



Vrije  
Universiteit  
Brussel

KATHOLIEKE UNIVERSITEIT  
**LEUVEN**

Interuniversity programme

# Master of Geography

With specializations in:

- Terrestrial Ecosystems and Environmental Change
- Space and Society
- Development and Environment



*The Master of Geography programme is a two-year advanced study in geography organised by the Vrije Universiteit Brussel and the K.U.Leuven. This interuniversity master's programme provides you with comprehensive training in spatial approaches to social and/or natural phenomena. The objective of the programme is to provide: a deeper understanding of geographical problems and methods, knowledge to augment the theoretical debate within the discipline, and training in the use of geographical research techniques. The global aim of the master's programme is to generate geographers who can play an active role in contemporary society. The following specializations are offered:*

- *Terrestrial Ecosystems and Environmental Change*
- *Space and Society*
- *Development and Environment*

## A new two-year interuniversity programme

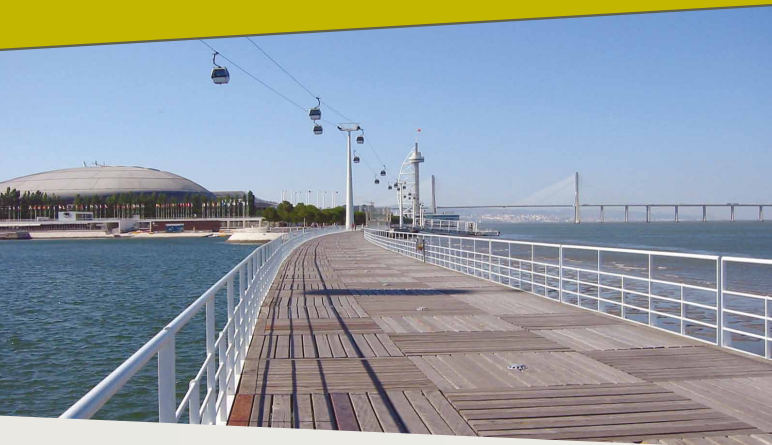
The Department of Geography of the Vrije Universiteit Brussel and the Department Earth and Environmental Sciences of the K.U.Leuven have joined forces to offer a highly competitive educational programme firmly rooted in the contemporary research programmes at both universities. Both departments continuously develop and maintain innovative and internationally recognized research programmes on fundamental and applied aspects of the geosciences, covering a wide range of spatial and temporal scales. Most research programmes are international collaborative efforts, and both departments are participating in various international research networks.

The courses and specializations that are offered in the interuniversity programme are strongly embedded in the ongoing research programmes of both universities. As a master student you will carry out your own research project, closely related to one of the ongoing research programmes. By being part of a professional research team, you receive maximal opportunities to learn and develop scientific skills. In many cases you will spend a couple of months abroad for fieldwork and data collection in the framework of your master thesis.

### Career opportunities

Geographers have long applied integrated, multidisciplinary approaches to solve real-world problems on all spatial scales, from local to global. Undoubtedly there exists a growing demand for competent professionals in the broad field of the geosciences. As a graduate from the interuniversity programme, Master of Geography, you may be recruited by mapping agencies, surveying companies, service and utility providers and public entities. You will also be placed high on the recruitment lists of national and international administrations which deal with urban and rural land-use planning, disaster management, environmental conservation and management. Careers can also be pursued in research, in which case this master's programme is most often complemented by a relevant PhD programme.





Research in the Department of Geography at the Vrije Universiteit Brussel focuses on:

