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 and 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 - 95% 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 both relaxed and 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.

**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. 95% 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 2015, over 70% of those who completed their studies with the department gained a first or upper-second class degree.

**Satisfaction**
In the annual National Student Survey, 90% of our final year students said they were satisfied with the quality of their course. 92% of our students agreed that the course was intellectually stimulating and 92% said that staff were good at explaining things.

**League Tables**
Our department’s current rankings are:
- 6th in The Guardian University Guide 2017
- 9th in The Times and Sunday Times Good University Guide 2016
- 10th in The Complete University Guide 2017

In addition, we were joint 5th in the 2014 REF, and the 2016 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

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<th>MON</th>
<th>TUE</th>
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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.

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<thead>
<tr>
<th>Programme</th>
<th>Level</th>
<th>Years</th>
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<tbody>
<tr>
<td>G100 Mathematics</td>
<td>BSc (Hons)</td>
<td>3 Years</td>
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<tr>
<td>G101 Mathematics</td>
<td>MSci (Hons)</td>
<td>4 Years</td>
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<tr>
<td>G103 Mathematics (Study Abroad)</td>
<td>MSci (Hons)</td>
<td>4 Years (3rd year abroad)</td>
</tr>
<tr>
<td>G1G3 Mathematics with Statistics</td>
<td>BSc (Hons)</td>
<td>3 Years</td>
</tr>
<tr>
<td>G1GJ Mathematics with Statistics</td>
<td>MSci (Hons)</td>
<td>4 Years</td>
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<tr>
<td>G1GH Mathematics with Statistics (Study Abroad)</td>
<td>MSci (Hons)</td>
<td>4 Years (3rd year abroad)</td>
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<td>G300 Statistics</td>
<td>BSc (Hons)</td>
<td>3 Years</td>
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<tr>
<td>G303 Statistics</td>
<td>MSci (Hons)</td>
<td>4 Years</td>
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<tr>
<td>G301 Statistics (Study Abroad)</td>
<td>MSci (Hons)</td>
<td>4 Years (3rd year abroad)</td>
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</tbody>
</table>

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
The typical A-level entry requirements for each of these programmes are 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.
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 Mathematical Methods

- **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. The module also introduces techniques for solving elementary differential equations.

- **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 Mathematical Concepts

- **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**
  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? This module begins the study of geometric objects through the use of calculus.

- **MATH114 Integration and Differentiation**
  No one can walk infinitely many steps, perform infinitely many additions, or write down infinitely small numbers, but once we understand the definition of a limit in mathematics, the idea of infinity makes sense. The concept of a limit allows us to study whether a given sequence is convergent, or a given function defined on the real numbers is continuous, in a precise way. It also forms the foundations of many of your future mathematics modules.

- **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
- Project Skills
- Complex Analysis
- Groups & Rings
- Statistics
- Computational Mathematics

The first group of four topics is taught in the autumn term and the second in the spring term, with examinations taking place 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. Currently the department offers the following modules, but the precise list is subject to change.

Pure Mathematics

- 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

Probability

- Probability & Measure*
- Integration*
- Stochastic Processes*
- Financial Mathematics*

Statistics

- Likelihood Inference*
- Bayesian Inference*
- Statistical Models
- Topics in Modern Statistics
- Medical Statistics
- Multivariate Statistics in Machine Learning

Education

- Mathematical Education
- Mathematical Education Placement

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
- Environmental Epidemiology

*modules also available in the fourth year
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/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 3: (GN13 & GN1H) From Mathematics and Statistics, modules worth 60 credits. 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.


- GR14 Spanish Studies and Mathematics (BA Hons)

- GR12 German Studies and Mathematics (BA Hons)

- GR11 French Studies and Mathematics (BA Hons)

- 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: (F3G1) From Mathematics and Statistics, modules worth 60 credits. From European Languages and Cultures, modules worth 60 credits. From Physics, modules worth 60 credits. From Computing and Communications, modules worth 60 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 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:

• Accounting and Finance
• Physics
• Economics
• Management Science
• Computer Science
• Philosophy
• Psychology
• Engineering
• Chemistry
• Geography
• French

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
• 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
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?

