



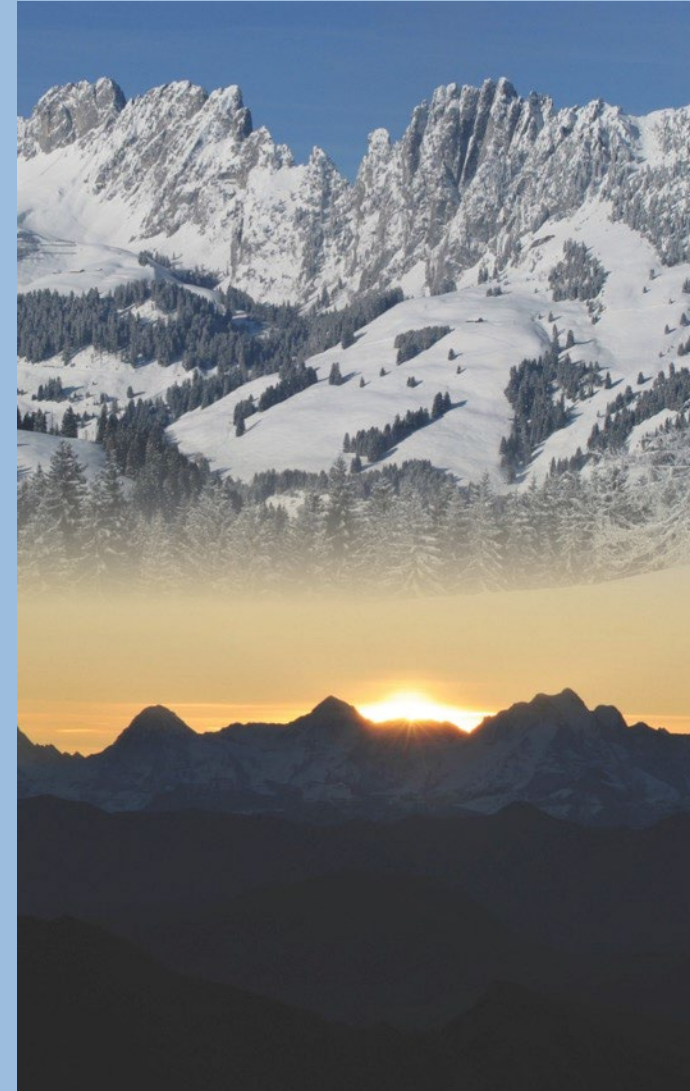
Bern-Fribourg Master in Earth Sciences

September 2026

Institute of Geological Sciences
University of Bern

Department of Geosciences
University of Fribourg

earth-science-master.unibe.ch





- > Bern-Fribourg Master in Earth Sciences
earth-science-master.unibe.ch
- > Joint programme run by the Institute of Geological Sciences in Bern and the Department of Geosciences in Fribourg
- > 5 Specialities
- > Expanded number of lecturers and researchers
- > Specialized geological know-how and facilities





Make your choice:

- > Interest:
 - Specific master thesis topic
 - Fascination for certain speciality
- > Discussion with advisors (BE/FR)
 - Choose your favorite speciality and master thesis
 - Choose reasonable courses for module B
 - Choose interesting courses for module C

ELE: Earth and Life Evolution, **EM:** Earth Materials, **ERG:** Environmental & Resource Geochemistry, **GEOL:** Geology, **PAQS:** Pure & Applied Quaternary Sciences

Thesis topic	Advisors:	ELE	EM	ERG	GEOL	PAQS	Uni.
3D Evolution of Cockade Structures in the Grimsel Breccia Fault: An Earthquake proxy, Details	Prof. Marco Herwegh , Prof. Alfons Berger , Prof. Thomas Petke			x	x		BE
Advanced pore scale geochemical modelling using machine learning algorithm, Details	Prof. Sergey Churakov		x	x			BE
Alkali-aggregate reaction (AAR) and cracking mechanisms of concrete structures (applied research project), Details	Prof. Marco Herwegh , Prof. Alfons Berger			x	x		BE
Analogue modeling of geothermal systems along the Grimsel shear zone, Details	Prof. Guido Schreurs , Prof. Marco Herwegh			x			BE
Characterization of a sustainable building material made of raw earth and hemp, Details	Dr. Guilhem Amin Douillet	x			x		BE



