Loughborough University

Mathematical Sciences

School of Science

Why study Mathematical Sciences at Loughborough?

Mathematics is a thrilling and stimulating subject which is not only fascinating to study in its own right but also underpins a great variety of endeavours such as science, commerce and industry.

It has a natural elegance and splendour, taking real world problems and creating mathematical models to aid understanding.

A mathematics degree is actively sought by employers and opens many doors to subsequent employment and further study. This is partly because of its vast scope and array of applications, and partly because its study equips students with the numerical abilities, logical thinking and analytical skills that are crucial to the success of diverse organisations within commerce, banking and finance, management and industry. Through innovative teaching we will equip our students with these skills while also opening up the many facets of this rich and stimulating discipline.

Active in high-quality research across the broad spectrum of mathematics, the Department has an international reputation and has attracted staff and students from all over the world, making it a diverse and stimulating environment in which to study.

COURSES ACCREDITED BY THE INSTITUTE OF MATHEMATICS AND ITS APPLICATIONS

A RESPECTED LEADER IN MATHEMATICS EDUCATION SUPPORT

Contents

Placements and study abroad

1st

IN THE UK FOR EMPLOYER-STUDENT CONNECTIONS
QS GRADUATE EMPLOYABILITY RANKINGS 2020

All our courses offer a year-long placement option, giving you the opportunity to spend a year building experience within an industrial, commercial or research establishment.

It also gives you the chance to enhance your employability and add value to your degree. Placement students return to their studies fully equipped with sought after knowledge and skills.

The Mathematics department has established good relationships with a variety of companies enabling students to spend a year gaining valuable experience as well as some securing graduate jobs.

Examples of recent placement destinations include:
- PwC
- The Walt Disney Company
- Johnson and Johnson
- Ernst & Young
- Aston Martin Lagonda
- Renault
- Lloyd's Banking Group
- AXA
- Siemens
- Rolls-Royce
- Accenture UK
- Hitachi
- Morgan Stanley
- GlaxoSmithKline
- Fujitsu

Over the years good relations have been established between these companies, including many more, and the Department of Mathematical Sciences. Using these links a dedicated placements team will be on hand to support students with finding a suitable placement opportunity.

"For many students the year in industry is their first time in a proper working environment with real responsibilities – it's an opportunity to develop personally and network with influential people."
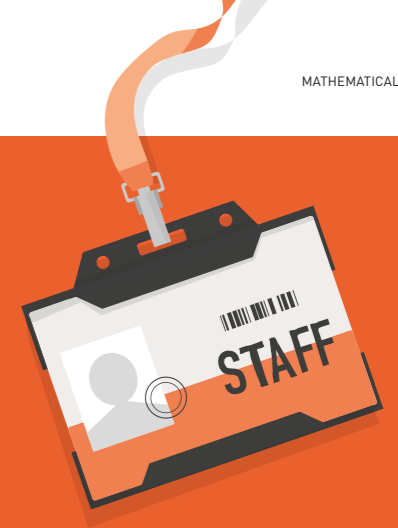
Grace
Mathematics with Economics

PAID PLACEMENTS AVAILABLE ON ALL COURSES

HOME TO ONE OF THE UK'S LARGEST ANNUAL CAREERS FAIRS

STAFF

Careers and employability

As a department we have a strong tradition for working with industry. The partnerships we build with external organisations strengthen the relevance of our teaching and our research.

A degree in mathematics opens the door to a wide variety of careers, particularly roles in which analytical skills, logic, reasoning, problem-solving and high levels of numeracy are prized.

With the vast scope and array of applications for mathematics your mathematics degree can lead to any number of rewarding careers. Our students secure roles working for diverse organisations within commerce, banking and finance, management and industry – anywhere that numerical abilities, logical thinking, analytical skills and the ability to communicate numerical data is valued. It can also lead to careers in teaching or research.

The mathematics department aims to help you develop skills which are valued by employers.

