Mathematical Sciences
Undergraduate study 2020

qmul.ac.uk/maths
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The School of Mathematical Sciences at Queen Mary is renowned for its excellent research and supportive teaching. Our diverse range of single-honours and joint-honours programmes are taught by staff who are experts in their field, and offer undergraduates the opportunity to follow a degree that closely fits their interests.

When you join Queen Mary, you will be welcomed into a diverse family of staff and students from all over the world. The School of Mathematical Sciences hosts leading researchers specialising in topics such as algebra, combinatorics, topology, probability and networks. This makes us a place of academic and personal self-discovery, and makes studying here an exciting experience.

By providing a supportive environment that caters to the needs of students we aim to make your studies engaging and rewarding. Our priority is to provide our students with every opportunity to build the knowledge and experience required for future success, whether in further study or the world of work.

"In the School of Mathematical Sciences we welcome intellectually curious students. We will nurture both your passion for mathematics and your drive to succeed in your chosen career path"

Professor Boris Khoruzhenko
Head of School

From your first day with us you’ll be assigned an Academic Adviser who you can go to with any queries, as well as meeting our Student Support Officer who can assist you with any non-academic issues.

Why study mathematics?
If you enjoy solving puzzles and being able to prove you are right, then mathematics is for you. It permeates our daily lives and is used to describe quantity, shape, space and change. Patterns we encounter can be understood and explained using mathematics, inspiring new technologies and allowing us to make informed decisions.

Mathematics is for people who can think logically and creatively and then explain their thoughts precisely. It is a demanding discipline, but identifying the correct answer to a difficult problem is very satisfying. At university you will discover a new world of advanced mathematical concepts and ideas.

You’ll encounter unfamiliar kinds of mathematical objects and investigate their common features and abstract natures. But it is not all abstract: our statistics, finance and actuarial modules are very much about the real world – you will use mathematical skills to extract information from data and draw conclusions.

As well as being an interesting subject to study, mathematics opens doors to a wide range of exciting, rewarding and well-paid careers. Our graduates have the skills and expertise needed to pursue careers in a range of fields including business, finance, technology, teaching, engineering, marketing, accountancy and academic research.
Why choose Queen Mary University of London?

Russell Group university
Queen Mary is a world-class university, ranking in the UK Top 20 QS World University Rankings 2019. We are a member of the Russell Group and attract some of the very brightest minds to study, teach and undertake research here.

High-quality teaching
Our teaching is inspired by our world-leading research (we came 9th in the UK in the Research Excellence Framework - REF2014), and you will be taught by academics who are leaders in their field.

Career success
Our award-winning careers team provide the support you need to succeed in your future career path, with regular careers and networking events, skills workshops and 1:1 support available.

92% of Queen Mary graduates are in work or further study within 6 months of graduation (DLHE 2017)

Friendly campus lifestyle
We offer a completely self-contained residential campus, with all the campus benefits of safety, convenience and a friendly atmosphere while being close to central London.

Excellent facilities
As well as our 24-hour library, sports centre, and other facilities across campus, you’ll benefit from our £18m investment to transform the Mathematical Sciences building; creating an inspiring, collaborative space for our community of students and staff (see page 10).

Our London location
We are a short walk from Brick Lane and Shoreditch, and close to graduate employers in the City and Canary Wharf. Set beside Regent’s Canal, the campus is tranquil and green, while excellent public transport links mean that you’re within easy reach of all London has to offer.

A range of support
Queen Mary offers a huge range of support to help you achieve your full potential; from our advice and counselling services and provisions for those with disabilities or dyslexia, to our active Students’ Union.

Scholarships and bursaries
We offer a range of generous scholarships and bursaries to enable the brightest students to study with us. See page 36 for more information.

International community
Our students and staff come to Queen Mary from more than 160 different countries, making us one of the most internationally diverse universities in the world (Times Higher Education 2017). This helps to make our university a welcoming environment to those coming from overseas and gives you the opportunity to meet other students and staff from around the world.

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Mathematical Sciences at Queen Mary

• Extensive support provision, including a dedicated Student Support Officer within the School and an Academic Adviser assigned to every student. See page 16

• A dedicated Careers Consultant and an Internships Co-ordinator to help develop employability throughout your studies. See page 34

• Opportunity to undertake a Professional Placement year across many of our programmes. See page 18

• Flexible programmes with a selection of optional modules to tailor your degree. See pages 22-31

• Joint programmes with the School of Economics and Finance, and the School of Business and Management allow you to study complementary subjects and benefit from diverse academic expertise. See pages 26-29

• A large mathematics department with over 70 members of academic staff, bringing expertise in a wide range of mathematical specialisms.

• Opportunity to study abroad at one of our partner universities. See page 20

“I love the flexibility my course offers; I have the freedom to specialise in things that I’m interested in. The mathematics department is also very supportive and helpful.”

