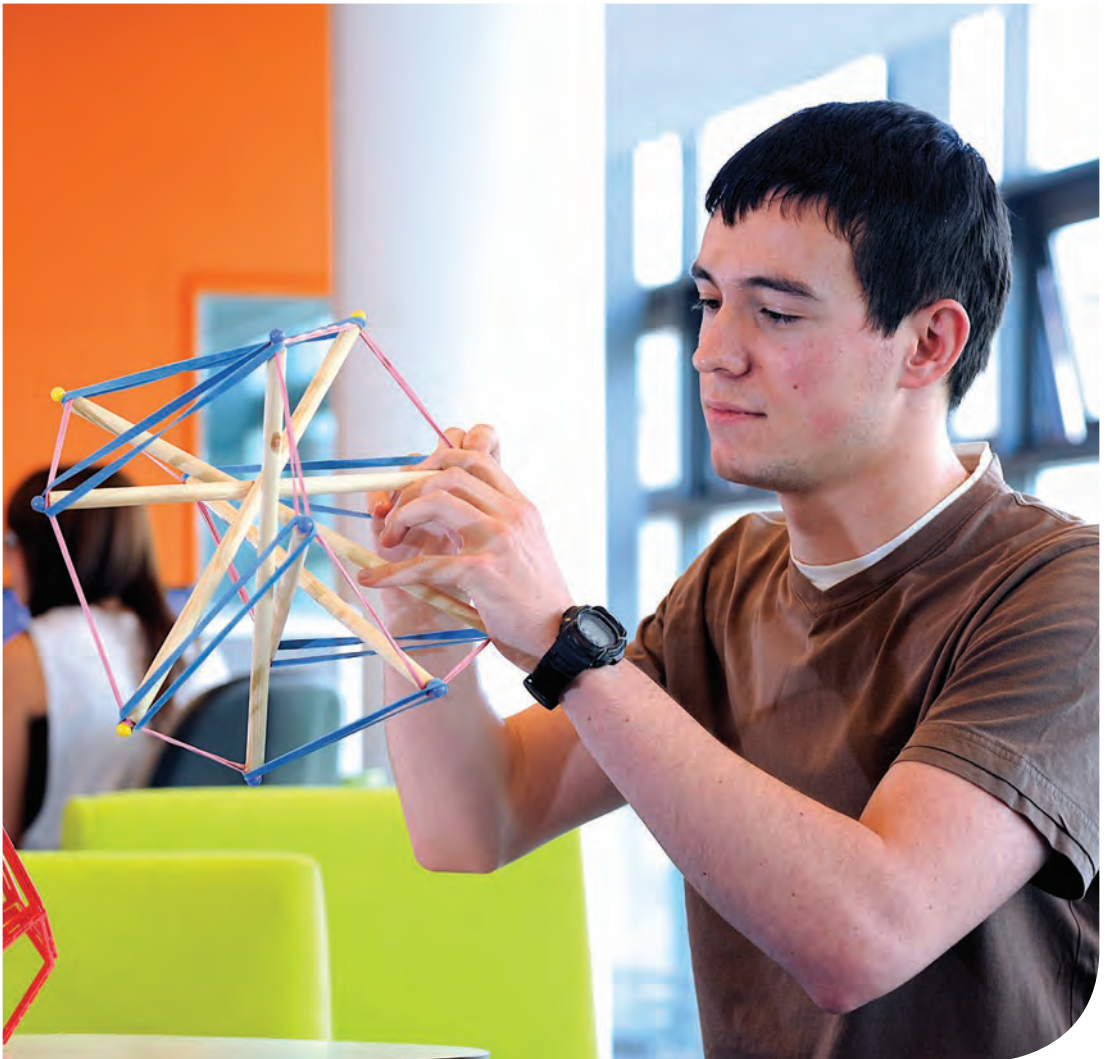




Mathematics and Statistics

Undergraduate Prospectus



Welcome to Mathematics and Statistics

I am very pleased that you are considering applying to study with us. We are a highly-ranked department for both teaching and research and a recent significant expansion of academic staffing has enabled us to broaden and strengthen our course provision.

Every student is important to us, and tutors, academics and directors of studies will all meet you regularly to support you in your education.

Our courses will teach you about mathematics and statistics at a high level. By your final year, you will be studying topics heavily influenced by our research interests in algebra, analysis, probability and statistics. An individual dissertation in the fourth year is an opportunity to work closely with a member of academic staff on a topic of mutual interest and can lead towards study for a postgraduate research degree.

A key part of all of our courses is flexibility. In the first year, you choose an additional subject to study alongside your mathematics modules, with the option to move to a combined programme or even to the other subject at the end of the year. This flexibility and our academic support systems are important reasons why very few of our students drop out.