Course title (89 courses):

Course title	ECTS	held at:	Specialities
Accessory Minerals	2.5	BE	EM
Advanced Carbonate Sedimentology	2.5	FR	ELE, GEOL
Advanced Computer Programming for Geosciences	2	BE	EM, ERG, PAQS
Applied geochemistry and thermodynamic modelling of cement hydration	1.5	BE	EM, ERG
Applied Sedimentology	3	FR	PAQS
Aqueous Environmental Geochemistry	2.5	BE	ERG
Atomistic simulations of fluids and solids	2.5	BE	EM, ERG
Basement evolution in orogens	2	BE	GEOL
Basic Computer Programming for Geosciences	2	BE	EM
Basin Evolution	3	BE/FR	GEOL
Cathodoluminescence Microscopy CL: Practical course (pre)			



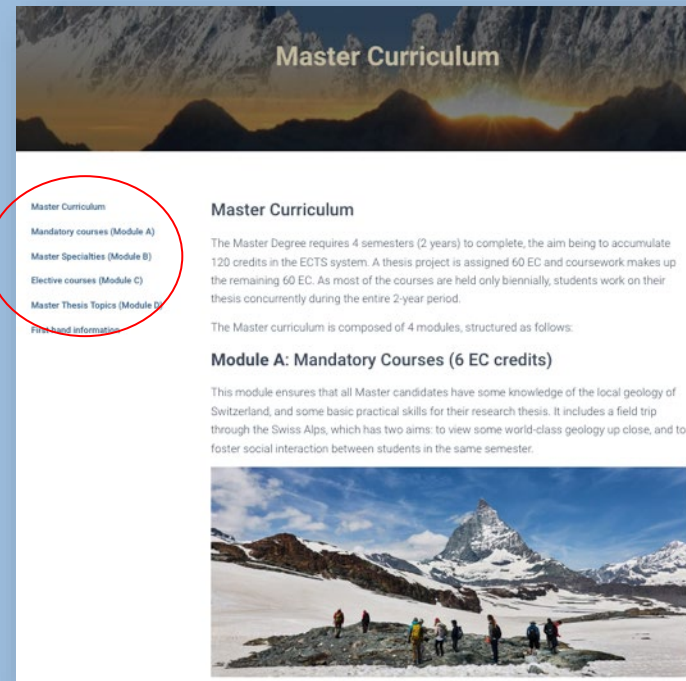
Overview

- > Curriculum: Modules (A, B, C, D)
- > Enrolment incl BeFri registration

- > Course registration (KSL and GEFRI)
- > Examinations
- > Course schedule
- > Deadlines

Module A	Module B	Module C	Module D
Mandatory courses (6EC)	Speciality courses (30EC)	Elective courses (24EC)	Research thesis (60EC)

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Master Curriculum

The Master Curriculum

Mandatory courses (Module A)

Master Specialties (Module B)

Elective courses (Module C)

Master Thesis Topics (Module D)

Free-hand information

Master Curriculum

The Master Degree requires 4 semesters (2 years) to complete, the aim being to accumulate 120 credits in the ECTS system. A thesis project is assigned 60 EC and coursework makes up the remaining 60 EC. As most of the courses are held only biennially, students work on their thesis concurrently during the entire 2-year period.

The Master curriculum is composed of 4 modules, structured as follows:

Module A: Mandatory Courses (6 EC credits)

This module ensures that all Master candidates have some knowledge of the local geology of Switzerland, and some basic practical skills for their research thesis. It includes a field trip through the Swiss Alps, which has two aims: to view some world-class geology up close, and to foster social interaction between students in the same semester.





