



The earth's  
crust: evolution  
shared by living  
beings and the  
mineral world

## Master of science (MSc) in Biogeosciences

### GENERAL OUTLINE

#### Objectives

The Master of Science (MSc) in Biogeosciences is the result of the integration of two fields of natural sciences: biology and geology. It reflects the emergence of new fields of research in the many areas of contact between these two disciplines. Its main objective is to train you in new trans-thematic disciplines based on an integrated approach to both natural and anthropised environments.

#### 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, notably in the following fields:

- Federal and cantonal administrations
- Non governmental organisations
- Consulting firms
- Conservation and management of nature
- Conservation and management of soils
- Academic careers

Alumni testimonials and positions:  
[www.unil.ch/perspectives/geosciences](http://www.unil.ch/perspectives/geosciences)

### GENERAL INFORMATION

#### Organisers

Faculty of Geosciences and Environment of the University of Lausanne  
Faculty of Science of the University of Neuchâtel

#### Degree awarded

Master of Science (MSc)  
in Biogeosciences

#### ECTS credits

120

#### Duration

4 semesters

#### Teaching language

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

#### Contact

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## EDUCATIONAL CONTENT

### Description

The objective of this Master's degree is to train high-level scientists in the field of integrated natural sciences or Biogeosciences. It aims, through training based on the most modern techniques, to provide the essential knowledge and tools necessary for the discovery, understanding and management of natural environments in perpetual evolution on scales that are variable in time and space.

The teaching activity is divided into four more or less equivalent parts: one fourth of ex-cathedra courses, one fourth of practical work, one fourth of field internships et one fourth for the personal research work. The degree course is organised in five blocks, four of courses and one of research :

- Block A teaches the basic knowledge required in relation to the discipline originally studied by each student. If you have a Bachelor's degree in Biology, then the courses will focus on the complementary teaching of Geology, and vice versa for holders of a Bachelor degree in Earth Sciences.
- Block B teaches the analytical and technical basics of laboratory and field work, as well as the use of tools for spatial modelling and multivariate statistics.
- Block C provides the main training in Biogeosciences. After an introduction to the concepts relevant to Biogeosciences, the training focuses on the geobiosphere and ecosystems. This is followed by subjects related to surface biogeochemistry and the major elementary cycles, such as the carbon, phosphor or iron cycles. The evolution of organic matter is approached from the standpoint of both biological sciences (the role of fauna, flora and microflora) and geochemistry (the fate and monitoring of organic matter through isotope methods, for example). A module dedicated to the critical zone underlines the importance of the interfaces between living beings and minerals. Virtual campus sessions and free-choice courses complete this block.
- Block D offers a choice of one of two specialised teaching options: "Interactions Between Soil and Vegetation" or "Interactions in the Geobiosphere".

### Mobility

Subject to the prior agreement of the mobility Commission, you may study for one or two semesters in an institution recognised by UNIL or UNINE while continuing to be registered with the University of Lausanne.

## SYLLABUS

### 1<sup>st</sup>–2<sup>nd</sup> semesters

Basic teaching courses

- Block A

**6 ECTS credits**

Common trunk core courses

- Block B (12 ECTS credits)
- Block C (30 ECTS credits)

**42 ECTS credits**

Specialised courses (free choice)

- Block D

**12 ECTS credits**

### 3<sup>rd</sup>–4<sup>th</sup> semesters

Block E: Research Master's thesis

**60 ECTS credits**

## PRACTICAL INFORMATION

### Admission requirements

Candidates must be holders of a Bachelor of Science in Geosciences and Environment, subject area Geology, awarded by the University of Lausanne or of a Bachelor of Science in Biology. Another degree or academic title may be judged equivalent and give access to the master's degree course, with or without further conditions.

### Other useful information

[www.biogeosciences.ch](http://www.biogeosciences.ch)  
[www.unil.ch/gse](http://www.unil.ch/gse)

### 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 (this particular deadline is only valid for enrolment at UNIL).

### 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/tempspartiel](http://www.unil.ch/formations/tempspartiel).

### 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 students

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

### Study abroad possibilities

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