We are a diverse department with many international students and staff. Among our student body, we have a nearly even male-female split and we strive to maintain a friendly and welcoming atmosphere. Our staff are accessible and happy to talk to you individually about mathematics or any other aspect of your studies.

When the time comes for you to graduate, we are confident you will be well-prepared for your next steps. We have an excellent track record in employability of our graduates - 90% of recent graduates are in work or further study six months after graduation. As well as the numeracy and rigorous analytical skills you gain from studying mathematics and statistics, our programmes include project skills and group work too, both of which are important in the workplace or academia.

Please get in touch with us if you have any further questions about our department or our courses. Our website also has further information, including news and events, as well as links to more detailed information about the University and the City of Lancaster.

I look forward to meeting you at one of our applicant events on campus, when you will be able to talk to our staff and students, see our facilities and find out what life in our department is like.

Professor Andrey Lazarev
Head of Department



Why Lancaster?

Our courses are taught within a friendly and supportive environment which is relaxed but academically rigorous. All of our degree programmes offer a wide range of experience in pure mathematics and statistics, and produce graduates with excellent career prospects.

Expertise

The Pure Mathematics and Statistics sections work together to make up a vibrant department of enthusiastic staff, whose keen interest in their areas of expertise ensures lively and stimulating teaching. Our research is internationally recognised and informs our teaching. We were ranked joint 5th for overall research quality in the mathematical sciences in the 2014 Research Excellence Framework (REF).

Support

Support is provided by lecturers, tutors and directors of studies (academic staff from the department) and college advisors.

The student-run Maths and Stats Society (MASS) is very active, hosting social events and holding a Maths Cafe on Monday lunch times, for students to meet and get help from one another.

Flexibility

The department offers a lot of flexibility, with three year and four year courses, the opportunity to study abroad and a wide range of combined honours degrees. Many of our students go on to take higher degrees at Masters and PhD level.

Employability

The study of pure mathematics provides intellectual stimulation and helps develop the ability to approach problems logically. This produces numerate graduates who are highly employable in many different areas, including finance, software development, the Civil Service and teaching. A degree in statistics equips its holder with the tools required to analyse and interpret data in real-world situations. Combining the two disciplines for a degree in mathematics and statistics gives a broad base for possible career options.

90% of our graduates are in work or further study six months after graduation.

Professional Recognition

Our Mathematics with Statistics, and Statistics degrees qualify graduates for professional membership (GradStat) of the Royal Statistical Society. Sufficiently strong performance in certain second year modules allows our students to claim exemption from the Probability and Mathematical Statistics examination of the Institute and Faculty of Actuaries.

Fulfilling Potential

The flexibility of our courses, expert teaching provision and a helpful environment combine to allow our students to perform to the best of their abilities. In 2014, over 60% of those who completed their studies with the department gained a first or upper-second class degree.

Satisfaction

In the annual National Student Survey, 95% of our final year students said they were satisfied with the quality of their course. They also recognised the good organisation and smooth running of our courses (94%) and the staff's ability to explain things (91%).

League Tables

Our department's current rankings are:

- 8th in The Times and Sunday Times Good University Guide 2015
- 11th in The Complete University Guide 2016
- 12th in The Guardian University Guide 2015

In addition, we were joint 5th in the 2014 REF, and the 2015 QS World University Rankings reaffirm Lancaster's Statistics and Operational Research in the top 100 places in the world for the subject, a position we have held since the rankings began in 2011.



How will I be taught?



Lectures

The teaching style in the department encourages and expects students to participate whenever practicable: the only way to learn mathematics is by doing it! A popular system used for many modules is the provision of course notes with gaps, which you complete and expand as the material is covered in lectures.

Workshops

Weekly workshops enable specialist tutors to work with small groups of students, with no more than fifteen in each group. These provide time to practise the mathematical and statistical skills for each module, and to get individual help and guidance. Lecturers also have office hours where they are available to assist students on a one-to-one basis.

Computing

Computing labs are used to aid mathematical learning, as well as to familiarise students with the specialist packages used by statisticians and mathematicians. Help is provided by instructors; these are usually postgraduate researchers who use the packages in their own work.

Assessment

Assessment is normally a mixture of coursework and examinations. Each week, you hand in solutions to a set of exercises, which are then marked by your tutor and returned to you with feedback in the following workshop. It is important to attempt every set of problems, not only because this forms part of your assessment, but also because this helps consolidate the learning that has taken place and prepare for the following week.

Examinations for all courses are held in May and June. Past papers are available for revision and, as always, staff are on hand if you have any questions.