Graduates from maths at Loughborough have gone on to pursue rewarding careers with major recruiters, including:
- Graduate analyst, Barclays
- Project Manager, Goldman Sachs
- Data Analyst, IBM
- Financial Analyst and Accounting, Morgan Stanley
- Bespoke Master Data Manager, Rolls-Royce
- Associate Auditor, Ernst and Young
- Data and Insight Analyst, British Gas
- Technology Risk Consultant, KPMG
- Associate Accountant, PwC
- Forensic Data Analyst, Deloitte

"I love how my level of responsibility has increased in this role as I've proven my capability and shown I can be relied on to get things done. One of the best things about the mathematics department was the quality of teaching, along with the support I received through tutorials."

Tom
Mathematics graduate
Lloyds Banking Group – graduate scheme

24–HOUR ACCESS TO COMPUTER LABORATORIES

£4.5 MILLION INVESTMENT IN DEDICATED FACILITIES FOR MATHEMATICS AND STATISTICS

HOME OF THE AWARD-WINNING MATHEMATICS LEARNING SUPPORT CENTRE

Our courses

All our courses give students a solid grounding in the fundamentals of mathematics and allow them to specialise in a number of areas including statistics and mathematics education.

MMath or BSc?

Our BSc courses will equip you with the numerical abilities, logical thinking and analytical skills required to work in a diverse range of roles with a range of organisations. If you have a desire to work as a professional mathematician in industry, commerce, or higher education, or pursue a research career, the MMath course will provide you with the more advanced level of study needed to work towards your aims.

First-class facilities

The Department of Mathematical Sciences in located in the Schofield Building which is based centrally on the University campus.

Recent investment has seen a £4.5 million refurbishment to equip it with dedicated resources for mathematics students.

As well as a dedicated student learning zone with space for individual or group study, the department is home to the award-winning Mathematics Learning Support Centre providing maths and statistics support to students in two locations on campus.

As a student within the Department of Mathematical Sciences you will also benefit from 24/7 access to state-of-the-art computer labs.

Mathematics

MMath (Hons) DPS/DIntS*: 5 years full-time with placement year
UCAS code: G104

MMath (Hons): 4 years full-time
UCAS code: G103

BSc (Hons) DPS/DIntS*: 4 years full-time with placement year
UCAS code: G101

BSc (Hons): 3 years full-time
UCAS code: G100

Typical offers
A level: AAA including Maths or A*AB including A* in Maths
IB: 37 (6,6,6 HL) including HL Maths
BTEC Level 3 National Diploma: D*D plus A in A level Maths (for other combinations please refer to the online prospectus)

*Diploma in Professional/International Studies

Our Mathematics course provides a balanced study of the most important aspects of maths so that you can achieve a thorough understanding of the fundamentals to help prepare you for a successful career.

A mathematics degree is actively sought by employers and opens many doors to subsequent employment and further study. This is partly because of its vast scope and array of applications, and partly because its study equips students with the numerical abilities, logical thinking and analytical skills that are crucial to the success of organisations within commerce, banking and finance, management and industry. The course enables you to study the broad scope of mathematics, guided by the expertise of our respected academic staff, and to tailor your degree to suit your interests and aspirations through a wide range of optional modules.

Year 1
In the first year of the Mathematics programme students on the BSc and MMath will learn the fundamentals of the subject with modules in analysis, linear algebra and mathematical thinking. You will also study the basic concepts of probability and statistics and an introduction to elementary numerical methods and associated theory.

Year 2
In the second year of the BSc and MMath Mathematics course you will study compulsory modules that include basic concepts and methods of probability theory, deferential geometry, analytical dynamics and statistical modelling. You will also be able take optional maths modules.

Optional placement/study abroad year
Optional professional placement and/or overseas study.

Year 3
In year 3 of the MMath and final year of the BSc students can take optional modules including number theory, statistics and game theory. BSc students will also do either a semester-long report or a year-long project.

Final year MMath
Students in their final year of the MMath Mathematics degree to study a range of optional modules and a year-long final year project giving you the experience of working independently on an advanced topic.