Ruth Arnett, BSc Mathematics, 2018
We have invested approximately £18m in a transformative project to create an inspiring, collaborative space for our community of mathematics students and staff. The images on these pages show some of our architects’ designs for the building, opening in Summer 2019, ready for the new academic year.

As well as high-quality teaching rooms, the new space includes a range of private and group study areas throughout the building (including dedicated undergraduate study space), and a new social hub to give all members of the School of Mathematical Sciences a welcoming space to meet, collaborate and relax.

You can find out more about this exciting development on our website at qmul.ac.uk/maths/ourbuilding

All images are artist impressions
Credit: Kendall Kingscott Ltd
Student life on campus

Your Students’ Union
Queen Mary Students’ Union (QMSU) works hard to keep you happy and busy during your time here. There are over 300 diverse societies and 60 sports clubs for you to join, plus a host of events and activities organised throughout the year. From live music sessions to cultural celebrations, craft workshops to movie nights, there’s always something going on.

Set alongside the historic Regent’s Canal, our campus at Mile End has everything you need to relax, study and socialise.

Mile End campus is the home of our Student Village and this, along with our other halls, offers around 2,000 spaces for both undergraduates and postgraduates. Our campus provides students with a safe and peaceful space to relax, study and socialise. As well as accommodation, lecture theatres and an extensive 24-hour library, we have shops, restaurants, a bar, sports facilities, and a bank all on site.

Find out more at qmul.ac.uk/city-campuses

First-year accommodation guaranteed for all undergraduates who meet our eligibility criteria

How to apply for accommodation
The Admissions Office will send you full details on how to apply for accommodation once you have firmly accepted an offer to study here.

For virtual tours and full details of the accommodation options, including prices, visit residences.qmul.ac.uk

As one of the world’s most exciting and culturally rich cities, London is a great place to live and study: you’ll never run out of things to see and explore.

Find out more about our students’ favourite spots in London: qmul.ac.uk/study/the-london-advantage
The Mathematics Society

Clubs and societies form an important part of the student experience, and the Mathematics Society has long been one of the largest and most active at Queen Mary; run entirely by students and supported by School staff and funding.

Whilst any Queen Mary student can become a member, maths students have the opportunity to develop valuable experience and transferable skills by joining the Mathematics Society committee or helping to organise events.

**What does the Mathematics Society do?**
The Mathematics Society organises a wide variety of activities and events, as shown in some of our favourite photographs on the opposite page! This helps us to foster our fantastic, friendly community. It also gives you a chance to explore your love of maths, increase your knowledge and skills and enhance your employability.

- **Social events** help to reinforce the sense of community. Regular activities include pizza nights, pub quizzes, laser tag, Pi Day celebrations and the Spring Ball, as well as a recent trip to Bletchley Park. They are a fantastic way to meet other maths students outside of your lectures.
- **Residential trips** range from visiting the Mathematikum museum in Germany to camping in Wales!
- **Academic events** such as our annual MathsSoc Conference, include specially arranged talks from academics on a range of mathematical topics not necessarily seen in lectures. Past guest speakers have included ‘stand-up mathematician’ Matt Parker, author Simon Singh, and Emeritus Professor Peter Cameron.
- **Careers events** are an opportunity for you to meet major employers on campus and find out more about your career options. This includes our annual Maths Impact Day, organised in collaboration with the Careers department, and events such as our recent ‘Application Tips and Tricks’ talk with Accenture.

Recent awards:
- Silver Societies Excellence award 2019
- Academic Society of the Year 2018 (nominee)

“**The Maths Society offers events for all students, including career focused, academic and social events - so there is something for everyone to get involved with and enjoy!**”

Leesha Varsani, and Maha Abdel Gadir
Mathematics Society Co-Presidents
Our flexible programmes
For all of our students there are a number of core modules designed to develop your strengths in key areas of mathematics. Across many of our degrees you will be able to choose from a range of elective modules in order to tailor your programme to your interests and discover new areas of mathematics.

Teaching
Each year you will normally take eight modules. The majority are delivered via a combination of lectures and tutorials, and practical computing sessions will be taught in our computer labs.

- **Lectures** are usually delivered to large groups of students and are used to teach new content. Lecturers may use a range of teaching tools such as slides, whiteboards, handouts, demonstrations and interactive technologies.
- **Tutorials** support your lectures and give you the opportunity to work on problems, discuss solutions and ask questions in a smaller group. Academics or PhD students will lead the tutorials and provide guidance.

Assessment
The majority of modules are assessed by an exam counting for at least 90 per cent of your marks; the remaining ten per cent comes from a test or coursework. A final year project is compulsory for an MSci programme but optional for most BSc students.

Student Support
You will be assigned an Academic Adviser in your first week, who will support you throughout your studies. Your Adviser can help to guide you through any academic issues, such as choosing which modules to study. The School of Mathematical Sciences also has a dedicated Student Support Officer to provide you with advice and guidance on any aspect of student life at Queen Mary. The Student Support Officer's role is to promote and support a positive student experience and help you to access further support services.