In the first year, in addition to the weekly coursework, end-of-module tests help us to assess your learning every five weeks. These tests (which count towards the final grade) are rapidly marked and returned, so you have regular feedback and the chance to correct any misunderstandings that might cause problems for the next module.

Problem Solving

Alongside your lecture courses, we run classes aimed at developing your problem-solving skills. In small groups, you will look at the set problems and try to find ways to solve them, using all the tools you can think of.

First Year Timetable

A sample timetable for first year Mathematics students

MON	TUE	WED	THU	FRI
9.00	9.00	9.00 Numbers & Relations lecture	9.00 Calculus lecture	9.00
10.00	10.00 Calculus lecture	10.00	10.00 Minor Subject lecture	10.00
11.00 Numbers & Relations lecture	11.00 Minor Subject lecture	11.00 Calculus lecture	11.00	11.00
12.00	12.00	12.00 Minor Subject tutorial	12.00	12.00 Calculus lecture
13.00 Computerlab	13.00	13.00	13.00	13.00 Numbers & Relations workshop
14.00	14.00 Numbers & Relations lecture	14.00	14.00 Number & Relations lecture	14.00
15.00	15.00 Problem-solving class	15.00	15.00	15.00 Minor Subject lecture
16.00 Minor Subject lecture	16.00	16.00	16.00 Calculus workshop	16.00
17.00	17.00	17.00	17.00	17.00

Our Courses

We offer nine degree programmes in Mathematics and Statistics, with choices of three or four years of study and the option to study abroad.

G100 Mathematics	G101 Mathematics	G103 Mathematics (Study Abroad)
BSc (Hons) 3 Years	MSci (Hons) 4 Years	MSci (Hons) 4 Years (3rd year abroad)
G1G3 Mathematics with Statistics	G1GJ Mathematics with Statistics	G1GH Mathematics with Statistics (Study Abroad)
BSc (Hons) 3 Years	MSci (Hons) 4 Years	MSci (Hons) 4 Years (3rd year abroad)
G300 Statistics	G303 Statistics	G301 Statistics (Study Abroad)
BSc (Hons) 3 Years	MSci (Hons) 4 Years	MSci (Hons) 4 Years (3rd year abroad)

Flexibility

Students may transfer between these programmes up to the end of their second year. Those wishing to study abroad must have strong academic performance in their second year examinations.

Entry Requirements

All the above programmes have typical A-level entry requirements of AAA including Mathematics or AAB including Mathematics and Further Mathematics.

Combined Programmes

Details of our programmes offered jointly with other departments may be found on page 13.



Your First Year

In the first year (Part 1) you will take three subjects concurrently, of which two will be taught by this department and one, your minor subject, by another.

The two mathematics subjects are each composed of five modules, with each module lasting five weeks. They are assessed through weekly work and end-of-module tests (50%) and exams in June (50%).

The first subject is MATH100 Core Mathematics

• MATH101 Calculus

This module studies functions of a single real variable, beginning with topics that are familiar from A-level. It leads on to calculus, which is concerned with derivatives (which measure rates of change) and integrals (which measure area). A second topic is the study of complex numbers, which are important in themselves and also have practical uses (in electrical engineering, for example).

• MATH102 Further Calculus

The graphs of functions of two real variables look like surfaces, with hills, valleys and other features. This module extends calculus to deal with these, introducing partial derivatives, and explains how repeated integration may be used to calculate volume.

• MATH103 Probability

Probability theory is the study of chance phenomena. This module introduces the ideas of probability models, which characterise the outcomes of different types of experiment that involve a chance or random component.

• MATH104 Statistics

Statistical thinking plays a key role in addressing scientific problems where the recorded data is subject to systematic and random variations. This module gives you the tools to formulate appropriate models and implement the associated statistical techniques, so you can draw clear and informative statistical conclusions for a range of scientific problems.

• MATH105 Linear Algebra

Matrices are introduced as a concise way of writing and solving sets of simultaneous linear equations, whose connection with lines and planes is established. This module also looks at how matrices can be used to represent certain transformations of the plane or space, and shows how these transformations can be characterised by the way they behave in special directions.

