UNIVERSITY OF LIVERPOOL

BSc (Hons)

Mathematics with Languages

UCAS code G19R

Entry requirements	Study mode	Duration
A level: ABB	Full-time	3/4 years

Apply by: **29 January 2025**
Starts on: **22 September 2025**

About this course

Studying Mathematics at Liverpool is an excellent foundation for a wide range of careers. And combining Mathematics with another subject widens your options even further. Choose to do a Year Abroad and truly experience what it is like to live in another country, learning the language, gaining fluency and immersing yourself in the culture.

Introduction

Mathematics is a fascinating, beautiful and diverse subject to study. It underpins a wide range of disciplines; from physical sciences to social science, from biology to business and finance. At Liverpool, our programmes are designed with the needs of employers in mind, to give you a solid foundation from which you may take your career in any number of directions.

A Mathematics degree at the University of Liverpool is an excellent investment in your future. We have a large department with highly qualified staff, a first-class reputation in teaching and research, and a great city in which to live and work. You will see a broad range of degree programmes at Liverpool.

By choosing this programme you will study Mathematics (75%) and a language (25%). If you choose to do a year aborad, you will study for two years at Liverpool, then you will be well prepared for the third year spent at a university abroad. There, you will

absorb the culture and experience living abroad and gain further fluency in the relevant language. The fourth year is spent back in Liverpool studying Mathematics and communication/translation skills.

At Liverpool, French, Spanish, German, Italian and Chinese may be taken from A level or as a beginner's language where no previous qualifications in the language are necessary. You can also take up Catalan or Portuguese from beginner level only.

In the first year our vibrant language modules at advanced level will both refresh and extend your knowledge of the target language. If you are a beginner, our fast-moving programme will quickly take you to A level standard during the course of your first year.

What you'll learn

- Problem solving
- Strong communication skills
- Teamwork
- Fluency in a foreign language
- Presentation skills

Accreditation

This programme is accredited by the Institute of Mathematics and its Applications (IMA). The IMA is the professional learned institute for mathematicians, supporting the advancement of mathematical knowledge and its applications to promote and enhance mathematical practice for the benefit of society.

Accreditation in detail

Institute of Mathematics and its Applications (IMA)

The IMA is the professional learned institute for mathematicians, supporting the advancement of mathematical knowledge and its applications to promote and enhance mathematical practice for the benefit of society.

Back to top

Course content

Discover what you'll learn, what you'll study, and how you'll be taught and assessed.

Year one

You will follow either the 4-year (with Year Abroad) Language minor G19R or 3-year (without Year Abroad) Language minor G19X for Beginners and Advanced (post A-level) Students.

Modules

Compulsory modules	Credits
CALCULUS I (MATH101)	15
INTRODUCTION TO LINEAR ALGEBRA (MATH103)	15
MATHEMATICAL IT SKILLS (MATH111)	15
CALCULUS II (MATH102)	15

Optional modules	Credits
NEWTONIAN MECHANICS (MATH122)	15
NUMBERS, GROUPS AND CODES (MATH142)	15
INTRODUCTION TO STATISTICS USING R (MATH163)	15
BEGINNERS FRENCH 1+2 (FREN112)	15
ELEMENTARY FRENCH 3+4, YEAR 1 (FREN134)	15

Optional modules	Credits
INTERMEDIATE FRENCH 5, YEAR 1 (FREN105)	15
INTERMEDIATE FRENCH 6, YEAR 1 (FREN106)	15
BEGINNERS SPANISH 1+2 (SPAN112)	15
ELEMENTARY SPANISH 3+4, YEAR 1 (SPAN134)	15
INTERMEDIATE SPANISH 5, YEAR 1 (SPAN105)	15
INTERMEDIATE SPANISH 6, YEAR 1 (SPAN106)	15
BEGINNERS' GERMAN 1+2, YEAR 1 (GRMN112)	15
ELEMENTARY GERMAN 3+4, YEAR 1 (GRMN134)	15
INTERMEDIATE GERMAN 5, YEAR 1 (GRMN105)	15
INTERMEDIATE GERMAN 6, YEAR 1 (GRMN106)	15
BEGINNERS CHINESE 1+2 (CHIN112)	15
ELEMENTARY CHINESE 3+4, YEAR 1 (CHIN134)	15
INTERMEDIATE CHINESE 5+6, YEAR 2 (CHIN256)	15
POST-INTERMEDIATE CHINESE 7+8 (CHIN278)	15
BEGINNERS ITALIAN 1+2 (ITAL112)	15
ELEMENTARY ITALIAN 3+4 (ITAL134)	15
INTERMEDIATE ITALIAN 5 (ITAL105)	15

Optional modules	Credits
INTERMEDIATE ITALIAN 6 (ITAL106)	15
BEGINNERS PORTUGUESE 1+2, YEAR 1 (PORT112)	15
ELEMENTARY PORTUGUESE 3+4, YEAR 1 (PORT134)	15
BEGINNERS CATALAN 1+2 (CATL112)	15
ELEMENTARY CATALAN 3+4, YEAR 1 (CATL134)	15

Programme details and modules listed are illustrative only and subject to change.

