



UNIVERSITY OF
BIRMINGHAM

SCHOOL OF
MATHEMATICS

APPLIED MATHEMATICS MSc



PREPARING YOU TO WORK OR STUDY AT THE INTERDISCIPLINARY FRONTIERS OF APPLIED MATHEMATICS

Most things in the real world are complex, from biological systems to the financial markets to industrial processes, but explaining them is essential to making progress. Applied Mathematics is a fundamental tool in understanding many of these systems. The Applied Mathematics MSc programme is designed to train the next generation of applied mathematicians.

FACT FILE

Start date: September

Duration: 1 year

Format: Full-time

Entry requirements: 2.1 Honours degree in mathematics or programmes with advanced mathematical components, including physics and some engineering subjects

By developing, analysing and interpreting mathematical models, we gain insight into complex processes and a framework for interpreting experimental data.

Today, there is an increasingly urgent need, in both research and industry, for a new generation of scientists with advanced applied mathematics skills, alongside an ability to absorb information from other disciplines and communicate with other researchers. This programme is designed to develop all of these specific and transferable skills, making you an attractive prospect for employment or further study.

WHY CHOOSE BIRMINGHAM?

- Develop your applied mathematical skills, as well as cutting-edge interdisciplinary techniques
- The internationally recognised School of Mathematics collaborates widely with multiple disciplines and industries
- Learn from world leaders in their fields
- Obtain a qualification that is respected the world over and make you an attractive prospect in a very competitive job market

Course content:

This course consists of 180 credits.

Core modules:

- Research Skills – 20 credits
- Research project in Applied Mathematics – 60 credits

Optional modules: (Choose 100 credits from the following modules, all are 20 credits. Subject to availability)

- Topics in Applied Mathematics
- Continuum Mechanics
- Mathematical Biology and Modelling of Partial Differential Equations
- Advanced Mathematical Biology
- Methods in Partial Differential Equations
- Reaction Diffusion Theory
- Perturbation Theory, Asymptotics and Applied Nonlinear Dynamical Systems
- Mathematical Finance
- Nonlinear Waves
- Numerical Methods and Numerical Linear Algebra
- Medical Statistics

More about the course

The first two semesters are comprised of the taught components of the programme, mainly delivered in small classes. In the summer semester you will undertake a research project working closely with international-profile researchers in applied mathematics.

The programme also supports you to develop diverse transferable skills, including: formulating, testing and refining models; written and verbal communication; problem solving; and working as part of a research team.

Careers

The skills you gain from this programme are highly transferable and open up opportunities for a career in industry, such as in the aerospace, petroleum and financial industries.

The solid training in applied mathematics provides the necessary background for further postgraduate study in diverse areas ranging from engineering and physics to finance.



LEARN MORE

For full module information and an online application form, please visit our dedicated web pages, or contact our programme staff with your questions.

Tel: +44 (0)121 414 7374

Email: mat-phys-hub-msc@contacts.bham.ac.uk

www.birmingham.ac.uk/msc-applied-maths

This leaflet was written several months in advance of the start of the academic year. It is intended to provide prospective students with a general picture of the programmes and courses offered by the School. Please note that not all programmes or all courses are offered every year. Also, because our research is constantly exploring new areas and directions of study some courses may be discontinued and new ones offered in their place.



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