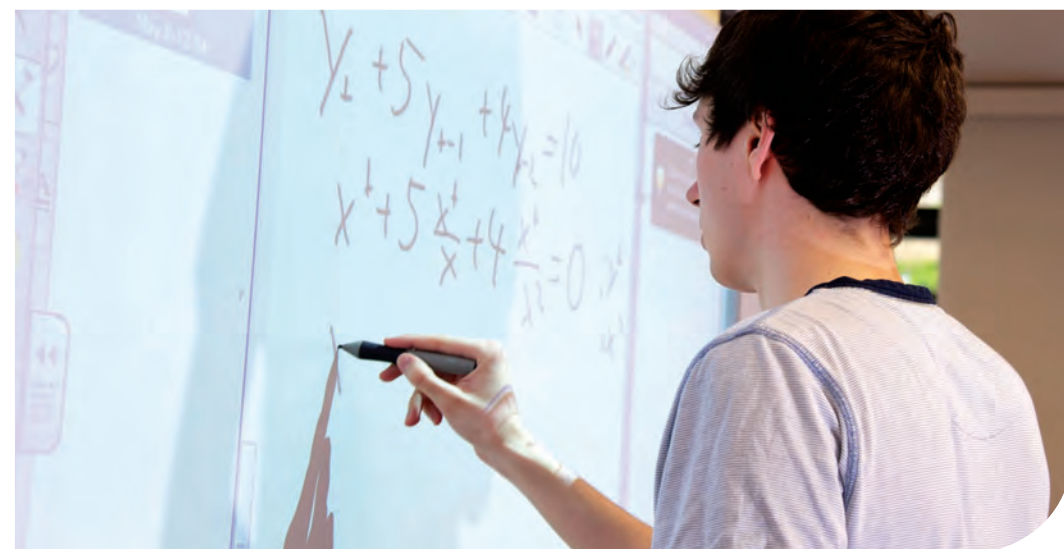
The second subject is MATH110 Advanced Mathematics

• MATH111 Numbers and Relations

Is it possible to write 84503 as a sum of the squares of two whole numbers? What is the largest whole number that exactly divides both 99457 and 75067? This module will show you how to answer these and similar questions, and explain why it is useful to do so. You will also encounter formal logic and learn about mathematical proof.

• MATH112 Discrete Mathematics

Many mathematical questions involve counting. For example, if you dine with four friends around a circular table, how many meals can you have before you must repeat the seating arrangement? For finite sets, we can say that one is bigger than another if it contains more elements. What about infinite sets: are some infinite sets "bigger" than others?



• MATH113 Convergence and Continuity

No one can perform infinitely many additions, but once we are clear about the meaning of a limit, we can also be clear about the sum of an infinite series - provided that it converges. Many of the most important functions, such as exponentials, logarithms, sines and cosines, can be expressed (or even defined) as the sum of an infinite series, giving a way to compute them (and also π) to any desired degree of accuracy.

• MATH114 Differentiation and Integration

This module revisits the central techniques and results of calculus, with the aim of putting them in a rigorous framework built on firm foundations. We begin by taking a closer look at differentiation, then consider integration, and finally we study their interrelationship as it is expressed in the Fundamental Theorem of Calculus. This process will help you develop a much deeper understanding of calculus, which will lead to important extensions, as well as a clear appreciation of the limitations of the theory.

• MATH115 Geometry and Calculus

How would you find the length along the curve $y=x^2$ between two points, or the closest point to the origin on a particular curve? What is the tangent plane to a smooth surface and how do we find it? This module begins the study of geometric objects through the use of calculus.

Your Second Year and Onwards

Having successfully completed the first year, students proceed to Part 2.

To gain a three year BSc, students take modules totalling 240 credits, with 120 credits in each of the second and third years. For the four years of an MSci, students take 360 credits, with 120 credits in each of the second, third and fourth years. The final degree classification is based on a student's performance in Part 2, with each year making an equal contribution to the result.

Second Year

The second year consists of eight 15-credit modules. These are compulsory for all single honours students:

- Real Analysis
- Linear Algebra
- Probability
- Computational Mathematics
- Complex Analysis
- Groups & Rings
- Statistics
- Project Skills

The first group of four topics is taught in the autumn term and the second in the spring term, with examinations taking place early in May.

Third Year

Modules worth a total of 120 credits must be studied during the third year; up to 30 credits may be taken from other departments if timetabling and prerequisites allow. We offer a wide range of topics in pure mathematics and statistics; each module is worth 15 credits and typically involves 20 lectures and 5 workshops.

Pure Mathematics

- Probability & Measure*
- Integration*
- Metric Spaces*
- Hilbert Space
- Differential Equations
- Linear Systems
- Groups & Symmetry
- Rings, Fields & Polynomials
- Elliptic Curves*
- Representation Theory of Finite Groups*
- Number Theory
- Combinatorics
- Geometry of Curves & Surfaces

Statistics

- Likelihood Inference*
- Bayesian Inference*
- Stochastic Processes*
- Statistical Models
- Topics in Modern Statistics
- Medical Statistics

Other Courses

- Mathematical Education
- Mathematical Education Placement

Courses marked * are also available in the fourth year.

Fourth Year

In the fourth year of an MSci degree, students produce an individual dissertation (worth 30 credits). You then choose six 15-credit modules, with the possibility of specialising in pure mathematics or statistics. The choices available reflect the research interests of members of the department, and the following is a small sample of what is likely to be on offer.

