

## Faculty of Sciences



## GEOG1BA Baccalauréat en sciences géographiques (Bachelor of Geographical Sciences)



### Study objectives

The organisation of the space in which we live is the result of man's action on his natural environment. It is the fruit of a multitude of decisions, taken in the far or recent past, which have moulded our environment by adapting it to our needs, for better and for worse. These decisions have stimulated development just as they have created disequilibriums : increasingly productive world-wide agriculture, exchanges on every level and improvement in general well-being, but also pollution, deforestation, the green-house effect and over-population. Geography is the study of the mechanisms which have led to such phenomena, so that they be better understood and controlled.

The objective of this programme is to provide initiation into the three fundamental aspects of geography :

- to observe and describe the environment, for example thanks to the bases in computerised geographical data and sophisticated satellite earth observation techniques
- to understand and explain the processes observed, for example by constructing models which will enable the simulation thereof
- to intervene in the management of resources through territory reorganisation.

The student will develop knowledge and skills within the domain of geography and in particular in the study of the interactions between human activities, geographical space and the natural environment. These studies are approached as much from the point of view of human geography as of that of physical geography, in a significant effort to integrate these two perspectives. The programme likewise aims at the mastering of the geographical techniques essential for the study of these problems.

### General presentation of the programme

The bachelor's programme begins with the acquisition of basic knowledge in the sciences (Mathematics, Physics, Chemistry, Biology,...) and in the subjects connected with geography (Earth Sciences, Geology, Meteorology, Economics...).

The study programme in Geography, which is integrated and developed in a progressive way, revolves around three main subject areas. Firstly, Physical Geography which includes the study of the functioning and changes of the climate, the forms of relief and vegetation. Secondly, Human Geography which analyses how and why human activities are developed in certain places and how these decisions collectively lead to spatial structures. Thirdly, the Geographical Analysis Techniques which include cartography, geographical information and the methods used for processing and interpreting spatial data, notably via satellites.

The courses include practical work, field trips and a project which will help the student to witness concrete problems first hand and to gain experience in finding appropriate solutions.

In accordance with his personal ambitions and in concertation with the Study Advisor, the student may envisage completing his training in Geography by choosing additional options, for a total of 180 credits, or by opting for a minor to be chosen from the University programme.

#### Principal Subjects

Foundation courses (57 credits)

- Mathematics, Statistics (16 credits)
- Physics (20 credits)
- Chemistry (10 credits)
- Biology (11 credits)

Related subjects (25 credits)

- Earth Sciences (17 credits)
- Economics (8 credits)

Geography (57 credits)

- Human Geography (16 credits)
- Physical Geography (17 credits)
- Techniques (20 credits)
- Project (4 credits)

Languages

- English (6 credits)

Philosophy (2 credits)

Free Options (3 credits)

The first quadrimester of the first year is similar to the bachelor programmes in Chemistry, Biology and Bio-Engineering to facilitate study re-orientation from these programmes at the end of this first quadrimester. Re-orientation may also be possible upon completion of the first year, subject to complementary sessions.

This first year of studies is composed, in essence, of basic subjects. The student will also choose an extra optional activity. The project is based on team work and initiates the students to the main problems of contemporary geography. The opportunity to do the course on Organic Chemistry is in line with the polyvalence of the first year of the bachelor programmes in Biology and in Chemistry.

The second year includes basic course complements (Physics, Statistics), related subject areas (Geology, Meteorology,...) and introductions to the different branches of geography and geographical techniques. The course on Political Economics may be substituted by a course on Microeconomics and Macroeconomics for those students who enrol on a minor in Economics.

The third year is specifically dedicated to the study of geography. A minimal core of knowledge is provided in the major via part of the courses in Human Geography and in Physical Geography. On the other hand, it is essential for all the students to have followed the three courses on Geographical Techniques. The reinforcing minor implies following these courses in their entirety. The programme may possibly be completed by choosing extra options, subject to the approval of the study advisor.

