UNIVERSITY OF LIVERPOOL

BSc (Hons)

Mathematics and Economics

UCAS code GL11

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

Apply by: **14 January 2026**
Starts on: **28 September 2026**

About this course

Economics and Mathematics are two subjects that compliment each other and will offer a firm foundation for your future career. At Liverpool you will have a choice of modules meaning you can tailor your degree to your strengths and interests.

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.

Economics and mathematics are both highly relevant subjects in today's world. The two subjects come very much hand-in-hand and offer a firm foundation for your future career. This degree combines them in about equal measure, with considerable flexibility in the choice of modules after the first year. Modules covered include

microeconomics, macroeconomics, statistics, numbers, groups and codes, as well as core mathematics modules.

What you'll learn

- Problem solving
- Critical thinking
- Teamwork
- How to present and communicate clearly

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Course content

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

Year one

All modules taken in the first year are compulsory.

Modules

Compulsory modules	Credits
CALCULUS I (MATH101)	15
CALCULUS II (MATH102)	15
INTRODUCTION TO LINEAR ALGEBRA (MATH103)	15
INTRODUCTION TO STATISTICS USING R (MATH163)	15
PRINCIPLES OF MICROECONOMICS (ECON121)	15
MATHEMATICAL IT SKILLS (MATH111)	15
PRINCIPLES OF MACROECONOMICS (ECON123)	15
PRINCIPLES OF FINANCE (ACFI113)	15

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

Year two

Choose one module from: ECON211, ECON224, ECON241, ULMS254. Choose one module from MATH221, MATH226, MATH242, MATH260, MATH269. Please note that we regularly review our teaching so the choice of modules may change.

Modules

Compulsory modules	Credits
STATISTICS AND PROBABILITY I (MATH253)	15
ECONOMETRICS 1 (ECON212)	15
MICROECONOMICS 1 (ECON221)	15
MICROECONOMICS 2 (ECON222)	15
MACROECONOMICS 1 (ECON223)	15
STATISTICS AND PROBABILITY II (MATH254)	15

Optional modules	Credits
DIFFERENTIAL EQUATIONS (MATH221)	15
METRIC SPACES AND CALCULUS (MATH242)	15
FINANCIAL MATHEMATICS (MATH260)	15
OPERATIONAL RESEARCH: LINEAR AND CONVEX METHODS (MATH269)	15
SECURITIES MARKETS (ECON241)	15
MATHEMATICAL ECONOMICS 2 (ECON211)	15

Optional modules	Credits
MACROECONOMICS 2 (ECON224)	15

Optional modules	Credits
NUMERICAL METHODS (MATH226)	15
BECOMING ENTREPRENEURIAL (ULMS254)	15

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

Year three

Year three optional modules: Choose 2 MATH modules and 2 ECON modules from each semester. Please note that we regularly review our teaching so the choice of modules may change.

Modules

Optional modules	Credits
QUANTITATIVE FINANCIAL ECONOMICS (ECON308)	15
GAME THEORY (ECON322)	15
INTERNATIONAL TRADE (ECON335)	15
ADVANCED MICROECONOMICS (ECON342)	15
APPLIED PROBABILITY (MATH362)	15
LINEAR STATISTICAL MODELS (MATH363)	15
PROFESSIONAL PROJECTS AND EMPLOYABILITY IN MATHEMATICS (MATH390)	15
INDUSTRIAL ORGANISATION (ECON333)	15

Optional modules	Credits
THE ECONOMICS OF DEVELOPING COUNTRIES (ECON306)	15
METHODS OF ECONOMIC INVESTIGATION 1: TIME SERIES ECONOMETRICS (ECON311)	15
ADVANCED MACROECONOMICS (ECON343)	15
NUMERICAL METHODS FOR ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS (MATH336)	15
COMBINATORICS (MATH344)	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
FINANCIAL REPORTING AND FINANCE (NON-SPECIALIST) (ACFI290)	15
ENVIRONMENTAL ECONOMICS AND SUSTAINABILITY POLICIES (ECON315)	15
STATISTICAL METHODS IN INSURANCE AND FINANCE (MATH374)	15
ACTUARIAL MODELS (MATH376)	15
FINANCIAL COMPUTING IN R (MATH377)	15

Optional modules	Credits
MATHEMATICS OF NETWORKS AND EPIDEMICS (MATH338)	15
MATHS SUMMER INDUSTRIAL RESEARCH PROJECT (MATH391)	15

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

Teaching and assessment

How you'll learn

You will be taught through a diverse blend of engaging teaching methods, including lectures, tutorials, practical classes, video content, interactive learning sessions, independent study, and supervised project work.

