MATHEMATICS WITH MATHEMATICAL PHYSICS BSc /
UCAS CODE: G1F3
2018 ENTRY

www.ucl.ac.uk/prospectus/maths
Mathematics and physics are closely interlinked subjects, with each providing many fascinating insights into the other. Students on this programme receive a thorough mathematical training and may also take modules in UCL Physics & Astronomy, as well as more widely across both UCL and the University of London.

**Key information**

**Programme starts**
September 2018

**Location**
London, Bloomsbury

**Degree benefits**

- Gain transferable skills such as numeracy, problem-solving and logical thinking, which can lead to a large variety of interesting, diverse and well-paid careers.
- A wide range of applied mathematics/mathematical physics modules are offered by the department, reflecting the research interests of current staff.
- Internationally renowned UCL Mathematics is home to world-leading researchers in a wide range of fields, especially geometry, spectral theory, number theory, fluid dynamics and mathematical modelling.
- Three of the six British winners of the Fields medal (the mathematician’s equivalent of the Nobel Prize) have associations with the department.

**Research Excellence Framework (REF) 2014**
The Research Excellence Framework, or REF, is the system for assessing the quality of research in UK higher education institutions. The 2014 REF was carried out by the UK’s higher education funding bodies, and the results used to allocate research funding from 2015/16.

- 82% rated 4* (‘world-leading’) or 3* (‘internationally excellent’)

Learn more about the scope of UCL’s research, and browse case studies, on our Research Impact website.

**Degree structure**

In each year of your degree you will take a number of individual modules, normally valued at 0.5 or 1.0 credits, adding up to a total of 4.0 credits for the year. Modules are assessed in the academic year in which they are taken. The balance of compulsory and optional modules varies from programme to programme and year to year. A 1.0 credit is considered equivalent to 15 credits in the European Credit Transfer System (ECTS).

In the first year and a half of the BSc you will receive a thorough grounding in pure mathematics and mathematical methods following the same modules as the single-subject Mathematics students; except that Quantum Mechanics can be taken in place of Algebra 3. The programme then follows relevant pure and applied mathematics options in the second half of the second year and in the third year, supplemented by physics modules given by UCL Physics & Astronomy.

Possible options include: Atomic and Molecular Physics (UCL Physics & Astronomy); Mathematical Physics (King’s College London); Quantum Mechanics (UCL Physics & Astronomy).

This programme is offered as a three-year BSc or a four-year MSci degree. The first two years of the programme are identical, and students are advised to apply for the MSci degree in the first instance, as it is possible to transfer to the BSc during the first three years.

**YEAR ONE**

**Core or compulsory module(s)**

- Algebra 1
- Algebra 2
- Analysis 1
- Analysis 2
- Applied Mathematics 1
- Applied Mathematics 2
- Mathematical Methods 1
- Mathematical Methods 2

**Optional modules**

- All first year modules are compulsory.

**YEAR TWO**

**Core or compulsory module(s)**

- Analysis 3: Complex Analysis
- Fluid Mechanics
- Mathematical Methods 3

**Optional modules**

- You will select 2.5 credits of optional modules, including:
  - Either:
    - Algebra 3: Further Linear Algebra
    - Quantum Mechanics
  - Plus four of the following:
    - Algebra 4: Groups and Rings
    - Analysis 4: Real Analysis
    - Analytical Dynamics
    - Computational Methods
    - Electromagnetism
    - Geometry and Groups
    - Mathematical Methods 4
    - Number Theory
    - Probability and Statistics
  - Alternatively a half-credit module may be taken from another department, subject to approval.
Data taken from the ‘Destinations of Leavers from Higher Education’ survey undertaken by HESA looking at the destinations of UK and EU students in the 2013-2015 graduating cohorts six months after graduation.
Entry requirements

**A LEVELS**

**Grades**
A*A*A, or A*AA and a 1 in any STEP paper or distinction in Mathematics AEA

**Subjects**
Mathematics and Further Mathematics required at A*, or one of Mathematics or Further Mathematics at A* if STEP or AEA offered. Physics also required.

**GCSE**
English Language and Mathematics at grade C or 5. For UK-based students, a grade C or 5 or equivalent in a foreign language (other than Ancient Greek, Biblical Hebrew or Latin) is required. UCL provides opportunities to meet the foreign language requirement following enrolment, further details at: [www.ucl.ac.uk/ug-reqs](http://www.ucl.ac.uk/ug-reqs)

**IB DIPLOMA**

**Points**
39-40 overall.

**Subjects**
A score of 20 points in three higher level subjects including 7 in Mathematics and at least 6 in Physics, or 19 points in three higher level subjects including 7 in Mathematics and at least 6 in Physics and a 1 in any STEP paper or a distinction in Mathematics AEA, with no score below 5.

**OTHER QUALIFICATIONS**

UCL considers a wide range of UK and international qualifications for entry into its undergraduate programmes. Full details are given at: [www.ucl.ac.uk/otherquals](http://www.ucl.ac.uk/otherquals)

**UNDERGRADUATE PREPARATORY CERTIFICATES**

(International foundation courses)
The Undergraduate Preparatory Certificates (UPCs) are intensive one-year foundation courses for international students of high academic potential who are aiming to gain access to undergraduate degree programmes at UCL and other top UK universities.

Typical UPC students will be high achievers in a 12-year school system which does not meet the standard required for direct entry to UCL.

For more information see: [www.ucl.ac.uk/upc](http://www.ucl.ac.uk/upc).

**TUITION FEES**
The fees indicated are for undergraduate entry in the 2018/19 academic year. The UK/EU fees shown are for the first year of the programme at UCL only. The Overseas fees shown are the fees that will be charged to 2018/19 entrants for each year of study on the programme, unless otherwise indicated below.

- **UK & EU**: £9,250 (2018/19)
- **Overseas**: £22,790 (2018/19)

Full details of UCL’s tuition fees, tuition fee policy and potential increases to fees can be found on the [UCL Students website](http://www.ucl.ac.uk/).

**FUNDING**

Various funding options are available, including student loans, scholarships and bursaries. UK students whose household income falls below a certain level may also be eligible for a non-repayable bursary or for certain scholarships. Please see the [Fees and funding pages](http://www.ucl.ac.uk/) for more details.

**CONTACT**

Dr Robert Bowles

**Email:** admissions@math.ucl.ac.uk

**Telephone:** +44 (0)20 7679 3501

**Department:** Mathematics

**EU referendum**

For up-to-date information relating to specific key questions following the UK’s decision to leave the EU, please refer to: [www.ucl.ac.uk/eu-referendum](http://www.ucl.ac.uk/eu-referendum)

**Disclaimer**

This information is for guidance only. It should not be construed as advice nor relied upon and does not form part of any contract. For more information on UCL’s degree programmes please see the UCL Undergraduate Prospectus at [www.ucl.ac.uk/prospectus](http://www.ucl.ac.uk/prospectus).