- Operator Theory
- Topology & Fractals
- Galois Theory
- Generalised Linear Models
- Computationally Intensive Methods
- Longitudinal Data Analysis
- Financial Risk (Extreme Value Theory)
- Clinical Trials
- Principles of Epidemiology



Combined Programmes

We offer ten degrees in partnership with other departments.

Information on the modules taught by our partner departments may be found on the University website.

Entry requirements are listed on pages 23 and 24.

- **NG41/NG42 Accounting, Finance and Mathematics (BSc Hons/BSc Hons with Industrial Placement)**
- **GL11 Economics and Mathematics (BSc Hons)**
- **NG21 Management Mathematics (BSc Hons)**

These degree schemes are taught jointly with Lancaster University Management School. Further information about them may be obtained from the Management School.

- **GN13/GN1H/GN1J Financial Mathematics (BSc Hons/MSci Hons/BSc Hons with Industrial Placement)**

This course is aimed at students interested in employment opportunities in the finance sector. Core modules provide a thorough grounding in finance, computing, quantitative methods and economics. In the third and fourth years the emphasis is on the mathematics which underpins the operation of financial markets.

Year 2: From Mathematics and Statistics, modules worth 60 credits including Real Analysis, Probability and Statistics. From Accounting and Finance, Principles of Finance and Advanced Principles of Finance (30 credits). From Economics, Introduction to Economics for Managers and Further Topics in Economics for Managers (30 credits).

Year 3: (GN13 & GN1H) From Mathematics and Statistics, modules worth 60 credits, including Probability and Measure and Likelihood Inference. From Accounting and Finance, modules worth 60 credits. (GN1J) Placement year.

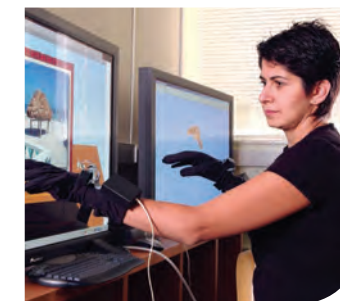
Year 4: (GN1H) Modules worth 90 credits, split between the four partner departments (Accounting and Finance, Economics, Management Science and Mathematics and Statistics), including Derivatives Pricing, Optimisation, Spreadsheet Modelling and Stochastic Processes, together with an individual dissertation (30 credits) in one of the partner departments. (GN1J) As Year 3 of GN13 & GN1H.

- **GV15 Mathematics and Philosophy (BA Hons)**

The study of philosophy develops skills in reasoning, discussion, the interpretation of texts and the analysis of problems. When coupled with mathematics, the combination produces numerate graduates who are well qualified for careers involving enquiry, assessment and analysis, such as law, finance, computing and local government.

Year 2: From Mathematics and Statistics, modules worth 60 credits, typically Real Analysis, Linear Algebra, Complex Analysis and Groups & Rings. From Politics, Philosophy and Religion, modules worth 60 credits.

Year 3: From Mathematics and Statistics, modules worth 60 credits. From Politics, Philosophy and Religion, modules worth 60 credits.



- **GR11 French Studies and Mathematics (BA Hons)**
- **GR12 German Studies and Mathematics (BA Hons)**
- **GR14 Spanish Studies and Mathematics (BA Hons)**

These three four year degree schemes are taught jointly with the Department of European Languages and Cultures. Based at Lancaster for the first two years, students spend their third year in an appropriate country before returning to Lancaster for their final year. With the ever growing importance of international markets, fluency in another European language, together with the analytical skills gained from studying mathematics, gives access to many career opportunities, such as the Diplomatic and Civil Services, business and teaching.

Year 2: From Mathematics and Statistics, modules worth 60 credits. From European Languages and Cultures, modules worth 60 credits.

Year 3: Year abroad, organised by the Department of European Languages and Cultures.

Year 4: From Mathematics and Statistics, modules worth 60 credits. From European Languages and Cultures, modules worth 60 credits.

- **F3GC/F3G1/F3G5 Theoretical Physics with Mathematics (BSc Hons/MSci Hons/MSci Hons with Study Abroad)**

Physics and mathematics enjoy a symbiotic relationship. If you would like to study the elegant formal description of the fundamental laws of nature, where mathematical models are used both to describe known facts and to predict new phenomena, then you should consider this course. It combines core physics and specialised theoretical physics modules with modules in pure mathematics.

Year 2: From Mathematics and Statistics, modules worth 60 credits, typically Real Analysis, Linear Algebra, Complex Analysis and Groups & Rings. From Physics, modules worth 60 credits.