#### **Minors or other available options**

Besides the major in Geography, the student has three other possibilities :

- either to complete his studies in Geography by 30 credits with options. In this case, the course on Mathematical Geography (30-15) (5 credits) and the course on Bioclimatology (15-7.5) (2 credits) will be followed in the 2nd year
- or to opt for the minor in Economics. Those students who choose the minor in Economics are exempt from the sessions on the Principles of Political Economics (60-30) (8 credits)
- or to opt for another minor from the University programme, based on a project to be elaborated together with the Study Advisor.

### **Admission to the programme**

#### **Conditions of admission**

The conditions and regular admission requirements are specified on the web page "Access to Studies" :

<http://www.ucl.ac.be/etudes/libres/en/acces.html>

#### **Special admission conditions**

Re-orientations are possible from the bachelor's of Sciences and of Bio-engineering.

#### **Admission requests, special rules and regulations**

In the case of programme re-orientation, admission requests should be addressed to the Academic Secretary of the Faculty of Sciences

Address : Place des sciences 2 - 1348 Louvain-la-Neuve

### **Positioning of the programme**

#### **Positioning of the programme within the University cursus**

The bachelor's degree in Geographical Sciences entitles automatic access to the master's of Geographical Sciences, orientated towards the domains of applications, research or teaching.

#### **Other Studies available upon completion of the programme**

The bachelor's degree also entitles access to the masters of Economics, subject to having followed the corresponding minor.

### **Useful contacts**

#### **Programme management**

**GEOG** Unité de géographie

**Contact** :Nathalie Micha  
and the Geography Committee

#### **Study Advisor**

Dominique Peeters

#### **Exam Jury**

##### **1st year**

President : Cl. Remacle

Secretary : J. Lega

##### **2nd year**

President : Still to be determined

Secretary : Still to be determined.

##### **3rd year**

President : Still to be determined

Secretary: Still to be determined

**List of accessible minors**

- Minor in Theology
- Minor in Philosophy
- Minor in Law
- Minor in Criminology
- Minor in Information and Communication (\*)
- Minor in Political Sciences
- Minor in Sociology and Anthropology
- Minor in Human and Social Sciences
- Minor in Economics
- Minor in Business Studies
- Minor in Linguistics
- Minor in Hispanic Studies (\*)
- Minor in Italian Studies (\*)
- Minor in French Studies (\*)
- Minor in Latin Studies
- Minor in Greek Studies
- Minor in Oriental Studies
- Minor in Literature Studies
- Minor in History
- Minor in Medieval Studies
- Minor in History of Art and Archaeology (\*)
- Minor in Musicology
- Minor in Psychology and Education (\*)
- Minor in Human Nutrition
- Minor in General Biomedical Sciences
- Minor in Medication Sciences (\*)
- Minor in Physical Activity, Health and Culture of Movement (\*)
- Minor in Physics
- Minor in Geography
- Minor in Statistics
- Minor in Engineering Sciences : Applied Chemistry and Physics
- Minor in Engineering Sciences : Construction
- Minor in Urban Architecture
- Minor in Computing Science (\*)
- Minor in Bio-engineering
- Minor in Biomedical Engineering
- Minor in Mathematics and Mathematical Applications
- Minor in Gender Studies
- Minor in Culture and Creation
- Minor in European Studies

(\*) *Minor with access criteria.*

**Detailed content of standard programme****GEOG 11BA First year of studies**

|                 |  |  |
|-----------------|--|--|
| <u>BIO1111</u>  | A) Cell biology and introduction to prokaryotes, protists and fungi; B) Plant biology; C) Animal biology[90h+45h] (11 credits) (in French) | André Lejeune, Jean-François Rees, Claude Remacle                                    |
| <u>CHM1111</u>  | General chemistry 1[60h+60h] (10 credits)1q (in French)  | Michel Devillers, Bernard Tinant   |
| <u>MAT1111A</u> | Mathématiques générales 1[75h+60h] (11 credits) (in French)  | N.   |
| <u>PHY1113A</u> | General Physics 1[75h+75h] (12 credits) (in French)  | N.   |
| <u>BIR1130</u>  | Introduction to Earth sciences[45h+30h] (6 credits)2q (in French)  | Joseph Dufey, Philippe Sonnet  |
| <u>GEO1111</u>  | General geography[30h+30h] (5 credits) (in French)   | Eric Lambin, Eric Lambin (supplée Mark Rounsevell), Mark Rounsevell, Isabelle Thomas |
| <u>ANG1861</u>  | Reading and listening comprehension of scientific texts[6h]  | Ahmed Adriouèche, Isabelle Druant,   |