“It’s exciting to have students approaching problems from different backgrounds, different viewpoints. Those are my favourite moments as a teacher: when someone asks me a question and I think ‘I hadn’t thought about it that way’”

**Dr Justin Ward**
Lecturer in Mathematical Optimisation
Most of our programmes offer you the option to extend your degree to include a Professional Placement year (often referred to as a ‘sandwich’ programme). This takes the form of a one-year paid work placement within a relevant organisation, throughout which you are supported by the university and complete a report on your experience and achievements.

**Why choose a Professional Placement?**
A Professional Placement is an excellent opportunity to develop your business skills and gain hands-on experience. As well as helping you to secure graduate employment, this can support your academic achievement by providing additional context to your studies.

If you’re not sure what career path you want to follow after your degree, a placement year can be an excellent way to help you understand your options and make decisions about your future.

**Where would I be working?**
You would be working in a paid role within a relevant organisation. As a maths student, this could include: banks and insurance companies, accountants, consultancy firms, industrial firms and manufacturers, retailers, technology companies, and governmental and public sector organisations (such as the Civil Service, NHS and GCHQ).

**Who can take a Professional Placement?**
We offer the Professional Placement option across the majority of our undergraduate programmes. See the course listing on pages 23-31 for more information.

**How is the Professional Placement assessed?**
Your placement year will be assessed through written coursework, a short presentation and employer feedback.

**Example:**
BSc: Mathematics course structure

For more information about the Professional Placement year, including FAQs, see our website: qmul.ac.uk/maths/professionalplacement

I chose a placement to gain insight by immersing myself into the working environment for a year; I’ll see how the concepts I learn in lectures can be applied in real life.”

Sameera Ali
BSc: Mathematics, Statistics and Financial Economics. Professional Placement at EY.
Year Abroad

We offer the option to complete an additional Year Abroad, studying at one of our partner institutions overseas, across any of our Mathematics undergraduate programmes.

Why choose a Year Abroad?
Living and studying in a different country and immersing yourself in another culture helps you to understand, connect with and appreciate the world. International experience enables you to stand out in a crowded employment market; graduates with international experience show they are willing to learn, can problem-solve, act on their own initiative and work very well in diverse teams.

When does the Year Abroad take place?
Your Year Abroad would take place in your third year of study, for the full academic year. You would then return after your placement to complete your final year of study (for BSc, or third and fourth years for MSci students).

During your time abroad, you continue to be a Queen Mary student and have full access to support from the university.

How to apply
You can apply directly to the ‘with a Year Abroad’ variant of our programmes in UCAS, using the course codes listed on pages 23-31. Alternatively, you will have the option to transfer into the Year Abroad stream of your programme once you are studying with us, so long as you meet the academic progression requirements.

We currently have have partner universities in:
- Australia
- Canada
- France
- Germany
- Italy
- Hong Kong
- Malaysia
- New Zealand
- Singapore
- South Korea
- USA

To find out more, go to: qmul.ac.uk/maths/yearabroad
BSc Mathematics with Foundation
GGX2 (4 years with foundation year)

**A-level:** BBC including mathematics

For information on alternative entry qualifications for the foundation programme, go to [qmul.ac.uk/GGX2](http://qmul.ac.uk/GGX2)

Combine a foundation year with a traditional university degree in mathematical sciences.

Get the skills and experience you need to study an undergraduate degree in mathematical sciences with our integrated foundation programme, open to UK, EU and international students.

As a foundation student, you will have full access to all student facilities, including welfare, library, social and sport. UK and EU foundation students are eligible for funding through the Student Loans Company. You will be taught on our Mile End campus by experienced university staff who also teach on undergraduate and postgraduate programmes.

Examples of some modules currently offered:
- Communication in Science and Technology
- Discrete Maths
- Essential Foundation Mathematics
- Introduction to Business Information Systems
- Introduction to Engineering
- Mathematics I and II
- Physics - Fields and Waves

For further details, including a full list of modules please visit: [qmul.ac.uk/GGX2](http://qmul.ac.uk/GGX2)

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**BSc/MSci Mathematics**

G100 BSc (three years)

G101 BSc (four years with Professional Placement)

G10Y BSc (four years with a Year Abroad)

G102 MSci (four years)

G12Y MSci (five years with a Year Abroad)

**A-level:** BSc: AAB including A in mathematics

MSci: AAA including mathematics

**IB:**

BSc: 34 overall with 665 in HL subjects including mathematics

MSci: 36 overall with 666 in HL subjects including mathematics

**BTEC:** See [qmul.ac.uk/undergraduate/entry/btec](http://qmul.ac.uk/undergraduate/entry/btec) for detailed requirements

Our most flexible mathematics programme; take a broad approach to the whole subject, or focus on areas that interest you most.

