# Cycle view of the study programme

| | | Bl | Or | Th | Pr | Au | Cr |
|---|---|---|---|---|---|---|---|
| **Compulsory courses (B1 : 36Cr, B2 : 24Cr)** | | | | | | | |
| **Core courses common to the study paths** | | | | | | | |
| GEOG0238-1 | *Geographical Information Systems* - JeanPaul DONNAY | B1 | Q2 | 30 | 30 | - | **6** |
| GEOG0650-2 | *Impact studies* - Guénaël DEVILLET | B1 | Q2 | 10 | 20 | - | **3** |
| SPOL2209-3 | *Environmental and land policies* - Sophie HANSON | B1 | Q1 | 30 | - | - | **2** |
| GEOG2028-1 | *Spatial planning* - JeanMarie HALLEUX - [1d FW] | B1 | Q1 | 15 | 15 | [+] | **3** |
| GEOG0622-1 | *Project management* - JeanPaul DONNAY | B1 | Q2 | 10 | 10 | - | **2** |
| GEOG0025-1 | *Introduction to research* - JeanPaul DONNAY | B2 | Q1 | 10 | 10 | - | **2** |
| SMEM0033-1 | *Final thesis* - COLLÉGIALITÉ | B2 | TA | - | - | - | **22** |
| **Courses specific to the Study Path** | | | | | | | |
| CLIM0019-1 | *Climate Changes : Criticisms* - Michel ERPICUM | B1 | Q1 | 10 | 10 | - | **2** |
| CLIM0014-1 | *Programming in service of climatology (part 1)* - Xavier FETTWEIS | B1 | Q1 | 15 | 30 | - | **3** |
| MATH0221-4 | *Analysis of time series* - Pierre MAGAIN, Guy MUNHOVEN | B1 | Q2 | 15 | 15 | - | **3** |
| OCEA0014-1 | *Mathematical analysis and modelling methods applied to the environment* - Eric DELHEZ | B1 | Q1 | 20 | 20 | - | **3** |
| PHYS0209-2 | *Numerical methods in physics* - Alejandro SILHANEK | B1 | Q1 | 15 | 20 | - | **3** |
| GEOG0605-1 | *Regional geography and geomorphology* - François PETIT - [4d FW] | B1 | Q2 | 20 | - | [+] | **3** |
| GEOG0630-5 | *Climatic geomorphology* - Aurelia HUBERT - [4d FW] | B1 | Q1 | 15 | 5 | [+] | **3** |

*Notice* : Students who have already taken the cours Numerical methods in physics and must choose, with the approval of the Jury, courses totaling 3 ECTS not already taken in the 3rd year of Bachelor or in one of the programmes of Master in Geography.

**Optional courses (B1 : 24Cr, B2 : 36Cr)**

**Courses specific to the Study Path**

In agreement with the jury, choose two teaching (and learning) units from the following : (B1 : 1Nbr)

| | | | | | | |
|---|---|---|---|---|---|---|
| ENVT3056-1 | *Agrometeorology* (Even years) | B1 | Q2 | | | **10** |
| | - *Agrometeorology Basis* - Bernard TYCHON | | 15 | 15 | - | |
| | - *Applied Agrometeorology* - Bernard TYCHON - [1d FW] | | 45 | 15 | [+] | |
| CLIM0020-1 | *Atmosphere and Oceans* (Odd years) | B1 | Q1 | | | **10** |
| | - *Greenhouse Gas and Climate Changes Fight* - Emmanuel MAHIEU - [3d FW] | | 30 | - | [+] | |
| | - *Teledetection applied to Climatology* - Nicolas CLERBAUX | | 20 | 10 | - | |
| | - *Introduction to Physical Oceanography and Marine Meteorology* - JeanMarie BECKERS | | 30 | 15 | - | |
| CLIM0021-1 | *Topoclimatology* | B1 | Q2 | | | **10** |
| | - *Topoclimatology* - Michel ERPICUM - [3d FW] | | 15 | 15 | [+] | |
| | - *Urban Climatology* - Michel ERPICUM | | 20 | 15 | - | |
| | - *Zonal Climatology* - Michel ERPICUM | | 15 | 30 | - | |
| GEOG2029-1 | *Geomorphology Modelling* | B1 | Q1 | | | **10** |
| | - *Geomatics applied to Geomorphology* - Yves CORNET | | 10 | 10 | - | |
| | - *Introduction to Geomorphology Modelling* - Aurelia HUBERT | | 20 | 20 | - | |
| | - *Introduction to hydrological modelling* - Eric HALLOT | | 10 | 20 | - | |