(2 credits)2q (in French)

Annick Sonck

**According to choice (at least 3 credits to be selected from among the following activities)**

|                |  |                                     |
|----------------|--|-------------------------------------|
| <u>GEO1181</u> | Project[0h+45h] (3 credits) (in French)                                    | Jacques Charlier, Bas van Wesemael  |
| <u>CHM1141</u> | Organic chemistry 1[30h+30h] (5 credits)2q (in French)                     | Istvan Marko                        |
| <u>SC1181</u>  | Computer tools and documentation research[15h+30h] (3 credits) (in French) | Daniel Peeters, Marie-Anne Van Hove |

This year of studies entitles direct access to the second year of the bachelor programmes of Biological and Chemical Sciences and of Bioengineering, as long as the CHIM1141 course has been chosen from among the optional activities. This course will be added to the second year programme of those students who have not yet followed it.

**GEOG 12BA Second year of studies****Compulsory courses**

|                 |  |   |
|-----------------|--|---|
| <u>BIR1210A</u> | Physique générale (II)[60h+45h] (8 credits)2q (in French)                              | René Prieels  |
| <u>MAT1275</u>  | Statistics in the natural sciences[30h+30h] (5 credits)1q (in French)                  | Éric Le Boulengé  |
| <u>GEO1251</u>  | Geology[30h+60h] (8 credits) (in French)   | Philippe Sonnet   |
| <u>PHY1265</u>  | Globe physics[30h] (3 credits) (in French)   | Bernard Ducarme, Bernard Ducarme (supplée Jean-Pascal van Ypersele de Strihou), Jean-Pascal van Ypersele de Strihou |
| <u>ESPO1111</u> | Political Economics[60h+30h] (8 credits) (in French)                                   | Paul Belleflamme, Philippe De Villé, Pierre Dehez, Jean Hindriks, Chantal Kegels, Xavier Wauthy                     |
| <u>GEO1221</u>  | Elements of human geography[30h+62h] (5 credits) (in French)                           | Marie-Laurence De Keersmaecker, Dominique Peeters   |
| <u>GEO1231</u>  | Elements of physical geography[30h+30h] (5 credits) (in French)                        | Bas van Wesemael  |
| <u>GEO1241</u>  | Cartography[30h+30h] (5 credits) (in French)   | Dominique Peeters, Isabelle Thomas  |
| <u>ANG1862</u>  | Reading and listening comprehension of scientific texts[30h] (2 credits)1q (in French) | Ahmed Adriouèche  |

**Complementary studies or minor**

*The students who choose to further their studies in Geography will take the following courses :*

|                 |   |  |
|-----------------|---|--|
| <u>GEO1252</u>  | Field work in geology[0h+32h] (2 credits) (in French)   | Eric Groessens, Philippe Sonnet (coord.)   |
| <u>BIR1333</u>  | Bioclimatology[15h+7.5h] (2 credits)1q (in French)      | Thierry Fichet, Guy Schayes (supplée Jean-Pascal van Ypersele de Strihou), Jean-Pascal van Ypersele de Strihou   |
| <u>GEO1242</u>  | Mathematical Geography[30h+15h] (4 credits) (in French) | André Berger, Michel Crucifix (supplée Jean-Pascal van Ypersele de Strihou), Jean-Pascal van Ypersele de Strihou |
| <u>SPED1211</u> | Introduction to Demography[30h] (3 credits) (in French) | Eric Vilquin   |

*The students who, with the approval of the Study Advisor, have made the choice of a minor, will enrol for at least 11 credits of the programme of the minor selected.*