Year 3: (F3GC & F3G1) From Mathematics and Statistics, Groups & Symmetry and either Hilbert Space, Differential Equations or Representation Theory of Finite Groups (30 credits). From Physics, modules worth 90 credits. (F3G5) Study abroad.

Year 4: (F3GC & F3G5) From Mathematics and Statistics, Topology & Fractals and either Operator Theory, Hilbert Space or Representation Theory of Finite Groups (30 credits).

From Physics, modules worth 60 credits, together with an individual dissertation (30 credits).

- **GG14/GG1K Computer Science and Mathematics (BSc Hons/MSci Hons)**

The computer science component of this degree covers languages and logic, software engineering, communications and systems. The course contains a careful balance of theory and practice which can lead to jobs in all areas of ICT, industry, business, government, health, education and many other sectors.

Year 2: From Mathematics and Statistics, modules worth 60 credits, including Linear Algebra. From Computing and Communications, modules worth 60 credits.

Year 3: From Mathematics and Statistics, modules worth 60 credits. From Computing and Communications, modules worth 60 credits.

Year 4: (GG1K) Modules worth 90 credits, split between the two departments, together with an individual dissertation (30 credits) in one or other department. The Computer Science dissertation includes the option of an industrial placement during the spring term.

Part 1 Options

Students choose their optional (minor) subject during enrolment at the start of their studies, with guidance from staff.

The minor subject gives breadth and flexibility to your course and popular choices include:

- Physics
- Economics
- Management Science
- Computer Science
- Geography
- Philosophy
- Chemistry
- Creative Writing
- Sociology

Subject to satisfactory progress, it is possible to transfer into the minor subject at the end of the first year, or to a programme combining the major and minor subjects.

Combined students take one or two courses in each of the relevant major subjects for their programme. More details may be found on the department and University websites.



Study Abroad

Studying, working or volunteering abroad is one of the richest ways to add an international element to your Lancaster experience.

Undergraduate students have the opportunity to go abroad to study as part of their degree for a year. Your period overseas does not extend the length of your degree programme and if you study abroad, the courses count towards your degree.

Studying abroad can be a life-changing experience. You will grow in confidence and become more mature and independent.

Employers are looking for graduates who have knowledge and experience of other cultures, can demonstrate flexibility and who have a global outlook. An overseas experience adds a distinctive element to your CV, helping you to stand out from other candidates.

We have been successfully sending students to study abroad for over 40 years. As well as long-established exchange programmes with US universities, we also have agreements with universities in Canada, Australia and New Zealand.



Recent destinations for our students have included:

- Australian National University, Canberra
- Queensland University of Technology, Brisbane
- University of Victoria, Wellington
- University of Waterloo, Ontario
- Western University, Ontario
- Montana State University
- Purdue University, Indiana
- Texas A&M University
- University of Maryland
- University of North Carolina at Chapel Hill

Student Profiles

What our students think about their course is important to us. As well as the annual National Student Survey, we regularly ask graduating students about their time with us.



Faye Williamson
Mathematics

What advice would you give to anyone thinking about coming to Lancaster to study mathematics?

My advice would be, if you ever have a problem – maths related or not – do not be afraid to ask the lecturers and tutors for help because they are all very approachable and friendly. Also, I would say get involved in any internship opportunities available over summer because they really help give you an idea of what you want to do next and where your interests lie.



Eviropidis Stefanou
Mathematics with Statistics

What has been the best thing about studying at Lancaster?

I enjoyed the most its multinational environment and the quality of resources available for students.

What are you hoping to do next?

I have already applied for a Masters degree at Lancaster University, so hopefully I will continue my studies here.

What advice would you give to anyone thinking about coming to Lancaster to study mathematics and statistics?

Be prepared for hard work and at the same time an amazing university life experience.



Emily Granger
Mathematics with Statistics

What has been the best thing about studying at Lancaster?

The opportunities it has given me. I was quite shy before coming here, but by coming to Lancaster I have been given opportunities such as being part of an executive for a society, completing an internship at the Uni and even living in Canada for a year! All these have not only been a lot of fun to experience, but have filled me with confidence and I feel much more prepared for what comes next after university.



Glen Martin
Mathematics

Why did you choose Lancaster?

I chose Lancaster for a number of reasons. After visiting the campus on open days and department visit days, I loved the welcoming and friendly atmosphere of the campus. The campus provides a comfortable and focused area in which to study and enjoy the social events. The course structure and content was highly appealing. The use of end-of-term tests in first year was a great way to make sure you fully understood the material. Then in final year you get the opportunity to choose modules from a wide selection, meaning that you can really focus on what area of maths you want to study.



Helen Barnett
Mathematics

Why did you choose Lancaster?

