ingénieur industriel (toutes finalités) > MA en sciences de l'ingénieur industriel en agronomie > MA en sciences industrielles, finalités chimie, biochimie et textile 	Accès direct au master moyennant ajout éventuel de 15 crédits max	Type long

— Adults taking up their university training

> See the website www.uclouvain.be/en-vae

Tous les masters peuvent être accessibles selon la procédure de valorisation des acquis de l'expérience.

— Personalized access

Reminder : all Masters (apart from Advanced Masters) are also accessible on file.

— Admission and Enrolment Procedures for general registration

Specific procedures :

L'étudiant doit avoir obtenu au moins 70% des points ou une mention équivalente lors de l'obtention du diplôme qui lui permet d'accéder au master. En outre, son dossier de candidature sera soumis à l'approbation de la commission de gestion du programme.

Supplementary classes

To enrol for this Masters, the student must have a good command of certain subjects. If this is not the case, they must add preparatory modules to their Master's programme.

● Mandatory

△ Courses not taught during 2015-2016

⊕ Periodic courses taught during 2015-2016

⊗ Optional

⊖ Periodic courses not taught during 2015-2016

■ Activity with requisites

Click on the course title to see detailed informations (objectives, methods, evaluation...)

○	Supplementary classes	N.		Credits	
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Teaching method

The programme for the Master in Science and Environmental Management includes a group of courses which are designed to provide students with basic knowledge of the different disciplines involved in the management of environmental problems and sustainable development. A significant proportion of the courses are organized by different partner faculties. In this way, courses are given by specialists from each discipline.

The training programme particularly focuses on encouraging students to use their knowledge and skills, through different kinds of individual and group work and also through a large-scale exercise (ENVI 2101, 9 credits) in which students gather evidence about the many different aspects of a real environmental problem they are faced with: they have to become negotiators of technical, socio-economic and institutional solutions between all the involved parties.

Finally, the professional work placement provides a break from academic training, allowing students to put their knowledge and skills into practice to find solutions to real environmental issues.

Evaluation

The evaluation methods comply with the [regulations concerning studies and exams](#). More detailed explanation of the modalities specific to each learning unit are available on their description sheets under the heading "Learning outcomes evaluation method".

Examinations for each activity. The precise form is outlined, where necessary, in the relevant course specification.

Mobility and/or Internationalisation outlook

There is an active exchange agreement with the University of Sherbrooke (Quebec, Canada).

The programme has traditionally welcomed international students.

Possible trainings at the end of the programme

Although it is open to certain bachelors, the Master in Environmental Science and Management should ideally follow a first Master in human sciences, exact sciences or applied sciences. Its strongly interdisciplinary nature will provide second cycle students who wish to have a professional career in environment with useful additional knowledge in the areas of science and integrated management of environmental issues.

Doctoral programmes : this Master does not specifically lead to a doctorate.

Contacts

Toute information complémentaire à propos de ce master est à adresser au coordinateur du programme, Prof. P. Gerin, Croix du Sud 2, L7.05.19, 1348 Louvain-la-Neuve, coordonvi@climate.be.

Curriculum Management

Entite de la structure AGRO

Sigle	AGRO	
Dénomination	Faculté des bioingénieurs	
Adresse	Croix du Sud 2 bte L7.05.01 1348 Louvain-la-Neuve Tél 010 47 37 19 - Fax 010 47 47 45	
Site web	https://www.uclouvain.be/agro	
Secteur	Secteur des sciences et technologies (SST)	
Faculté	Faculté des bioingénieurs (AGRO)	
Mandats	Yvan Larondelle Christine Devlesaver	Doyen Directeur administratif de faculté

Commissions de programme

- Commission de programme - Master Bioingénieur-Sciences agronomiques ([BIRA](#))
- Commission de programme - Master Bioingénieur-Chimie et bioindustries ([BIRC](#))
- Commission de programme - Master Bioingénieur-Sciences & technologies de l'environnement ([BIRE](#))
- Commission de programme - Bachelier en sciences de l'ingénieur, orientation bioingénieur ([CBIR](#))
- Commission de programme interfacultaire en Sciences et gestion de l'environnement ([ENVI](#))

Academic Supervisor : [Patrick Gerin](#)

Jury:

Président de jury : [Pierre Bertin](#)

Secrétaire de jury : [Patrick Gerin](#)

Usefull Contacts

Conseiller aux études : [Patrick Gerin](#)