The department of mathematical sciences offers a vibrant, stimulating, and supportive learning environment with highly motivated and exceptionally qualified staff, renowned for their world-leading research and teaching.

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

How you're assessed

Each module has an assessment scheme tailored to fit its syllabus. This might include traditional written exams, class tests, assignments, projects, group work, or online exercises with automatic marking and immediate feedback.

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.

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Careers and employability

A degree in mathematics provides access to an almost limitless range of rewarding career paths. As a graduate with a mathematics degree from the University of Liverpool, you'll have an extremely valuable set of analytical and critical thinking skills that employers value, enabling you to pursue careers in almost any field.

Graduates with a mathematics-based degree are in high demand across a broad spectrum of industries, thanks to their expertise in quantitative analysis, problem-solving, and mathematical modelling. Some of the key career paths include:

- Data Science and Analytics: Mathematics graduates are well-equipped to work as data scientists, data analysts, or business analysts. Their skills in statistical modelling, machine learning, and data interpretation are highly sought after in sectors like finance, healthcare, and tech.
- Engineering and Technology: Mathematics graduates can work in engineering roles, including systems engineering, computational modelling, and simulation. They may also contribute to software development, particularly in fields that require complex algorithms, like AI and cybersecurity.
- Operations Research and Logistics: Companies in manufacturing, transportation, and supply chain management often hire mathematics graduates to optimize processes, improve efficiency, and reduce costs. Roles include operations research analyst, supply chain planner, and logistics coordinator.
- Healthcare and Biostatistics: Mathematics is increasingly used in medical research, epidemiology, and healthcare analytics. Careers may include biostatistician, health data analyst, or mathematical modeller in disease forecasting.

The versatility of a mathematics-based degree allows graduates to enter nearly any sector that requires mathematical modelling, statistical analysis, and algorithmic problem-solving. The growing demand for data-driven decision making in today's world ensures that career prospects remain strong, with opportunities for advancement and specialization across fields.

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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 - £1,385 (applies to year in China)

International fees

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

Fees are for academic year 2025/26.

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.

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Entry requirements

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

A levels

ABB
including Mathematics A level grade A.

Applicants with the Extended Project Qualification (EPQ) are eligible for a reduction in grade requirements. For this course, the offer is **ABC** with **A** in the EPQ.

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

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

For applicants from England: For science A levels that include the separately graded practical endorsement, a "Pass" is required.

BTEC Level 3 National Extended Diploma

D*DD in relevant diploma when combined with A level Mathematics grade A

International Baccalaureate

32 points overall with no score less than 4 including 6 in HL Mathematics, or pass the IB Diploma plus 6,5,5 in 3 HL subjects (including 6 in HL Mathematics).

Irish Leaving Certificate

H1, H2, H2, H2, H3, H3 including Mathematics at H1.

Scottish Higher/Advanced Higher

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

Welsh Baccalaureate Advanced

B in the Welsh Baccalaureate, plus AB at A level (including grade A in Mathematics).

Access

Pass Access to HE Diploma in a relevant subject with 45 Level 3 credits with 33 at Distinction (including 15 credits in Mathematics) and 12 at Merit.

International qualifications

Select your country or region to view specific entry requirements.

If you hold a bachelor's degree or equivalent, but don't meet our entry requirements, you could be eligible for a Pre-Master's course. This is offered on campus at the University of Liverpool International College, in partnership with Kaplan International Pathways. It's a specialist preparation course for postgraduate study, and when you pass the Pre-Master's at the required level with good attendance, you're guaranteed entry to a University of Liverpool master's degree.

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.

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

International Baccalaureate English A: Literature or Language & Literature

Grade 4 at Standard Level or grade 4 at Higher Level

International Baccalaureate English B

Grade 6 at Standard Level or grade 5 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.

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