The department of Mathematics and Statistics here has a really good reputation, and the University is consistently high in league tables. I came for a visit day, and even though it was rainy and miserable weather, everyone was so happy and helpful. It was a really lovely atmosphere and they made me feel so at home, I loved it.

What has been the best thing about studying at Lancaster?

The support from the department and colleges. You have tutors within your college and also within your department, so if you have a problem with anything, there's always someone to turn to for help. This was especially reassuring in first year, as it was a big step moving away from home.

Careers

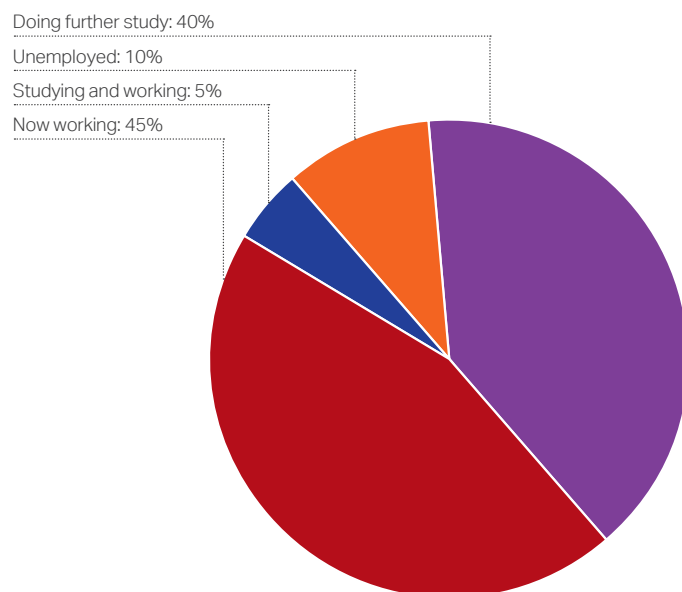
A mathematician’s ability to describe a complex problem or situation in a suitable form for modelling is required in more technically-oriented disciplines such as statistics, credit scoring, meteorology, cryptography, environmental modelling and trading.

The training provided during a mathematics degree also produces many other transferable skills. The logical and analytical abilities of graduates are valued by businesses, who employ graduates in business analysis and management-consultancy roles.

The numerical abilities of mathematics graduates are required in many areas including accountancy and finance. There is continued demand for maths graduates within the education sector: for example, as mathematics teachers at secondary level.

Data from our recent graduates show that 90% are in work or further study six months after their course.

Source: Destination of Leavers (G100) from Higher Education survey, via Unistats.



Employability and Internships

We are passionate about preparing our graduates for the next stage of their career. Relevant work experience while you are at university will help you to secure a good graduate job.

Our network of businesses provides a range of internships that are relevant to your degree and offer you the opportunity to apply your academic knowledge in real world situations - and get paid for it!

Our University Careers Department offers a comprehensive service providing advice and guidance on writing CVs and job applications, preparing you for interviews, mentoring, volunteering, and much more.

Making the most of these services means that our students gain valuable experience, improved confidence and they develop skills that are sought after by employers.

"My internship was with IT company Soshimo Limited, which was based on campus in InfoLab21. I chose them as I thought the internship would help expand my skills. They were also really friendly people! The most important things I gained were skills in web development, and more familiarity with a working environment. The internship has definitely influenced my future plans - I'm more interested in web-based employment options now, and following the internship I got a job with a company based in the same office as Soshimo. I felt supported throughout my internship and would strongly recommend the internship programme to other students. Gaining experience is invaluable!"

Jack Croft
MSci Computer Science and Mathematics



Key Staff

There are nearly fifty academic staff in our department, as well as postdoctoral researchers and administrative support staff. Here is a short guide to some of those you will meet during the application process and in your first year.



Dr Andrew Titman, Head of Undergraduate Admissions

Andrew joined the department from Cambridge in 2008 as a postdoctoral researcher and has been a lecturer since 2012. His research interests are in medical statistics with a particular focus on survival analysis and longitudinal modelling of disease processes.



Dr James Groves, Deputy Head of Undergraduate Admissions

James has been with the department since 1996, originally as a research student in stochastic analysis and more recently as the local Area Co-ordinator for the Further Mathematics Support Programme, which works to increase access to A-level Further Mathematics across the region. He has been a member of the Admissions Team since 2008.



Dr David Towers, Head of Undergraduate Teaching

David is the longest serving member of the department, having joined from Sheffield University in 1974. His research centres primarily in Lie algebras, which were originally developed to study differential equations, but he also has interests in other non-associative structures, in group theory and in mathematical education. David was the inaugural winner of the department's teaching award, 'The Tower of Teaching', in 2014.