Year two

You will choose three MATH modules and one language module each semester. You can take at most one of MATH122, MATH142 and MATH163 in Year 2 if not already taken in year 1.

Modules

Optional modules	Credits
VECTOR CALCULUS WITH APPLICATIONS IN FLUID MECHANICS (MATH225)	15
COMPLEX FUNCTIONS (MATH243)	15
LINEAR ALGEBRA AND GEOMETRY (MATH244)	15
STATISTICS AND PROBABILITY I (MATH253)	15
NEWTONIAN MECHANICS (MATH122)	15

Optional modules	Credits
NUMBERS, GROUPS AND CODES (MATH142)	15
INTRODUCTION TO STATISTICS USING R (MATH163)	15
DIFFERENTIAL EQUATIONS (MATH221)	15
NUMERICAL METHODS FOR APPLIED MATHEMATICS (MATH226)	15
CLASSICAL MECHANICS (MATH228)	15
METRIC SPACES AND CALCULUS (MATH242)	15
COMMUTATIVE ALGEBRA (MATH247)	15
STATISTICS AND PROBABILITY II (MATH254)	15
FINANCIAL MATHEMATICS (MATH260)	15
OPERATIONAL RESEARCH (MATH269)	15
INTERMEDIATE FRENCH 5+6, YEAR 2 (FREN256)	15
ADVANCED FRENCH 7+8 (FREN278)	15
ADVANCED FRENCH 7, YEAR 2 (FREN207)	15
ADVANCED FRENCH 8 (FREN208)	15
ADVANCED SPANISH 5+6 (SPAN256)	15
ADVANCED SPANISH 7+8 (SPAN278)	15
ADVANCED SPANISH 7 (SPAN207)	15

Optional modules	Credits
ADVANCED SPANISH 8 (SPAN208)	15
INTERMEDIATE GERMAN 5+6, YEAR 2 (GRMN256)	15
ADVANCED GERMAN 7+8, YEAR 2 (GRMN278)	15
ADVANCED GERMAN 7 (GRMN207)	15
ADVANCED GERMAN 8 (GRMN208)	15
INTERMEDIATE CHINESE 5+6, YEAR 2 (CHIN256)	15
POST-INTERMEDIATE CHINESE 7+8 (CHIN278)	15
ADVANCED CHINESE 9, YEAR 3 (CHIN309)	15
POST-ADVANCED CHINESE 10 (CHIN310)	15
INTERMEDIATE ITALIAN 5+6 (ITAL256)	15
ADVANCED ITALIAN 7+8 (ITAL278)	15
ADVANCED ITALIAN 7 (ITAL207)	15
ADVANCED ITALIAN 8 (ITAL208)	15
INTERMEDIATE PORTUGUESE 5+6, YEAR 2 (PORT256)	15
ADVANCED PORTUGUESE 7+8 (PORT278)	15
INTERMEDIATE CATALAN 5+6, YEAR 2 (CATL256)	15
ADVANCED CATALAN 7+8 (CATL278)	15

Programme details and modules listed are illustrative only and subject to change.

Year three

An optional year abroad, you can find more information here.

Programme details and modules listed are illustrative only and subject to change.

Year four

This is year three if you choose not to take a year abroad.

You will choose three MATH modules and one language module each semester.

Modules

Optional modules	Credits
FURTHER METHODS OF APPLIED MATHEMATICS (MATH323)	15
CARTESIAN TENSORS AND MATHEMATICAL MODELS OF SOLIDS AND VISCOUS FLUIDS (MATH324)	15
QUANTUM MECHANICS (MATH325)	15
RELATIVITY (MATH326)	15
NUMBER THEORY (MATH342)	15
GROUP THEORY (MATH343)	15
DIFFERENTIAL GEOMETRY (MATH349)	15
APPLIED PROBABILITY (MATH362)	15
LINEAR STATISTICAL MODELS (MATH363)	15