- **Dynamics of glacial systems:** dynamics of natural ice masses (continental ice sheets, ice caps and glaciers), ice-sheet model development, intercomparison of ice-sheet models, alpine glacier studies, global climate modelling, ice-climate interactions, global warming
- **Volcanology and natural hazards:** geomorphology and spatial distribution of volcanic edifices; characterization of volcano-tectonic processes (intrusions, flank instability) via remote sensing, field work and analogue experiments; landslide susceptibility analysis in the tropics; risk analysis, risk mapping and risk communication in volcanic regions in Africa
- **Satellite and airborne remote sensing:** land-use/land-cover mapping and monitoring of urban areas, change detection, multi-sensor image interpretation, hyper-spectral remote sensing, machine learning, uncertainty in image classification, impact of uncertainty on spatial models and spatial decision making
- **Small-scale cartography and map projection design:** distortion in map projections, new strategies for reducing distortion in small-scale maps, development of low-error map projections, map projection selection, history and use of map projections
- **Urban and cultural geography:** residential patterns and residential segregation, structure and mechanisms of the housing market, migration, demographic transitions, evaluation of urban development projects, urban cultural policy, sustainable neighbourhood development, urban image building, position of Brussels in the European urban network

Geography research in the Department Earth and Environmental Sciences at the K.U.Leuven focuses on:

- **Geomorphic processes, soil degradation and soil conservation:** soil degradation and soil conservation; desertification; sediment production, transport and deposition in various parts of the world; rain, runoff and wind simulation
- **Regional climate studies:** the atmospheric branch of the hydrological cycle, use of new remote sensing instruments for model evaluation, effect of precipitation processes on soil erosion and yield of field crops, impact of the land surface on drought persistence, role of atmospheric circulation on pollution and dust concentration, polar meteorology
- **Terrestrial ecosystems and environmental change:** interaction between human impact and landscape dynamics, relative role of human and climate impact on the dynamics of terrestrial ecosystems, impact of environmental change on biogeochemical cycles, landscape and paleo-environmental reconstruction
- **Integrated spatial analysis:** integrated analysis of land use and land-use changes, analysis of spatial decision-making mechanisms, physical response of landscape to human activity, optimisation of land use in the framework of sustainable development, spatial modelling and geomatics
- **Socio-economic geography, regional development, recreation and tourism:** urban hierarchy and spheres of influence, internal social-spatial structures of cities, the social production of space in an urban context, the housing market, transformation of the agrarian landscape, regional development and globalisation, planning policy, urban revitalisation, tourism, recreation and landscape

The Master of Geography aims to sharpen the analytical and synthetic ability needed to gain insight into the scientific and social aspects of environmental problems at the national level, in a European context, as well as on a global level. You will be encouraged to approach the relationship between society and environment in an integrated way. In the master's thesis, research activities are emphasised, in addition to an emphasis on the acquiring of knowledge and skills at an advanced level.





## Admission requirements

The master's programme presupposes a broad basic knowledge of the natural and social sciences, as well as a broad introduction to geography.

For more details about the requirements go to:  
[www.vub.ac.be/geography/master](http://www.vub.ac.be/geography/master)

## Application procedure

Admission is based upon acceptance of the application (proof of meeting the academic and language requirements, satisfactory background...). Application forms can be downloaded from

<http://www.vub.ac.be/admission>

## Study environment

The courses are organised at both the campus of the Vrije Universiteit Brussel in Etterbeek and at the campus of the K.U.Leuven in Heverlee. After successful completion of the programme, a degree from both universities is awarded.

### Vrije Universiteit Brussel

The Vrije Universiteit Brussel is a dynamic and modern university that offers quality education to more than 10.000 students on two parkland campuses in the Brussels-Capital region. If you add to that the almost 4.500 students of its partner-school, the Erasmushogeschool Brussels, the 400 students at the English-speaking Vesalius College, the 5.000 students at the Centre for Adult Education which shares the Etterbeek campus, and the more than 150 research teams working on both campuses, you get one of the largest centres of knowledge and learning in the capital of Europe. Thanks to its expertise and its strategic location, the Vrije Universiteit Brussel is the ideal partner for prestigious research and education with an outlook on Europe and the world.

### Etterbeek Campus

The Vrije Universiteit Brussel gives you space to breathe, literally. The buildings of Etterbeek campus are spread out across a pleasant green park area. Activities mainly take place in the many lecture halls and laboratories, all supplied with the most up-to-date equipment. Modern sport facilities with sports halls, fitness rooms, tennis and squash courts, and a swimming pool can be found on-site. The Etterbeek Campus is easy to reach by train, tram, bus or metro from the city centre or from the outskirts of Brussels.