**GEOG 13BA Third year of studies****Human Geography**

*Two courses to be selected from among the three following :*

|                |   |   |
|----------------|---|---|
| <u>GEO1321</u> | Human and Economic geography 1[25h+25h] (4 credits) (in French)   | Isabelle Reginster (supplée Mark Rounsevell), Mark Rounsevell |
| <u>GEO1322</u> | Human and economic geography 2[25h+25h] (4 credits) (in French)   | Marie-Laurence De Keersmaecker (coord.), Isabelle Thomas      |
| <u>GEO1323</u> | Human and economic geography (3)[25h+25h] (4 credits) (in French) | Dominique Peeters   |

**Physical Geography**

*Two courses to be selected from among the three following :*

|                |  |  |
|----------------|--|--|
| <u>GEO1331</u> | Geomorphology[30h+30h] (5 credits) (in French)   | Bas van Wesemael (coord.), Veerle Vanacker |
| <u>GEO1332</u> | Biogeography[45h+24h] (5 credits) (in French)    | Michel Baguette, Renate Wesselingh         |
| <u>PHY1365</u> | Meteorology[37.5h+22.5h] (5 credits) (in French) | André Berger, Thierry Fichet,              |

Jean-Pascal van Ypersele de Strihou

**Techniques of Geographical Analysis**

|                |   |   |
|----------------|---|---|
| <u>GEO1341</u> | Statistical modelling in geography[30h+30h] (5 credits) (in French) | Dominique Peeters (coord.), Isabelle Thomas   |
| <u>GEO1342</u> | GIS[30h+30h] (5 credits) (in French)                                | Isabelle Reginster (supplée Mark Rounsevell), Mark Rounsevell   |
| <u>GEO1343</u> | Remote sensing[30h+30h] (5 credits) (in French)                     | Eric Lambin   |
| <b>Project</b> |   |   |
| <u>GEO1381</u> | Personal project[0h+60h] (4 credits) (in French)                    | Marie-Laurence De Keersmaecker, Eric Lambin, Dominique Peeters, Mark Rounsevell (coord.), Isabelle Thomas, Bas van Wesemael |

**Languages**

|                |  |  |
|----------------|--|--|
| <u>ANG1863</u> | Anglais - expression orale[30h] (2 credits)1+2q (in English) | Philippe Denis, Philippe Neyt (coord.), Colleen Starrs, Françoise Stas |
|----------------|--|--|

**Philosophy**

|               |   |               |
|---------------|---|---------------|
| <u>SC1120</u> | Philosophy[30h] (2 credits)1q (in French) | Bernard Feltz |
|---------------|---|---------------|

**Complementary studies in Geography**

*The students who choose to further their studies in Geography will take the following courses :*

|                |                                       |  |
|----------------|---------------------------------------|--|
| <u>GEO1382</u> | Field[0h+56h] (3 credits) (in French) | Marie-Laurence De Keersmaecker (coord.), Veerle Vanacker |
|----------------|---------------------------------------|--|

Third course in Human Geography and Economics

Third course in Physical Geography

*The students will choose, among others, 7 credits of options, with the approval of the Study Advisor. The students' attention is drawn to the following courses, offered by the SPED department.*

|                 |  |   |
|-----------------|--|---|
| <u>SPED1212</u> | Analysis of Development Policy[30h] (3 credits) (in French)                                    | Frédéric Lapeyre, Isabel Yépez Del Castillo |
| <u>SPED1213</u> | Contemporary issues in development policy: a comparative approach[30h] (3 credits) (in French) | Bichara Khader                              |
| <u>SPED1221</u> | Interrelations of Population, Environment and Development[30h] (3 credits) (in French)         | Bruno Schoumaker, Dominique Tabutin         |
| <u>SPED1214</u> | Demographic issues and challenges in the 21st century[30h] (3 credits) (in French)             | Dominique Tabutin, Eric Vilquin             |

*The students who have made the choice of a minor, with the approval of the Study Advisor, enrol for at least 19 credits of the programme of the minor selected.*