Module A (mandatory, 6 EC)

Bern

- Dynamic Alps (3 EC)
(Excursion: 14. – 18.09.2026/ **Week 1**)
- Soft Skills I: Communication in Earth Sciences
 - Paper in 1st semester (0.75 EC)
 - Poster in 4th semester (0.75 EC)
- Soft Skills II: Research Seminar (1.5 EC)
 - 2 oral presentations
 - attendance at 30 talks during 4 semesters



Module A (mandatory, 6 EC)

Fribourg

- Dynamic Alps (3 EC)
(Excursion: 14. – 18.09.2026/ **Week 1**)
- Soft Skills I (1.5ECTS): Communication in Earth Sciences – together with UniBe
 - Paper in 1st semester (0.75 EC)
 - Poster in 4th semester (0.75 EC)
- Softskills II (1.5 ECTS) - UE-SST.00598: Research proposal
 - Exploration of thesis topic
 - Public proposal defense



Module B: Elective Courses (30 EC)

Master Curriculum

Mandatory courses (Module A)

Master Specialties (Module B)

Elective courses (Module C)

Master Thesis Topics (Module D)

First hand information

Module C: Elective courses

Each MSc candidate must select at least 24 EC in courses from the list below (these courses must be different from those chosen for Module B (Specialty))

- [Download alphabetical list with all master courses \(pdf\)](#)
- [Download list with all master courses sorted by frequency \(pdf\)](#)
- [Creditability Internship in Industry \(pdf\) \(BE\)](#)

[Here](#) you find the course schedule incl. rough planning for further semesters

(HS: Autumn semester, FS: Spring semester, even years: e.g. 2020, odd years: e.g. 2021)

Current changes

- Internship in industry:
Only for module C
- Quaternary Sediments Field Week:
due to sabbatical moved to HS2023 instead of HS2022
- Waste Materials & Circular Economy:
Moved to spring semester 2023, then biannually in fall semester in even years (next time fall 2024)

Course title (87 courses):	ECTS:	held at:	Specialities	Year:
Accessory Minerals	2.5	BE	EM	FS, odd
Advanced Carbonate Sedimentology	2.5	FR	ELE, GEOL	FS, even
Advanced Computer Programming for Geosciences	2	BE	EM, ERG, PAQS	annually, HS
Applied geochemistry and thermodynamic modelling of cement hydration	1.5	BE	EM, ERG	FS, even
Applied Sedimentology	3	FR	PAQS	FS, odd
Aqueous Environmental Geochemistry	2.5	BE	ERG	HS, even
Atomistic simulations of fluids and solids	2.5	BE	EM, ERG	HS, odd
Basement evolution in orogens	2	BE	GEOL	HS, even
Basic Computer Programming for Geosciences	2	BE	EM	annually, HS
Basin Evolution	3	BE/FR	GEOL	HS, even
Cathodoluminescence Microscopy CL: Practical course (proj)	0.5	BE	EM	on request

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Module C: Elective Courses (24 EC)

Master Curriculum

Mandatory courses (Module A)

Master Specialties (Module B)

Elective courses (Module C)

Master Thesis Topics (Module D)

First hand information

Module C: Elective courses

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Basement evolution in orogens	2	BE	GEOL	HS, even
Basic Computer Programming for Geosciences	2	BE	EM	annually, HS
Basin Evolution	3	BE/FR	GEOL	HS, even
Cathodoluminescence Microscopy CL: Practical course (proj)	0.5	BE	EM	on request

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Module D: Master thesis Topics (60 EC)

List with current offer of Master Thesis Topics (pdf, 1MB)

Specialities:

ELE: Earth and Life Evolution, **EM:** Earth Materials, **ERG:** Environmental & Resource Geochemistry, **GEOL:** Geology,
PAQS: Pure & Applied Quaternary Sciences

Thesis topic	Advisors:	ELE	EM	ERG	GEOL	PAQS	Uni.
3D Evolution of Cockade Structures in the Grimsel Breccia Fault: An Earthquake proxy, Details	Prof. Marco Herwegh , Prof. Alfons Berger , Prof. Thomas Pettke			x	x		BE
Advanced pore scale geochemical modelling using machine learning algorithm, Details	Prof. Sergey Churakov		x	x			BE
Alkali-aggregate reaction (AAR) and cracking mechanisms of concrete structures (applied research project), Details	Prof. Marco Herwegh , Prof. Alfons Berger			x	x		BE
Analogue modeling of geothermal systems along the Grimsel shear zone, Details	Prof. Guido Schreurs , Prof. Marco Herwegh				x		BE
Characterization of a sustainable building material made of raw earth and hemp, Details	Dr. Guilhem Amin Douillet		x			x	BE
Characterization of fluid accompanied deformation along thrust faults , Details	Prof. Marco Herwegh , Prof. Alfons Berger			x	x		BE

