

**CLIM2M**

2015 - 2016

Master [120] in Geography : Climatology

**At Louvain-la-Neuve - 120 credits - 2 years - Day schedule - In french**Dissertation/Graduation Project : **YES** - Internship : **NO**Activities in English: **YES** - Activities in other languages : **NO**Activities on other sites : **YES**Main study domain : **Sciences**Organized by: **Faculté des sciences (SC)**Programme code: **clim2m** - Francophone Certification Framework: 7**Table of contents**

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## CLIM2M - Introduction

### Introduction

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## CLIM2M - Teaching profile

### Learning outcomes

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### Programme structure

The programme comprises core subjects of 60 credits, 30 credits for the focus and 30 credits for optional subjects.

*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-clim2m-lclim100t.html ]

[> Research focus](#) [ en-prog-2015-clim2m-lclim200a ]

## CLIM2M Detailed programme

### Programme by subject

#### CORE COURSES [90.0]

● 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	
						1	2
● LGEO2110	Mondialisation, développement et environnement	Eric Lambin	30h+30h	5 Credits	1q	x	x
● LGEO2210	Shaping sustainable urban spaces	Marie-Laurence De Keersmaecker, Yves Hanin	30h	3 Credits	1q	x	x
● LGEO2120	Applied geomorphology	Kristof Van Oost, Bas van Wesemael (coord.)	30h+30h	5 Credits	1q	x	x
● LGEO2240	Tectonic geomorphology	Veerle Vanacker	30h+30h	5 Credits	1q	x	x
● LGEO2230	Géographie médicale et de la santé	Sophie Vanwambeke	30h+30h	5 Credits	1q	x	x
● LGEO2140	Advanced physical geography	Kristof Van Oost (coord.), Veerle Vanacker	30h+30h	5 Credits	1q	x	x
<b>○ Philosophie (2 credits)</b>							
⊗ LSC2001	Introduction to contemporary philosophy	Nathalie Frogneux, Vincent Israel-Hoenen (compensates Nathalie Frogneux)	30h	2 Credits	2q	x	x

							Year	
							1	2
⊗ LSC2220	Philosophy of science	Alexandre Guay	30h	2 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	

### o Mémoire (30 credits)

○ LCLIM2999	Mémoire	N.		22 Credits	2q		x
○ LGEO2997	Séminaire d'encadrement du mémoire	Isabelle Thomas, Bas van Wesemael	15h	5 Credits	1q	x	
○ LGEO2998	Thesis tutorial	Isabelle Thomas, Bas van Wesemael	15h	3 Credits	2q		x

### o Cours au choix (30 credits)

#### o Choix parmi les cours de géographie

⊗ LGEO1242	Mathematical Geography	Michel Crucifix, Jean-Pascal van Ypersele de Strihou (coord.)	30h+15h	4 Credits	2q	x	x
⊗ LGEO2230	Géographie médicale et de la santé	Sophie Vanwambeke	30h+30h	5 Credits	1q	x	x
⊗ LGEO2250	Mesures de terrain en géographie	Kristof Van Oost, Bas van Wesemael (coord.)	30h+30h	5 Credits	2q	x	x
⊗ LGEO2211	Advanced statistical methods in geography	Christian Hafner	30h+30h	3 Credits	1q	x	x
⊗ LGEO2185	Advanced geo-processing	Kristof Van Oost	30h+30h	5 Credits	2q	x	x
⊗ LCLIM2270	Terrain II en climatologie	Bas van Wesemael	60h+30h	3 Credits		x	x
⊗ LGEO1321	Human and Economic geography 1	Sophie Vanwambeke	25h+25h	4 Credits	2q	x	x
⊗ LGEO1322	Human and economic geography 2	Marie-Laurence De Keersmaecker, Isabelle Thomas	25h+25h	4 Credits	2q	x	x
⊗ LGEO1323	Human and economic geography (3)	Marie-Laurence De Keersmaecker, Isabelle Thomas	25h+25h	4 Credits	2q	x	x
⊗ LGEO1331	Geomorphology	Bas van Wesemael, Veerle Vanacker	30h+30h	5 Credits	2q	x	x
⊗ LGEO1332	Biogeography	Caroline Nieberding, Renate Wesseligh, Renate Wesseligh (compensates Caroline Nieberding)	45h+24h	5 Credits	2q	x	x
⊗ LPHY1365	Meteorology	Michel Crucifix, Thierry Fichet, Jean-Pascal van Ypersele de Strihou	37.5h +22.5h	5 Credits	2q	x	x
⊗ LECON2314	Economic Geography	Florian Mayneris	30h	5 Credits	2q	x	x

