Mathematics

**Degree conferred**
Scientiarum doctor in mathematica / Doctor of Philosophy in Mathematics (PhD)

**Commencement of studies**
An application for admission may be submitted at any time.

**Regulation**
http://studies.unifr.ch/go/Pm-6g (French and German only)

**Application procedure**
Candidates with Swiss qualifications
http://studies.unifr.ch/go/0bJpN
Candidates with foreign qualifications
http://studies.unifr.ch/go/4a2qV

**Fribourg profile**
The Department of Mathematics offers a PhD programme in Mathematics. This programme comprises a personal research project leading to a doctoral thesis to be completed over 3-4 years. PhD candidates participate in the scientific life at the department through seminars, advanced courses, workshops or other activities at the department or in the framework of the Swiss Doctoral Program in Mathematics.

The following is a list of professors supervising doctoral theses and of their areas of specialisation.

- **Prof. Jean-Paul Berrut**
  - Numerical analysis; interpolation and approximation, quadrature methods, integral equations, collocation methods

- **Prof. Emanuele Delucchi**
  - Combinatorics and its interplay with topology and algebra; posets, matroids, oriented matroids, combinatorial algebraic topology, arrangements of hyperplanes and of submanifolds

- **Prof. Anand Dessai**
  - Algebraic and differential topology, Riemannian geometry; group actions, positive curvature and symmetry, equivariant index theory

- **Prof. Ruth Kellerhals**
  - Hyperbolic geometry; geometry of discrete groups, geometric group theory, discrete and convex geometry, volumes and polylogarithms

- **Prof. Ioan Manolescu**
  - Probability; problems inspired by statistical mechanics, lattice models such as percolation, random-cluster and Potts models, self-avoiding walk

- **Prof. Christian Mazza**
  - Applied probability; stochastic models in ecology and systems biology, biological networks, complex ecosystems, mathematical models of plant growth

- **Prof. Stefan Wenger**
  - Geometric measure theory, metric geometry; currents in metric spaces, Lipschitz analysis, isoperimetric inequalities, minimal surfaces, asymptotic geometry

**Studies organisation**

**Structure of studies**
No ECTS credits can be earned.

**Doctoral school**
https://math.cuso.ch

**Admission**
In order to be admitted to a doctorate the candidate must have been awarded an academic Bachelor's and Master's degree or an equivalent qualification by a university recognised by the University of Fribourg.

Before applying for a doctorate the candidate must contact a professor who would be willing to supervise the thesis work.

There is no general right to be admitted to a doctorate.

The respective conditions of admission for each doctoral study programme are reserved.

**Contact**
Faculty of Science and Medicine
Department of Mathematics
Chemin du Musée 9
1700 Fribourg
Switzerland
Dr Patrick Ghanaat, study advisor
patrick.ghanaat@unifr.ch
http://studies.unifr.ch/go/mathematicsresearch

**Doc- Postdoc-portal**
http://www.unifr.ch/phd