“Edinburgh isn’t so much a city, more a way of life … I doubt I’ll ever tire of exploring Edinburgh, on foot or in print.”

Ian Rankin
Best-selling author and alumnus
Influencing the world since 1583

For more than 400 years the University of Edinburgh has been changing the world. Our staff and students have explored space, won Nobel Prizes and revolutionised surgery. They’ve published era-defining books, run the country, made life-saving breakthroughs and laid the foundations to solve the mysteries of the universe.

Our distinguished alumni include NASA astronaut Piers Sellers, former MI5 Director-General Dame Stella Rimington, Olympians Sir Chris Hoy and Katherine Grainger and historical greats such as philosopher David Hume, suffragist Chrystal Macmillan, who founded the Women’s International League for Peace and Freedom, and physicist and mathematician James Clerk Maxwell.

International collaboration
An internationally renowned centre for academic excellence, we forge world-class collaborations with partners such as the California Institute of Technology (Caltech), Stanford University, the University of Melbourne, Peking University, the University of Delhi and the University of Kwazulu-Natal. As a member of the League of European Research Universities and the Coimbra Group, we link up with leading institutions across Europe.

Linking research and commerce
We were one of the first UK universities to develop commercial links with industry, government and the professions. Edinburgh Research and Innovation (ERI) promotes and commercialises our research excellence and can assist you in taking the first step to market, through collaborative research, licensing technology or consultancy.

Enhancing your career
We are committed to embedding employability in your University experience and have one of the Russell Group’s best track records for graduate employment. From volunteering schemes to our sector-leading Careers Service, we provide you with opportunities to develop your skills, knowledge and experience, giving you an edge in the competitive job market.

TOP 50
We’re consistently ranked one of the top 50 universities in the world. We’re 19th in the 2016/17 QS World University Rankings.

4TH
We’re ranked fourth in the UK for research power, based on research quality and breadth.*

83%
The majority of our research – 83 per cent – is considered world leading or internationally excellent.*

23RD
We’re ranked 23rd in the world for the employability of our graduates.**

£305m
In 2014/15 we won £305 million in competitive research grants.

20
We’re associated with 20 Nobel Prize winners, including physicists Peter Higgs, Charles Barkla and Max Born, medical researcher Peter Doherty and biologist Sir Paul Nurse.

137 NATIONALITIES
Students from two-thirds of the world’s countries study here.

* Research Excellence Framework (REF) 2014
** Latest Emerging Global Employability University Ranking
Taught masters programmes

Computational Applied Mathematics

MSc 1 yr FT (2 yrs FT available for UK/EU students)
Pgdip 9 mths FT

Programme description
This is a forward-looking new programme that provides its graduates with wide-ranging skills in computation, numerical analysis and modelling. Students on the programme will have the opportunity to hone their understanding of numerical methods as well as the chance to apply their knowledge in various real-world systems using appropriate software.

Industry and government urgently need graduates with advanced capabilities in this area. Specific skills you will develop include methods to apply their knowledge in various types of real-world systems using relevant programming experience.

Programme structure
The programme involves two semesters of taught courses followed by a dissertation project. Taught elements of the programme will be delivered by both Heriot-Watt University and the University of Edinburgh.

Option courses, followed by a dissertation project. Taught elements of the programme will be delivered by both Heriot-Watt University and the University of Edinburgh.

Placements
Adding depth to your learning, a work placement puts you at the heart of financial organisations such as Aberdeen Asset Management, Lloyds Banking Group, Moody’s Analytics and the Royal Bank of Scotland.

Programme description
This dynamic programme delivers high-quality training in the theory of computational mathematics and emphasises computational methods. Graduates are expected to have a working knowledge of advanced computational finance (including construction of algorithms and programming skills) and a sound knowledge of the theory of probability and stochastic analysis.

These are the core theories needed in the modern valuation of complex financial instruments. The programme delivers:

- a flexible programme of study relevant to the needs of employers such as: top investment banks, hedge funds and asset management firms;
- a solid knowledge in financial derivative pricing, risk management and portfolio management; and
- the transferable computational skills required by the modern quantitative finance world.

Placements
Adding depth to your learning, a work placement puts you at the heart of financial organisations such as Aberdeen Asset Management, Lloyds Banking Group, Moody’s Analytics and the Royal Bank of Scotland.

Financial Mathematics

MSc 1 yr FT

Programme description
This masters is run jointly with Heriot-Watt University. It provides you with expertise in financial mathematics, including stochastic calculus, and a range of practical techniques for analysing financial markets. You will also learn quantitative skills for developing and managing risk that are in high demand since the recent financial crisis.

Placements
Adding depth to your learning, a work placement puts you at the heart of financial organisations such as Aberdeen Asset Management, Lloyds Banking Group, Moody’s Analytics and the Royal Bank of Scotland.

Programme structure
This programme involves two taught semesters of compulsory and option courses, followed by a dissertation project. Taught elements of the programme will be delivered by both Heriot-Watt University and the University of Edinburgh and you will attend each institution as appropriate.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:
- Credit Risk Modelling; Derivative Markets; Derivative Pricing and Financial Modelling; Discrete Time Finance; Financial Markets; Special Topics 1; Special Topics 2; Stochastic Analysis in Finance.

OPTION COURSES PREVIOUSLY OFFERED INCLUDE:
- Deterministic Optimization Methods in Finance; Financial Econometrics; Portfolio Theory; Numerical Techniques of Partial Differential Equations; Optimization Methods in Finance; Simulation; Statistical Methods; Statistical Inference; Time Series Analysis; Stochastic Control and Dynamic Asset Allocation.

Career opportunities
Graduates typically work in major financial institutions or continue their studies by joining PhD programmes. Recent graduates are now working as bankers, financial consultants, tax administrators and as risk, portfolio, quantitative and credit analysts, for employers such as EY, Barclays Bank, Scottish Widows, Standard Life, Moody’s Analytics and the People’s Bank of China.

Entry requirements
A UK 2:1 degree, or its international equivalent (www.ed.ac.uk/ international/graduate-entry), in mathematics or a mathematical subject such as statistics, physics or engineering.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Contact: MACS PG Enquiries
Tel +44 (0)131 451 4152
Email cmfmsc@ed.ac.uk

Programme Director: Professor Benedict Leimkuhler
Tel +44 (0)131 650 4882
Email cammsc@ed.ac.uk

Programme Director: Dr Sotiros Sabanis
Tel +44 (0)131 650 5084
Email cmfmsc@ed.ac.uk

Entry requirements
A UK 2:1 degree, or its international equivalent (www.ed.ac.uk/ international/graduate-entry), in mathematics or a mathematical subject such as statistics, physics or engineering. You must also have relevant programming experience.

Option courses

Career opportunities
You can expect to go on to work in major financial institutions or to continue your studies by joining a PhD programme.

Entry requirements
A UK 2:1 degree, or its international equivalent (www.ed.ac.uk/ international/graduate-entry), in mathematics or a mathematical subject such as statistics, physics or engineering. You must also have relevant programming experience.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

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Programme Director: Dr Sotiros Sabanis
Tel +44 (0)131 650 5084
Email cmfmsc@ed.ac.uk

www.ed.ac.uk/pg/118

www.ed.ac.uk/pg/894
Financial Modelling & Optimization

MSc 1 yr FT (2 yrs PT available for UK/EU students)
PgDip 9 mths FT

Programme description
This programme gives you a flexible syllabus to suit the demands of employers that use modern financial tools and optimization techniques in areas such as the financial sector and energy markets. We will give you sound knowledge in financial derivative pricing, portfolio optimization and financial risk management. We will also provide you with the skills to solve some of today’s financial problems, which have themselves been caused by modern financial instruments. This expertise includes modern probability theory, applied statistics, stochastic analysis and optimization.