Please note that this list is only a suggestion of topics
Please discuss with all Research Groups / Supervisors at UNIFR and UNIBE
Please note that we can also bridge topics / domains



1. Enrolment university
2. Enrolment Bern-Fribourg MSc (Checkbox in semester data sheet for BeFri network)
3. Course registration

Enrolment

- Enrolment
- Eligibility
- Individual study plan
- Registration for courses
- Registration for examinations
- Deadlines

Enrolment for the Bern-Fribourg Master consists of two steps:

1. University Enrolment

Students should enrol at the University where their MSc supervisor is based (see below). Decide on a **specialty** and check at which university your preferred supervisor works. Enrolment at either the University of Bern or the University of Fribourg guarantees full access to courses and facilities at both partner institutes.

Bern

The application procedure in **Bern** is described on following pages:

- for candidates with **Swiss** qualifications
- for candidates with **foreign** qualifications

Students should **apply online**.

Fribourg

The application procedure in **Fribourg** is described on following pages:

- for candidates with **Swiss** qualifications
- for candidates with **foreign** qualifications

Students should **apply online**.

Courses held entirely in Bern

Registration in KSL:
www.ksl.unibe.ch

Registration for **excursions** in KSL
(further information by mail)

If not yet received a @students.unibe.ch-
address, please contact the lecturers in
Bern about course

Checkbox BeNeFri-Convention in
www.selfservice.studis.unibe.ch
(each semester)

Courses held entirely in Fribourg

Registration in GEFRI:
www.myunifr.ch

Registration **for courses and excursions** in
GEFRI

If not yet received a @unifr-address, please
contact the lectures in Fribourg for course
participation

Further information about registration in
Fribourg:
www.unifr.ch/scimed/de/studies/register

Courses in Bern

www.ksl.unibe.ch

- > Search with **course number**
- > Registration courses: consider **deadlines!**

Courses in Fribourg

www.myunifr.ch - GEFRI

- > Search with **course number**
- > Registration courses: consider **deadlines!**

Course Field description

List of courses

Choose search mode

Mode of search ☒ Simple search ☐ Advanced search ☐ Tree search

Simple search

Search tips?
102495

Search course

Mode of search: ☐ Search from HS2016 ☒ Search from HS2018 ☐ Search all semesters

Courses

Number of located courses: 1

Root number	Semester	SN	Type	Subject	Title	ECTS	Lecturer	Time pattern	Language	Action
102495	HS2018	0	Lecture	Earth Sciences	Basement evolution in orogens	2	Prof. Dr. Alfons Berger	13:15-15:00, every Th, more	EN	Short form Details ILIAS

BEFRI Master in Earth Sciences
Institute for Geology
Berenstrasse 1-3
3012 Bern
Tel. 031 631 6181
sign@geowissenschaften.unibe.ch

University of Fribourg
Ch. du Musée 6 - Perolles
1700 Fribourg
Tel. 026 300 89 70
news.brunnen@unifr.ch

www.geo.unibe.ch/studium.htm
(wird laufend aktualisiert)
4. Semester 2018
19.09.18

