

# Mathematics BSc (Hons)

UCAS Code: G100 | Duration: 3 years | Full-time | Hope Park | 2018/19

Accredited | International students can apply



## Course Overview

Mathematics is a fascinating and exciting subject. It is the language of modern business and commerce, engineering, science and technology and is as old as mankind. At Liverpool Hope, you will develop a passion and enthusiasm for mathematics and its applications. Mathematics encompasses many analytical and numerical methods that are used to solve scientific and industrial problems.

Mathematics at Liverpool Hope has been designed to help you develop strong analytical and numerate abilities and skills so that you learn how to look at problems, break them down into simpler questions and then solve them. Mathematics at Liverpool Hope can be taken as a single honours degree or a combined honours degree with a related subject.

The degree will cover all areas of mathematics including pure mathematics, applied mathematics and statistics. By the end of the degree, you will be confident in tackling real world problems mathematically. By studying with us, you can expect to be given not only first class tuition and teaching, but first class support. We pride ourselves on providing an excellent student experience, and the academics at Liverpool Hope work hard to ensure that you get the most from your degree.

## Entry Requirements

The standard offer level is between BBB-BBC from A levels or DDM-DMM from BTEC, or 120-112 UCAS tariff points. You also need an A Level (or equivalent) in Mathematics.

## Fees and Additional Costs

The tuition fees for 2018/19 are £9,250 for full-time undergraduate courses.

As well as your tuition fees, you need to consider the cost of books, software, and general computer consumables such as USB flash drives and printing. We estimate this to cost around £300.

You will also need to consider the cost of your accommodation each year whilst you study at university. Visit our accommodation webpages for further details about our Halls of Residence: [www.hope.ac.uk/halls](http://www.hope.ac.uk/halls)

## Accreditation

This single honours BSc programme has been accredited by the Institute of Mathematics and its Applications. This programme will meet the educational requirements of the Chartered Mathematician designation, awarded by the Institute of Mathematics and its Applications, when it is followed by subsequent training and experience in employment to obtain equivalent competences to those specified by the Quality Assurance Agency (QAA) for taught masters degrees.



LIVERPOOL  
HOPE  
UNIVERSITY

1844



## CONTACT

T: +44 (0)151 291 3000

E: [enquiry@hope.ac.uk](mailto:enquiry@hope.ac.uk)

[www.hope.ac.uk](http://www.hope.ac.uk)

# Mathematics BSc (Hons)

## Curriculum

### Year One

- Linear Algebra
- Calculus
- Logic
- Sets
- Complex Analysis
- Probability Theory
- How to code using MATLAB

The additional Single Honours curriculum introduces:

- Engineering Mathematics
- Introduction to Mathematical Analysis
- Statistics and SPSS
- Financial Management
- Numerical Methods
- How to code in C
- Creating documents using LaTeX
- Mathematical Communication

### Year Two

- Real Analysis
- Multivariable Calculus
- Group Theory
- Vector Analysis
- Complex calculus
- Further Linear Algebra
- Numerical Methods with Matlab
- Mathematical modelling techniques

The additional Single Honours curriculum introduces:

- Graph Theory
- Number Theory and Cryptography
- Information Theory
- Probability and Belief Networks
- Game Theory
- ODEs
- Numerical analysis of ODE's

- Laplace Transform
- Introduction to R
- Neural Networks, Artificial Intelligence
- Genetic Algorithms
- Further Statistics

### Year Three

- Mathematical Biology
- Chaos Theory
- Dynamical Systems
- Waves
- Advanced Linear Algebra
- Coding Theory

The additional Single Honours curriculum introduces:

- Advanced methods of applied mathematics
- Asymptotic Methods
- Perturbation Theory
- Advanced Financial Mathematics
- Calculus of variations
- Fluid Dynamics
- Continuum Mechanics
- Advanced Dynamical Systems
- Statistical Modelling
- Complex Analysis
- Differential Geometry

## COURSE STRUCTURE

Teaching on this degree is structured into lectures, seminars and tutorials.

If you are studying Mathematics as a Single Honours degree, in your first year of study there are approximately 12 teaching hours each week, which reduces to approximately 10 teaching hours in your second and third years. If you are studying Mathematics as a Combined Honours degree, in your first year of study there are approximately 6 teaching hours each week, which reduces to approximately 5 teaching hours in your second and third years.

On top of teaching hours, you are also expected to spend a number of hours studying independently each week, as well as studying in groups to prepare for any group assessments you may have.

## ASSESSMENT AND FEEDBACK

There are a number of assessments across your three years of study, including written exams, portfolios and coursework.

You will be given feedback on your assessments, and you will have the opportunity to discuss this with your tutor in more detail.



LIVERPOOL  
HOPE  
UNIVERSITY

1844



## CONTACT

T: +44 (0)151 291 3000

E: [enquiry@hope.ac.uk](mailto:enquiry@hope.ac.uk)

[www.hope.ac.uk](http://www.hope.ac.uk)