Placements
Adding depth to your learning, a work placement puts you at the heart of financial organisations such as Aberdeen Asset Management, Lloyds Banking Group, Moody’s Analytics and the Royal Bank of Scotland.

Programme structure
This programme involves two taught semesters of compulsory and option courses, followed by a dissertation project.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:
- Discrete-Time Finance; Finance, Risk and Uncertainty; Fundamentals of Optimization; Optimization Methods in Finance; Research-linked Topics; Risk Neutral Asset Pricing; Simulation; Stochastic Analysis in Finance.

OPTION COURSES PREVIOUSLY OFFERED INCLUDE:
- Advanced Time Series Econometrics; Computational Optimization; Computing for Operational Research and Finance; Credit Scoring; Financial Risk Management; Financial Risk Theory; Fundamentals of Operational Research; Large Scale Optimization for Data Science; Modern Optimization Methods for Big Data Problems; Multivariate Data Analysis; Nonlinear Optimization; Numerical Partial Differential Equations; Object-Oriented Programming with Applications; Risk Analysis; Stochastic Control and Dynamic Asset Allocation; Stochastic Modelling; Stochastic Optimization.

Career opportunities
Graduates have gone on to work in major financial institutions or to continue their studies by joining PhD programmes. Recent graduates are now working as financial consultants, tax administrators and as risk, quantitative and credit analysts, for employers such as EY, Barclays Bank, Santander, Scottish Widows, Moody’s Analytics and the People’s Bank of China.

Entry requirements
A UK 2:1 degree, or its international equivalent [www.ed.ac.uk/internationalgraduate-entry], in mathematics or a mathematical subject such as statistics, physics or engineering.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director
Dr Sotirios Sabanis
Tel +44 (0)131 650 5084
Email Economics@ed.ac.uk

See also...
Taught masters programmes in related fields are also offered by the University of Edinburgh Business School, the School of Economics, School of Informatics and the School of Physics & Astronomy.

www.ed.ac.uk/studying/prospectus-request
Operational Research with Data Science

MSc 1 yr FT (2-3 yrs PT available for UK/EU students)

Programme description
This programme will show you how to use mathematical techniques to tackle real-life problems ranging from scheduling flights and handling large data sets to managing investments and minimising risks. The skills of operational research and data science are in high demand.

This is a new, forward-looking programme that delivers high-quality training. You will develop strong technical skills in operational research, optimization and statistics, practical skills in programming and modelling for a wide range of applications and communications skills in writing and audio-visual presentation.

Programme structure
This MSc consists of two semesters of taught courses, assessed by coursework and examinations. You will undertake four compulsory lab-based courses and practical, lab-based courses assessed by a combination of exams, written reports and programming assignments. Following successful completion of the courses, you will undertake a dissertation, which may take the form of an industrial project.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:
- Fundamentals of Optimization
- Fundamentals of Operational Research
- Methodology
- Modelling and Consulting Skills
- Computing for Operational Research and Finance

OPTION COURSES PREVIOUSLY OFFERED INCLUDE:
- Computing for Operational Research
- The Analysis of Survival Data

You may also select options in the areas of finance, industry; optimization; statistics and data science.

Career opportunities
Graduates will gain the transferable skills required to pursue careers in a data-rich operational research environment, and will be in an ideal position to apply for work in a wide range of institutions in the public and private sector. The programme is also excellent preparation for further study in operational research, optimization or data science.

Entry requirements
A UK 2:1 degree, or its international equivalent (www.ed.ac.uk/ international/graduate-entry), in a numerate discipline such as mathematics, engineering, computer science, physical or biological sciences, economics or business. You must also have studied probability and statistical theory at university level.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Dr Julian Hall
Tel +44 (0)131 651 7761
Email ormsc@ed.ac.uk

Statistics & Operational Research

MSc 1 yr FT (2 yrs PT available for UK/EU students)

Programme description
This program will help you develop professionally in the theory and practice of statistics and operational research (OR), providing you with the tools necessary to succeed in a variety of careers.

It will prepare you for work in areas such as the medical and health industry, government, the financial sector and any other area where modern statistical tools and OR techniques are used. You will also develop the wider skills required for solving problems, working in teams and time management.

You will be able to identify and apply appropriate statistical or operational techniques to practical problems. This will include specifying appropriate models and fitting these models using appropriate computer packages.

Programme structure
This MSc consists of two semesters of lecture-based courses and practical, lab-based courses assessed by a combination of exams, written reports and programming assignments. Following successful completion of the courses, you will undertake a dissertation, which may take the form of an industrial project.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:
- Computing for Statistics
- Fundamentals of Operational Research
- Fundamentals of Optimization
- Likelihood and Generalised Linear Models
- Modelling and Consulting Skills
- Statistical Regression Models
- Stochastic Modelling
- Time Series Analysis and Forecasting.

OPTION COURSES PREVIOUSLY OFFERED INCLUDE:
- The Analysis of Survival Data
- Bayesian Data Analysis
- Bayesian Theory
- Stochastic Modelling
- Statistical Programming
- Statistical Regression Models
- Stochastic Optimisation
- Topics in Applied Operational Research
- Time Series Analysis and Forecasting.

Career opportunities
This programme is ideal for students who wish to apply their statistical and operational research knowledge within a wider range of sectors including the medical and health sector, government and finance. The advanced problem-solving skills you will develop will be highly prized by many employers.

Entry requirements
At least a UK 2:1 degree, or its international equivalent (www.ed.ac.uk/ international/graduate-entry), in a numerate discipline such as mathematics, engineering, computer science, physical or biological sciences, economics or business. You must also have studied probability and statistical theory at university level.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Dr Bruceorton
Tel +44 (0)131 650 4884
Email statsmsc@ed.ac.uk

Statistics with Data Science

MSc 1 yr FT (2-3 yrs PT available for UK/EU students)

Programme description
In this digital and data-rich era, the demand for statistics graduates from industry, the public sector and academia is high, yet the pool of suitably qualified candidates is small.

The recent growth of data science has increased the awareness of the importance of statistics, with the analysis of data and interpretation of the results firmly embedded within this newly recognised field. This programme is designed to train the next generation of statisticians with a focus on the newly recognised field of data science.

It combines rigorous statistical theory with wider hands-on practical experience of applying statistical techniques to data and correctly interpreting the associated results. You will be trained in both classical and Bayesian ideologies and associated computational software, including R, for fitting a range of different models to data. There will be significant practical experience applying different statistical techniques.

Programme structure
This MSc consists of two semesters of lecture-based courses and practical, lab-based courses assessed by a combination of exams, written reports and programming assignments. Upon successful completion of the courses you will complete a dissertation, usually taking the form of two consultancy-style projects or an externally supervised project.

