CLIM2M

2013 - 2014

Master [120] in Geography : Climatology

At Louvain-la-Neuve - 120 credits - 2 years - Day schedule - In french
Dissertation/Graduation Project : **YES** - Internship : **NO**
Main study domain : **Sciences**
Organized by: **Faculté des sciences (SC)**
Programme code: **clim2m** - European Qualifications Framework (EQF): 7

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CLIM2M - Introduction

CLIM2M - Admission

For the specific conditions of this program : refer to the French version

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

CLIM2M - Information

Learning outcomes

The objective of the training is partly an introduction to the three fundamental aspects of the work of a geographer:

- to observe and describe the environment, especially with computerized databases and advanced satellite observation technology ;
- to understand and explain the processes that have been observed, especially by applying models which enable them to be simulated;
- to learn certain concepts in resource management through land development ;

and partly an introduction to the fundamental concepts of physical climatology:

- to understand the dynamics of the atmosphere, the ocean and the overall climatological system;
- to grasp the techniques for modelling the climate, covering both theoretical and technical aspects;
- to be able to analyse and interpret climatic data.

This twin focus enables students to make a critical analysis of issues related to climate change (past and future and to understand and anticipate their impact on the environment and society so they can become responsible players in the current situation. The Master in Geography : Climatology is also suitable preparation for a doctoral thesis.

Teaching method

The teaching strategy takes its inspiration from the idea of â€˜taking responsibility for oneâ€™s own learningâ€™ 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 ingeography 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

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.

Possible trainings at the end of the programme

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

CLIM2M - Contacts

Curriculum Managment

Entite de la structure GEOG

Acronyme	**GEOG**
Dénomination	Ecole de géographie
Adresse	Place Louis Pasteur, 3 bte L4.03.07 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)

Jury

Présidente : **Marie-Laurence De Keersmaecker**
Secrétaire : **Sophie Vanwambeke**

Usefull Contacts

Secrétaire de l'Ecole de géographie : **Monique Descamps**

CLIM2M - Detailled programme

Programme structure

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

Whatever the focus or the options chosen, the programme of this master shall totalize 120 credits, spread over two years of studies each of 60 credits.

Core study

> Tronc commun [en-prog-2013-clim2m-lclim100t.html]

> Research focus [en-prog-2013-clim2m-lclim200a]

Programme by subject

Core courses [90.0]

O Mandatory	⊠ Optional
△ Courses not taught during 2013-2014	⊘ Periodic courses not taught during 2013-2014
⊕ Periodic courses taught during 2013-2014	⧺ Two years course

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

O *Module de géographie humaine (8 credits)*

						Year 1	Year 2
O LGEO2110	Géographie des pays en voie de développement	Eric Lambin	30h+30h	5 Credits	1q	x	x
O LGEO2210	Advanced human geography	Dominique Peeters	30h	3 Credits		x	x

O *Module de géographie physique (10 credits)*

O LGEO2120	Experimental geomorphlogy	Kristof Van Oost, Bas van Wesemael (coord.)	30h+30h	5 Credits		x	x
O LGEO2240	Tectonic geomorphology	Veerle Vanacker	30h+30h	5 Credits		x	x

O *Module de techniques d'analyse géographique (10 credits)*

⊠ LGEO2130	Geographic modelling	Eric Deleersnijder, Sophie Vanwambeke	30h+30h	5 Credits	2q	x	x
⊠ LGEO2140	Advanced physical geography	Kristof Van Oost (coord.), Veerle Vanacker	30h+30h	5 Credits		x	x
⊠ LGEO2150	Aides à la décision en géographie	Dominique Peeters, Isabelle Thomas	30h+30h	5 Credits	2q	x	x

O *Philosophie (2 credits)*

⊠ LSC2001	Introduction to contemporary philosophy	Nathalie Frogneux	30h	2 Credits	2q △	x	x
⊠ LSC2220	Philosophy of science	Alexandre Guay	30h	2 Credits	2q	x	x