Discover a new world of concepts and ideas when you study mathematics at Queen Mary. In your first year you will build a solid grounding in pure, discrete, decision and modern applied mathematics, probability and statistics.

In subsequent years you can choose from modules across all mathematical disciplines, taught by active researchers. You will have the freedom to take new directions on your mathematical journey, studying topics in depth as your interests develop. You can also align your studies to your career goals, choosing modules in actuarial and financial mathematics, computer programming, teaching and more.

The MSci Mathematics includes a wide variety of modules to choose from across maths and physics in the final year. You’ll gain specialised knowledge about a topic of particular interest by completing an MSci research project; an excellent opportunity to develop your research skills.

This programme gives you the option to extend your degree with a Professional Placement year, or Year Abroad. For more information see pages 18-21.

**Examples of some modules currently offered:**
- Calculus
- Combinatorics
- Communicating and Teaching Mathematics
- Complex Variables
- Computing and Data Analysis with Excel
- Dynamical Systems (MSci)
- Financial Mathematics
- Group Theory
- Introduction to Machine Learning
- Linear Algebra
- Linear Programming and Games
- Probability and Statistics
- Relativity
- Research Methods (MSci)
- Statistical Modelling

You will also have the option to choose modules from some other departments, including Languages.

For further details, including a full list of modules please visit: [qmul.ac.uk/G100](http://qmul.ac.uk/G100)

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*I feel better prepared for exams now – I’ve learnt how to structure my revision and I’ve gained independence. It’s been a really good preparation for my degree.*

Barbara Sikora

Now studying MSci Mathematics, following successful completion of the Foundation Programme

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You are **guaranteed** a place on one of the following programmes at Queen Mary if you pass the foundation year, without having to re-apply through UCAS:

- **BSc Mathematics**
- **BSc Pure Mathematics**
- **BSc Mathematics and Statistics**
- **BSc Mathematics with Actuarial Science**
- **BSc Mathematics with Finance and Accounting**

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## BSc Mathematics and Statistics

**GG31** (three years)  
**GG32** (four years with Professional Placement)  
**GG3Y** (four years with a Year Abroad)

**A-level**: AAB including A in mathematics  
**IB**: 34 overall with 665 in HL subjects, including mathematics  
**BTEC**: See qmul.ac.uk/undergraduate/entry/btec for detailed requirements

Statistics is essential to making advances in science, technology, business and public policy, and is a fascinating field of study in itself. This BSc combines rigorous all-round mathematical training with in-depth study of statistics. You will spend your first year building a foundation across pure, discrete, decision and modern applied mathematics, probability and statistics.

From the second year you will specialise in statistics, building statistical theory and methodology on mathematical foundations, especially probability theory. Probabilistic modelling has applications in genetics, quantum physics and risk analysis, and is increasingly used in the financial sector. You can study topics such as statistics for insurance, financial time series and actuarial mathematics.

A choice of second and third year modules allows you to focus on aspects of statistics that most interest you, or align your studies to your career goals, choosing modules in programming, insurance, computational statistics or teaching.

If you want to take your study of statistics deeper and develop mathematical research skills, consider our four-year MSci Mathematics with Statistics (see page 30).

Alternatively, this programme gives you the option to extend your BSc degree with a Professional Placement year, or Year Abroad. For more information see pages 18-21.

Examples of some modules currently offered:  
- Bayesian Statistical Methods  
- Calculus  
- Complex Variables  
- Computational Statistics with R  
- Computing and Data Analysis with Excel  
- Financial Mathematics  
- Introduction to Computer Programming  
- Introduction to Machine Learning  
- Linear Programming and Games  
- Probability and Stochastic Processes  
- Ring Theory  
- Statistical Modelling  
- Statistics for Insurance

You will also have the option to choose modules from some other departments, including Languages.

For further details, including a full list of modules please visit: [qmul.ac.uk/GG31](qmul.ac.uk/GG31)

## BSc Pure Mathematics

**G110** (three years)  
**G1NY** (four years with a Year Abroad)

**A-level**: AAB including A in mathematics  
**IB**: 34 overall with 665 in HL subjects, including mathematics  
**BTEC**: See qmul.ac.uk/undergraduate/entry/btec for detailed requirements

Take one of the few UK degrees in pure mathematics, in an academic department renowned for research in algebra, combinatorics and geometry.

This programme is for those who love mathematics for its intrinsic beauty.

The first year of your BSc builds a solid foundation across all areas of mathematics: calculus, discrete mathematics, algebra, geometry, probability and statistics, computing. In the second year you’ll encounter a higher level of abstraction, taking further modules in analysis and differential equations. You can choose from a wide selection of optional modules depending on your interests, thanks to the diversity of our research expertise (see [qmul.ac.uk/maths/research](qmul.ac.uk/maths/research)).

In the final year you may choose to undertake a mathematical research project, working closely with one of our expert academics to explore your chosen subject in depth and develop your independent research and presentation skills.