COMPULSORY COURSES PREVIOUSLY OFFERED INCLUDE:
- Statistical Theory
- Statistical Regression Models
- Bayesian Theory
- Statistical Programming
- Bayesian Data Analysis
- Likelihood and Generalised Linear Models

OPTION COURSES PREVIOUSLY OFFERED INCLUDE:
- The Analysis of Survival Data
- Combinatorial Optimization
- Extreme Computing: Fundamentals of Operational Research
- Fundamentals of Optimization
- Introductory Applied Machine Learning
- Large Scale Optimization for Data Science
- Machine Learning & Pattern Recognition
- Modern Optimization Methods for Big Data Problems
- Multi-Level Modelling
- Multivariate Data Analysis
- Nonparametric Regression
- Object-Oriented Programming with Applications
- Probabilistic Modelling and Reasoning: Statistical Consultancy
- Stochastic Modelling
- Stochastic Optimization Text Technologies for Data Science
- Time Series Analysis and Forecasting.

Career opportunities
Trained statisticians are in high demand due to an increasingly data aware society. We anticipate that the majority of graduates will be employed as statisticians within private and public institutions providing statistical advice and consultancy. The statistical analysis/interpretation and communication skills you will develop and your knowledge of the underlying statistical principles coupled with practical experience of implementing statistical techniques using standard software across a range of applications, will ensure you are ideally placed for a range of job opportunities or for further study.

Entry requirements
A UK 2:1 degree, or its international equivalent (www.ed.ac.uk/ international/graduate-entry), in a numerate discipline such as mathematics, engineering, computer science, physical or biological sciences, economics or business. You must also have studied probability and statistical theory at university level.

English language requirements
See page 2.

Fees and funding
For fees see page 20 and for funding information see page 22.

Programme Director Dr Bruceorton
Tel +44 (0)131 650 4884
Email statsmsc@ed.ac.uk
We carry out research in the following areas:

- algebra and number theory;
- computational mathematics;
- geometry and topology;
- mathematical analysis;
- mathematical physics;
- operational research and optimization;
- partial differential equations (PDEs);
- probability and stochastic analysis; and
- statistics.

**Centres and institutes**

In 2005, we set up the Maxwell Institute for Mathematical Sciences, in collaboration with Heriot-Watt University. The Institute pools research from both universities to offer a research and postgraduate training environment that can attract the best mathematics talent from around the world.

With Heriot-Watt University we also created the International Centre for Mathematical Sciences (ICMS). This research institute works to develop mathematical sciences in new directions, supports and develops mathematics that is relevant and in demand from other sciences, industry and commerce and fosters collaboration between mathematics departments across Scotland.

**MIGSAA**

In March 2014, the School of Mathematics became a Centre for Doctoral Training (CDT) and now hosts the Maxwell Institute Graduate School in Analysis and its Applications (MIGSAA). MIGSAA offers a unique, fully integrated, four-year PhD programme, which will train 60 students to the highest international standards.

Students receive broad training in theoretical analysis, stochastics, numerics and applications and will emerge with multiple skill sets designed to deal with the sophisticated challenges arising in academia, industry and commerce. Our approach is founded on rigorous mathematical analysis in the context of collaboration with industry. The programme is jointly operated by the University of Edinburgh and Heriot-Watt University and students will receive PhDs awarded jointly by both institutions.

MIGSAA differs from a standard PhD degree. During the first year, you will participate in a full programme of broad academic training in the specialist areas of the CDT, including a joint taster project in the autumn and a fuller project during the summer which may align with your eventual research topic. The matching of a supervisor with your research topic is done during this first year. In subsequent years we offer high-level courses augmenting your primary research activity, as well as a number of other activities specifically focused on the MIGSAA students, including the possibility of industrial placements and academic placements in other countries.

We offer up to 12 fully-funded places across the University of Edinburgh and Heriot-Watt University in each intake. If you are interested in our PhD programmes in Mathematical Analysis, Stochastic Analysis or Applied Mathematics then MIGSAA will be an opportunity that you do not wish to overlook.

For further information, contact MIGSAA:

- **Director** Tony Carbery  
  Email: a.carbery@ed.ac.uk
- **Deputy Director** Dugald Duncan  
  Email: d.duncan@hw.ac.uk

**Postgraduate research programmes**

**Entry requirements**

A UK first-class honours degree, or its international equivalent (www.ed.ac.uk/internationalgraduate-entry), in an appropriate subject; or a UK 2:1 honours degree plus a UK masters degree, or their international equivalents; or relevant qualifications and experience.

Please check the specific entry requirements for your programme online before applying.

For more information, see page 20.

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**Research opportunities**

**Algebra & Number Theory**

**www.ed.ac.uk/pg/309**

We offer algebra and number theory research group is made up of international researchers in the field who have won between them the European Mathematical Society Prize, the Whitehead Prize of the London Mathematical Society, the Waclaw Sierpinski Prize of the Polish Academy of Sciences and the Renwick Prize of the London Mathematical Society.

Our members have given invited lectures at both the International Congress of Mathematicians and the European Congress of Mathematicians. Our research focuses on several areas: non-commutative ring theory; non-commutative algebraic geometry; the geometry of algebraic numbers; Lie-theoretic representation theory; quantum algebra; and category theory.

Much of our research is related to the areas of geometry and topology, and mathematical physics, which has lead to the formation of the Hodge Institute: [http://hodge.maths.ed.ac.uk](http://hodge.maths.ed.ac.uk)

Through the School’s membership of the Maxwell Institute, we present regular seminars, and run our own informal seminars and colloquia. We also serve on editorial boards of various international journals. All of our PhD students take part in international conferences and symposia and, in part thanks to this global exposure, many have gone on to postdoctoral positions throughout the world.

**English language requirements**

See page 20.

**Fees and funding**

For fees see page 20 and for funding information see page 22.

**Contact** Graduate School Administrator  
Email: pgresearch@maths.ed.ac.uk

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**Case study: Edinburgh’s research with impact**

**Statistical crime fighters**

One of the strengths of the University’s School of Mathematics and Maxwell Institute for Mathematical Sciences is the ability of our researchers to apply complex mathematical principles in order to solve seemingly unrelated problems. The innovative work of Professor Colin Aitken and his colleagues, in an area of forensic science, shows just how wide-ranging the results of their research can be.

**Project background**

Scientific evidence has a crucial role to play in the administration of justice. It is important that it be evaluated objectively and interpreted clearly for the courts, since the incorrect communication of its value leads to appeals or even miscarriages of justice. An understanding of the value of forensic evidence relies heavily on an assessment of uncertainty. However, to help a court estimate the relative likelihood of the two possibilities – of association or non-association with a crime – Aitken and his team calculated a so-called likelihood ratio (LR) that takes into account variations in forensic scientific evidence. The aim was to use bayesian statistical methods to enable forensic scientists worldwide to interpret their data reliably.

**Project results**

The sampling protocols developed at the School of Mathematics have been widely adopted. They have been recommended to forensic laboratories by the Crown Office in Scotland, and in guidelines by the United Nations Office on Drugs and Crime. These new methods have reduced cost, increased accuracy and improved the interpretation of the value of evidence in courtrooms around the world. A senior forensic statistician at the Netherlands Forensic Institute commented: “The groundbreaking work of Aitken and others has transformed the way we evaluate forensic evidence... the LR method is the next step in the evolution from forensic craft to forensic science.”

See more online: [www.ed.ac.uk/research/impact](http://www.ed.ac.uk/research/impact)
Analysis

Our analysis research group is one of the UK's top centres for research in the field, especially in linear and nonlinear PDEs and harmonic analysis. Your passion for mathematical analysis will be rewarded by contact with, and supervision by, world-leading academic staff, a rich seminar and working group programme and ultimately a qualification that boasts an internationally respected pedigree.