Vorlesungsverzeichnis
Herbstsemester 2018

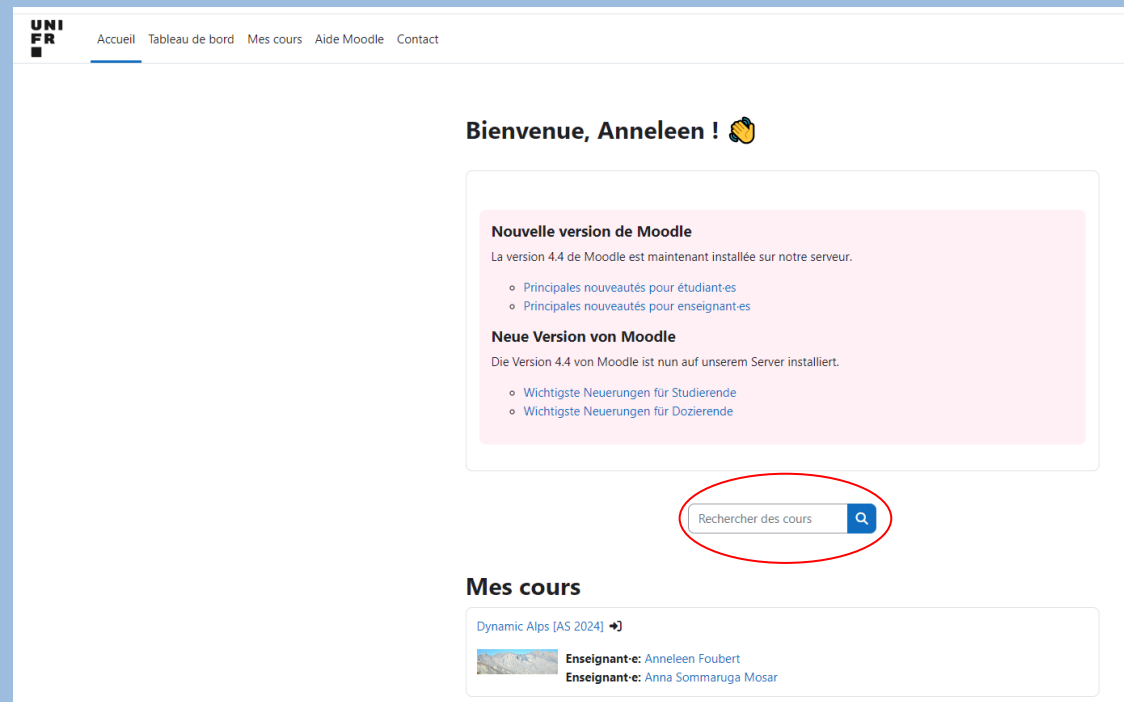
Master Erdwissenschaften
17.09.2018 - 21.12.2018

Nummer	Lehrveranstaltung	Do	Zeit	Ort	Daten	Datum FeldBlock
435243	Advanced Computer Programming for Geosciences Dr. P. Laniat, Prof. J. Hermann 2 ECTS	Do	8-11	Schulungsraum	22.11.2018, 11.12.18, 12.12.18, 12.01.19	
2908	Aqueous Environmental Geochemistry PD Dr. U. Müller 2.5 ECTS	Fr	8:15-12:00	Schulungsraum	12.10.18, 10.20.18, 10.21.18, 11.11.18, 12.10.18, 10.20.18, 10.21.18, 12.10.18, 10.20.18, 10.21.18, 12.10.18, 10.20.18, 10.21.18	
102495	Basement evolution in orogens PD Dr. A. Berger 2 ECTS	Do	13-15	Schulungsraum	8.11. Prüfung	
435241	Basic Computer Programming for Geosciences Dr. P. Laniat, Prof. J. Hermann 2 ECTS	Do	8-11	Schulungsraum	18.10.2018, 11.11.18, 1.11.19, 17.12.17, 17.12.18	
101980	Basin Evolution Prof. F. Schlatter, Dr. J. Moser, Prof. G. Schumacher 3 ECTS	Do	8-11	Prakt. Saal Karten	18.10.	
		Fr	9-12	Prakt. Saal Karten	20.10.	
		Fr	10-12	Prakt. Saal Karten	26.10.	
		Fr	13-16	Prakt. Saal Karten	1.11.	
					14.12.	



Courseware on Moodle

- > moodle.unifr.ch
- > Login with campus account
- > Manual



UNIFR

Accueil Tableau de bord Mes cours Aide Moodle Contact

Bienvenue, Anneleen ! 🙌

Nouvelle version de Moodle
La version 4.4 de Moodle est maintenant installée sur notre serveur.

- Principales nouveautés pour étudiant-es
- Principales nouveautés pour enseignant-es

Neue Version von Moodle
Die Version 4.4 von Moodle ist nun auf unserem Server installiert.