Optional modules	Credits
MORE IS DIFFERENT: STATISTICAL MECHANICS, THERMODYNAMICS, AND ALL THAT (MATH327)	15
GAME THEORY (MATH331)	15
NUMERICAL METHODS FOR ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS (MATH336)	15
COMBINATORICS (MATH344)	15
THE MAGIC OF COMPLEX NUMBERS: COMPLEX DYNAMICS, CHAOS AND THE MANDELBROT SET (MATH345)	15
TOPOLOGY (MATH346)	15
APPLIED STOCHASTIC MODELS (MATH360)	15
THEORY OF STATISTICAL INFERENCE (MATH361)	15
MEDICAL STATISTICS (MATH364)	15
MEASURE THEORY AND PROBABILITY (MATH365)	15
MATHEMATICAL RISK THEORY (MATH366)	15
NETWORKS IN THEORY AND PRACTICE (MATH367)	15
PROFICIENT FRENCH 11 (FREN311)	15
PROFICIENT FRENCH 12 (FREN312)	15
PROFICIENT SPANISH 11 (SPAN311)	15
PROFICIENT SPANISH 12 (SPAN312)	15

Optional modules	Credits
PROFICIENT GERMAN 11 (GRMN311)	15
PROFICIENT GERMAN 12 (GRMN312)	15
ADVANCED CHINESE 9, YEAR 3 (CHIN309)	15
POST-ADVANCED CHINESE 10 (CHIN310)	15
PROFICIENT CHINESE 11 (CHIN311)	15
PROFICIENT CHINESE 12 (CHIN312)	15
PROFICIENT ITALIAN 11 (ITAL311)	15
PROFICIENT ITALIAN 12 (ITAL312)	15
PROFICIENT PORTUGUESE 11, YEAR 3 (PORT311)	15
PROFICIENT PORTUGUESE 12, YEAR 3 (PORT312)	15
PROFICIENT CATALAN 11 (CATL311)	15
PROFICIENT CATALAN 12 (CATL312)	15
MATHEMATICAL BIOLOGY (MATH335)	15
MATHEMATICS OF NETWORKS AND EPIDEMICS (MATH338)	15

Programme details and modules listed are illustrative only and subject to change.

Teaching and assessment

How you'll learn

Your learning activities will consist of lectures, tutorials, practical classes, problem classes, private study and supervised project work.

In Year 1, lectures are supplemented by a thorough system of group tutorials and computing work is carried out in supervised practical classes. Key study skills, presentation skills and group work start in first-year tutorials and are developed later in the programme. The emphasis in most modules is on the development of problem solving skills, which are regarded very highly by employers.

Project supervision is on a one-to-one basis, apart from group projects in Year 2.

How you're assessed

Most modules are assessed by a two and a half hour examination in January or May, but many have an element of coursework assessment. This might be through homework, class tests, mini-project work or key skills exercises.

Liverpool Hallmarks

We have a distinctive approach to education, the Liverpool Curriculum Framework, which focuses on research-connected teaching, active learning, and authentic assessment to ensure our students graduate as digitally fluent and confident global citizens.

The Liverpool Curriculum framework sets out our distinctive approach to education. Our teaching staff support our students to develop academic knowledge, skills, and understanding alongside our **graduate attributes**:

- Digital fluency
- Confidence
- Global citizenship

Our curriculum is characterised by the three **Liverpool Hallmarks**:

- Research-connected teaching
- Active learning
- Authentic assessment

All this is underpinned by our core value of **inclusivity** and commitment to providing a curriculum that is accessible to all students.

Back to top

Careers and employability

A mathematically-based degree opens up a wide range of career opportunities, including some of the most lucrative professions.

Recent employers of our graduates are:

- Barclays Bank plc
- Deloitte
- Forrest Recruitment
- Marks and Spencer
- Mercer Human Resource Consulting Ltd.
- Venture Marketing Group.
- BAE Systems
- BT
- Guardian Media Group
- Royal Bank of Scotland
- Siemens
- Unilever.

Back to top

Fees and funding

Your tuition fees, funding your studies, and other costs to consider.

Tuition fees

UK fees (applies to Channel Islands, Isle of Man and Republic of Ireland)

Full-time place, per year - £9,535
Year abroad fee - £1,430 (applies to year in China)

International fees

Full-time place, per year - £26,600
Year abroad fee - £13,300 (applies to year in China)

The tuition fees shown are correct for 2025/26 entry. Please note that the year abroad fee also applies to the year in China.

Tuition fees cover the cost of your teaching and assessment, operating facilities such as libraries, IT equipment, and access to academic and personal support. Learn more about paying for your studies.

Additional costs

We understand that budgeting for your time at university is important, and we want to make sure you understand any course-related costs that are not covered by your tuition fee. This could include buying a laptop, books, or stationery.

Find out more about the additional study costs that may apply to this course.

Back to top

Entry requirements

The qualifications and exam results you'll need to apply for this course.

A levels

ABB including A level Mathematics grade A.

You may automatically qualify for reduced entry requirements through our contextual offers scheme. Based on your personal circumstances, you may automatically qualify for up to a two-grade reduction in the entry requirements needed for this course. When you apply, we consider a range of factors – such as where you live – to assess if you're eligible for a grade reduction. You don't have to make an application for a grade reduction – we'll do all the work.

Find out more about how we make reduced grade offers.