Research
We have a unique focus on the interplay of classical Euclidean harmonic analysis with the modern theory of PDEs. We study harmonic analytic ideas in number theory, geometric measure theory, combinatorics, and discrete geometry and geometrically invariant inequalities; and we investigate applications of harmonic analysis to elliptic and parabolic PDEs with rough coefficients and/or on rough domains. We also study: nonlinear hyperbolic, dispersive and kinetic equations and systems arising in the classical field theories of mathematical physics, mathematical biology and, in connection with black holes, mathematical general relativity; free boundary problems, optimal mass transportation and Monge-Ampère equations in nonlinear elasticity and other continuum theories; and well-posedness for supercritical initial value problems with noisy initial data.

Additional resources
In addition to the School’s excellent facilities, as part of the analysis group you will have access to the activities of the CANPDE and the MIGSAA. Through seminars, mini-symposia and training courses, these stimulate and support development of research in analysis and nonlinear PDEs.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Contact Graduate School Administrator
Email pgresearch@maths.ed.ac.uk

For more information about research in the School of Mathematics, please visit: www.maths.ed.ac.uk/research

Applied & Computational Mathematics

The Applied and Computational Mathematics research group combines expertise in dynamics, classical and statistical mechanics and advanced scientific computing techniques, to develop techniques for applications such as molecular dynamics, geophysical and astrophysical fluid dynamics and optoelectronics.

If you have a passion for applied mathematics, our facilities, people and environment will help you develop your research ideas to their full potential. You’ll have access to Edinburgh Parallel Computing Centre (EPCC), one of Europe’s leading supercomputing centres, and membership of the Centre for Numerical Analysis and Intelligent Software (NAIS).

Research environment
Our research interests are varied and include: astronomic fluid dynamics, multiscale modelling and analysis, molecular dynamics, mathematical meteorology, Hamiltonian dynamics, nonlinear waves in fluids and solids, optoelectronics, signal processing, mathematical biology, exponential asymptotics and homogenisation theory.

Valuable connections
Having access to a broad community of researchers means that your work will be well distributed and recognised. Through the NAIS collaboration, you’ll create strong networks with researchers across Scotland and have access to substantial training as well as visitor and workshop programmes in numerical analysis, computer science and high performance computing software development.

As part of the Applied & Computational Mathematics group you will have access to the training activities provided by MIGSAA, strong links also exist with life scientists, chiefly through SynthSys (Synthetic and Systems Biology Edinburgh), a multidisciplinary Edinburgh based centre whose mission is the analysis and design of biochemical systems using theoretical, computational, and biological techniques.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Contact Graduate School Administrator
Email pgresearch@maths.ed.ac.uk

Geometry & Topology

Our Geometry and Topology research group has strong links with both the Algebra & Number Theory and the Mathematical Physics research groups, as you can find at our common home in the Hodge Institute: http://hodge.maths.ed.ac.uk

You’ll find this invaluable, as opportunities to discuss your work and expand your thinking abound. Working within one of the largest mathematics groups in the UK, you’ll be completing your degree in an environment that hums with a busy graduate school life, and you’ll have the chance to make your mark in seminars, workshops, clubs and outings.

Our interests include algebraic geometry, derived categories, algebraic and geometric topology, twistor theory, category theory and integrable systems.

While we can offer a large community of researchers under one roof, we believe in encouraging you to gain as broad a perspective as possible. The best way to do this is to involve yourself in the international dialogue on your research area, through attending conferences and symposia, and visiting your peers in centres of research worldwide. Throughout your studies, you’ll be given opportunities to travel to events and institutions that will allow you to gain this perspective, and open up new areas of investigation.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

Contact Graduate School Administrator
Email pgresearch@maths.ed.ac.uk

For more information about research in the School of Mathematics, please visit: www.maths.ed.ac.uk/research

Mathematical Analysis & its Applications

This programme is associated with the Maxwell Institute Graduate School in Analysis and its Applications (MIGSAA), a Centre for Doctoral Training that provides high quality instruction in analysis and the applications of analysis to a wide range of areas.

MIGSAA has been made possible by a grant from the UK’s Engineering and Physical Sciences Research Council and the Scottish Funding Council. The programme is delivered in collaboration with Heriot-Watt University.

PhD study in MIGSAA may be undertaken with more than 40 supervisors and on topics ranging from pure analysis to applied mathematics relevant for scientific, engineering, environmental or social challenges. Most projects will relate to one of the following themes:

- Harmonic Analysis
- Partial Differential Equations (PDEs)
- Stochastic Processes
- Mathematical Modelling
- Atomic and Molecular Systems
- Fluid Dynamics
- Applied Probability.

Our intention is that all MIGSAA students gain awareness of the full intellectual spectrum of research in analysis and its applications, including familiarity with theoretical issues, stochastic techniques, numerical methods and examples of how analysis problems impact the sciences and engineering. Therefore we expect all students to take some training spanning these areas – even though your eventual PhD thesis may specialise in only one or two.

Research environment
As opposed to a standard PhD, you will be admitted to the programme (rather than with a specific supervisor) and take PhD training courses and projects, which help shape your perspective, leading to a match with a supervisor in Year 1. The research project directed by the supervisor is still the centre-piece of the PhD, but this is augmented by an ongoing training programme in Years 2-4.

Valuable connections
Mathematics is a discipline of high intellect with connections stretching across all the scientific disciplines and beyond, and in Edinburgh you can be certain of thriving in a rich academic setting. The collaboration between MIGSAA’s partner institutions maximises the opportunities available for students to gain a breadth of knowledge from leading experts.

In your first year, you will be based at the International Centre for Mathematical Sciences in Edinburgh. This affords a number of opportunities to engage with the international mathematical community. You will be encouraged to travel and participate in conferences and seminars and will have opportunities to meet distinguished researchers from all over the world who are attracted to conferences held here. You’ll find opportunities for networking that could have far reaching effects on your career in mathematics.

English language requirements
See page 20.

Fees and funding
For fees see page 20 and for funding information see page 22.

MIGSAA CDT Administrator
Tel +44 (0)131 650 5955
Email migsaa-info@maxwell.ac.uk
For fees see page 20 and for funding information see page 22.
See page 20.

Mathematical Physics

PHD 3 yrs FT (6 yrs PT available for UK/EU students)

Mathematical Physics is a multidisciplinary research group with close connections with the Hodge Institute. You’ll benefit from being not only in one of the largest mathematics research groups in the UK but also part of the Edinburgh Mathematical Physics Group – a joint research collective formed in 1999 with Heriot-Watt University and now part of the Maxwell Institute.

Research environment

Our group pursues wide ranging interests spanning a number of disciplines. A central goal is to understand the principles behind quantum gravity, through the study of black holes, cosmologies and spacetime singularities, and via the use of holography and the interplay with quantum gauge field theory through the gauge/gravity correspondence. Particularly fruitful areas of research are the geometry of higher-dimensional black holes and their near horizon geometries in the context of higher dimensional generalizations of general relativity. We’re fascinated by the various manifestations of supersymmetry: in string theory, supergravity and gauge theory. This has led us to several classification results on supersymmetric supergravity backgrounds, including a recent proof of the homogeneity conjecture. In addition we study gauge theoretic moduli spaces using supersymmetry and via integrable systems techniques, we are investigating the interplay between the algebraic geometry of curves and their associated function theory. This research has led to computer implementations of various algebro-geometric constructions.