Financial Mathematics

BSc (Hons) DPS/DIntS*: 4 years full-time with placement year
UCAS code: GNC3

BSc (Hons): 3 years full-time
UCAS code: GN13

Typical offers
A level: AAA including Maths or A*AB including A* in Maths
IB: 37 (6,6,6 HL) including HL Maths
BTEC Level 3 National Diploma: D*D plus A in A level Maths (for other combinations please refer to the online prospectus)

*Diploma in Professional/International Studies

Mathematics plays an important role in the financial services industry and there is a growing demand for graduates with knowledge and understanding of both financial matters and the relevant mathematics.

Our Financial Mathematics degree provides thorough training and prepares students for a rewarding career in banking and finance, with essential knowledge of financial matters and the underpinning mathematics.

The Financial Mathematics (BSc) degree is co-taught by the School of Business and Economics – one of the UK's top 10 business schools.

Students will benefit from a range of stimulating modules in economics, finance and mathematics, including specialist modules that deal directly with the applications of mathematics in finance.

Our Financial Mathematics (BSc) degree will equip you with an understanding of methodologies and techniques that are essential for jobs in banking and finance.

Year 1
In the first year you'll study modules covering analysis, linear algebra, mechanics and mathematical methods. These modules will give students an understanding of sequences and series, vector spaces and an introduction to basic ideas of differential calculus.

Year 2
The grounding for financial mathematics continues with the analysis and mathematical methods modules in Year 2. In addition to this you will study modules covering financial economics, statistical modelling, probability theory and stochastic processes.

Optional placement/study abroad year
Optional professional placement and/or overseas study.

Year 3
In the final year of the BSc Financial Mathematics degree you will study compulsory modules covering asset pricing, corporate finance and derivative pricing methods.

"I thought the idea of the Maths Learning Support Centre was great and that was one of the main reasons I chose the Mathematics Department at Loughborough."

Heena
Mathematics

"The opportunity to complete a placement year and the strong ties established with industry leaders give you a significant advantage in an increasingly competitive market."

Dobroslav
BSc Financial Mathematics

Mathematics and Accounting and Financial Management

BSc (Hons) DPS/DIntS*: 4 years full-time with placement year
UCAS code: G1NK

BSc (Hons): 3 years full-time
UCAS code: G1N4

Typical offers
A level: AAA including Maths or A*AB including A* in Maths
IB: 37 (6,6,6 HL) including HL Maths
BTEC Level 3 National Diploma: D*D plus A in A level Maths (for other combinations please refer to the online prospectus)

Diploma in Professional/International Studies

The BSc in Mathematics and Accounting and Financial Management is evenly divided between the two main subject areas. It draws upon the expertise in both the Department of Mathematical Sciences and the University's School of Business and Economics to provide insights into mathematics, accounting and financial management in the "real world" context of business and commerce.

This course has been designed for those who wish to gain knowledge of corporate finance, accounting and financial management as well as the powerful mathematical tools used in the financial and business sector. The problem-solving skills and accounting skills acquired make graduates highly attractive to a wide range of employers.

Accreditation for this course has been obtained from several of the professional institutes in accountancy.

Year 1
In your first year you will study the core of mathematics with modules in mathematical methods, linear algebra and mechanics. In addition you will learn about the principles of financial accounting, probability and statistics and the macroeconomics for financial studies.

Year 2
In the second year of study on this programme some of the modules you will study include probability theory, complex analysis, company law and financial reporting.

Optional placement/study abroad year
Optional professional placement and/or overseas study.

Year 3
In your final year focus will move to financial reporting and the strategic management of accounting and performance. Some of the optional modules available for you to take will cover number theory, business systems, corporate and wholesale banking, financial management and financial management and corporate policy.