						Year 1	2
⊠ LFILO2003E	Ethics in the Sciences and technics (sem)	N.		2 Credits		x	x

Mémoire (30 credits)

LCLIM2998A	Thesis tutorial I	N.	7.5h	5 Credits		x	
LCLIM2998B	Thesis tutorial II	N.	7.5h	3 Credits			x
LCLIM2999	Mémoire	N.		22 Credits			x

Cours au choix (30 credits)

Les étudiants choisissent 5 crédits en 1ère année et 25 crédits en 2ème. Les cours au choix sont regroupés en modules thématiques de 10 crédits. Les étudiants ont le choix entre trois de ces modules ou un séjour Erasmus. La liste des cours ci-dessous n'est pas exhaustive. D'autres cours offerts à l'UCL et dans le programme de master en sciences géographiques de l'ULB peuvent être choisis.

Cours complémentaires en géographie (10 credits)

Ces cours devraient faire partie du cirriculu d'un géographe. Au cas où l'étudiant n'a pas suivi ces cours, les suivants sont vivement conseillés.

LGEO1242	Mathematical Geography	Michel Crucifix, Jean-Pascal van Ypersele de Strihou (coord.)	30h+15h	4 Credits	2q	x	x
⊠ LGEO2140	Advanced physical geography	Kristof Van Oost (coord.), Veerle Vanacker	30h+30h	5 Credits		x	x
LGEO2150	Aides à la décision en géographie	Dominique Peeters, Isabelle Thomas	30h+30h	5 Credits	2q	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)	Dominique Peeters	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, Philippe Vernon (compensates Caroline Nieberding), Renate Wesselingh	45h+24h	5 Credits	2q	x	x
⊠ LPHY1365	Meteorology	Michel Crucifix, Thierry Fichefet, Jean-Pascal van Ypersele de Strihou	37.5h +22.5h	5 Credits	1q	x	x

⊠ Ecologie (10 credits)

⊠ LBOE2121	Biodiversité des biomes terrestres	Caroline Nieberding	24h	2 Credits	2q	x	x
⊠ LBOE2140	Ecologie du paysage	Hans Van Dyck	24h+24h	4 Credits	1q	x	x
⊠ LBOE2160	Ecologie des interactions	Thierry Hance, Anne-Laure Jacquemart	24h	2 Credits	1q	x	x

Climatologie et sciences de la terre (10 credits)

⊠ LGEO2290	Travaux dirigés de modélisation climatique	Michel Crucifix, Hugues Goosse	15h	3 Credits		x	x
⊠ LPHY2150	Physique et dynamique de l'atmosphère et de l'océan I	Michel Crucifix, Thierry Fichefet	45h+9h	6 Credits	1q	x	x
⊠ LPHY2151	Physique et dynamique de l'atmosphère et de l'océan II	Michel Crucifix, Thierry Fichefet	30h	5 Credits	2q	x	x
⊠ LPHY2153	Introduction à la physique du système climatique et à sa modélisation	Hugues Goosse, Jean-Pascal van Ypersele de Strihou	30h+15h	5 Credits	1q	x	x

						Year 1	2
⊠ LPHY2252	Compléments de modélisation du système climatique	Michel Crucifix, Thierry Fichefet, Hugues Goosse	45h+7.5h	6 Credits	2q	x	x
⊠ LPHY2253	Télédétection des changements climatiques	Didier Fussen	22.5h +15h	5 Credits	2q	x	x
⊠ LPHY2160	Internal Geophysics of the Earth and planets	Nicolas Bergeot, Véronique Dehant (coord.), Pascal Rosenblatt	30h	5 Credits	1q	x	x
⊠ LPHY2504	Séminaire de climatologie physique et de géophysique	Thierry Fichefet	0h+15h	5 Credits		x	x
⊠ LBIRE2103	General hydrology	Charles Bielders, Marnik Vanclooster (compensates Charles Bielders), Marnik Vanclooster (coord.)	30h +22.5h	5 Credits	1q	x	x
○ LCHM1311	Environmental chemistry	Shaun Carl	30h	3 Credits	2q	x	x
⊠ LENVI2005	Changements climatiques: impacts et solutions	Jean-Pascal van Ypersele de Strihou	30h	3 Credits		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

