| le savoir vivant |

Master of Science in Environmental Science
Orientation in

earth surface processes in mountain environments

www.unil.ch/gse

UNIL | Université de Lausanne
Faculté des géosciences
et de l'environnement

Orientation in

earth surface processes in mountain environments

The Master of Science in Environmental Science has another two orientations:
- **Natural Hazards and Risk**
- **Aquatic Science**

OBJECTIVES

The orientation « Earth Surface Processes in Mountain Environments » aims to train students in the analysis of active earth surface processes in mountain environments. Whilst the content of the orientation applies the world-over, the training is provided using the Swiss Alpine environment as a natural laboratory. The focus is unique in the Swiss University landscape because of its cross-cutting focus on a suite of Earth surface processes and the application of advanced data collection, handling and analysis methods to understand them. The syllabus situates its focus within the context of wider drivers of change in Alpine landscapes, including the effects of rapid climate warming and the direct impacts of humans; and uses examples of actual environmental management challenges and solutions that relate to Earth surface processes in mountain environments. The training involves lectures, practical classes and fieldwork.

Having followed this Master's programme, students should be able to:
- describe and analyse natural processes in mountain environments using appropriate methodological tools
- use different analytical methods to study mountain environments (fieldwork, modelling, laboratory work, mapping, remote sensing).
- collect, treat and analyze field data.
- understand and be able to evaluate critically the complexity of Earth surface processes and the implications for their management in mountain regions.
- communicate research results relating to these Earth surface processes orally and in writing, to different audiences.

CONTENT AND APPROACH

The curriculum followed to complete the Master of Science (MSc) in Environmental Science is based upon a first year of compulsory courses (two modules common to all orientations; one module related to the chosen orientation); and a second year containing two modules (one involving free-choice courses, and the other related to the Master's thesis).

POTENTIAL CANDIDATES

The specialisation is open primarily to those with a Bachelor of Science (BSc) in Environmental Science or Geology. Other candidates with a Bachelor's degree, such as in other quantitative programmes in the geosciences or engineering, may be eligible after consideration of their application.

Enrolment and admission requirements

The means of registering an application for such students, as well as any requirements necessary to become eligible for admission, are available in the study rules for the Master of Science (MSc) in Environmental Science at UNIL: www.unil.ch/masterenvi > Master's program > How to register

COURSE STRUCTURE

Modules common to all orientations (30 ECTS total): Foundations in Environmental Science ; Environmental Data and systems analysis.

Orientation « Earth Surface Processes in Mountain Environments » (30 ECTS total): Courses addressing alpine environments, mountain ecosystems, ecology, evolution, etc.

Free-choice courses (20 ECTS): Courses intended to enhance the orientation, chosen by the student and approved by the director of the programme.

Master's thesis (40 ECTS)

TEACHING LANGUAGE

All compulsory courses are given in English. Students have to choose optional courses, and these may be given in English or French according to their choice. The recommended level of English is C1. All assessed work, including exams, reports and the Master's thesis, may be written in English or French.

Coordinator for the orientation

Stuart Lane, stuart.lane@unil.ch

Contact

Ms Christine Eden
Faculté des GSE, Géopolis, Office N°4613
CH-1015 Lausanne
Tél. +41 (0)21 692 62 92, christine.eden@unil.ch
www.unil.ch/masterenvi

Version: February 2024 | Subject to the approval of the regulations and study plan by the relevant authorities