## Curriculum

The Universities of Bern and Fribourg offer an MSc degree in Earth Sciences. One of the following five special qualifications within this programme may be chosen:

- Earth and Life Evolution
- Earth Materials
- Environmental & Resource Geochemistry
- Geology
- Pure and Applied Quaternary Science

All MSc candidates complete a course module entitled Dynamic Alps, which serves as a common basis for all the specialties. Each speciality consists of a set of mandatory courses, a set of elective courses and a thesis project. Thesis work is spread over all 4 semesters of the degree programme and the topic of the thesis lies within the chosen specialty.

### Special qualifications

- **Earth and Life Evolution**: The evolution of the geosphere and that of the biosphere – linked by a common theme: the processes and the unique history that have produced our life-sustaining planet.
- **Earth Materials**: Selected topics in mineralogy and petrology, both pure and applied aspects, e.g. properties and uses of clay minerals, zeolites in nature and industry, stability of minerals.
- **Environmental & Resource Geochemistry**: Processes of rock–water interaction relevant to groundwater quality, remediation of contaminated sites, deep geological disposal of radioactive and toxic wastes, genesis and exploration of mineral resources, and development of secondary resources.
- **Geology**: Structures and deformation of the lithosphere and of rocks, including the metamorphic and tectonic development of orogens, interaction between Earth internal and surface processes.
- **Pure and Applied Quaternary Science**: Surface processes in orogens and in their forelands, glaciology, paleoclimate research, dating, humans as geological agents, engineering geology.

### Weighting of modules

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<tr>
<th>Semester</th>
<th>Modul A</th>
<th>Modul B</th>
<th>Modul C</th>
<th>Modul D</th>
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<td>1st</td>
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### Eligibility and Fees

Students with a university-level BSc in Earth Sciences are eligible for the MSc degree. Students with a BSc in a related field (e.g. physical geography, physics, chemistry, biology) may also be eligible, depending on the specific curriculum covered in their BSc coursework.

Fees (for the entire MSc course):
- Bern: CHF 3236.-
- Fribourg: CHF 2620.- for Swiss students
- 3220.- for foreign students

BeFri is the acronym for the cooperative research and teaching network between the Universities of Bern and Fribourg. All lectures given in English.
A broad perspective

Earth Science graduates with training in geology are prepared for jobs in many sectors in industry, government agencies and research. Expertise in both, hardrock and softrock geology as well as surface processes and deep processes shaping planet Earth are essential for the understanding of the interactions between the geosphere and society. Geology prepares the graduate to work in specialized fields and to make the link between such fields themselves, and to help solve problems by applying a broad perspective.

Key understanding

Geology requires an understanding of processes ranging from large scale (mountain ranges, basins) to microscopic scale, from deep earth (magmatism) to the Earth’s surface (erosion). This broad spectrum is a recognized strength of both institutes in Bern and in Fribourg.

MSc-Curriculum

- Field work involving novel techniques (e.g. digital mapping)
- Analytical work in the lab
- Theoretical background in geodynamics, rock mechanics and surface processes
- Foundations in natural hazards and GIS
- Foundations in engineering and Quaternary geology
- Courses in Alpine geology or specialized field
- Critical problem-evaluation and data interpretation
- Industry-relevant case studies

Professional training

A 120 ECTS MSc curriculum has been designed to provide both the breadth and the depth of understanding and allows a certain specialization in a field of choice. Equal weight is given to coursework and to parallel thesis research, leading to a high level of professional know-how.

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More information: www.geo.unibe.ch/master or e-mail: master@geo.unibe.ch