### The city of Brussels

Being the capital of an expanding Europe, Brussels is an international city like no other. It boasts an astonishing variety of cultures, styles, and nationalities. English is rapidly becoming an important language in Brussels because of the presence of numerous international organizations. As the decision-making heart of Europe, Brussels has become one of the most cosmopolitan cities in the world where opinion leaders meet to use their influence in policy-making decisions as well as to do business. Nevertheless it remains intimate enough to allow its inhabitants to enjoy all the advantages of a vibrant city.

For more information: [www.brucity.be](http://www.brucity.be)

### Katholieke Universiteit Leuven

In 1425, a university was founded in Leuven by decree of Pope Martinus V. It was modelled on the universities of Paris, Cologne and Vienna. Today, the university provides undergraduate and graduate education in a full range of academic studies to 29.900 students, more than 3.700 of whom are foreign students coming from one hundred different nations. More than 4.800 professors and researchers make up the academic staff of the university. In past decades, the quality and quantity of K.U.Leuven's research efforts and output have increased considerably, thus positioning Leuven at the forefront of European universities.

### The city of Leuven

Leuven, a small, pleasant town 25 kilometres from Brussels, is a typical university town with many attractive student cafés and restaurants that add to its charm. The city of Leuven has an impressive collection of monuments of which the 15th century Gothic City Hall is the central pearl. Leuven also offers excellent concerts and recitals, and hosts exhibitions of the most important Flemish painters and sculptors.

### Belgium: at the crossroads of Europe

For centuries Belgium has been at the centre of European events, politically, culturally and economically. Located at the crossroads of Western Europe, cities like Paris, London, Berlin and Amsterdam are within easy reach.



## Programme

You will study a core program of 42 ECTS credits, and a specialization module of 48 ECTS consisting of mandatory and strengthening courses. The 30 ECTS of the master's thesis brings the total amount of credits for the master to 120 ECTS.

Core program		42 ECTS*	
<b>Human-environment interaction</b>	<b>24</b>	<b>Methodological courses</b>	<b>18</b>
Society-environment interactions Environmental change Geography of developing countries Modelling land use changes Natural hazards		GRM 1: Earth observation GRM 2: Survey and data analysis GRM 3: Numerical modelling Advanced GIS: Spatial databases Natural risk management Research seminar	
Specialization		48 ECTS*	
<b>Terrestrial Ecosystems and Environmental Change</b>		<b>Development and Environment</b>	
<ul style="list-style-type: none"> <li>• SURFACE AND LANDSCAPE PROCESSES Tectonics and geomorphology Surface water hydrology River geomorphology Physical geography field trip abroad</li> <li>• CLIMATE Remote sensing of the atmosphere Atmospheric modelling Dynamics and modelling of glacial systems</li> </ul>		<ul style="list-style-type: none"> <li>• LAND MONITORING Advanced earth observation techniques Remote sensing of vegetative systems Physical geography field trip abroad OR Social and economic geography field trip abroad</li> <li>• ENVIRONMENT, AGRICULTURE and DEVELOPMENT Natural resource economics and policy Soil and water conservation Biological production systems in the tropics Agriculture economics and food policy in developing countries</li> </ul>	
<b>Space and Society</b>		<b>Strengthening courses</b>	
<ul style="list-style-type: none"> <li>• SOCIO-ECONOMICS OF SPACE Services, mobility and transport Space, society and policy Geography of globalisation Social and economic geography field trip abroad</li> <li>• URBAN ENVIRONMENT Urban spatial structures and social change Urban tourism Political economy of urban development Urban analysis and management Cultural urban geography</li> </ul>		<ul style="list-style-type: none"> <li>• Terrestrial Ecosystems and Environmental Change Choice from a selection of courses</li> <li>• Space and Society Choice from a selection of courses</li> <li>• Development and Environment Choice from a selection of courses</li> </ul>	
Master thesis		30 ECTS*	

\* ECTS: European Credit Transfer and Accumulation System





## Specific information about the programme

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