If you don't meet the entry requirements, you may be able to complete a foundation year which would allow you to progress to this course.

Available foundation years:

- Mathematical Sciences BSc (Hons) (Foundation, 4 year route with Carmel College) BSc (Hons)

T levels

T levels are not currently accepted.

GCSE

4/C in English and 4/C in Mathematics

Subject requirements

A level in relevant language required for advanced level, no language required for beginners level.

Applicants must have studied Mathematics at Level 3 within 2 years of the start date of their course.

For applicants from England: Where a science has been taken at A level (Chemistry, Biology or Physics), a pass in the Science practical of each subject will be required.

BTEC Level 3 National Extended Diploma

Applications considered. Relevant when combined with A level Mathematics grade A. A level in relevant language required for advanced level

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International Baccalaureate

33 including 6 at Higher Level in Maths, and 6 in relevant language for advanced level

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Irish Leaving Certificate

H1, H2, H2, H2, H3, H3 including Mathematics at H1 and relevant language at H2 for advanced level.

Scottish Higher/Advanced Higher

Advanced Highers accepted at grades ABB including grade A in Mathematics.

Welsh Baccalaureate Advanced

Accepted at grade B, alongside A level Mathematics at grade A and A level in relevant language at grade B for advanced level

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Access

45 Level 3 credits in graded units in a relevant Diploma, including 39 at Distinction and a further 6 with at least Merit 15 Distinctions are required in Mathematics A level in relevant language required for advanced level

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International qualifications

Select your country or region to view specific entry requirements.

Many countries have a different education system to that of the UK, meaning your qualifications may not meet our direct entry requirements. Although there is no direct Foundation Certificate route to this course, completing a Foundation Certificate, such as that offered by the University of Liverpool International College, can guarantee you a place on a number of similar courses which may interest you.

English language requirements

You'll need to demonstrate competence in the use of English language, unless you're from a majority English speaking country.

We accept a variety of international language tests and country-specific qualifications.

International applicants who do not meet the minimum required standard of English language can complete one of our Pre-Sessional English courses to achieve the required level.

IELTS

6.0 overall, with no component below 5.5

TOEFL iBT

78 overall, with minimum scores of listening 17, writing 17, reading 17 and speaking 19. TOEFL Home Edition not accepted.

TOEFL Paper

Grade 6 at Standard Level or grade 5 at Higher Level

Duolingo English Test

115 overall, with speaking, reading and writing not less than 105, and listening not below 100

Pearson PTE Academic

59 overall, with no component below 59

LanguageCert Academic

65 overall, with no skill below 60

Cambridge IGCSE First Language English 0500

Grade C overall, with a minimum of grade 2 in speaking and listening. Speaking and listening must be separately endorsed on the certificate.

Cambridge IGCSE First Language English 0990

Grade 4 overall, with Merit in speaking and listening

Cambridge IGCSE Second Language English 0510/0511

0510: Grade C overall, with a minimum of grade 2 in speaking. Speaking must be separately endorsed on the certificate. 0511: Grade C overall.

Cambridge IGCSE Second Language English 0993/0991

0993: Grade 5 overall, with a minimum of grade 2 in speaking. Speaking must be separately endorsed on the certificate. 0991: Grade 5 overall.

Cambridge ESOL Level 2/3 Advanced

169 overall, with no paper below 162

LanguageCert

Grade 4 at Standard Level or grade 4 at Higher Level

Pre-sessional English

Do you need to complete a Pre-sessional English course to meet the English language requirements for this course?

The length of Pre-sessional English course you'll need to take depends on your current level of English language ability.

Pre-sessional English in detail

If you don’t meet our English language requirements, we can use your most recent IELTS score, or the equivalent score in selected other English language tests, to determine the length of Pre-sessional English course you require.

Use the table below to check the course length you're likely to require for your current English language ability and see whether the course is available on campus or online.

Your most recent IELTS score	Pre-sessional English course length	On campus or online
5.5 overall, with no component below 5.5	6 weeks	On campus
5.5 overall, with no component below 5.0	10 weeks	On campus and online options available
5.0 overall, with no component below 5.0	12 weeks	On campus and online options available
5.0 overall, with no component below 4.5	20 weeks	On campus
4.5 overall, with no component below 4.5	30 weeks	On campus
4.0 overall, with no component below 4.0	40 weeks	On campus

If you’ve completed an alternative English language test to IELTS, we may be able to use this to assess your English language ability and determine the Pre-sessional English course length you require.

Please see our guide to Pre-sessional English entry requirements for IELTS 6.0 overall, with no component below 5.5, for further details.

Alternative entry requirements

- If your qualification isn't listed here, or you're taking a combination of qualifications, contact us for advice
- Applications from mature students are welcome.

Back to top

Generated: 27 Mar 2025, 18:24