Study on a mathematics degree at UCLan and you will gain a deeper understanding of mathematics - the most fundamental of all subjects - and its applications. Our programmes cover all the main areas of mathematics, along with selections from a diverse range of mathematical specialities.

BSc (Hons) Mathematics
UCAS Code: G100

MMath (Hons) Mathematics
UCAS Code: G102

Entry requirements
ABB at A2 (including A in Mathematics)
You’ll find the atmosphere at UCLan friendly and the staff approachable and encouraging, and your study of mathematics interesting, innovative and above all relevant.

- You’ll have the opportunity to complete an individual project in your final year under the guidance of a supervisor, to investigate in-depth an area or application of mathematics that particularly interests you.
- During your studies, you can switch between the two degree schemes, so successful BSc students can extend their studies by one year by progressing to the MMath.
- You could have the opportunity to take part in UCLan’s undergraduate research intern scheme, where you can work on ground-breaking mathematical research projects during the summer vacations.
- Our Mathematics degrees are accredited by the Institute of Mathematics and its Applications (IMA) to meet the educational requirements of the Chartered Mathematician designation when followed by subsequent training and experience in employment.

You will study mathematics for its own sake, experiencing pure mathematical theory as well as its applications. A mathematics degree from UCLan will give you access to the widest possible range of mathematical career choices.

### BSc (Hons) Mathematics

This degree will develop your skills and knowledge over a broad range of mathematical disciplines. It will equip you with a thorough overview of modern mathematics, exploring a range of topics from pure and applied mathematics to statistics. We place an emphasis on the key skills of mathematical reasoning, covering the fundamentals of mathematics in lectures and workshops, along with problem-solving activities, group work and computer lab sessions. You’ll also develop transferable skills in other areas such as report writing and presentations.

For a full-time student, the BSc (Hons) Mathematics degree is completed over the course of three years. The range of options available is shown in the schematic – Years 1, 2, and 3 are included in this degree, and you complete six modules each year. A number of compulsory modules ensure that all students have the same basic knowledge and skills, and optional modules allow students to specialise in areas that are of particular interest to them.

### MMath (Hons) Mathematics

You can prepare for more advanced careers with the addition of an extra year of study, deepening your understanding of pure and applied mathematics and earning a higher level of qualification.

### Teaching environment

On the UCLan degrees, mathematics is taught through a variety of lectures (typically 20 to 70 students), tutorials, examples classes, and practical computer classes. Each module contains a mix of some of these appropriate to the particular topic. A typical first-year module has three contact hours each week throughout the university year. This could for example be a two-hour lecture followed by a one-hour tutorial, or a one-hour lecture followed by two hours in a computer lab learning practical skills. Students take six modules each year.

There are many opportunities for students who need extra academic support. All lecturers are happy to talk to students about problems in class, and for particular difficulties one-on-one meetings with lecturers are available.

Assessment is by a combination of coursework and examinations, depending on the modules selected. Coursework assessments include a mixture of project work, formal written assignments, and oral presentations.

All UCLan mathematics lecturers have doctoral research degrees, and are experts in their fields, which range from pure mathematics (e.g. algebra, model theory) to applied mathematics (e.g. acoustics).
What is in the degrees?

**Algebra** is the study of the properties of numbers, matrices, and polynomials. It is used in sending secret messages, investigating the structure of crystals, and understanding machine languages.

**Analysis** is the study of sequences, series, and functions, and the idea of limits (looking at the infinitely large and the infinitesimally small). This is the branch of mathematics that explains why calculus works.

**Calculus** is the branch of mathematics that considers how things change over time – differential equations are used to model a wide range of real-world problems.

**Applied Mathematics** covers the applications of calculus. Many applied maths modules concern mechanical systems, but the field also includes areas like mathematical biology, where you can study problems such as the spread of infectious diseases.

**Computational Mathematics** concerns the applications of computers to solve mathematical problems. This involves learning to use computers, but also understanding how computers do maths.

**Statistics** is the study of how large data sets can be analysed and interpreted to give us information about the world.

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**Research internships**

Each summer there are opportunities to take part in UCLan's funded undergraduate research intern scheme. This involves students being paid to spend the summer working closely with a member of JHI staff on a research project. Students experience what it is like to undertake cutting edge research, developing a variety of skills which are highly valued by employers. Students present their work to their peers in a poster session at the end of the internship.

Research intern Salma Younus was offered an exciting opportunity to present her work at NCUR 2012, an international undergraduate research conference in Utah, USA. UCLan was the only university from the UK who had students participating, which Salma said made her feel special and glad to be a part of UCLan. Salma also said:

"Not only did I benefit from a fully funded trip to America; I had the amazing chance to present my work to students and scholars from all areas of research from all around the world. I got to present my research; I spoke to lots of undergraduates about theirs, made friends and had an awesome time! This experience certainly made me stand out from peers and was a once in a lifetime opportunity."
Graduate careers

Mathematics graduates can be found throughout industry, business and commerce, in the public and private sectors, with large employers and in small organisations. Employers value the intellectual rigour and reasoning skills that mathematics students acquire, as well as their analytical approach to problem-solving.

In the past few years, UCLan mathematics graduates have gone into a number of the “usual” mathematical careers, including actuarial work and accounting, banking graduate schemes, teaching, and further study (including MSc and PhD study). A number of our graduates have pursued other, more surprising careers, including NHS management, criminal investigation in the police, working in the power generation industry, and roles in the charity sector.

How to find us

UCLan’s mathematics degrees are taught at our main campus, in the city of Preston in the heart of Lancashire. The campus is conveniently situated within walking distance of Preston railway station, which sits on the West Coast Main Line and benefits from direct rail links north to Glasgow and south to London and to Manchester Airport. The campus is also a short drive from the M6 motorway.

Further information

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