⊠ Géographie économique (10 credits)

⊠ LECGE1222	Microeconomics	Pierre Dehez, François Maniquet	45h+15h	5 Credits	1q	x	x
⊠ LECGE1212	Macroeconomics	Fabio Mariani	45h+15h	5 Credits	1q	x	x
⊠ LECGE1216	Growth and Development	David De la Croix	30h	5 Credits	1q	x	x
⊠ LECGE1228	Regional Economics	Florian Mayneris	30h+10h	5 Credits	2q	x	x
⊠ LECON2041	International Trade	Fabio Mariani	30h	5 Credits	2q	x	x
⊠ LGEO2001	Séminaire résidentiel inter-universitaire et international d'analyse spatiale	N.		10 Credits		x	x

○ Population et développement (10 credits)

⊠ LDVLP2315	Socio-political analysis of development	Joseph Amougou (compensates Isabel Yépez Del Castillo), Isabel Yépez Del Castillo	30h	5 Credits	1q	x	x
⊠ LDVLP2325	Geopolitics of natural ressources	Vincent Legrand	30h	5 Credits	1q	x	x
⊠ LECON2342	Development theories	Andreia Lemaître, Marthe Nyssens	30h	5 Credits	2q	x	x

⊠ Aménagement du territoire (10 credits)

⊠ LAUCE3011	Acteurs, territoires et contextes de développement	Bernard Declève (coord.), Julie Denef, Yves Hanin	50h	5 Credits	1q	x	x
⊠ LAUCE2930	Processus territoriaux et modèles de développement	Marie-Laurence De Keersmaecker, Yves Hanin	30h	3 Credits	1q	x	x
⊠ LAUCE2950	Systèmes de décision en urbanisme et développement territorial	Bernard Declève, Yves Hanin, Benoît Périlleux, Jean-Pol Van Reybroeck	45h	4 Credits	2q	x	x
⊠ LSOC2090	Sociology of the City	Mathieu Berger	30h	5 Credits	1q	x	x

⊠ Gestion de l'environnement (10 credits)

⊠ LGEO2280	Séminaire de cartographie et de télédétection	Eric Lambin	30h	3 Credits		x	x

						Year 1	Year 2
⊠ LBIRE2101	Statistical analysis of spatial and temporal data	Patrick Bogaert	22.5h +15h	3 Credits	2q	x	x
⊠ LBIRE2103	General hydrology	Charles Bielders, Marnik Vanclooster (compensates Charles Bielders), Marnik Vanclooster (coord.)	30h +22.5h	5 Credits	1q	x	x

Research focus [30.0]

O Mandatory	⊠ Optional
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						Year 1	Year 2
O LCLIM2170	Terrain I en climatologie	Veerle Vanacker	60h+30h	4 Credits		x	x
O LCLIM2270	Terrain II en climatologie	Bas van Wesemael	60h+30h	4 Credits		x	x
O LPHY2150	Physique et dynamique de l'atmosphère et de l'océan I	Michel Crucifix, Thierry Fichefet	45h+9h	6 Credits	1q	x	
O LGEO2290	Travaux dirigés de modélisation climatique	Michel Crucifix, Hugues Goosse	15h	2 Credits		x	
O LGEO2240	Tectonic geomorphology	Veerle Vanacker	30h+30h	3 Credits		x	
O LPHY2153	Introduction à la physique du système climatique et à sa modélisation	Hugues Goosse, Jean-Pascal van Ypersele de Strihou	30h+15h	5 Credits	1q	x	
O LPHY2151	Physique et dynamique de l'atmosphère et de l'océan II	Michel Crucifix, Thierry Fichefet	30h	5 Credits	2q	x	x
O LPHY2160	Internal Geophysics of the Earth and planets	Nicolas Bergeot, Véronique Dehant (coord.), Pascal Rosenblatt	30h	3 Credits	1q	x	x