



© Herzog

## what planning for our territories?

# Master of science (MSc) in geography

### GENERAL OUTLINE

#### Objectives

The programme offers:

- an interdisciplinary programme at the interface of Geosciences and Environmental Sciences;
- a general reflection on the organisation of territories, of technical networks and of spatial, natural and human systems on different spatial scales;
- a reflection on the transformations of urban spaces in a perspective of sustainable development: eco-urban planning, city policies, urban planning;
- a study of the natural dynamics of the Alpine environment and its evolution linked to climatic changes, socio-economic changes and territorial development;
- a critical analysis of the diversity and complexity of the socio-economic and environmental transformations of southern countries;
- an emphasis in teaching on the use of quantitative methods (Spatial Analysis, Geomatics, Geovisualisation).

#### Career prospects

University studies develop a great many transverse skills such as: oral and written communication, critical, analytical and summarising faculties, abilities in research, and so on.

This panoply of skills, combined with specialist knowledge acquired in the course of studies, is excellent preparation for a wide range of employment opportunities, such as:

- Town Planning departments
- Development offices
- Coordination of regional development projects
- Sustainable urban development consultancy
- Practical work in relation to the mountain environment
- Practical work in relation to development in southern countries
- Teaching
- Research

Alumni move into a wide variety of roles, for example as a sustainable development officer or coordinator of the North Lausanne Development Plan.

Other examples and alumni testimonials:  
[www.unil.ch/perspectives/geosciences](http://www.unil.ch/perspectives/geosciences)

### GENERAL INFORMATION

#### Organisers

Faculty of Geosciences and Environment  
School of Geosciences and Environment  
[www.unil.ch/gse](http://www.unil.ch/gse)

#### Degree awarded

Master of Science (MSc) in Geography, orientation:

- Sustainable Urban and Spatial Planning
- Geomorphology and Management of Mountain Regions
- Development and Environment
- Spatial Analysis and Complex Systems

#### ECTS credits

120

#### Duration

4 semesters

#### Teaching language

French, some courses in English. Recommended level: C1.

#### Contact

Ms Marie-Christelle Pierlot  
Faculté des GSE  
Quartier UNIL-Mouline  
Géopolis  
CH-1015 Lausanne  
Tel./Fax +41 (0)21 692 35 13/05  
[marie-christelle.pierlot@unil.ch](mailto:marie-christelle.pierlot@unil.ch)

#### More information

[www.unil.ch/mastergeographie](http://www.unil.ch/mastergeographie)



## EDUCATIONAL CONTENT

### Description

The first three semesters are dedicated to training and the start of research work. Courses that are common to all specialisations take mostly place during the 1<sup>st</sup> semester.

The orientation **Urban Studies, Sustainable Urban Development and Territorial Development** is based on a study of the environmental challenges of sustainable urban development and analysis of urban projects viewed from the perspective of ecological town planning.

The **“Geomorphology and Management of Mountain Regions”** orientation, with a strong grounding in Geomorphology and a focus on the study of environmental dynamics in high mountain regions, development problems in mountainous areas and nature conservation issues in the mountains.

The **“Development and Environment”** orientation is orientated towards the study of economic, social, political and ecological transformation in Southern countries – with a focus on regions in Africa, Asia, and Latin America – and in northern countries, particularly in Europe. Development is examined from both an urban and rural perspective. In addition to scientific analyses, the course familiarises students with the tools used in international cooperation and nature conservation.

The **“Spatial Analysis and Complex Systems”** orientation concentrates on the development for challenging public and private projects of studies and smart communicative displays based on spatial modelling, the study of networks and the organisation and processing of Big Data. A mastery of the relevant concepts and tools is coupled with strategies for the creation of focused and innovative approaches.

The fourth semester is devoted essentially to writing the dissertation in the subject of the chosen orientation. The last two semesters can lead to more specific training as part of a work placement or an international placement certificate (practical training).

## SYLLABUS

### A. Common module (15 ECTS credits)

- Basic Concepts in Geovisualisation
- Territorial Diagnosis and Prospects
- Risk and Territorial Policies

### B.1. “Sustainable Urban and Spatial Planning” orientation module (65 ECTS credits)

“Sustainable Town Planning and Urban Projects” orientation

- Territories, Spatial Dynamics, Social Practices and Sustainability
- Governance : Institutional Framework, Stakeholders and Process
- Projects: Strategy, Design and Implementation
- Optional Courses and/or Internship

### B.2. “Geomorphology and Management of Mountain Regions” orientation module (65 ECTS credits)

- Preparation to Research
- Mountain Environments
- Management of Mountain Regions
- Sustainability and Mountain Protection
- Optional Courses and/or Internship

### B.3. “Development and Environment” orientation module (65 ECTS credits)

- Basics of Development
- Problems in Rural Development
- Problems in Urban Development
- Methods and Tools
- Optional Courses and/or Internship

### B.4. “Spatial Analysis and Complex Systems” orientation module (65 ECTS credits)

- Databases and Visualising Geographical Information
- Spatial Modelling, Networks and Complex Systems
- Optional Courses and/or Internship

### C. Dissertation (40 ECTS credits)

Personal research work

## PRACTICAL INFORMATION

### Admission requirements

Candidates must be holders of a Bachelor of Science in Geosciences and Environment, subject area Geography or Environmental Sciences, awarded by the University of Lausanne, or of a Bachelor's degree in Geography or Environmental Studies awarded by a Swiss university. Another degree or academic title may be judged equivalent and give access to the Master's degree course, with or without further conditions.

### Enrolment and final date

Applications to be submitted before 30 April to the Admissions Office:  
[www.unil.ch/immat](http://www.unil.ch/immat)  
Candidates needing a visa to study in Switzerland : 28 February.

### Start of courses

Mid -September  
Academic calendar: [www.unil.ch/central/calendar](http://www.unil.ch/central/calendar)

### Part-time Master's degree

Under certain conditions, a Master programme can be followed part-time. See [www.unil.ch/formations/master-temps-partiel](http://www.unil.ch/formations/master-temps-partiel).

### General information on studies, guidance:

[www.unil.ch/soc](http://www.unil.ch/soc)

### Career prospects

[www.unil.ch/perspectives](http://www.unil.ch/perspectives)

### Accommodation and financial assistance

[www.unil.ch/sasme](http://www.unil.ch/sasme)

### International

[www.unil.ch/international](http://www.unil.ch/international)



Unil

UNIL | Université de Lausanne

Faculté des géosciences  
et de l'environnement