You’ll have the option to extend your BSc degree with a Year Abroad, studying at one of our partner universities. For more information see page 20.

Examples of some modules currently offered:  
- Algorithmic Graph Theory  
- Calculus  
- Chaos and Fractals  
- Combinatorics  
- Communicating and Teaching Mathematics  
- Complex Variables  
- Computing and Data Analysis with Excel  
- Differential and Integral Analysis  
- Group Theory  
- Introduction to Differential Geometry  
- Number Theory  
- Probability and Statistics  
- Statistical Modelling

You will also have the option to choose modules from some other departments, including Languages.

For further details, including a full list of modules please visit: [qmul.ac.uk/G110](qmul.ac.uk/G110)

> My favourite part of the course has been presenting my work to other people so I can share my passion for maths with others. Seeing engaging lecturers has been useful in inspiring my own presentation style.”

George Benbow  
BSc Pure Mathematics 2020
**Degree programmes**

**BSc Mathematics with Actuarial Science**
G1N3 (three years)
G1N5 (four years with Professional Placement)
G1N3Y (four years with a Year Abroad)

**A-level:** AAB including mathematics
**IB:** 36 overall with 666 in HL subjects, including mathematics
**BTEC:** See qmul.ac.uk/undergraduate/entry/btec for detailed requirements

As part of your studies, you will take modules in Actuarial Professional Development, gaining relevant skills and industry knowledge in preparation for a successful career.

The Professional Placement option also provides an excellent opportunity for hands-on experience. For more information, see page 18.

Examples of some modules currently offered:
- Actuarial Financial Engineering
- Actuarial Mathematics
- Computing and Data Analysis with Excel
- Corporate Financial Reporting
- Economics for Business Management
- Financial Mathematics
- Introduction to Computer Programming
- Mathematical Tools for Asset Management
- Probability and Statistics
- Statistics for Insurance
- Survival Models

For further details, including a full list of modules please visit: qmul.ac.uk/G1N3

"My degree is changing the way I think about Maths. Every day we learn new theories and concepts, and their applications. We’ve also had interesting guest lectures given by people from industry."

**Vidya Putcha**
BSc Mathematics with Actuarial Science, 2019

"Lecturers are exceptionally passionate about their subjects; their enthusiasm makes learning engaging and interesting."

**Rassecah Jayashanker**
BSc Mathematics with Finance and Accounting, 2019

**BSc Mathematics with Finance and Accounting**
G1N4 (three years)
G1N6 (four years with Professional Placement)
G14Y (four years with a Year Abroad)

**A-level:** AAB including A in mathematics
**IB:** 34 overall with 665 in HL subjects, including mathematics
**BTEC:** See qmul.ac.uk/undergraduate/entry/btec for detailed requirements

Develop vital numerical and analytical skills along with a solid grounding in finance and accounting.

Our most popular joint degree programme combines mathematical and statistical training with finance and accounting, including general financial theory and its applications in the world of business and commerce.

In your first year you’ll build a solid grounding across all areas of mathematics, probability and statistics, and explore the world of finance with modules in accounting and economics. Over the second and third years, you’ll focus on statistics and applied mathematics alongside management accounting and financial mathematics.

Joint teaching from the School of Mathematical Sciences and the School of Business and Management means you’ll learn from experts across both fields, and benefit from the support and facilities of two academic schools.

The option of a Professional Placement year provides an excellent opportunity to gain hands-on experience and prepare for a successful career in the financial sector and beyond. For more information see page 18.

Examples of some modules currently offered:
- Actuarial Mathematics
- Calculus
- Computational Statistics with R
- Economics for Business Management
- Introduction to Computer Programming
- Introduction to Machine Learning
- Financial Management
- Financial Mathematics
- Managerial Accounting
- Mathematical Tools for Asset Management
- Probability and Statistics
- Statistical Modelling

You will also have the option to choose modules from some other departments, including Languages.

For further details, including a full list of modules please visit: qmul.ac.uk/G1N4

Follow a bespoke, accredited programme combining core mathematics with specialist modules, designed to give you a head start in your actuarial career.

Actuaries are problem-solvers who can think strategically, drawing on their mathematical skills to measure the probability and risk of future events. This profession offers a satisfying and financially rewarding career path across areas such as general insurance, life insurance, pensions and investment.

This degree is currently accredited by the Institute and Faculty of Actuaries (IFoA), and successful students will be able to gain up to six exemptions from the IFoA Core Principles examinations (under their new Curriculum 2019). The programme combines core mathematics with specialist modules in probability, statistics, actuarial and financial mathematics, and business economics. You will have the opportunity to learn from qualified actuaries with many years of industry experience.
Degree programmes

BSc Mathematics with Management

G12N (three years)
G1NN (four years with Professional Placement)
G13N (four years with a Year Abroad)

A-level: AAB including A in mathematics
IB: 34 overall with 665 in HL subjects, including mathematics
BTEC: See qmul.ac.uk/undergraduate/entry/btec for detailed requirements

The perfect degree for the mathematically gifted student with ambition to be the future leader of a major organisation.