Recently we have made progress in some purely mathematical problems suggested by the gauge/gravity correspondence: namely, the classification of certain exotic algebraic structures related to superconformal field theories, as well as that of certain types of homogeneous supergravity backgrounds.

Valuable connections

As well as experiencing a vibrant research environment that brings you into contact with a broad group of your peers, your membership of the Edinburgh Mathematical Physics Group will give you access to a dynamic programme of seminars, lecture courses and conferences. There is a dedicated website and blog, and a comprehensive range of graduate activities. More information: http://empg.maths.ed.ac.uk/

English language requirements

See page 20.

Fees and funding

For fees see page 20 and for funding information see page 22.

Contact Graduate School Administrator
Email pgresearch@maths.ed.ac.uk

Optimization & Operational Research

PHD 3 yrs FT (6 yrs PT available for UK/EU students)

As a member of the Operational Research and Optimization research group you will also be part of the Edinburgh Research Group in Optimization (ERGE), a wider association, with our group as the focus, which includes academics at the universities of Dundee and Oxford as well as commercial organisations. Through its regular seminar series, this network provides interaction with an array of local and international institutions and industrial bodies interested in the development of operational research and optimization. At a result, you’ll establish valuable relationships that will help you take your research to its optimum level.

Research environment

Our group has as its primary focus the mathematical and computing aspects of optimization. Core technology in optimization is the solution of large sparse linear and quadratic problems, and we’re able to provide world-class expertise in the two main solution methods for these: the simplex method and the interior point method.

We have interests in global optimization, decomposition methods, parallel computing, industrial applications of optimization and stochastic optimization. Our current researchers are exploring the following areas: parameter uncertainty in queueing theory and revenue management; algorithms for linear and nonlinear nonconvex smooth optimization problems; algorithms for linear, quadratic and nonlinear programming; decomposition methods for large-scale nonlinear constrained optimization; bundle methods; warmstarts for interior point methods; pooling problems; computational techniques for solving large-scale linear programming problems; applications of optimization in the chemical, oil and electricity industries; and efficient gradient methods for large-scale convex and nonconvex optimization problems.

Valuable connections

Being part of the Operational Research and Optimization research group and ERGE will give you opportunities to meet and confer with academics worldwide – we’re currently working with researchers in Italy, Norway, China, Spain and Turkey – and to have access to visiting professors who are world leaders in continuous optimization. In addition, researchers from our group are regularly invited to give addresses and organise workshops at major optimization conferences, join international conference committees and sit on assessment panels for European grants.

English language requirements

See page 20.

Fees and funding

For fees see page 20 and for funding information see page 22.

Contact Graduate School Administrator
Email pgresearch@maths.ed.ac.uk

Probability & Stochastic Analysis

PHD 3 yrs FT (6 yrs PT available for UK/EU students)

Our Probability and Stochastic Analysis research group operates in what is perhaps the most widely applied area of mathematics: The financial sector. In particular, is a major focus of our research, and graduates with the right research experience can make their way into highly rewarding roles in industry. As part of our small, specialised group, you’ll enjoy a research environment that features a balance between theory and practice, access to one of the most powerful computing facilities in the UK and strong links with relevant industries.

Research

Our research focuses on the following themes: stochastic differential equations and stochastic partial differential equations (SPDEs) and their applications in nonlinear filtering and stochastic control, applications of stochastic analysis of PDEs, stochastic PDEs and stochastic partial differential equations (accelerated numerical methods in particular).

We’re also involved in the applications of probability theory, mainly to mathematical finance, particularly stochastic volatility models, equivalent martingale measures and incomplete markets. Other applications include engineering, signal processing and biological sciences.

Valuable connections

With the financial sector being the major commercial employer of our graduates, our involvement with the Scottish Financial Risk Academy, established in conjunction with Heriot Watt University, offers valuable industry links and training. You can benefit from short project internships with leading financial institutions, visits from leading risk scholars, and a series of knowledge exchange courses and events.

As part of the Probability & Stochastic Analysis group you will have access to the training activities provided by MIGSAA.

Unparalleled computing

The Probability & Stochastic Analysis group also gives you access to the Edinburgh Parallel Computing Centre (EPCC), one of Europe’s leading supercomputing facilities. EPCC enables high level grid computing, data integration, and computer simulation and process optimization. We offer training in all the relevant programs required to achieve your research aims.

Rewarding career options

Many of our graduates take up lucrative positions with high profile financial companies. A large number also pursue careers in academia, while others apply their skills in engineering or biological sciences.

English language requirements

See page 20.

Fees and funding

For fees see page 20 and for funding information see page 22.

Contact Graduate School Administrator
Email pgresearch@maths.ed.ac.uk

Statistics

PHD 3 yrs FT (6 yrs PT available for UK/EU students)

Statistics is the branch of mathematics that deals with uncertainty and the particular application of ‘making sense of data’. It is a core element of the newly recognised area of data science, involving the development of new techniques for analysing data within a rigorous framework. The Statistics research group explores a wide range of statistical theory and practice, applying newly developed theories/techniques in collaboration with researchers in related fields, such as informatics, biostatistics, health, ecology and physics.

Research

Statistical research spans both the classical and Bayesian paradigms. Particular areas of interest include hierarchical multivariate random effects models, wavelets, non-parametric regression, hidden Markov models, computationally intensive techniques and extreme value theory. The group builds on a strong theoretical base, developing new statistical methodology applied to a wide range of different application areas including, astrophysics, ecology, epidemiology, health, environment, agriculture, and functional genomics data, as well as part of the Maxwell Institute.

Valuable connections

As a research student, you will find a wealth of expertise available via our links with theorists and practitioners in related fields. For example, several members of the Statistics group are also Faculty Fellows of the recently formed Alan Turing Institute, of which the University of Edinburgh is a founding member. In addition, the Scottish Government-backed Institute for Biometrics and Statistics Scotland (IBiS) is an associated research institute of the University. With its main base in building, it provides access to other researchers with an interest in statistical methodology, biinformatics, and process and systems modelling. The University of Edinburgh is also a member Institute of the Academy of PhD Training in Statistics (APTS), providing additional residential training in advanced statistical techniques.

Rewarding career options

You will gain a qualification that is highly regarded and in high demand. This will lead to excellent career prospects in academia, industry and perhaps the most widely applied area of mathematics: The financial sector. In particular, is a major focus of our research, and graduates with the right research experience can make their way into highly rewarding roles in industry. As part of our small, specialised group, you’ll enjoy a research environment that features a balance between theory and practice, access to one of the most powerful computing facilities in the UK and strong links with relevant industries.

Research

Our research focuses on the following themes: stochastic differential equations and stochastic partial differential equations (PDEs) and their applications in nonlinear filtering and stochastic control, applications of stochastic analysis of PDEs, stochastic PDEs and stochastic partial differential equations (accelerated numerical methods in particular).

We’re also involved in the applications of probability theory, mainly to mathematical finance, particularly stochastic volatility models, equivalent martingale measures and incomplete markets. Other applications include engineering, signal processing and biological sciences.

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English language requirements

See page 20.

Fees and funding

For fees see page 20 and for funding information see page 22.

Contact Graduate School Administrator
Email pgresearch@maths.ed.ac.uk

Our involvement with the Scottish Financial Risk Academy offers valuable links and training.
About the School of Mathematics

By joining the University of Edinburgh’s School of Mathematics, you’ll follow in the footsteps of mathematical pioneers and study alongside some of the most exciting minds working in the field today.