#### o Climatologie et sciences de la terre (10 credits)

⊗ LENVI2005	Changements climatiques: impacts et solutions	Philippe Marbaix, Jean-Pascal van Ypersele de Strihou (coord.)	30h	3 Credits	2q	x	x
⊗ LPHY2160	Internal Geophysics of the Earth and planets	Nicolas Bergeot, Véronique Dehant (coord.)	30h	5 Credits	1q	x	x
⊗ LPHY2161	Geodesy and GNSS (Global Navigation Satellite System)	Nicolas Bergeot, Véronique Dehant	30h	5 Credits	2q	x	x
⊗ LPHY2162	Physics of the upper atmosphere and space	Viviane Pierrard	22.5h	4 Credits	1q	x	x

						Year	
						1	2
☒ LPHY2253	Remote sensing of climate change	Didier Fussen	22.5h +15h	5 Credits	2q	x	x
☒ LULBG2400	Le système Terre et ses interactions ( ULB)	N.		4 Credits		x	x
☒ LULBG2408	Modélisation en géographie physique (ULB)	N.		2 Credits		x	x
☒ LULBG2410	Les changements climatiques des derniers 100000 ans (ULB)	N.		6 Credits		x	x
☒ LCLIM2280	Prévisions météorologiques - WING METEO	N.		8 Credits		x	x

## RESEARCH FOCUS [30.0]

○ 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	
						1	2
○ LCLIM2170	Terrain I en climatologie	Veerte Vanacker	60h+30h	3 Credits		x	x
○ LPHY2150	Physique et dynamique de l'atmosphère et de l'océan I	Michel Crucifix, Thierry Fichet	45h+9h	6 Credits	1q	x	
○ LPHY2151	Physique et dynamique de l'atmosphère et de l'océan II	Michel Crucifix, Thierry Fichet	30h	5 Credits	2q	x	x
○ LGEO2290	Travaux dirigés de modélisation climatique	Michel Crucifix, Hugues Goosse	15h	2 Credits	1q	x	
○ 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	
○ LPHY2252	Supplements in climate system modeling	Michel Crucifix, Thierry Fichet, Hugues Goosse, Qiuzhen Yin	45h+7.5h	6 Credits	2q	x	x

### ○ Un cours à choisir parmi les suivants: (3 credits)

☒ LCLIM2270	Terrain II en climatologie	Bas van Wesemael	60h+30h	3 Credits		x	x
☒ LPHY2160A	Géophysique interne (partim)	N.	30h	3 Credits	1q	x	x

## Course prerequisites

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A document entitled [en-prerequis-2015-clim2m.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

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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.

## CLIM2M - Information

### Admission

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

- [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
<b>UCL Bachelors</b>			
		Direct access	
		Access with additional training	
		Access with additional training	
<b>Others Bachelors of the French speaking Community of Belgium</b>			
Tous les bacheliers de la CfB		Access with additional training	
<b>Bachelors of the Dutch speaking Community of Belgium</b>			
		Direct access	
<b>Foreign Bachelors</b>			
		Direct access	

#### — Non university Bachelors

Diploma	Access	Remarks
> Find out more about <a href="#">links</a> to the university		
> BA en sciences agronomiques - type long	Accès au master moyennant ajout de maximum 60 crédits d'enseignements supplémentaires obligatoires au programme. Voir 'Module complémentaire'	Type long
> BA en agronomie	Accès au master moyennant ajout de maximum 60 crédits d'enseignements supplémentaires obligatoires au programme. Voir 'Module complémentaire'	Type court

#### — Holders of a 2nd cycle University degree

Diploma	Special Requirements	Access	Remarks
<b>"Licenciés"</b>			
Licence en sciences géographiques		Direct access	Ces étudiants ont directement accès à la deuxième année de master avec éventuellement un programme adapté.