- Wichtigste Neuerungen für Studierende
- Wichtigste Neuerungen für Dozierende

Rechercher des cours 🔍

Mes cours

Dynamic Alps [AS 2024] ➡

 **Enseignant-e:** Anneleen Foubert
Enseignant-e: Anna Sommaruga Mosar



Courseware on Ilias

- > www.ilias.unibe.ch
- > Login with campus account
- > Or direct links in KSL
- > Manual
- > **UniBE /
Phil. Nat. Fakultät /
Erdwissenschaften**

The screenshot shows the ILIAS Universität Bern interface. The left sidebar contains navigation links: 'Arbeitsraum', 'UniBE' (circled in red), and 'Meldungen'. The main content area shows a breadcrumb trail: 'Magazin > Philosophisch-naturwissenschaftliche Fakultät > Erdwissenschaften > HS2020'. Below this, a list of faculties is shown, with 'Philosophisch-naturwissenschaftliche Fakultät' (circled in red) expanded to show a list of departments: 'Medizinische Fakultät', 'Philosophisch-historische Fakultät', 'Philosophisch-humanwissenschaftliche Fakultät', 'Philosophisch-naturwissenschaftliche Fakultät' (checked), 'Biochemie', 'Bioinformatik', 'Biologie', 'Chemie', 'Computational Science', and 'Erdwissenschaften' (checked and circled in red). Under 'Erdwissenschaften', a list of courses is shown, with 'HS2020' (checked and circled in red) selected. The right sidebar contains a 'Coronavirus' section, an 'ILIAS 6' section, and a 'Kategorien' section with a list of course types: 'Blockkurs' (circled in red), 'Exkursion', 'Praktikum (gruppenweise)', 'Übung', and 'Vorlesung'.



Courses held entirely in Bern

Registration for exams via the online database **KSL**

Courses held entirely in Fribourg

Registration for exams via the online database **GEFRI**

Bern:

- > Registration **at the latest 14 days** before the examination date
- > Withdraw **at the latest 14 days** before the examination date!
If registered, but failure to attend: lowest possible grade (1)
- > If you fail an examination you may sit it **only once more** (second mark is valid)
- > You find all regulations on the factsheet incl. the BEFRI reglement:
www.geo.unibe.ch/factsheetmsc



Courses held entirely in Bern

Registration for exams via the online database **KSL**

Courses held entirely in Fribourg

Registration for exams via the online database **GEFRI**

Fribourg:

	Winter	Summer	Fall
Exam Session	26.01.26 - 14.02.26	01.06.26 - 20.06.26	24.08.26 - 12.09.26
Registration	24.11.25 - 12.12.25	13.04.26 - 01.05.26	06.07.26 - 24.07.26

- ✓ Online withdrawal: last day of registration
- ✓ Written withdrawal to the Dean's office: two weeks before exam session
- ✓ If you fail an exam, you may take it **only once more** (second mark is valid)
- ✓ If you register for an exam but fail to attend lowest possible grade (1!)
- ✓ You'll find all information on <https://www.unifr.ch/scimed/en/studies/register>

Travel expenses / Field expenses

- > Travel expenses form (end of semester)
- > Field expense reimbursement form (max. 1500.- / **only with original receipts**)

[illegible]

**UNI
FR**

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b
**UNIVERSITÄT
BERN**

Contributions to Field Expenses for Bern Fribourg Master in Earth Sciences

- Purpose**
The available fund enables the partial reimbursement of field expenses and expenses incurred by taking part in conferences/workshops by enrolled students in the course of their Master thesis.
- Guidelines for claims for reimbursement**
 - A maximum of CHF 1'500.- can be claimed.
 - Students are eligible for reimbursement during a time-span of up to two years from the first enrolment in the Master Degree.

