Mathematics MSci

The four-year Mathematics MSci offers an additional year on top of the Mathematics BSc, allowing students to specialise further by taking more advanced modules, and undertaking a major final-year project.

Degree structure

In each year of your degree you will take a number of individual modules, normally valued at 15 or 30 credits, adding up to a total of 120 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 30-credit module is considered equivalent to 15 credits in the European Credit Transfer System (ECTS).

You will gain a solid grounding in basic advanced mathematics - the core modules in the first year and a half of the programme. From then on you can specialise in your areas of interest. The study of the core modules is the prerequisite for the choice of options in the second half of the second year and the forty or so options in the third and fourth years. The fourth year includes a major project.

A large variety of interesting subjects can be studied, including geophysical fluid dynamics, mathematics in biological or financial contexts, number theory, probability and statistical applications, and geometry.

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

<table>
<thead>
<tr>
<th>Core or compulsory module(s)</th>
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<tbody>
<tr>
<td>Algebra 1</td>
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<td>Algebra 2</td>
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<tr>
<td>Analysis 1</td>
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<tr>
<td>Analysis 2</td>
</tr>
<tr>
<td>Applied Mathematics</td>
</tr>
<tr>
<td>Mathematical Methods 1</td>
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<tr>
<td>Mathematical Methods 2</td>
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<tr>
<td>Newtonian Mechanics</td>
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</table>

Optional modules

- All first year modules are compulsory.

YEAR TWO

<table>
<thead>
<tr>
<th>Core or compulsory module(s)</th>
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<tbody>
<tr>
<td>Algebra 3: Further Linear Algebra</td>
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<tr>
<td>Analysis 3: Complex Analysis</td>
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<tr>
<td>Fluid Mechanics</td>
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<tr>
<td>Mathematical Methods 3</td>
</tr>
</tbody>
</table>

Optional modules

- You will select four of the following:
  - Analysis 4: Real Analysis
  - Analytical Dynamics
  - Algebra 4: Groups and Rings
  - Computational Methods
  - Electromagnetism
  - Geometry and Groups
  - Mathematical Methods 4
  - Number Theory
  - Probability and Statistics
- One of the modules may be replaced by a half-credit option outside the department, subject to approval.

YEAR THREE

<table>
<thead>
<tr>
<th>Core or compulsory module(s)</th>
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<tbody>
<tr>
<td>All third-year modules are optional. Currently available mathematics options are described on the UCL Mathematics website.</td>
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</table>

Optional modules

- You will select:
  - 2.0 credits of designated third-year mathematics options
  - 1.0 credit of third-year mathematics options
  - 1.0 credit of third-year mathematics options or approved outside options

Degree benefits

- Together with specialist mathematics options, you will have the opportunity to take modules from outside the department, such as economics, philosophy, a foreign language, classics or history of art.
- The MSci allows for additional in-depth study, providing the skills necessary for academic research in mathematics or to enter employment where mathematics is directly involved.
- Highly regarded 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.
<table>
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<tr>
<th><strong>FINAL YEAR</strong></th>
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<tbody>
<tr>
<td><strong>Core or compulsory module(s)</strong></td>
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<tr>
<td>// Project in Mathematics</td>
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<tr>
<td><strong>Optional modules</strong></td>
</tr>
<tr>
<td>// You will select:</td>
</tr>
<tr>
<td>// 2.0 credits of fourth-year mathematics options</td>
</tr>
<tr>
<td>// 1.0 credit of third- or fourth-year mathematics options or approved outside options.</td>
</tr>
</tbody>
</table>

**Your learning**

Teaching is mainly carried out through lectures and small-group tutorials. Problem classes allow you to exercise the skills you have learned. In addition, an 'office hours' system for each programme allows you to meet with tutors on a one-to-one basis to review parts of the degree you find interesting or that need clarifying. A Student Mentor scheme runs in the department offering support and advice to first-years.

**Assessment**

Most modules are assessed by two-hour written examinations in the third term, with a small element (10%) of coursework assessment.

**Your career**

We aim to develop your skills in mathematical reasoning, problem-solving and accurate mathematical manipulation. You will also learn to handle abstract concepts and to think critically, argue logically and express yourself clearly.

A mathematics degree is highly valued by employers due to the skills in logical thinking, analysis, problem-solving and, of course, numeracy, that it develops.

**Your application**

Application for admission should be made through UCAS (the Universities and Colleges Admissions Service). Applicants currently at school or college will be provided with advice on the process; however, applicants who have left school or who are based outside the United Kingdom may obtain information directly from UCAS.

In addition to academic requirements, we expect you to demonstrate an understanding and enjoyment of the subject beyond the examined syllabus, through your reading and involvement in problem-solving activities. Evidence of your curiosity and perseverance in tackling puzzles, and your enjoyment of logical and abstract thinking, should be shown in your application.
Entry requirements

**A LEVELS**


**Contextual Offer:** A*A*B. A*A*B with A*A* in Maths and Further Mathematics

**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

**IB DIPLOMA**

**Standard Offer:** 39 points. A score of 20 points in three higher level subjects including 7 in Mathematics, or 19 points in three higher level subjects including 7 in Mathematics and a 2 in any STEP paper or a distinction in Mathematics AEA, with no score below 5.

**Contextual Offer:** 39 points. A score of 19 points in three higher level subjects including 7 in Mathematics.

**CONTEXTUAL OFFERS – ACCESS UCL SCHEME**

As part of our commitment to increasing participation from underrepresented groups, students may be eligible for a contextual offer as part of the Access UCL scheme. For more information see www.ucl.ac.uk/ug-reqs

**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

**UNDERGRADUATE PREPARATORY CERTIFICATES (International foundation courses)**

UCL 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.

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**TUITION FEES**

The fees indicated are for undergraduate entry in the 2020/21 academic year. The UK/EU fees shown are for the first year of the programme at UCL only. Fees for future years may be subject to an inflationary increase. The Overseas fees shown are the fees that will be charged to 2020/21 entrants for each year of study on the programme, unless otherwise indicated below.

- **UK & EU:** £9,250 (2020/21)
- **Overseas:** £25,110 (2020/21)

Full details of UCL’s tuition fees, tuition fee policy and potential increases to fees can be found on the UCL Students website.

**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 for more details.

**CONTACT**

Dr Robert Bowles

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

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

**Department:** Mathematics

**Brexit**

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/brexit

**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