Dynamics in Glaciology and Geomorphology

Degree conferred
Specialised Master of Science in Dynamics in Glaciology and Geomorphology

Languages of study
Study in English

Commencement of studies
Commencement of studies in the Autumn Semester (September) or in the Spring Semester (February)

Access to further studies
This master programme qualifies students for the doctoral programme Geography

Our specialised master programme in Dynamics in Glaciology and Geomorphology focuses on changes in cold environments. The programme teaches students with backgrounds other than geography - but with a bachelor's degree in a related discipline (e.g. geology, physics, hydrology,...) - the physical processes within the cryosphere, mountain geomorphology, natural hazards and land-atmosphere interactions. After studying a common module which addresses environmental issues from the perspective of human and physical geography, students focus on high altitude and polar regions and study their dynamics in the context of climate change.

Our programme familiarises students with state-of-the-art geoscientific measurement, modelling and data analysis tools. In a series of methodological and thematic courses, students learn to assess physical and environmental changes across a broad range of foci. Seminars, project work and excursions encourage students to apply their skills to real-world problems. In the framework of their master's thesis, students can participate in national or international research projects. The human dimensions of our diverse research teams and can participate in on-going national and international research projects. The diverse research interests of around 30 researchers at the Unit of Geography make the specialised master's course in Dynamics in Glaciology and Geomorphology truly integrative and interdisciplinary. Apart from the focus on topics in cryosphere, glaciology or alpine geomorphology, we also offer integrative training with the neighbouring disciplines of the Department, i.e. Human Geography, Earth Sciences and Environmental Sciences.

Structure of classes and lectures
All teaching is in English. The teaching is structured into four modules and is delivered through a combination of lectures, hands-on methodological courses, seminars, excursions and colloquia. A field trip is organised abroad in one of the teams' research regions every other year (Morocco in 2009, Namibia in 2011, Central Asia in 2013, Kyrgyzstan in 2017, Greenland in 2019), complemented by student-organised excursions in Switzerland.

1. The common module gives a brief overview of conceptual approaches in geography, as well as the current state of research in the fields of climate change, natural hazards and risk management, data collection and analysis methods, and modelling. Three cycles of internal colloquia offer students a chance to gain more in-depth knowledge on current research topics.
2. The specialisation module equips the students with advanced knowledge in the chosen field.
3. A supporting module allows students to personalise their study programmes by pursuing courses related to their specialisation. Students can choose from a wide range of courses from the University of Fribourg, as well as other universities. Depending on the student’s prior education and training, the supporting module may also be used to fill in gaps.
4. The master's thesis is carried out under the supervision of
a professor and makes up a very substantial part of the programme.

Career openings
This programme is intended for motivated students who are interested in pursuing a career in research – e.g. by pursuing a PhD – or in the public or private sector – e.g. in geoscientific/environmental consulting and protection, risk analysis and mitigation, monitoring, public institutions or international organisations. The specialised master’s degree does not give access to the teacher education for baccalaureate schools (DEEM or LDM) of the University of Fribourg.

Studies organisation

Structure of studies
120 ECTS credits, 4 semesters

Curriculum

http://studies.unifr.ch/go/vBvMa

Admission

Admission to the specialised master is based on the student’s dossier, according to the conditions described in the study plan. N.B. Students who have obtained a bachelor’s degree in geography, or at least 60 ECTS credits in geography, should choose the master’s degree in geography (option Dynamics in Glaciology and Geomorphology or Nature, Society and Politics).

Contact

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