Master thesis once a year, by the
supervisor checks the



- > Immatriculation for fall semester (already started)
- > **Start meeting with advisors and selection of master thesis**

- > Dynamic Alps Excursion September 14th – 18th
- > Course registration KSL (BE) see KSL
- > Course registration GEFRI (FR) see GEFRI
- > Registration BEFRI network (BE) 1st semester by Secretary's Office,
(Checkbox in semester data sheet) each semester
- > Registration GEFRI (FR) Information login in October !
- > Registration examinations
- > Travel expenses end of each semester
- > Re-registration for next spring semester:
 - payment of semester fee
 - e-mail in mid December for semester data sheet



Safety: Emergency Instructions

Questions related to safety:

- ⇒ **Participation on annual safety instructions by safety officer (GeSiBe):**
 Martin Wille: 031 684 87 70, martin.wille@unibe.ch
www.geo.unibe.ch > about_us > safety_at_work (AGU)



Participation on safety instructions by safety officers/lab (UniFr):

Andres Rüggeberg: first aid, chemicals, labs – andres.rueggeberg@unifr.ch

Christoph Neururer: technical, electrical, X-ray – christophe.neururer@unifr.ch

<https://www.unifr.ch/scimed/de/service/safety>

NEXT LAB SAFETY TRAINING UNIFR: 25.11.2026 at 12.15

(register before 20.11.26)

People to ask: Supervisor, safety officer, lab manager

- > We provide technical/ personal equipment to work safe!
 But a safe work environment is one's own **personal responsibility**
- > A lab has rules: know them! (if you don't: ask!)



> Study Director (Bern)



Prof. Jörg Hermann

031 684 84 93

joerg.hermann@unibe.ch

> Study Director (Fribourg)



Prof. Walter Joyce

026 300 89 36

walter.joyce@unifr.ch

> Student Advisory Service,
Examinations, Excursions (Bern)



> Gabriela Wittwer and
Sarah Antenen

– 031 684 87 81 / 38 81

– gabriela.wittwer@unibe.ch

– sarah.antenen@unibe.ch



> Student Advisory Service and
Examinations / GEFRI (Fribourg)



Sylvie Mauron

– 026 300 89 70

– sylvie.mauron@unifr.ch



Student Organisation

GMF

Student's association of the Institute of Geological Sciences - UNIBE

www.gmf-bern.ch



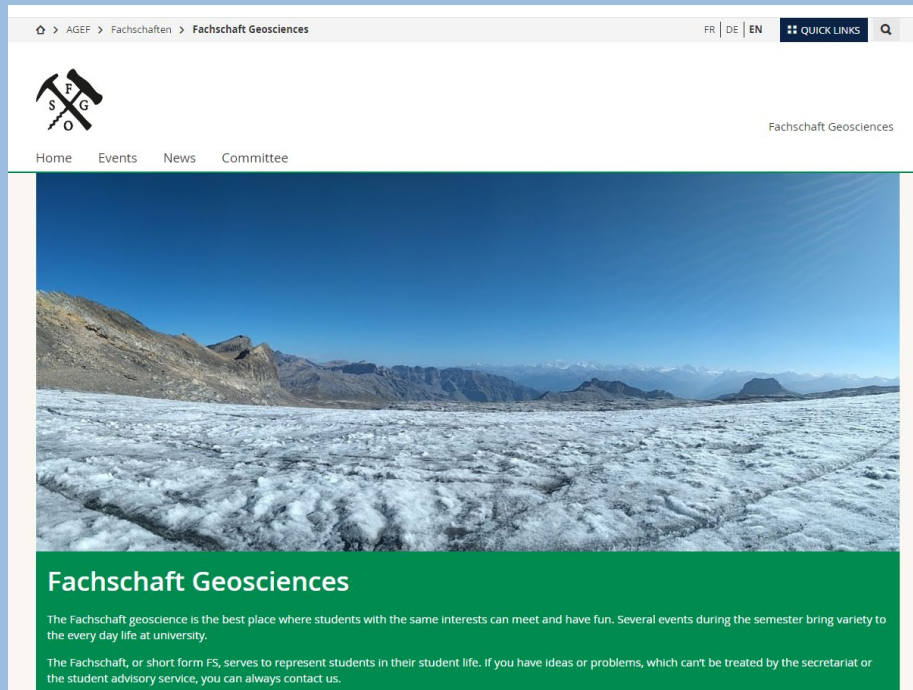


Student Organisation

Fachschaft Geosciences UNIFR

Student's association of the Department of Geosciences - UNIFR

<https://student.unifr.ch/geo/en/>



Questions?

