University of Birmingham

Pure Mathematics PhD

Postgraduate doctoral research degree in Pure Mathematics PhD/MSc by Research:

There are opportunities for postgraduate research in Pure Mathematics, especially in the areas of algebra, analysis, combinatorics and graph theory. Training is provided through individual supervision of research, by advanced seminar courses and conferences, and by generic courses.

The PhD degree usually involves a qualifying dissertation submitted during the second year of study, which is helpful training for writing the PhD thesis.

Study here and find out why the University of Birmingham was awarded The Times and The Sunday Times University of the Year 2013-14 (http://www.birmingham.ac.uk/news/latest/2013/09/20-sep-Birmingham-announced-as-University-of-the-Year.aspx)

Course fact file

Type of Course: Doctoral research

Study Options: Full time, part time

Duration: PhD: 3–4 years full-time

Start date: Contact us for start date.

Related courses

PhD programme, School of Mathematics Graduate School of Mathematics (/schools/mathematics/postgraduate/phd-programme.aspx)

Contact

Director of Mathematics Graduate School: Professor Chris Parker

Contact us online (http://bham.hobsons.co.uk/ask.aspx?cid=1223&did=24) or at +44 (0)121 414 6193.

School of Mathematics (/schools/mathematics/index.aspx)

Follow us on Twitter (http://twitter.com/eps_unibham)

Details

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The **Pure Mathematics group (http://www.birmingham.ac.uk/research/activity/mathematics/pure-maths/index.aspx)** contributes to research in various parts of algebra, analysis, combinatorics model theory, and , set theory. . Birmingham is recognised as one of the leading centres in the European Union for research in Extremal Combinatorics group theory and real analysis.

Related links

School of Mathematics (/schools/mathematics/index.aspx)

Why study this course

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; see the Birmingham Mathematics Institute

Currently thriving at Birmingham are the following research groups: Applied Mathematics: applied analysis, financial mathematics, fluid mechanics, mathematical biology, nonlinear waves, scientific computing Theoretical and Computational Optimization: mathematical theory and methods applicable to managerial decision-making, particularly non-linear, discrete, and multi-criteria optimization Pure Mathematics: algebra, analysis, combinatorics and logic Statistics: nonparametric, robust methods, time series analysis and medical statistics

Fees and funding

Tuition Fees

Tuition fees for 2015/2016 are as follows:

- £4,090 for **home/EU students**
- £13,195 for **international students**

Learn more about **fees and funding (/postgraduate/pgt-fees/fees.aspx)**

Scholarships and studentships
We award up to ten home/EU EPSRC doctoral training grants each year to eligible students. In exceptional circumstances fully-funded School doctoral training grants may be awarded. Additional income can often be generated by tutorial and marking work. For more information contact the School directly or email **sfo@contacts.bham.ac.uk (mailto:sfo@contacts.bham.ac.uk)** .

International students can often gain funding through partial School scholarships, Commonwealth scholarships or their home government.

Entry requirements

Learn more about **entry requirements (/postgraduate/requirements-dr/step1.aspx)** .

International students
We accept a range of qualifications from different countries – learn more about **international entry requirements (/postgraduate/requirements-dr/step1.aspx)** .

Standard English language requirements (/postgraduate/requirements-pgt/international/index.aspx) apply.

How to apply

Learn more about **applying (/postgraduate/requirements-dr/index.aspx)** .

Apply now (https://pga.bham.ac.uk/lpages/EPS008.htm)

When clicking on the Apply Now button you will be directed to an application specifically designed for the programme you wish to apply for where you will create an account with the University application system and submit your application and supporting documents online. Further information regarding how to apply online can be found on the **How to apply pages (http://www.birmingham.ac.uk/students/courses/postgraduate/apply-pg/index.aspx)**

Apply now (https://pga.bham.ac.uk/lpages/EPS008.htm)

Related links

Postgraduate degree courses, School of Mathematics Graduate school (/schools/mathematics/postgraduate/index.aspx)

Research interests of staff

We are internationally renowned for our world-leading research, which involves international and multidisciplinary collaboration. We have strong research groups in algebra, analysis, combinatorics, continuum mechanics, initiatives and infrastructures, mathematical biology, nonlinear systems, numerical analysis, statistics, and theoretical and computational optimization.

The Pure Mathematics Group has internationally renowned research groups in algebra, analysis and combinatorics. In the last Research Assessment Exercise (RAE 2008) over half of our research outputs were rated as world-leading or internationally excellent.