Dr Alexander Belton, Director of Studies for Part 1

Alex joined the department in 2007. Before that, he taught for 6 years at the University of Oxford. His research interests involve probability theory and its links with quantum mechanics.



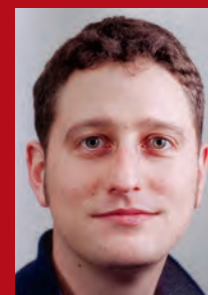
Dr Bernd Schulze, Director of Studies for Part 1

Bernd joined the department in 2012, after post-doctoral positions in Canada and Berlin. His research concerns the rigidity of frameworks (mathematical models of structures built from bars and joints). He uses techniques from across mathematics, especially group theory and combinatorics.



Professor Stephen Power, Study Abroad Director

Steve has held a position in the department since 1979, and has also held postdoctoral and visiting positions at several North American universities, including Dalhousie University in Nova Scotia, the California Institute of Technology and the Universities of Alabama, Houston, Michigan State and Waterloo. His research involves functional analysis and operator algebras.



Dr Paul Levy, Careers Tutor

Paul joined the department in 2009 after holding research positions in Switzerland and Denmark. His research area is algebra, specifically Lie algebras and algebraic groups.



Dr Jan Grabowski, Outreach Officer

Jan came to Lancaster in 2011 from Oxford, where he spent 6 years as a post-doctoral researcher and college tutor. His research interests are in algebra, particularly non-commutative algebra and geometry, inspired by quantum physics.



George Moran, Part 1 & Admissions Co-ordinator

George is the main contact for prospective students during the application process. She is also responsible for all first year students, coordinating module and programme registrations and exams.



Julia Tawn, Part 2 Co-ordinator

Julia is responsible for all students in their second year and beyond. This includes helping students with module enrolment, transfers between programmes and particularly examination organisation.

Entry Requirements

Our typical offers are made in terms of three A-level subjects and these are listed below. For details of entry requirements for qualifications other than A-levels, please see our website.

G100	Mathematics BSc (Hons)	
G101	Mathematics MSci (Hons)	
G103	Mathematics (Study Abroad) MSci (Hons)	
G1G3	Mathematics with Statistics BSc (Hons)	
G1GJ	Mathematics with Statistics MSci (Hons)	AAA including Mathematics or AAB including Mathematics and Further Mathematics
G1GH	Mathematics with Statistics (Study Abroad) MSci (Hons)	
G300	Statistics BSc (Hons)	
G303	Statistics MSci (Hons)	
G301	Statistics (Study Abroad) MSci (Hons)	

With the Faculty of Science and Technology

G14	Computer Science and Mathematics BSc (Hons)	AAB including Mathematics (at grade A) or ABB including Mathematics and Further Mathematics (one of these to be at grade A)
G1K	Computer Science and Mathematics MSci (Hons)	
F3GC	Theoretical Physics with Mathematics BSc (Hons)	AAA including Mathematics and Physics
F3G1	Theoretical Physics with Mathematics MSci (Hons)	
F3G5	Theoretical Physics with Mathematics (Study Abroad) MSci (Hons)	A*AA including Mathematics and Physics

With Lancaster University Management School

NG41	Accounting, Finance and Mathematics BSc (Hons)	
NG42	Accounting, Finance and Mathematics (Industry) BSc (Hons)	AAB including Mathematics or Further Mathematics at grade A
GL11	Economics and Mathematics BSc (Hons)	
NG21	Management Mathematics BSc (Hons)	
GN13	Financial Mathematics BSc (Hons)	
GN1H	Financial Mathematics MSci (Hons)	AAA including Mathematics or AAB including Mathematics and Further Mathematics
GN1J	Financial Mathematics (Industry) BSc (Hons)	

















With the Faculty of Arts and Social Sciences

GR11	French Studies and Mathematics BA (Hons)	AAB including Mathematics (at grade A) or ABB including Mathematics and Further Mathematics (one of these to be at grade A) and a language subject at grade B
GR12	German Studies and Mathematics BA (Hons)	
GR14	Spanish Studies and Mathematics BA (Hons)	
GV15	Mathematics and Philosophy BA (Hons)	AAB including Mathematics (at grade A) or ABB including Mathematics and Further Mathematics (one of these to be at grade A)

Campus Map

1 Department of Mathematics and Statistics, Fylde College

Key

-  Principal route with wheelchair access
-  Campus buildings
-  Walkways
-  Roads
-  Footpath / Cycle route
-  Bridleway
-  Woodland Trail
-  Motorcycle Parking
-  Disabled parking
-  Pay and Display machine
-  Bus stops
-  Taxi Rank
-  Refreshments
-  Cycle Route
-  One-way system
-  Electric vehicle charging point



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