In agreement with the jury, choose two teaching (and learning) units from the following : (B2 : 2Nbr)

| | | | | | | |
|---|---|---|---|---|---|---|
| ENVT3056-1 | *Agrometeorology* | B2 | Q2 | | | **10** |
| | - *Agrometeorology Basis* - Bernard TYCHON | | 15 | 15 | - | |
| | - *Applied Agrometeorology* - Bernard TYCHON - [1d FW] | | 45 | 15 | [+] | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIM0020-1 | *Atmosphere and Oceans* | B2 | Q1 | | | | **10** |
| | - *Greenhouse Gas and Climate Changes Fight* - Emmanuel MAHIEU - [3d FW] | | 30 | - | [+] | | |
| | - *Teledetection applied to Climatology* - Nicolas CLERBAUX | | 20 | 10 | - | | |
| | - *Introduction to Physical Oceanography and Marine Meteorology* - JeanMarie BECKERS | | 30 | 15 | - | | |
| CLIM0021-1 | *Topoclimatology* | B2 | Q2 | | | | **10** |
| | - *Topoclimatology* - Michel ERPICUM - [3d FW] | | 15 | 15 | [+] | | |
| | - *Urban Climatology* - Michel ERPICUM | | 20 | 15 | - | | |
| | - *Zonal Climatology* - Michel ERPICUM | | 15 | 30 | - | | |
| GEOG2029-1 | *Geomorphology Modelling* | B2 | Q1 | | | | **10** |
| | - *Geomatics applied to Geomorphology* - Yves CORNET | | 10 | 10 | - | | |
| | - *Introduction to Geomorphology Modelling* - Aurelia HUBERT | | 20 | 20 | - | | |
| | - *Introduction to hydrological modelling* - Eric HALLOT | | 10 | 20 | - | | |
| GEOG2030-1 | *Hydrology* | B2 | Q1 | | | | **10** |
| | - *River Dynamics* - François PETIT - [2d FW] | | 15 | 15 | [+] | | |
| | - *Applied Hydrology* - François PETIT - [3d FW] | | 10 | 15 | [+] | | |
| | - *Hydrogeology* - Alain DASSARGUES | | 20 | 20 | - | | |
| GEOG2031-1 | *Geomorphology Data Acquisition* | B2 | Q1 | | | | **10** |
| | - *Geomorphological Survey* - COLLÉGIALITÉ, Geoffrey HOUBRECHTS, Aurelia HUBERT - [4d FW] | | - | 15 | [+] | | |
| | - *Geomorphological Dynamic* - COLLÉGIALITÉ, Eric HALLOT, Geoffrey HOUBRECHTS, François PETIT - [1d FW] | | 15 | 15 | [+] | | |
| GEOG2032-1 | *Surfacial Process* | B2 | Q1 | | | | **10** |
| | - *Soils Mechanics and Geotechnology* - Robert CHARLIER, Frédéric COLLIN | | 24 | 24 | - | | |
| | - *Side Process* - Aurelia HUBERT - [1d FW] | | 10 | - | [+] | | |
| | - *Morphotectonics and Volcanism* - Alain DEMOULIN - [2d FW] | | 25 | 15 | [+] | | |

*Notice* : a maximum of 2 teaching (and learning) units in "geomorphology" will be chosen on the cycle.

**Single focus (B1 : 1Nbr, B2 : 1Nbr)**

**Research Focus (B1 : 14Cr, B2 : 16Cr)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIM0001-1 | *Applied climatology* - Michel ERPICUM - [1d FW] | B1 | Q2 | 20 | 10 | [+] | **3** |
| CLIM0002-1 | *Climate models : principles and applications* - Louis FRANÇOIS<br>**Corequisite :**<br>CLIM0014-1 - Programmation au service de la climatologie (partim 1) | B1 | Q2 | 45 | 15 | - | **6** |
| CLIM0003-3 | *Climate changes and impacts* - Louis FRANÇOIS, Guy MUNHOVEN | B1 | TA | 15 | 45 | - | **5** |
| CLIM0005-1 | *Operational meteorology* - COLLÉGIALITÉ - [18d SEM]<br>**Prerequisite :**<br>CLIM0002-1 - Modèles climatiques : principes et applications<br>*Notice* : Collegiality = Royal Military School and Meteorological Wing | B2 | Q2 | - | - | [+] | **6** |
| CLIM0015-1 | *Programming in service of climatology (part 2)* - Xavier FETTWEIS<br>**Prerequisite :**<br>CLIM0014-1 - Programmation au service de la climatologie (partim 1) | B2 | Q1 | 15 | 30 | - | **3** |
| CLIM0017-2 | *Climate modelling*<br>- *Part 1 : Atmosphere* - Xavier FETTWEIS<br>- *Part 2 : Vegetation and carbon cycle* - Louis FRANÇOIS<br>**Prerequisite :**<br>CLIM0002-1 - Modèles climatiques : principes et applications<br>**Corequisite :**<br>CLIM0015-1 - Programmation au service de la climatologie (partim 2) | B2 | Q1 | | | | **7** |
| | | | | 10 | 20 | - | |
| | | | | 15 | 25 | - | |