**Masters**

Tous les masters

Access with additional training

**— Holders of a non-University 2nd cycle degree****Diploma****Access****Remarks**> Find out more about [links](#) to the university

&gt; MA en sciences agronomiques

&gt; MA en sciences de l'ingénieur industriel en agronomie

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](http://www.uclouvain.be/en-vae)

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

Accès selon la procédure de validation des acquis de l'expérience

Consultez le site [www.uclouvain.be/vae](http://www.uclouvain.be/vae)**— Personalized access**

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

**— Admission and Enrolment Procedures for general registration**



## 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...)

○	<a href="#">Supplementary classes</a>	N.		Credits	
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## Teaching method

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The teaching strategy takes its inspiration from the idea of "taking responsibility for one's own learning" and offers a wide range of learning situations. The climatologist is at the centre of different scientific fields: physical modeling, teledetection, hydrology and the management of natural resources. The integration between human and physical geography is emphasized. The courses are focused on problems in society: environmental changes, mobility, urbanization, globalization and developing countries. Activities such as seminars and integrated exercises are carried out in advanced areas of geographical research. Ability to use advanced methods of geographical analysis is an important objective of the training: geographical modeling, geographical information systems and satellite teledetection.

Practical work gives students the opportunity of dealing with concrete problems and finding solutions to them, often in small groups. The Master in Climatology is notable for the multidisciplinary background of the teaching staff. Studies will study with lecturers in geography and physics. Activities such as seminars and integrated exercises are designed so that students progressively encounter the complexity of the climatic system. Students in the last year of the Master should therefore be able to use and understand professional climatic modelling systems.

The computer rooms with special software for geographical analysis are always open to students. In the first year of the Master, the field work consists of a week of supervised exercises in the Alps or Spain.

## Evaluation

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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".

Students will mainly be assessed on the basis of individual work (e.g. reading, consultation of databases and bibliographic references, writing monographs and reports, presentation of seminars, dissertation and work placement). Where necessary, students will also be assessed on how much they have learned from lectures. As far as possible, there will be continuous assessment, including regular 'open book examinations'. Certain activities will not be given a precise mark but will be officially certified. Assessment of the dissertation is in two stages : a 'progress report' at the end of the first year of the Master and the final presentation.

## Mobility and/or Internationalisation outlook

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La mobilité des étudiants est fortement encouragée, soit par un échange Erasmus ou Mercator hors Belgique, soit à la KULeuven. Ce séjour se fera durant le 2ème quadrimestre du premier master.

La possibilité sera donnée de suivre des cours en anglais. Ceci permettra non seulement aux étudiants de l'UCL de se familiariser mieux encore avec cette langue, mais aussi aux étudiants Erasmus venant de l'étranger de suivre un semestre de cours en anglais.

Des cours approfondis sont donnés par des professeurs visiteurs venant de diverses Institutions belges mais surtout étrangères. Ces enseignements sont parfois dispensés en anglais.

## Possible trainings at the end of the programme

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The Master in Geography : Climatology gives direct access to a doctorate in science.

## Certificates

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## Contacts

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## Curriculum Management

Entité de la structure GEOG

Acronyme **GEOG**  
Dénomination Ecole de géographie

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1348 Louvain-la-Neuve  
Tél 010 47 28 73 - Fax 010 47 28 77  
Site web <https://www.uclouvain.be/geo>  
Secteur Secteur des sciences et technologies (SST)  
Faculté Faculté des sciences (SC)

Commission de programme Ecole de géographie (GEOG)

**Academic Supervisor :** [Marie-Laurence De Keersmaecker](#)

**Jury:**

Présidente : [Marie-Laurence De Keersmaecker](#)

Secrétaire : [Sophie Vanwambeke](#)

## Usefull Contacts

Secrétaire de l'Ecole de géographie : [Zemrije Beca](#)