Mathematics and Sport Science

BSc (Hons) DPS/DIntS*: 4 years full-time with placement year
UCAS code: GC16

BSc (Hons): 3 years full-time
UCAS code: CG61

Typical offers
A level: AAA including Maths or A*AB including A* in Maths
IB: 37 (6,6,6 HL) including HL Maths
BTEC Level 3 National Diploma: D*D plus A in A level Maths (for other combinations please refer to the online prospectus)

Diploma in Professional/International Studies

This joint honours course is an opportunity to combine the study of mathematics with the study of sport science at one of the UK's leading universities for sport science.

Sport science modules will be taught by world-leading experts from within the School of Sport, Exercise and Health Sciences – ranked first in the world for sports-related subjects in the QS World University Rankings by subject 2017, 2018, 2019, 2020.

Loughborough's School of Sport, Exercise and Health Sciences boasts extensive laboratories allowing the very best learning experience for our students. Not only that, but you'll have access to excellent facilities on campus, including unrivalled sports facilities.

The combined study of mathematics and sport science is one that reflects particular strengths of Loughborough University and is not available at any other institutions.

Year 1
Year 1 of this joint honours course you will study optional from maths and sport science, giving you an introduction to both subjects, including mathematical methods, linear algebra, foundations of sport and exercise psychology and anatomy and physiology.

Year 2
During the course of Year 2 you will compulsory sport science modules, including biomechinics of sport and expert performance in sport, alongside compulsory maths modules for example probability theory and complex analysis. You will also have the opportunity to add some optional modules.

Optional placement/study abroad year
Optional professional placement and/or overseas study.

Year 3
During the final year of this course you will study year-long compulsory sport science modules covering physiology of sport, exercise and health, advanced sport biomechanics and applied psychology in competitive sport. You will also be able to take optional modules in maths.

"The standard of teaching is very high. There's support at every level and no shortage of people to turn to if you need help. The staff are always professional and knowledgeable and communicate well."

Stephanie
Mathematics and Accounting and Financial Management

"Doing a joint honours course, especially with two completely different subjects, keeps my week interesting. I can spend half the hours of my week decrypting complicated mathematical equations then change over from the lecture theatre to the lab and be measuring body fat percentage and bone density."

Nathan
Maths and Sport Science

📁 Placement opportunity   ✈ Study abroad   ✚ Additional award   ✓ Accredited course

Mathematics with Economics

BSc (Hons) DPS/DIntS*: 4 years full-time with placement year
UCAS code: G1LC

BSc (Hons): 3 years full-time
UCAS code: G1L1

Typical offers
A level: AAA including Maths or A*AB including A* in Maths
IB: 37 (6,6,6 HL) including HL Maths
BTEC Level 3 National Diploma: D*D plus A in A level Maths (for other combinations please refer to the online prospectus)

*Diploma in Professional/International Studies

Economics relates to every aspect of our lives, from the decisions we make as individuals to the policies adopted by government and the products and services offered by companies. Economics will give you new perspectives on some of the most pressing and challenging problems and choices facing the world today.

This course enables you to combine the study of economics with mathematics, equipping you with excellent tools to not only understand global challenges, but also to provide solutions.

Year 1
In Year 1 you will study modules covering analysis, linear algebra, mathematical methods, and the basic concepts of probability and statistics. You will take on an economics modules in the principles of macroeconomics.

Year 2
In Year 2 of the BSc Mathematics with Economics students will study modules including probability theory, mathematical thinking, complex analysis and statistical modelling. The study of economics modules will be offered as optional modules with macroeconomics and econometrics.

Optional placement/study abroad year
Optional professional placement and/or overseas study.

Year 3
In the final year a range of optional modules will be available including vector calculus, number theory and elements of topology.

Mathematics with Statistics

BSc (Hons) DPS/DIntS*: 4 years full-time with placement year
UCAS code: GG1H

BSc (Hons): 3 years full-time
UCAS code: GG13

Typical offers
A level: AAA including Maths or A*AB including A* in Maths
IB: 37 (6,6,6 HL) including HL Maths
BTEC Level 3 National Diploma: D*D plus A in A level Maths (for other combinations please refer to the online prospectus)

*Diploma in Professional/International Studies

The importance of statistics in today's information age cannot be overstated. Statistics are the tools we use to evaluate ideas, test theories, and inform policies. Statistics help us arrive at the truth. We live in an era where more data is collected than ever before, and demand is high for talented statisticians.