## Additional ECTS Master in geography : climatology, research focus

**Optional courses (B0 : 24Cr)**

Depending on the student's previous training and with the agreement of the jury, choose, if necessary, courses for a maximum of 24 credits among the following : (B0 : 24Cr)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SPAT0024-2 | *Meteorology* - Louis FRANÇOIS | B0 | Q1 | 40 | 20 | - | **5** |
| GEOG0630-5 | *Climatic geomorphology* - Aurelia HUBERT - [4d FW] | B0 | Q1 | 15 | 5 | [+] | **3** |
| MATH2007-1 | *Mathematics* - Françoise BASTIN | B0 | Q1 | 30 | 40 | - | **8** |
| PHYS0188-7 | *Physics* - Nicolas VANDEWALLE | B0 | Q1 | 30 | 40 | - | **8** |

# Programme transitoire à destination des étudiants ayant réussi leur master 1 de "Master en sciences géographiques, orientation climatologie, à finalité approfondie" en 2014-2015

**Optional courses (B1 : 30Cr)**

**Follow-up to the focus chosen in first year (B1 : 30Cr)**

**Research Focus (B1 : 30Cr)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIM0005-1 | *Operational meteorology* - COLLÉGIALITÉ - [18d SEM] | B1 | Q2 | - | - | [+] | **7** |
| CLIM0001-1 | *Applied climatology* - Michel ERPICUM - [1d FW] | B1 | Q2 | 20 | 10 | [+] | **3** |
| CLIM0015-1 | *Programming in service of climatology (part 2)* - Xavier FETTWEIS | B1 | Q1 | 15 | 30 | - | **4** |
| CLIM0016-1 | *Remote sensing applied to climatology* - Nicolas CLERBAUX | B1 | Q1 | 20 | 10 | - | **3** |
| CLIM0007-2 | *Greenhouse gases - Measures and instruments to mitigate climate change* - Emmanuel MAHIEU - [3d FW] | B1 | Q1 | 30 | - | [+] | **3** |

**Choose one module from : (B1 : 20Cr)**

**Environmental and applied climatology (B1 : 10Cr)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| GEOG0633-1 | *Rivers dynamics* - François PETIT - [2d FW] | B1 | Q1 | 15 | 15 | [+] | **3** |
| ENVT0879-2 | *Applied agrometeorology* - Bernard TYCHON - [1d FW] | B1 | Q2 | 45 | 15 | [+] | **5** |
| ENVT0881-1 | *Environmental degradation and desertification* - Pierre OZER | B1 | Q2 | 20 | - | - | **2** |

**Climate modeling (B1 : 10Cr)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIM0017-2 | *Climate modelling* | B1 | Q1 | | | | **7** |
| | *- Part 1 : Atmosphere* - Xavier FETTWEIS | | 10 | 20 | - | | |
| | *- Part 2 : Vegetation and carbon cycle* - Louis FRANÇOIS | | 15 | 25 | - | | |
| OCEA0075-2 | *Introduction to physical oceanography and marine meteorology* - JeanMarie BECKERS | B1 | Q1 | 30 | 15 | - | **3** |

**Compulsory courses (B1 : 30Cr)**

**Core courses common to the study paths**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| GEOG0025-1 | *Introduction to research* - JeanPaul DONNAY | B1 | Q1 | 10 | 10 | - | **2** |
| GEOG0646-1 | *Seminars* - COLLÉGIALITÉ | B1 | TA | - | - | - | **2** |
| | *Notice* : Collegiality = Climatology Team | | | | | | |
| GEOG0007-1 | *Thesis supervision and seminars* - COLLÉGIALITÉ | B1 | TA | - | - | - | **3** |
| | *Notice* : Collegiality = Climatology Team | | | | | | |
| SMEM0033-1 | *Final thesis* - COLLÉGIALITÉ | B1 | TA | - | - | - | **20** |

**Courses specific to the Study Path**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CLIM0018-1 | *Urban climatology* - Michel ERPICUM | B1 | Q1 | 20 | 15 | - | **3** |