

## BSc Actuarial Mathematics

UCAS Code NG31

Actuaries use mathematical, statistical, financial and economic theory to solve real business problems, typically involving risk, uncertainty and the financial impact of undesirable events.

In **Year 1** you study key topics, including:

- **Financial Mathematics:** modelling of financial and insurance markets with emphasis on the time-value of money and interest rates.
- **Probability and Statistics:** chance and the analysis of data are increasingly important in the modern world.
- **Differential Equations:** the first step in modelling real-world dynamics.
- **Calculus:** a thorough understanding of differential and integral calculus is an essential foundation for all of mathematics.
- **Linear Algebra:** using matrices and vectors, and leading to the abstract notion of a vector space.
- **Economic Theory:** including both micro economics and macro economics.
- **Financial and Management Accounting:** including understanding financial statements of companies.

In **Year 2** you will build on the knowledge already acquired, studying specially chosen modules that will integrate aspects of actuarial mathematics. Core modules include financial mathematics, statistical methods, and financial accounting. There are also a number of optional modules covering topics in statistics, numerics, and advanced mathematics.

In **Year 3** you will study core modules in actuarial mathematics, financial modelling and statistics. There is also the freedom to pursue your interests through a wide



range of optional modules in mathematics, statistics, finance and economics.

Traditionally, actuaries have been employed in the insurance and pensions industry, but there is increasing demand for their analytical skills in other parts of the private and public sectors.

This programme covers most of the content of the core technical exams CT1–CT8 set by the Actuarial Profession. On graduation, students will be able to apply for exemptions from some of these papers. Currently there are arrangements in place for CT1 and CT3.

### Typical Offer

AAB from three A-levels including A in Mathematics, with alternatives involving Further Mathematics, or equivalent.

### Taught by

- School of Mathematics (two thirds)
- Leeds University Business School (one third)

### Variants

This is a 3 year full time degree. There is the opportunity to do our *Year in Industry* scheme or *Study Abroad* scheme, which turn it into a 4 year degree.

## BSc Actuarial Mathematics

**Structure of Year 1.** *This is the current structure – please note that programmes are subject to change.*

Students take 120 credits.

*Compulsory Modules:*

LUBS1235	Introductory Financial Accounting	10 credits	Semester 1
LUBS1245	Introductory Management Accounting	10 credits	Semester 2
LUBS1950	Economic Theory and Applications 1	20 credits	Semesters 1 & 2
MATH1050	Calculus and Mathematical Analysis	10 credits	Semester 1
MATH1055	Numbers and Vectors	10 credits	Semester 1
MATH1331	Linear Algebra with Applications	15 credits	Semester 1
MATH1400	Modelling with Differential Equations	10 credits	Semester 2
MATH1510	Financial Mathematics 1	15 credits	Semester 2
MATH1715	Introduction to Probability	10 credits	Semester 1
MATH1725	Introduction to Statistics	10 credits	Semester 2

### MATHEMATICS DEGREES

**Single honours undergraduate degrees:**

BSc Mathematics (G100)  
MMath, BSc Mathematics (G101)  
BSc Actuarial Mathematics (NG31)  
BSc Mathematics with Finance (G1N3)  
BSc Mathematical Studies (G150)  
BSc Mathematics and Statistics (GG13)

**Joint honours degrees parented by Mathematics:**

BSc Biology and Mathematics (CG11)  
BSc Economics and Mathematics (GL11)  
BSc Geography and Mathematics (FG81)  
BSc Management and Mathematics (GN12)  
BSc Mathematics and Music (GW13)

**Other subjects available with mathematics:**

Chemistry, Computer Science, French, German,  
Natural Sciences, Philosophy, Physics

Mathematics Admissions Team  
School of Mathematics  
University of Leeds  
Leeds, LS2 9JT, UK  
t +44 (0) 113 343 5133  
f +44 (0) 113 243 5090

e [maths.admiss@leeds.ac.uk](mailto:maths.admiss@leeds.ac.uk)  
w [www.maths.leeds.ac.uk/admissions](http://www.maths.leeds.ac.uk/admissions)

May 2011