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

Evripidis 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 had an open 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 is always someone to turn to for help. This was especially reassuring in first year, as it was a big step moving away from home.
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.

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 95% are in work or further study six months after their course.

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

Doing further study: 45%
Studying and working: 5%
Other: 5%
Now working: 45%

“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 over 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.

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.

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.

Natasha is one of the newest members of the department, having joined Lancaster in 2015. Prior to that, she was at the Massachusetts Institute of Technology, where she held an inaugural Claude E. Shannon research fellowship, Vanderbilt University, University of California at Berkeley, and Indiana University. Her research lies at the interface of probability theory, functional analysis, combinatorics, and physics.

Derek joined the department in 2012 and was previously a lecturer at Trinity College Dublin. His research interests are in statistical learning theory and machine learning.

Dmitry joined the department in 2015 after holding a research position at Sobolev Institute of Mathematics in Russia for many years. His research area is probability theory, particularly Markov chains, limit theorems and large deviations, stochastic processes and their applications in queueing and risk theory.

Niels joined the department in 2005, having previously held research fellowships at the Universities of Copenhagen and Leeds. His research area is operator theory and non-commutative functional analysis with a strong algebraic flavour.

Derek joined the department in 2015 after holding research 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.

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

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.

www.lancaster.ac.uk/maths
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.

### With the Faculty of Science and Technology

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<th>Code</th>
<th>Course Name</th>
<th>Offer</th>
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<tr>
<td>GG14</td>
<td>Computer Science and Mathematics BSc (Hons)</td>
<td>AAB including Mathematics (at grade A)</td>
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<tr>
<td>GG1K</td>
<td>Computer Science and Mathematics MSci (Hons)</td>
<td>ABB including Mathematics and Further Mathematics (one of these to be at grade A)</td>
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<tr>
<td>F3GC</td>
<td>Theoretical Physics with Mathematics BSc (Hons)</td>
<td>AAA including Mathematics and Physics</td>
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<tr>
<td>F3G1</td>
<td>Theoretical Physics with Mathematics MSci (Hons)</td>
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<tr>
<td>F3G5</td>
<td>Theoretical Physics with Mathematics (Study Abroad) MSci (Hons)</td>
<td>A**AA including Mathematics and Physics</td>
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### With the Faculty of Arts and Social Sciences

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<th>Code</th>
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<td>French Studies and Mathematics BA (Hons)</td>
<td>AAB including Mathematics (at grade A)</td>
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<tr>
<td>GR12</td>
<td>German Studies and Mathematics BA (Hons)</td>
<td>ABB including Mathematics and Further Mathematics (one of these to be at grade A) and a language subject at grade B</td>
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<tr>
<td>GR14</td>
<td>Spanish Studies and Mathematics BA (Hons)</td>
<td>AAB including Mathematics (at grade A)</td>
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<tr>
<td>GV15</td>
<td>Mathematics and Philosophy BA (Hons)</td>
<td>ABB including Mathematics and Further Mathematics (one of these to be at grade A)</td>
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<td>GV15</td>
<td>Mathematics and Philosophy BA (Hons)</td>
<td>ABB including Mathematics and Further Mathematics (one of these to be at grade A)</td>
</tr>
</tbody>
</table>

### STEP Mathematics

We recognise the value of the Sixth Term Examination Papers (STEP) in Mathematics. Applicants for Mathematics, Mathematics with Statistics, Statistics, Financial Mathematics, Computer Science & Mathematics or Mathematics & Philosophy who decide to sit STEP alongside their A Levels will normally be made alternative course offers, standing alongside (not replacing) our usual offers.

For Mathematics, Mathematics with Statistics, Statistics or Financial Mathematics applicants, the alternative offer would be AAB including Mathematics (at grade A) plus grade 3 in any STEP, or ABB including Mathematics and Further Mathematics (one of these to be at grade A) plus grade 3 in any STEP.

For Computer Science & Mathematics or Mathematics & Philosophy applicants, the alternative offer would be ABB including Mathematics (at grade A) plus grade 3 in any STEP.