This programme combines the numerical and analytical skills of a mathematics degree with strong business acumen.

You’ll study pure, discrete, decision and applied mathematics, probability and statistics. Tailored business modules will help you to develop skills suited to a future career in a financial institution, technology company, or multinational corporation, learning alongside other mathematicians and scientists.

Management modules have a particular emphasis on social justice, sustainability and good governance in the management of private, public and not-for-profit organisations. You’ll cover topics such as financial accounting, entrepreneurship, business analytics, strategy, and economics, building an in-depth understanding of the corporate environment.

For further details, including a full list of modules please visit: qmul.ac.uk/G12N

BSc Mathematics, Statistics and Financial Economics

GL11 (three years)
GL12 (four years with Professional Placement)
GL1Y (four years with a Year Abroad)

A-level: AAA including mathematics
IB: 36 overall with 666 in HL subjects, including mathematics
BTEC: See qmul.ac.uk/undergraduate/entry/btec for detailed requirements

Mathematics and economics make an excellent match: develop mathematical rigour alongside an in-depth understanding of the economic climate.

This programme is for mathematically excellent students who want to apply their numerical and analytical skills to succeed in a career in the world of economics, investment banking, and finance.

In your first year you’ll gain a solid foundation in all the major areas of mathematics, and from second year onwards on the programme is evenly split between mathematics and economics modules. The former will focus on statistics and probability, and the latter will cover markets, institutions and corporate finance.

Joint teaching from the School of Mathematical Sciences and the School of Economics and Finance allows you to learn from experts across both fields and benefit from the facilities and support of two academic departments.

For further details, including a full list of modules please visit: qmul.ac.uk/GL11

The option to undertake a Professional Placement year during your studies provides an excellent opportunity to gain hands-on experience, learn about an industry of interest, and prepare for a successful career. For more information, see page 18.

Examples of some modules currently offered:
- Business Analytics
- Calculus
- Computing and Data Analysis with Excel
- Contemporary Strategic Analysis
- Economics for Business
- Entrepreneurship
- Financial Accounting
- Fundamentals of Management
- Introduction to Machine Learning
- Linear Programming and Games
- Mathematical Tools for Asset Management
- Probability and Statistics
- Project Management
- Statistical Modelling

You may also have the option to choose modules from some other departments, including Languages.

For further details, including a full list of modules please visit: qmul.ac.uk/G12N

One of the most enjoyable aspects of my course is studying mathematical proofs. Although I had some experience before university, the way we are taught to approach proofs at this higher level is new, interesting and challenging.”

Georgios Kanetounis
BSc Mathematics, Statistics and Financial Economics, 2020
**MSci Mathematics with Statistics**
G1G3 (four years)  
GG1Y (four years with a Year Abroad)

**A-level**: AAA including mathematics  
**IB**: 36 overall with 666 in HL subjects, including mathematics  
**BTEC**: See qmul.ac.uk/undergraduate/entry/btec for detailed requirements

This extension of our flexible BSc programme allows you to explore further into a broad range of core and specialist mathematical topics. This MSci programme is ideal if you want to take your study of statistics to an advanced level, while completing rigorous training across other mathematical fields.

You’ll spend your first year building a foundation across pure, discrete, decision and modern applied mathematics, probability and statistics.

From the second year you’ll specialise in statistics, building statistical theory and methodology on mathematical foundations, especially probability theory. Probabilistic modelling has applications in genetics, quantum physics and risk analysis, and is increasingly used in the financial sector. You can then choose modules on aspects of statistics that most interest you, or broaden your studies to encompass other areas of mathematics.

In the final year you’ll choose advanced modules and complete a research project under the supervision of an academic expert.

This programme gives you the option to extend your MSci degree with a Year Abroad, studying at one of our partner universities. For more information see page 20.

Examples of some modules currently offered:
- Bayesian Statistics  
- Calculus  
- Complex Variables  
- Computational Statistics with R  
- Dynamical Systems  
- Financial Mathematics  
- Introduction to Machine Learning  
- MSci Project  
- Probability and Stochastic Processes  
- Research Methods  
- Ring Theory  
- Statistical Modelling  
- Statistics for Insurance

You will also have the option to choose modules from some other departments, including Languages.

For further details, including a full list of modules please visit: qmul.ac.uk/G1G3

**MSci Financial Mathematics**
GN1H (four years)  
GN2H (five years with Professional Placement)  
GNHY (five years with a Year Abroad)

**A-level**: AAA including mathematics  
**IB**: 36 overall with 666 in HL subjects, including mathematics  
**BTEC**: See qmul.ac.uk/undergraduate/entry/btec for detailed requirements

Combine key areas of pure and applied mathematics with more specialist knowledge of financial mathematics, numerical methods and computing.

