

## PhD programme

The School of Mathematics is keen to attract well-motivated and able students to engage in research mathematics and invite applications to our PhD programme. To be accepted onto this programme a high standard in a mathematically-based undergraduate degree must have been achieved, equivalent to a UK upper-second or first class MSci degree.

We currently offer PhDs in the following:

- [Applied Mathematics \(/postgraduate/courses/research/maths/applied-mathematics-phd.aspx\)](/postgraduate/courses/research/maths/applied-mathematics-phd.aspx)
- [Management Mathematics \(/postgraduate/courses/research/maths/management-mathematics-phd.aspx\)](/postgraduate/courses/research/maths/management-mathematics-phd.aspx)
- [Pure Mathematics \(/postgraduate/courses/research/maths/pure-mathematics-phd.aspx\)](/postgraduate/courses/research/maths/pure-mathematics-phd.aspx)
- [Statistics \(/postgraduate/courses/research/maths/statistics-phd.aspx\)](/postgraduate/courses/research/maths/statistics-phd.aspx)

The School of Mathematics has a strong research culture, with researchers of international stature in each of its main specialisms. We have:

- around 50 members of academic staff
- around 60 full-time postgraduate students (UK, EU and International)
- regular research seminars and specialist meetings providing a stimulating research environment and opportunities to interact with international experts.

## Research at Birmingham

[Open all sections](#)

Currently thriving at Birmingham are the following major research groups:

- [Applied Mathematics \(/research/activity/mathematics/applied-maths/index.aspx\)](/research/activity/mathematics/applied-maths/index.aspx): applied analysis, financial mathematics, fluid mechanics, mathematical biology, nonlinear waves, scientific computing
- [Theoretical and Computational Optimization \(/research/activity/mathematics/optimization/index.aspx\)](/research/activity/mathematics/optimization/index.aspx): mathematical theory and methods applicable to managerial decision-making, particularly non-linear, discrete, and multi-criteria optimization
- [Pure Mathematics \(/research/activity/mathematics/pure-maths/index.aspx\)](/research/activity/mathematics/pure-maths/index.aspx): algebra, analysis, combinatorics and logic
- [Statistics \(/research/activity/mathematics/statistics/index.aspx\)](/research/activity/mathematics/statistics/index.aspx): nonparametric, robust methods, time series analysis and medical statistics

## Life as a PhD Student at Birmingham

Training is provided through individual supervision of research, by advanced seminar courses and conferences, and through MAGIC taught courses (see below). The PhD degree involves a qualifying dissertation submitted during the second year of study. We expect students to give seminars, attend conferences and present papers, preparing them for professional life.

A successful PhD student will produce independent and original research work which should contribute to knowledge in the field of study. Studying for a PhD is an exciting and extremely rewarding experience.

The School of Mathematics is a founding member of [MAGIC \(http://maths.dept.shef.ac.uk/magic/index.php\)](http://maths.dept.shef.ac.uk/magic/index.php), the 'Mathematics Access Grid: Instruction and Collaboration'. This is an interactive video conferencing resource, which is used to present lectures to postgraduate students across the whole of England. Our postgraduate lectures are broadcast to about 20 English universities and our students have the opportunity to collaborate with students and academics in other universities. This is a very exciting development and means that postgraduate students will have access to lecturers not available on their own campus.

All PhD students must take five 10 credit graduate level courses during their first three years of study. These are typically MAGIC courses, but they can also be courses presented at Summer Schools or final year undergraduate courses.

We have a vibrant postgraduate society called BUMPS which provides an active social network for research students. Particularly popular is the Friday afternoon Cake Club which involves Cake baking and tasting.

Our webpage for [current postgraduate students \(/schools/mathematics/current-students/current-postgraduates/index.aspx\)](/schools/mathematics/current-students/current-postgraduates/index.aspx) includes:

- a comprehensive guide for PhD students
- a list of [recent theses \(http://etheses.bham.ac.uk/view/subjects/QA.html\)](http://etheses.bham.ac.uk/view/subjects/QA.html)

We are keen to attract well-motivated and able research students. Prospective applicants who would like to discuss particular research areas are welcome to contact staff members associated with each of the main research areas.

[How to apply \(/schools/mathematics/postgraduate/how-to-apply.aspx\)](/schools/mathematics/postgraduate/how-to-apply.aspx)

[Scholarships and finance \(/schools/mathematics/postgraduate/scholarships-finance/index.aspx\)](/schools/mathematics/postgraduate/scholarships-finance/index.aspx)

The School provides for both UK and International students a friendly and stimulating research environment. Students in the Graduate School form an important part of the life in the School of Mathematics at Birmingham.

We offer comprehensive training in research and related skills. For example, all PhD students have the opportunity to teach in the School.