Year 1
Student in the first year of the Mathematics with Statistics BSc study linear algebra, analysis, mathematical thinking and get a good understanding of elementary numerical methods and associated theory. Students will learn how to implement numerical methods on the computer and gain an understanding of interpreting numerical methods.

Year 2
In Year 2 students will be introduced to modules that cover mathematical methods, statistical methods and associated theory and complex analysis.

Optional placement/study abroad year
Optional professional placement and/or overseas study.

Year 3
In the final year of the Mathematics with Statistics BSc you will complete a final-year project which offers a connection to contemporary statistics research, as well as being able to choose from a range of optional modules including medical statistics and mathematical biology.

"Maths at Loughborough offered the broadest and most supportive style of education. The Maths Learning Support Centre was certainly a key attraction."

Ben
Maths with Economics
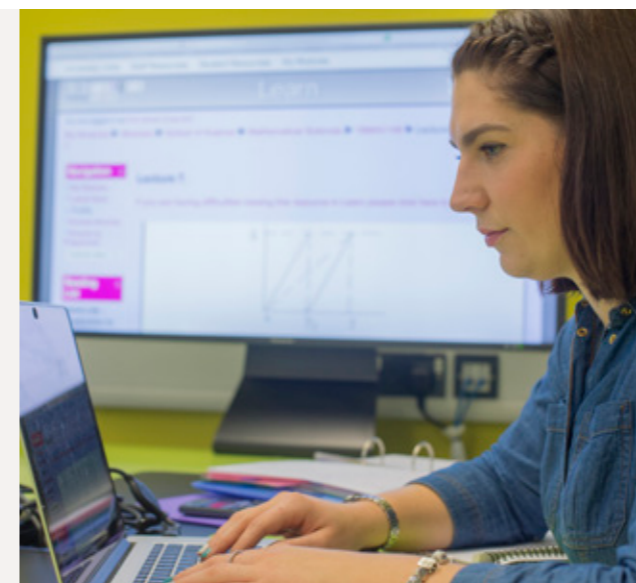
"I have most enjoyed studying what I love. The course has allowed me to expand my knowledge of a subject which I am passionate about."

Jill
BSc Financial Management

Placement opportunity   Study abroad   Additional award   Accredited course

Mathematics with a Foundation Year

UCAS code: G1L1

GUARANTEED ENTRY ONTO CHOSEN COURSE*
*PROVIDING RELEVANT PROGRESSION REQUIREMENTS ARE MET

**PATHWAYS AVAILABLE FOR ELITE ATHLETES**

RANGE OF OPTIONS DESIGNED SPECIFICALLY FOR INTERNATIONAL STUDENTS

Mathematics with a Foundation Year is for candidates who for some reason have not had the opportunity to study the pre-requisite subjects needed for first year entry. Offers will not normally be made to those who apply simply because their A level grades/predictions are below the requirements for direct entry.

Successful completion of the one year Foundation course allows you to progress onto any of the courses in our Department.