Our Financial Mathematics MSci is ideal for students planning a career in the more quantitative areas of finance and banking, and for those wanting to undertake academic research.

In your first year, you’ll take modules that will give you a foundation in all the core areas of mathematics and statistics, and gain practical data analysis skills. In later years, you’ll have the opportunity to study modules across financial and actuarial mathematics, statistical modelling, financial management, programming, and more.

In the final year, you’ll take advanced modules and develop your research skills by completing an individual project in contemporary mathematical finance. Projects are supervised by one of the School’s academics, many of whom have extensive industry experience in mathematical finance.

This programme gives you the option to extend your MSci degree with a Professional Placement year, or Year Abroad. For more information, see pages 18-21.

Examples of some modules currently offered:
- Actuarial Mathematics  
- Advanced Portfolio Theory and Risk Management  
- Applied Linear Algebra  
- Complex Variables  
- Economics for Business  
- Financial Mathematics  
- Introduction to Machine Learning  
- Mathematical Tools for Asset Management  
- MSci Project  
- Probability and Stochastic Processes  
- Professional Skills and Data Analysis with SAS  
- Programming in C++ for Finance  
- Statistical Modelling  
- Statistics for Insurance  
- Time Series

You will also have the option to choose modules from some other departments, including Languages.

For further details, including a full list of modules please visit: qmul.ac.uk/GN1H
The study of mathematics has the potential to open up many different career paths, as demonstrated by our alumni who work across a wide variety of careers.

**Career prospects**
Many of our graduates apply their degree knowledge directly, working in finance, accountancy or actuarial professions. Others translate their skills and knowledge across broader industries such as management consulting, marketing, engineering, teaching and the public sector.

**What our graduates do next**
Our mathematics students have successfully secured graduate roles with major employers, including: Barclays, British Gas, Deloitte, Direct Line Group, JP Morgan Chase, Legal & General, Macmillan Cancer Support, National Audit Office, and Société Générale.

The broad range of skills gained through our degrees, coupled with opportunities for extra-curricular activities and work experience, has enabled our recent graduates to move into varied roles, including:
- Actuarial Analyst
- Audit Associate
- Graduate Project Manager
- Mathematics Teacher
- Statistical Officer
- Technology Consultant
- Trader
- Trainee Chartered Accountant
- Risk Analytics Consultant

A number of our graduates have also set up their own businesses upon graduation, making the most of the funding and support available from our Careers Service for student entrepreneurs.

**Further study**
Following your undergraduate degree you may choose to study for a Masters, begin an academic research career with a PhD, or undertake additional certification for your future career, such as an Actuarial or Accounting qualification, or a PGCE.

**Did you know...?**
Five years after graduating, maths graduates are the third highest earners on average, compared to other degree subjects (Institute for Fiscal Studies report, 2018)

92% of Queen Mary graduates are in work or further study within 6 months (DLHE 2017)

Studying maths gave me such valuable analytical and logical skills that can be used within any industry, and helped me to develop my problem solving skills. I still use methods that I learned in Linear Algebra and Statistical Modelling in my job now."

Diana Akanho
BSc Mathematics Alumna. Now working as a Senior Insights Manager at Tech Nation.

"Studying maths gave me such valuable analytical and logical skills that can be used within any industry, and helped me to develop my problem solving skills. I still use methods that I learned in Linear Algebra and Statistical Modelling in my job now."

Diana Akanho
BSc Mathematics Alumna. Now working as a Senior Insights Manager at Tech Nation.
Careers support

Through the Careers Taster Scheme I have visited a range of companies, including Barclays, MediaCom and Liberty Mutual. As a first year student those Insight Days have given me a broad perspective on what careers are available and how to market myself.

Rehab-Al Mohsin
BSc Mathematics with Actuarial Science, 2019

How we support you

Alongside the university’s central Careers and Enterprise service, in the School of Mathematical Sciences we have a dedicated Careers Consultant and an Internships Co-ordinator who each have expert knowledge of the job market and the skills you need for a successful future career. They can help you to identify opportunities, gain work experience, and make strong job applications.

Support available includes:
• One-to-one careers appointments
• CV-checking and mock interviews
• Tailored employability workshops
• Opportunities to meet employers through events (such as Insight Days)
• Guidance on internships, part-time jobs and work placements

Enterprise

Students and graduates across Queen Mary start new business and social ventures each year. We provide support in the form of funding, advice, workshops, workspace, and access to experts and valuable networks.

Work experience

Our work experience scheme, QConsult, allows students to build valuable transferable skills by working with local charities and businesses. There are also plenty of opportunities to work part-time during your studies, should you wish. On campus, you may choose to work in the Library, or in one of catering or retail outlets, for example. You could even work as a Maths Ambassador - being trained and paid to represent the University through a variety of engaging activities and events on campus, in local schools and with our outreach partner organisations; a great way to build valuable skills.

In addition to paid work, the Students’ Union offers a whole host of volunteering opportunities.