Whether you wish to follow a taught masters programme or pursue your own line of investigation, we offer a dynamic academic environment, supported by excellent facilities.

We have an outstanding reputation for mathematics teaching and research. We were judged ‘excellent’ in the most recent Teaching Quality Assessment. In the Research Excellence Framework (REF) 2014 we were ranked fifth in the UK with 83 per cent of our research rated world leading or internationally excellent.

Rich heritage

The School boasts a rich heritage in pioneering mathematics. Our base, the James Clerk Maxwell Building, is named after one of the most celebrated mathematicians and scientists. Maxwell was the first to describe the electromagnetic nature of light and is most famous for developing classical electromagnetic theory.

Leaders in their fields

Our status as one of the most prestigious schools in the UK for mathematics attracts highly respected staff. Many of our 50 current academics are leaders in their fields and have been recognised with international awards.

The School is home to two Fellows of the Royal Society, 14 Fellows of the Royal Society of Edinburgh and seven Philip Leverhulme Prize or Fellowship holders. Abel Prize winner and Fields medalist Professor Sir Michael Atiyah is an Honorary Professor and Professor Agata Smoktunowicz is a recent recipient of the European Mathematical Society Prize.

Facilities and resources

You will enjoy excellent facilities, ranging from one of the world’s major supercomputing hubs to generous library provision for research at the leading level, including the Noreen and Kenneth Murray Library at King’s Buildings.

Students have access to more than 1,400 computers in suites distributed across the University’s sites, many of which are open 24 hours a day. In addition, if you are a research student, you will be provided with your own workspace with desk and desktop computer.

Software support

We provide all our mathematics postgraduates with access to software packages such as Maple, Matlab and Mathematica. Research students are allocated parallel computing time on ‘Eddie’ – the Edinburgh Compute and Data Facility. It is also possible to arrange use of the BlueGene/Q supercomputer facility if your research requires it.

In good company

Mathematics is a discipline of high intellect with connections stretching across all the scientific disciplines and beyond, and in Edinburgh you can be certain of thriving in a rich academic setting. Our School is one of the country’s largest mathematics research communities in its own right which includes around 60 active research students. You will also benefit from Edinburgh’s high-level collaborations, both regional and international. These include the International Centre for Mathematical Sciences and our close collaboration with Heriot-Watt University through the Maxwell Institute, which was set up in 2005 following significant funding from the Scottish Funding Council.

Research students will have a primary and secondary supervisor and the opportunity to network with a large and varied peer group.

You will be carrying out your research in the company of eminent figures and be exposed to a steady stream of distinguished researchers from all over the world.

Collections of the University

The University of Edinburgh has one of the world’s great collections, which has been growing ever since its foundation in 1583. Our collections include rare books, archives and manuscripts, art, historical musical instruments and a wide range of museum objects from geological specimens to anatomical models. If laid out end to end, we would have almost 60 kilometres of shelving and storage space devoted to our heritage material, from 1st-century Greek papyrus fragments to new works of sculpture. This is curated by specialist staff across 45 sites and used for our teaching and research and by the wider public community.

The Centre for Research Collections in the Main Library is the hub for all our collections, where specialist curators make them available for study, research and pleasure. Postgraduate students are welcome to study original objects and have made many important research discoveries while working on the archives. You will find an incredible range of material in our collections that is available nowhere else in the world.

“I experienced an egalitarian professor-student relationship and felt that student feedback was considered carefully. A number of external guest lecturers from diverse backgrounds in industry and academia enriched the programme with their expertise.”

Michel Zedler, MSc Operational Research

www.maths.ed.ac.uk
Community

We are a vibrant community of more than 50 academic and related staff supervising 60 research, and many more MSc, students. While you will be immersed in academic discourse at the highest level, we also offer plenty of opportunities to make new connections, through a full calendar of social events.

You’ll have the chance to meet people through the daily bustle of the Maths Hub common room, subject-specific clubs, the weekly postgraduate colloquium – where students give talks and share cake – and at many annual events, including a residential excursion to Firbush Point on the banks of Loch Tay in Perthshire, where everything from cycling to canoeing is on offer.

There are opportunities to get involved with our new magazine Contours, which is written for the School by our students. We also have a talented team of staff and students working on a busy calendar of outreach activities, including the annual Edinburgh International Science Festival. They demonstrate to the wider community that maths is a beautiful, elegant and creative subject, which underpins a huge amount of modern society.

Graduate School

For research students, our Graduate School offers a busy schedule of activities ranging from formal seminars to social events. The Graduate School runs its own website and YouTube channel, which features self-produced videos of lectures.

Share your work with the world

Researchers are encouraged to travel and participate in conferences and seminars. You’ll also be in the right place in Edinburgh to meet distinguished researchers – from all over the world – who are attracted to conferences held at the School, and the various collaborative centres based here. You’ll find opportunities for networking that could have far-reaching effects on your career in mathematics.

“Your School is very supportive in organising social events to help networking. Edinburgh is an international university that attracts students from different countries. I’ve made useful contacts with academics within the University and with external experts in the field.”

Sarah Farid Khwaja, PhD Mathematics

Employability and graduate attributes

While your research will build your knowledge and skills in your chosen field, throughout your programme you’ll also gain expertise and confidence in a number of related areas, such as public speaking, presentation and written communication.

This personal and professional development, supported by services offered by the School and the University, will give you an edge when applying for academic or commercial roles.

Institute for Academic Development

All postgraduate students can benefit from our Institute for Academic Development (IAD), which provides information, events and courses to develop the skills you will need throughout your studies and in the future. IAD events also offer the perfect opportunity to meet and network with other postgraduates from across the University.

Further information is available online: www.ed.ac.uk/iad/postgraduates

For taught postgraduates, IAD provides a popular study-related and transferable skills support programme. It is designed to help you settle into postgraduate life, succeed during your studies and move confidently to the next stage of your career. We offer on-campus and online workshops and one-to-one study skills consultations, plus online advice and learning materials. Workshops and learning resources cover key topics tailored to different academic stages, including getting started with your studies; critical reading, writing and thinking; managing your exams; and planning for and writing up your dissertation.

IAD also provides a comprehensive programme of transferable skills training, resources and support for researchers completing a doctorate. The workshop programme is designed to help you successfully prepare for the various milestones of your PhD, from getting started with your research, to writing up and preparing for the viva. Workshops cover topics such as writing skills, reference management tools, statistics, preparing for conferences, delivering presentations, time and project management, and personal development. IAD also offers online resources and planning tools to help get your research started, plus support for tutoring and demonstrating and research public engagement and communication.

Careers Service

Our Careers Service plays an essential part in your wider student experience at the University, offering world-class careers and personal development guidance and support. We support you to recognise the wealth of possibilities ahead, while at university and after graduation, helping you explore new avenues, tap into your talents and build your employability with confidence and enthusiasm.

The Service provides specialist support for postgraduate students. From exploring career options to making decisions, from CV writing to interview practice, from Employed internships to graduate posts and from careers fairs to postgraduate alumni events, we help you prepare for the future.

We sustain and continually develop links with employers from all industries and employment sectors, from the world’s top recruiters to small enterprises based here in Edinburgh. Our employer team provides a programme of opportunities for you to meet employers on campus and virtually, and advertises a wide range of part-time and graduate jobs.

More information: www.ed.ac.uk/iad/postgraduates

IAD also offers plenty of opportunities to make new connections, including getting started with your studies; critical reading, writing and thinking; managing your exams; and planning for and writing up your dissertation.