For more information on typical offers, course content and how to apply, visit: lboro.ac.uk/ug2021/foundation
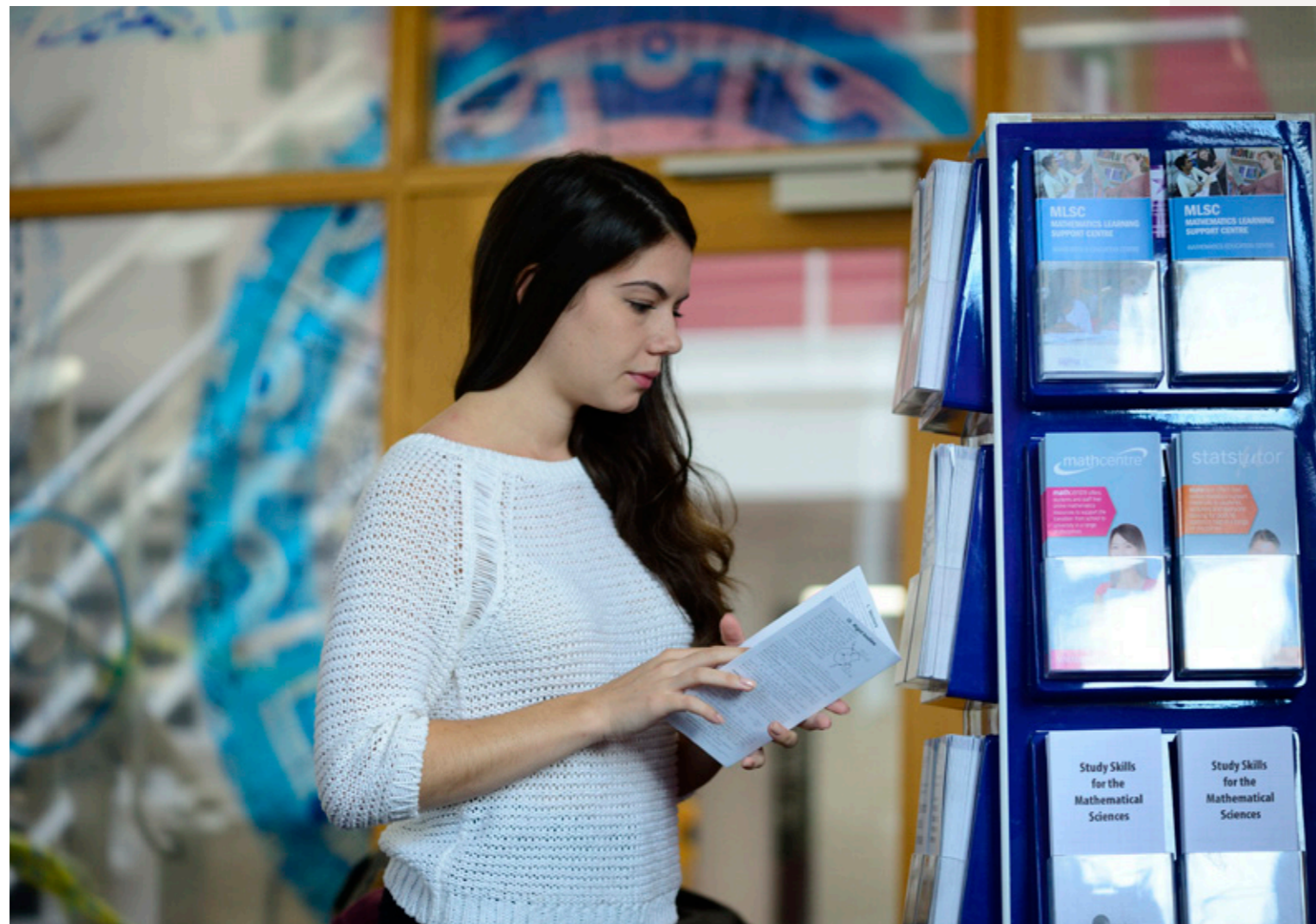
"The quality of teaching at Loughborough is amazing; I cannot praise it highly enough! Lecturers and all members of staff are friendly and willing to give up their time. They go above and beyond to ensure you are happy with the content of the course as well as happy outside of lectures."

Adrienn, Mathematics

TOP 10 IN EVERY UK
10 UNIVERSITY
LEAGUE TABLE

General enquiries

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This brochure was written several months in advance of the academic year to which it applies (2021). Every effort has been made to ensure that the information contained within is accurate at the time of publishing, but updates (for example to course content) are likely to occur due to the time between publication and the course start date. It is therefore important to visit our online prospectus at www.lboro.ac.uk/study before applying to check for any updates, as this will be the most up-to-date repository of information.

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