Visit our **Pure Mathematics research group (/research/activity/mathematics/pure-maths/index.aspx)** website for further information.

Teaching and Learning

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 chosen field. This should be an exciting and extremely rewarding experience.

The School of Mathematics is a founding member of MAGIC, 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.

Our webpage **for current postgraduate students (http://www.birmingham.ac.uk/schools/mathematics/current-students/current-postgraduates/index.aspx)** includes:

- a comprehensive guide for PhD students
- a list of recent theses

Related research

- **Pure Mathematics Research, School of Mathematics (/research/activity/mathematics/pure-maths/index.aspx)**

Related staff

Professor Sergey Shpectorov (/staff/profiles/maths/shpectorov-sergey.aspx)

Employability

University Careers Network

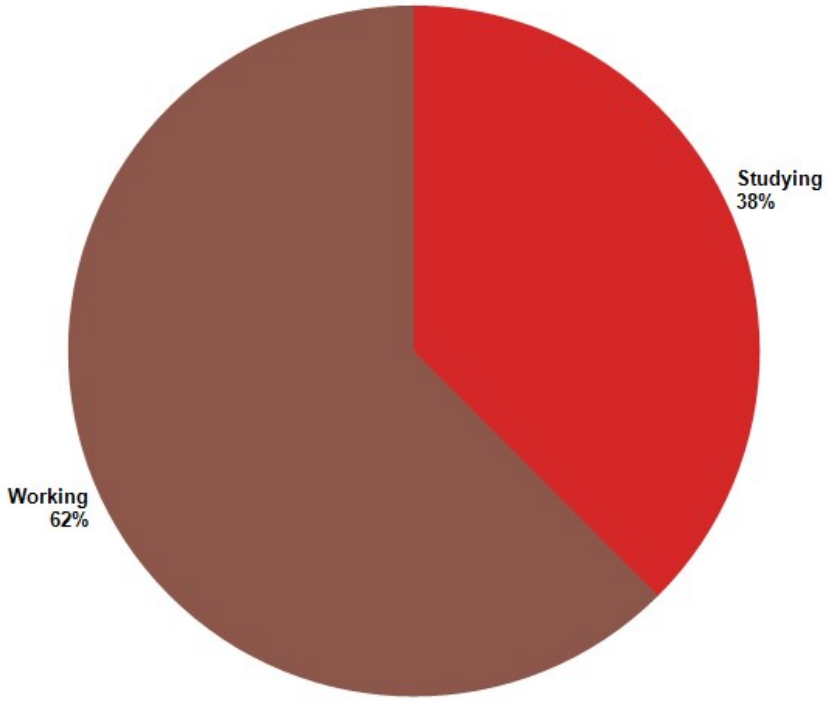
Preparation for your career should be one of the first things you think about as you start university. Whether you have a clear idea of where your future aspirations lie or want to consider the broad range of opportunities available once you have a Birmingham degree, our Careers Network can help you achieve your goal.

Our unique careers guidance service is tailored to your academic subject area, offering a specialised team (in each of the five academic colleges) who can give you expert advice. Our team source exclusive work experience opportunities to help you stand out amongst the competition, with mentoring, global internships and placements available to you. Once you have a career in your sights, one-to-one support with CVs and job applications will help give you the edge.

If you make the most of the **wide range of services (https://intranet.birmingham.ac.uk/as/employability/careers/college/eps/index.aspx)** you will be able to develop your career from the moment you arrive.

Destinations of Leavers from Higher Education (DLHE) 2011/12

The DLHE survey is conducted 6 months after graduation.



Examples of employers

- Aon Hewitt
- Barnett Waddingham
- Capita
- Deloitte
- Deutsche Bank
- Ernst & Young
- Mercer
- PricewaterhouseCoopers
- Softcat
- Tudor Grange Academy School

Examples of occupations

- Actuarial Trainee
- Actuarial Consultant
- Actuary
- Analyst
- Associate Auditor
- Consultant
- Financial Analyst
- Management Accountant
- Secondary School Teacher
- Software Tester

Further study-examples of courses

- ACA - Accountancy
- ACCA - Accountancy
- MSc Accounting and Finance
- MSc Actuarial Science
- MSc Computing Systems
- MSc Finance and Investment
- MSc Operational Research
- MSc Statistics
- PGCE Mathematics
- PhD Applied Mathematics

Visit the **Careers section of the University website (https://intranet.birmingham.ac.uk/as/employability/careers/index.aspx)** for further information.

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