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More information: www.ed.ac.uk/iad/postgraduates

Connect.ed

Edinburgh encourages its alumni to stay in touch with current students who share an academic background or are interested in a similar career path. Connect.ed is a networking system run by the Careers Service that provides an informal and confidential opportunity for alumni to share their occupational knowledge and experience with current students, who can contact them for advice and guidance on their future career.

More information: www.ed.ac.uk/careers/connected

Back ing bright ideas

LAUNCH.ed is the University’s award-winning programme for student entrepreneurs. Each year, LAUNCH.ed works with hundreds of students to assess their ideas and develop their business skills and helps many start their businesses. We have helped Edinburgh students and alumni launch almost 100 new businesses in the last three years, ranging from language tuition to robotics companies.

More information: www.LAUNCH.ed.ac.uk

Learn to teach

PhD students are given leadership roles within the School, and you’ll have the opportunity to spend some of your time conducting undergraduate tutorials. We’ll help you with this: the University offers courses in public speaking and other teaching skills, and you’ll be able to draw on the support of your peers and supervisors in research group meetings.

A solid start

For research students, a strong foundation in the fundamentals of your chosen field is essential and in the early part of your studies you’ll be offered taught courses through the Scottish Mathematical Sciences Training Centre, a consortium of seven mathematics departments. You’ll take part in video-conferenced lectures, presented by staff from all participating universities.

Further information is available online: www.ed.ac.uk/iad/postgraduates
Applications and fees

We have an online application process for all postgraduate programmes. It’s a straightforward system with full instructions, including details of any supporting documentation you’ll need to submit.

When applying, you will set up an account, which lets you save your application and continue at another time.

Full guidance on our application system is available at: www.ed.ac.uk/postgraduate/applying

General requirements
UK 2:1 degree, or its international equivalent (www.ed.ac.uk/international/graduate-entry), in mathematics or another mathematical subject or numerate discipline.

You will also need to meet the University’s language requirements (see below). Entry requirements for individual programmes can vary, so check the details for the specific programme you wish to apply for.

To apply for a research degree you will need a UK first class honours degree, or its international equivalent, in an appropriate subject; or a UK 2:1 honours degree plus a UK masters degree, or its international equivalents; or relevant qualifications and experience.

References
For applications to taught programmes, the normal requirement is one reference, although an additional reference may be requested in individual cases. For applications to research programmes, two references are required. You should check the entry online for exact requirements for your intended programme of study. For general guidance on references, visit: www.ed.ac.uk/postgraduate/references

Deadlines
Taught programmes
Some programmes have application deadlines. Please check the programme entry online for details. For all other programmes, you are encouraged to apply no later than one month prior to entry to ensure there is sufficient time to process your application. However, earlier application is recommended, particularly where there is a high demand for places or when a visa will be required. Should you wish to submit a late application, please contact us for guidance. If you are applying for funding, in most cases you will need an offer to study with us before you can make your funding application.

Research programmes
The deadline for applications is 31st January 2017. This will enable you to be considered for all of our available funding opportunities. Early applications are encouraged and a limited number of early offers may be made. Late applications will be considered, but priority will be given to applications received by the deadline.

English language requirements
Students whose first language is not English must show evidence of one of the qualifications below:
- IELTS: Academic total 6.5 (at least 6.0 in each module).
- TOEFL-iBT: total 92 (at least 20 in each module).
- PTE(A): total 61 (at least 56 in each of the Communicative Skills sections).
- CAE and CPE: total 176 (at least 169 in each module).
- Trinity ISE: ISE II (with distinctions in all four components).

Please note:
- English language requirements can be affected by government policy so please ensure you visit our degree finder to check the latest requirements for your programme: www.ed.ac.uk/postgraduate/degrees
- Your English language certificate must be no more than two years old at the beginning of your programme.
- We also accept recent degree-level study that was taught and assessed in English in a majority English speaking country (as defined by UK Visas & Immigration).

We recommend you consult the Graduate School Administrator for specific details: pgrresearch@maths.ed.ac.uk

Abbreviations: IELTS – International English Language Testing System; TOEFL-iBT – Test of English as a Foreign Language Internet-Based Test; PTE(A) – Pearson Test of English (Academic); CPE – Certificate of Proficiency in English; CAE – Certificate of Advanced English; Trinity ISE – Integrated Skills in English.

Tuition fees
The following table provides an overview of indicative fee levels for programmes commencing in 2017.

Figures marked * show the fee level set for the 2016/17 academic year. All other figures are indicative of expected fee levels for your studies during the 2017/18 academic year. Because these figures are indicative, it is important you check online before you apply and check the up-to-date fee level that will apply to your specific programme: www.ed.ac.uk/student-funding/tuition-fees/postgraduate

Please note:
- International students starting full-time taught programmes of study lasting more than one year will be charged a fixed annual fee.
- All other students on full-time and part-time programmes of study lasting more than one year should be aware that annual tuition fees are subject to revision and are typically increased by approximately five per cent per annum. This annual increase should be taken into account when you are applying for a programme.
- In addition to tuition fees, your programme may be subject to an application fee and additional costs/programme costs may apply. Please check the latest programme information online.

Tuition fees for EU students
EU students enrolling in the 2017/18 academic year – and possibly the following academic year – will be admitted as Scottish/EU fee status students and are eligible for tuition fee support from the Student Awards Agency for Scotland (SAAS).

Future changes to the fee status of EU students enrolling in the 2017/18 academic year will depend on the timing and terms of the UK’s exit from the European Union and would also require changes to existing UK and Scottish legislation. Current indications are that the UK would leave the EU at the earliest in 2019 so any changes would not take effect before the academic year 2019/20.

The University is working with the Scottish Government to try to protect the fee status of EU students enrolling in the 2017/18 academic year for the duration of their course. However there is a risk that EU students enrolling in the 2017/18 academic year may become subject to international tuition fees for any years of study which follow the UK’s exit from the EU. In those circumstances we are committed to working with the Government to ameliorate the impact of that change for individual students.

The Scottish Government has already confirmed that the fee status of existing students and students enrolling in the 2016/17 academic year will remain unchanged for the duration of their studies.

For UK/EU students

<table>
<thead>
<tr>
<th>Programme</th>
<th>Annual fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taught programmes 1-year FT</td>
<td>£10,800</td>
</tr>
<tr>
<td>Taught programmes 2-years PT</td>
<td>£15,400</td>
</tr>
<tr>
<td>Taught programmes 3-years PT</td>
<td>£23,700</td>
</tr>
</tbody>
</table>

Exception:
- Computational Mathematical Finance, Financial Mathematics, Financial Modelling & Optimization 2 years PT: £10,950

For international students

<table>
<thead>
<tr>
<th>Programme</th>
<th>Annual fee</th>
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</thead>
<tbody>
<tr>
<td>Taught programmes 1-year FT</td>
<td>£19,300</td>
</tr>
</tbody>
</table>

Exception:
- Operational Research with Risk/Computational Optimization (Statistics) Data Science 1-year FT: £20,105
- PhD 3-years FT: £14,600* |
- MSc by Research 1 year FT: £17,400 |
- MSc by Research 2 year FT: £13,700 |

For international students

<table>
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Exception:
- PhD 3-years FT: £14,600* |
- MSc by Research 1 year FT: £17,400 |
- MSc by Research 2 year FT: £13,700 |

* Figure shown is the 2016/17 fee level

All other fees quoted are indicative of 2017/18 fee levels. Because these figures are indicative, it is important you check online before you apply and check the up-to-date fee level that will apply to your specific programme: www.ed.ac.uk/student-funding/tuition-fees/postgraduate
A large number of scholarships, loans and other funding schemes are available for your postgraduate studies. It is only possible to show a small selection in print. To see the full range, please visit: www.ed.ac.uk/student-funding/postgraduate.