For more information about our careers support, visit: careers.qmul.ac.uk
Entry requirements, fees and funding

For all full-time higher education programmes at universities and colleges in the UK, you’ll need to apply online at ucas.com. You’ll find a step-by-step guide to applying on the Queen Mary website at: qmul.ac.uk/undergraduate/apply

**Entry requirements**
For specific entry requirements please see individual programme descriptions on pages 22-31.

In addition to A-Levels, we accept a wide range of other qualifications, including the International Baccalaureate, Access and Foundation Programmes and overseas qualifications. Full details of our entry requirements and overseas equivalencies can be found on our website: qmul.ac.uk/undergraduate/entry

**English language qualifications**
We expect all students to have a good level of English in order to be successful on our degree programmes. Our minimum English language requirement is GCSE grade C or 4.

For international students you’ll require a score of 6.0 with a minimum of 5.5 in all sections.

A number of accepted equivalent qualifications are listed on our website: qmul.ac.uk/eng-lang-reqs

**Contact us**
For undergraduate admissions enquiries:
Email: maths@qmul.ac.uk
Tel: +44(0)20 7882 5470

**Meet us**
The best way to get a feel for life in the School of Mathematical Sciences at Queen Mary is to come and meet us.

**Open Days for 2020 entry:**
• Friday 21st and Saturday 22nd June 2019
• Saturday 5th October 2019

For more information and to book your place, go to qmul.ac.uk/undergraduate/openday

If you are successful in gaining an offer to study with us, you will also be invited to one of our dedicated Offer-holder Days, where you can explore the campus, meet staff and students and experience a taster lecture.

**Funding**
There is a wide range of generous bursaries available at Queen Mary to ensure that the best and brightest students are able to study with us and to minimise barriers to learning.

As a guide, in 2019 our scholarships included the Queen Mary Global Excellence Award, worth £3000. This was offered to top applicants across all of our Mathematics undergraduate programmes.

Full details of all of our scholarships and bursaries, including eligibility criteria, are available on our website: qmul.ac.uk/scholarships

Our fees are published for individual courses online, via the undergraduate course finder: qmul.ac.uk/undergraduate
Mile End campus
For more detailed campus information, see: qmul.ac.uk/about/howtofindus

Educational/Research

Residential

- Albert St Lane
- Albert Street

Facilities

- Advice and Counselling Service
- Students’ Union
- Student Study Space
- Travel Centre
- Green Office

Information

Visitors who require further information or assistance should please go to the main reception in the Queen’s Building.

The smoking of cigarettes or tobacco products is only permitted at designated smoking areas/shelters indicated on this map.

Electronic cigarettes permitted on outside space only.

These premises are alarmed and monitored by CCTV.

Terms and conditions

1 Rules and regulations

The offer of, and acceptance of, a place at Queen Mary is made on the understanding that you undertake to observe the terms and conditions of our Academic Regulations and related policies. These cover, among other things, payment of fees, attendance at classes, submission of work, attendance at examinations, student discipline, complaints procedure, freedom of speech and equal opportunities policies. To read the Academic Regulations and related policies, visit: arcs.qmul.ac.uk/policy

2 Changes to our programmes

Queen Mary will aim to deliver your programme so that it closely matches the way in which it has been described to you by Queen Mary in print, online, and/or in person. However, it is important to realise that in some circumstances we may change aspects of your programme. For example, staff changes, resource limitations and factors such as a change in the law or the level of demand for a particular programme or module may result in the programme having to withdraw or change aspects of the programmes and/or student services described in this prospectus.

In the unlikely event that we discontinue a programme of study, or change it significantly before it begins, we will inform applicants holding an offer of a place at the earliest opportunity and will endeavour to offer a suitable alternative programme at Queen Mary. We will also ensure that these changes are reflected on our website as soon as possible.

3 Liability for damage to person or property

Queen Mary does not accept responsibility or liability for any damage to students’ property, the transfer of computer viruses to students’ equipment, or personal injury to students caused by the misuse or unauthorised use of Queen Mary equipment, or owing to students not taking due care while on Queen Mary premises, or engaged in Queen Mary activities.

4 Accuracy of information in this prospectus

Queen Mary has made reasonable efforts to ensure that the information provided in this prospectus is both helpful and accurate at the time of going to press. However, this information is subject to change over time. For this reason, it is important that you check the website for the most up-to-date information (qmul.ac.uk) or contact us using the details contained within the document.

Applicants are strongly advised to check the Queen Mary Course Finder for up-to-date entry requirements before submitting their UCAS application: qmul.ac.uk/undergraduate/coursefinder

Read our terms and conditions in full at: qmul.ac.uk/prospective/termsandconditions

This prospectus was manufactured using UPM Fine Forest sourced from an ISO 14001 certified mill, where the pulp was bleached using an Elemental Chlorine Free (ECF) process. The materials followed a Chain-of-Custody scheme, ensuring traceability back to a responsibly managed forest.