Scholarships at the University of Edinburgh

- Beit Trust
  Beit Trust and the University of Edinburgh Scholarships jointly fund postgraduate students from Malawi, Zambia and Zimbabwe to undertake a master’s: www.beittrust.org.uk

- Edinburgh Global Research Scholarships
  These scholarships are designed to attract high-quality international research students to the University: www.ed.ac.uk/student-funding/global-research

- Edinburgh Syrian Postgraduate Scholarships
  A number of scholarships are available to postgraduate students from Syria studying a full-time one-year master’s: www.ed.ac.uk/student-funding/postgraduate/syria

- EPSRC CDT, MIgasA and School of Mathematics Studentships
  All PhD applications will be considered automatically for School of Mathematics studentships. All UK PhD applicants will also be considered automatically for EPSRC DTG funding: www.maths.ed.ac.uk/school-of-mathematics/studying-here/pgfunding-opportunities

- The University of Edinburgh PhD Scholarships
  A number of scholarships, open to UK, EU and international PhD students: www.ed.ac.uk/student-funding/development

Highly Skilled Workforce Scholarships

A number of scholarships are available to UK nationals permanently domiciled in Scotland, and to EU nationals domiciled either on mainland EU or in Scotland, who have been accepted on an eligible full- or part-time masters programme. The scholarships, which are funded by the Scottish Funding Council and subject to annual confirmation, cover the UK/EU tuition fees: www.ed.ac.uk/student-funding/highly-skilled

Julius Nyerere Masters Scholarship (Tanzania)

One scholarship is available to citizens of Tanzania who are normally resident in Tanzania who are accepted on a full-time masters programme: www.ed.ac.uk/student-funding/nyerere

Richard Davidson Postgraduate Scholarship in Operational Research

One scholarship awarded to the most outstanding student in Operational Research. Available only to EU nationals: www.ed.ac.uk/student-funding/davidson

School of Mathematics MSc funding

Full and partial School funding of tuition fees and contributions to living expenses is awarded on merit. Select programme from: http://msc.maths.ed.ac.uk

The University also offers a number of scholarships in partnership with the following overseas government agencies:

- Chile
  National Commission for Scientific and Technological Research (CONICYT): www.conicyt.cl

- Colombia
  Administrative Department of Science, Technology and Innovation (Colciencias): www.colciencias.gov.co

- Ecuador
  Secretaria Nacional de Educacion Superior, Ciencia y Tecnología (SENESCYT): www.educacionsuperior.gob.ec

- Iraq
  Ministry of Higher Education and Scientific Research: www.iaricculatralattache.org.uk

- Mexico
  National Council of Science and Technology of the United Mexican States (CONACYT): www.conacyt.mx

- Mexico
  Banco de Mexico and the Banco de Mexico’s FIDHER trust (FIDHER): www.fidher.org.mx

Research council awards

Research councils offer awards to masters, PhD and PhD students in most of the Schools within the University of Edinburgh. All studentships applications to the research councils must be made through the University, through your School or College office. Awards can be made for both taught and research programmes.

Normally only those UK/EU students who have been resident in the UK for the preceding three years are eligible for a full award. For some awards, candidates who are EU nationals and are resident in the UK may be eligible for a fees-only award: www.ed.ac.uk/student-funding/research-councils

Loans available for study at the University of Edinburgh

The University of Edinburgh is a participating institution in the following loans programmes, meaning we certify your student status and can help with the application process.

- The Canada Student Loans Program
  The University is eligible to certify Canadian student loan applications: www.ed.ac.uk/student-funding/canadian-loans

- Erasmus+
  An Erasmus+ loan supports students accepted for a masters programme in an Erasmus+ country. For more information: http://ec.europa.eu/education/opportunities/higher-education/masterloans_en.htm

- Postgraduate Loans (PGL) England
  Eligible students from England, undertaking a taught or research masters can apply to Student Finance England for a loan of up to £10,000 towards fees or maintenance costs: www.gov.uk/postgraduate-loan

- Postgraduate Loans (SASS) Scotland and EU
  The Student Awards Agency Scotland offers tuition fee loans to eligible students undertaking full- or part-time postgraduate study. For a full list of eligible programmes: www.sass.gov.uk

- US Student Loans
  The University is eligible to certify loan applications for US loan students. Full details on eligibility and how to apply can be found online: www.ed.ac.uk/student-funding/us-loans

Other sources of funding

The following are examples of the many scholarships and support schemes available to students from particular countries who meet certain eligibility criteria.

- Chevening Scholarships
  A number of partial and full funding scholarships are available to one-year masters students: www.chevening.org

- Commonwealth Scholarships
  Scholarships available to students who are resident in any Commonwealth country, other than the UK: www.dfid.gov.uk/cscuk

- Fulbright Scholarships (USA)
  Scholarships open to US graduate students in any subject wishing to study in the UK: www.iie.org/fulbright

- Marshall Scholarships (USA)
  Scholarships available to outstanding US students wishing to study at any UK university for at least two years: www.marshallscholarship.org

- Scotland’s Saltire Scholarships
  A number of scholarships open to students who are citizens permanently and ordinarily resident in Canada, China, India, Pakistan and the USA for one year of masters study: www.ed.ac.uk/stUDENT-funding/saltire

- US State Department Scholarships
  The United States Department of State Actively encourages US students to study in the UK.

Funding

Awards are offered by the School of Mathematics, the College of Science & Engineering, the University of Edinburgh, the Scottish, UK and international governments and many funding bodies. Some of these offer our PhD students financial support for three and a half years and MIGSAA does so for four years, to cover both the training and PhD writing periods.

Here we list a selection of potential sources of financial support for postgraduate students applying to the School of Mathematics. The School aims to help find scholarships covering tuition and living expenses for all our PhD students.

Tuition fee discounts

We offer a 10 per cent discount on postgraduate fees for all alumni who have graduated with an undergraduate degree from the University. We also offer a 10 per cent discount for international graduates who spent at least one semester at the University of Edinburgh as a visiting undergraduate: www.ed.ac.uk/student-funding/discounts

Key
- Taught masters programmes
- Masters by Research programmes
- Research programmes

“The Scottish Government’s initiative to attract international students from Canada, China, India and the US through the Saltire Scholarship Scheme, as well as the University of Edinburgh’s help and support for international students, has helped provide me with an opportunity that I would never have conceived of prior to starting my studies at Edinburgh.”

Robert Starr, MSC High Performance Computing, Scotland’s Saltire Scholarship
The School of Mathematics is situated in the James Clerk Maxwell Building at the University's King's Buildings campus, which is about two miles south of the city centre and well served by buses, including a free University shuttle service during semester time.
On 23 June 2016 the UK electorate voted in a national referendum to leave the European Union. At the time of going to print, there was no immediate, material change known that would impact applicants for 2017 entry. However we recommend that you check online for the latest information before you apply: http://edin.ac/eu-news

The University’s standard terms and conditions will form an essential part of any contract between the University of Edinburgh and any student offered a place here. Our full terms and conditions are available online: www.ed.ac.uk/student-recruitment/terms-conditions

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